

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

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## 1 Documentation overview for hyperref

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

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

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

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

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

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

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

Source code documentation:

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

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

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

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### 3 File hycheck.tex

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

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

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

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

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

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

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

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

`\HyC@checkPackage`

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

```

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

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

```

### 5.2 Babel's protection of shorthand characters

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

```

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

```

### 5.3 Coordinate transformations

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

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

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

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

```

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

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

```

```

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

```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

Email: oberdiek@uni-freiburg.de.

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

### 6.1 Description of PDF strings

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

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

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

### 6.2 Definition of `\pdfstringdef`

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

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

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

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

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

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



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

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

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

```
382 \begingroup
```

### 6.2.1 Preprocessing

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

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

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

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

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

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

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

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

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

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

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

```
388 \ifHy@unicode
```

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

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

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

```
392 \HyPsd@UTFviii
```

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

```
394 \else
```

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

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

```
397 \fi
```

```
398 \enc@update
```

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

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

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

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

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

```
401 \let\add@accent\HyPsd@add@accent
```

**Commands that don't use NFSS directly.** There are several commands that prints characters in the printable ASCII area that don't obey the NFSS, so they have to be redefined here.

```
402 \let\{\textbraceleft
403 \let\}\textbraceright
404 \let\\\textbackslash
405 \let\#\textnumbersign
406 \let\$\textdollar
407 \let\%\textpercent
408 \let\&\textampersand
409 % \let\~\textasciitilde
410 \let\_ \textunderscore
411 \let\textP\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 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  $\TeX$ 's argument parsing. With this method we must the following item takes into account, that makes makes things a litte more complicate:

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

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

```

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  $\backslash\text{HyPsd@CheckCatcodes}$  the command  $\backslash\text{HyPsd@RemoveMask}$  is reused to remove the group protection character |. This character is needed to ensure that the string at least consists of one token if  $\backslash\text{HyPsd@CheckCatcodes}$  is called.

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

```

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

```

\HyPsd@CheckCatcodes should no have removed the tokens with catcode 3, 4, 7, and 8. Because a parameter token (6) would cause to many errors before, there should now be only tokens with catcodes 11 or 12. So I think there is no need for a safety step like:

```
\xdef#1{\expandafter\strip@prefix\meaning#1}%
```

**Looking for wrong glyphs.** The case that glyphs aren't defined in the PD1 encoding is caught above in such a way, that the glyph name and a marker is inserted into the string. Now we can safely scan the string for this marker and provide a descriptive warning.

```

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

```

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

```
554 \HyPsd@StringSubst{\}\{\textbackslash}#1%
```

**Spaces.** All spaces have already the form \040. The last postprocessing step will be an optimizing of the spaces, so we already introduce already the necessary command \HyPsd@SPACEOPTI. But first it is defined to be \relax in order to prevent a too early expansion by an \edef. Secondly a \relax serves as a marker for a token that is detected by \xspace.

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

```

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

```

**Right parenthesis.** Also \xspace detects a right parenthesis. For the \xspace support and the following parenthesis check the different parenthesis notations ), \), and \051 are converted to one type \) and before \HyPsd@empty with the meaning of \relax is introduced for \xspace. By redefining to \@empty \HyPsd@empty can easily removed later.



```

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

```

**Support for package xspace.** `\xspace` looks for the next token and decides if it expands to a space or not. Following tokens prevent its transformation to a space: Beginning and end of group, handled above by replacing by an italic correction, several punctuation marks, a closing parentheses, and several spaces.

Without package `xspace` there are tokens with catcode 11 and 12, `\HyPsd@empty` and `\HyPsd@SPACEOPTI`. With package `xspace` marker for the italic correction `\/` and `\xspace` come with. In the package `xspace` case the two markers are replaced by commands and an `\edef` performs the `\xspace` processing.

In the opposite of the original `\xspace` `\HyPsd@xspace` uses an argument instead of a `\futurelet`, so we have to provide such an argument, if `\HyPsd@xspace` comes last. Because `\HyPsd@Subst` with several equal tokens (`--`) needs a safe last token, in both cases the string gets an additional `\HyPsd@empty`.

```

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

```

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

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

```

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

```

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

```

594 \let\HyPsd@empty\@empty

```

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

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

```

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

```

**Optimizing spaces.** Spaces are often used, but they have a very long form \040. They are converted back to real spaces, but not all, so that no space follows after another. In the bookmark case several spaces are written to the .out file, but if the entries are read back, several spaces are merged to a single one.

With Unicode the spaces are replaced by their octal sequences.

```

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

```

**Converting to Unicode.** At last the eight bit letters have to be converted to Unicode, the masks \8 and \9 are removed and the Unicode marker is added.

```

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

```

**Try conversion back to PDFDocEncoding.**

```

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

```

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

```

627 \pdfstringdefPostHook#1%
628 \endgroup
629 }

```

`\Hy@pdfstringdef`

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

## 6.3 Encodings

### 6.3.1 Workaround for package linguex

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

### 6.3.2 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>'s NFSS. Because the informational strings are not set by T<sub>E</sub>X's typesetting mechanism but for interpreting by the PDF reader, the glyphs of the PD1 encoding are implemented to be safely written to a file (PDF output file, .out file).

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

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

### 6.3.3 PU encoding

The PU encoding implements the Unicode encoding for use with L<sup>A</sup>T<sub>E</sub>X's NFSS. Because of large memory requirements the encoding file for Unicode support is only loaded, if option unicode is specified as package option.

`\HyPsd@InitUnicode` Because the file puenc.def takes a lot of memory, the loading is defined in the macro `\HyPsd@InitUnicode` called by the package option unicode.

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

```

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

```

## 6.4 Additional user commands

### 6.4.1 `\texorpdfstring`

`\texorpdfstring` While expanding the string in `\pdfstringdef` the switch `\ifHy@pdfstring` is set. This is used by the full expandable macro `\texorpdfstring`. It expects two arguments, the first contains the string that will be set and processed by T<sub>E</sub>X's stomach, the second contains the replacement for PDF strings.

```

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

```

### 6.4.2 Hooks for `\pdfstringdef`

`\pdfstringdefPreHook` Default definition of the hooks for `\pdfstringdef`. The construct `\@ifundefined` with `\pdfstringdefPostHook` `\let` is a little bit faster than `\providecommand`.

```

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

```

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

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

```

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

```

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

```

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

```

`\HyPsd@DisableCommands`

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

`\pdfstringdefWarn` The purpose of `\pdfstringdefWarn` is to produce a warning message, so the user can see, that something can go wrong with the conversion to PDF strings.

The prefix `\<>-` is added to the token. `\noexpand` protects the probably undefined one during the first expansion step. Then `\HyPsd@CheckCatcodes` can detect the not allowed token, `\HyPsd@CatcodeWarning` prints a warning message, after `\HyPsd@RemovePrefix` has removed the prefix.

`\pdfstringdefWarn` is intended for document authors or package writers, examples for use can be seen in the definition of `\HyPsd@ifnextchar` or `\HyPsd@protected@testopt`.

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

## 6.5 Help macros for expansion

### 6.5.1 `\ignorespaces`

`\HyPsd@ignorespaces` With the help of a trick using `\romannumeral` the effect of `\ignorespaces` can be simulated a little. In a special case using an alphabetic constant `\romannumeral` eats an optional space. If the constant is zero, then the `\romannumeral` expression vanishes. The following macro uses this trick twice, thus `\HyPsd@ignorespaces` eats up to two following spaces.

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

### 6.5.2 Babel languages

```
706 \newif\ifHy@next
```

Nothing to do for english.

```
707 \@ifundefined{danish@sh@"@sel}{-}{%
708   \def\HyPsd@babel@danish{%
709     \declare@shorthand{danish}{-}{-}%
710     \declare@shorthand{danish}{-}{-}%
711   }%
712 }
713 \@ifundefined{dutch@sh@"@sel}{-}{%
714   \def\HyPsd@babel@dutch{%
715     \declare@shorthand{dutch}{-}{-}%
716     \declare@shorthand{dutch}{-}{-}%
717   }%
718 }
```

```

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

```

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

```

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

```

```

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

```

```

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

```



```

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

```

### 6.5.3 CJK bookmarks

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

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

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

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

```

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

```

```

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

```

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

```

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

```

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

```

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

```

```

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

```

#### 6.5.4 \@inmathwarn-Patch

\HyPsd@inmathwarn The patch of \@inmathwarn is needed to get rid of the infinite error loop with glyphs of other encodings (see the explanation above). Potentially the patch is dangerous, if the code in ltoutenc.dtx changes. Checked with L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> versions [1998/06/01] and [1998/12/01]. I expect that versions below [1995/12/01] don't work.

To understand the patch easier, the original code of \@current@cmd and \@changed@cmd follows (L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> release [1998/12/01]). In the normal case \pdfstringdef is executed in a context where \protect has the meaning of \@typesetprotect (=relax).

```

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

```

```

    }\@eha}
\def\@inmathwarn#1{%
  \ifmmode
    \@latex@warning{Command \protect#1 invalid in math mode}%
  \fi}

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

```

`\HyPsd@add@accent`

```

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

```

### 6.5.5 Unexpandable spaces

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

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

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

```

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

```

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

```

1028 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

### 6.5.6 Marker for commands

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

`\HyPsd@ITALCORR`  
`\HyPsd@GLYPHERR`

```

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

```

1380 }

`\HyPsd@AfterSkipRemove` The glue part of skips do not work in PDF strings and are ignored. Skips (`\hskip`), that are not zero, have the same interpreting problems like `dimens` (see above).

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

### Catcode warnings.

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

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

`\HyPsd@RemoveSpaceWarning`

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

\HyPsd@ReplaceSpaceWarning

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

### 6.6.5 Check for wrong glyphs

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

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

### Spaces.

\HyPsd@spaceopti In the string the spaces are represented by \HyPsd@spaceopti tokens. Within an \edef it prints itself as a simple space and looks for its next argument. If another space follows, so it replaces the next \HyPsd@spaceopti by an protected space \040.

```

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

```

### 6.6.6 Replacing tokens

`\HyPsd@Subst` To save tokens `\HyPsd@StringSubst` is an wrapper for the command `\HyPsd@Subst` that does all the work: In string stored in command #3 it replaces the tokens #1 with #2.

- #1 Exact the tokens that should be replaced.
- #2 The replacement (don't need to be expanded).
- #3 Command with the string.

```

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

```

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

```

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

```

### 6.6.7 Support for package `xspace`

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

```

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

```



```

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

```

## 6.6.8 Converting to Unicode

Eight bit characters are converted to the sixteen bit ones, \8 is replaced by \00, and \9 is removed. The result should be a valid Unicode PDF string without the Unicode marker at the beginning.

```

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

```

\HyPsd@ConvertToUnicode

```

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

```

\HyPsd@DoConvert

```

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

```

\HyPsd@DoEscape

```

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

```

```

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

```

`\HyPsd@GetTwoBytes`

```

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

```

`\HyPsd@GetOneByte`

```

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

```

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

```

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

```

## 6.6.9 Support for UTF-8 input encoding

After `\usepackage[utf8]{inputenc}` there are macros that expect the UTF-8 octets as arguments. Therefore we can calculate the PDF octal sequences directly. Because the PDF format is limited to UCS-2, conversion macros are needed for UTF-8 sequences with two and three octets only.

This calculation must be done in an expandable context, so we use `e $\TeX$ here` for performance reasons. Unhappily the results of divisions are rounded. Thus a circumvention via `\dimexpr` is used, e.g.:

`\numexpr 123/4\relax` is replaced by  
`\number\dimexpr.25\dimexpr 123sp\relax\relax`

```

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

```

```

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

```

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

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

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

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

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

$$(5)$$

```

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

```

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

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

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

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

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

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

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

$$(12)$$

```

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

```

```

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

```

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

```

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

```

```

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

```

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

```

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

```

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

```

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

```

```

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

```

## 7 Support of other packages

### 7.1 Class memoir

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

### 7.2 Package subfigure

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

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

### 7.3 Package xr and xr-hyper

The beta version of xr that supports \XR@addURL is called xr-hyper. Therefore we test for the macro itself and not for the package name:

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

If reading external aux files check whether they have a non zero fourth field in \newlabel and if so, add the URL as the fifth field.

```
1759 \def\xr@addURL#1{\xr@dURL#1{}{}{}{}\\}%
1760 \def\xr@dURL#1#2#3#4#5\\{%
1761   {#1}{#2}%
1762 }
```

```

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}[\l]{%
2322 \def\HyInd@EncapChar{#1}%
2323 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

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

```

```

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

```

```

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

```

Next commented section for Russian is provided by Olga Lapko.

Next follow the checked reference names with commented variants and explanations. All they are abbreviated and they won't create a grammatical problems in the *middle* of sentences.

The most weak points in these abbreviations are the `\equationautorefname`, `\theoremautorefname` and the `\FancyVerbLineautorefname`. But those three, and also the `\footnoteautorefname` are not *too* often referenced. Another rather weak point is the `\appendixautorefname`.

```

2450 \def\HyLang@russian{%

```

The abbreviated reference to the equation: it is not for “the good face of the book”, but maybe it will be better to get the company for the `\theoremautorefname`?

```

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

```

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

```

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

```

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

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

Commented form of the full synonym for “footnote”. It has common form for both nominative and accusative but changes in other forms, like “of \autoref{auto}”

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

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

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

Name of the list item, can be confused with the paragraph reference name, but reader could understand meaning from context(?). Commented variant has common form for both nominative and accusative but changes in other forms, like “of \autoref{auto}” etc.

```
2464 \def\itemautorefname{\cyr\cyrp.}%
2465 % \def\itemautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
```

Names of the figure and table have stable (standard) abbreviation forms. No problem in the middle of sentence.

```
2466 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
2467 \def\tableautorefname{\cyr\cyrt\cyra\cyrb\cyrl.}%
```

Names of the part, chapter, section(s) have stable (standard) abbreviation forms. No problem in the middle of sentence.

```
2468 \def\partautorefname{\cyr\cyrch.}%
2469 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
2470 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
```

Name of the appendix can use this abbreviation, but it is not standard for books, i.e. not for “the good face of the book”. Commented variant has common form for both nominative and accusative but changes in other forms, like “of \autoref{auto}” etc.

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

The sectioning command have stable (almost standard) and common abbreviation form for all levels (the meaning of these references visible from the section number). No problem.

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

The names of references to paragraphs also have stable (almost standard) and common abbreviation form for all levels (the meaning of these references is visible from the section number). No problem in the middle of sentence.

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

Commented variant can be used in books but since it has common form for both nominative and accusative but it changes in other forms, like “of \autoref{auto}” etc.

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

The name of verbatim line. Here could be a standard of the abbreviation (used very rare). But the author preprint publications (which have not any editor or corrector) can use this abbreviation for the page reference. So the meaning of the line reference can be read as reference to the page.

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

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

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

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

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

```
2484 % \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyrk.}%
```

The names of theorem: if we want have “the good face of the book”, so the theorem reference must have the full name (like equation reference). But ...

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

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

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

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

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

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

```
2489 }
```

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

```
2507 }
```

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

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

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

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

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

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

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

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

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

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

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

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

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

```

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

```

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

```

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

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

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

```

```

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

```

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

```

2578 \define@key{Hyp}{vietnamese}[]{%
2579 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2580 \AtEndOfPackage{%
2581 \ifundefined{T@PU}{%
2582 \input{puvnenc.def}%
2583 }%
2584 }%
2585 }
2586 \define@key{Hyp}{vietnam}[]{%
2587 \HyLang@addto\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@unicodetofalse
2854     \pdfstringdef\@pdfcreationdate{#1}%
2855   \endgroup
2856 }
2857 \define@key{Hyp}{pdfmoddate}{%
2858   \begingroup
2859     \Hy@unicodetofalse
2860     \pdfstringdef\@pdfmoddate{#1}%
2861   \endgroup
2862 }
2863 \define@key{Hyp}{pdfsubject}{\pdfstringdef\@pdfsubject{#1}}

```

```

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

```

```

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

```

Default values:

```

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

```

```

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

```

Allow the user to use `\ExecuteOptions` in the `cfg` file even though this package does not use the normal option mechanism. Use `\hyper@normalise` as a scratch macro, since it is going to be defined in a couple of lines anyway.

```

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

```

To add flexibility, we will not use the ordinary processing of package options, but put them through the *keyval* package. This section was written by David Carlisle.

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

```

3016 \RequirePackage{kvoptions}[2006/08/17]
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\@bookmarkopenlevel} % explicit space
3342 \else
3343     -%
3344 \fi
3345 \else
3346     -%
3347 \fi
3348 }
3349 \ifHy@bookmarks
3350 \Hy@Info{Bookmarks ON}%
3351 \ifx\@pdfpagemode\@empty
3352 \def\@pdfpagemode{UseOutlines}%
3353 \fi
3354 \else
3355 \def\@bookmarkopenstatus#1{%
3356 \Hy@Info{Bookmarks OFF}%
3357 \AtEndOfPackage{%
3358 \global\let\ReadBookmarks\relax
3359 \global\let\WriteBookmarks\relax
3360 }%
3361 \ifx\@pdfpagemode\@empty
3362 \def\@pdfpagemode{UseNone}%
3363 \fi
3364 \fi
3365 \Hy@DisableOption{bookmarks}

```

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

```

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

```

```

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

```

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

```

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

```

for grouping consistency:

```

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

```



```

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

```

## 16 User hypertext macros

We need to normalise all user commands taking a URL argument; Within the argument the following special definitions apply: `\#`, `\%`, `\~` produce `#`, `%`, `~` respectively. for consistency `\~` produces `~` as well. At the *top level only* ie not within the argument of another command, you can use `#` and `%` unescaped, to produce themselves. even if, say, `#` is entered as `#` it will be converted to `\#` so it does not die if written to an aux file etc. `\#` will write as `#` locally while making `\specials`.

```

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

```

```

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

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

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

```

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

```

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

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

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

```

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

```

3598 \DeclareRobustCommand*\hyperref{%

```

```

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

```

```

3626 \def\label@hyperref[#1]{%
3627   \expandafter\label@@hyperref\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\\\else\hyper@hash#3\fi
3741             }%
3742         \else
3743             \hyper@linkurl{#2}{\use@file\ifx\#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@rotation{0}
4244 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4245 \def\endForm{\@endForm}
4246 \newif\ifForm@html
4247 \Form@htmlfalse
4248 \def\Form@boolkey#1#2{%
4249   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4250 }
4251 \define@key{Form}{action}{%
4252   \hyper@normalise\Hy@DefFormAction{#1}%
4253 }
4254 \def\Hy@DefFormAction{\def\Form@action}
4255 \def\enc@html{html}
4256 \define@key{Form}{encoding}{%
4257   \def\Hy@tempa{#1}%
4258   \ifx\Hy@tempa\enc@html
4259     \Form@htmltrue
4260     \def\Fld@export{html}%
4261   \else
4262     \typeout{hyperref: form 'encoding' key set to #1 %
4263     -- unknown type%
4264   }%
4265   \Form@htmlfalse
4266   \fi
4267 }
4268 \define@key{Form}{method}{%
4269   \lowercase{\def\Hy@temp{#1}}%
4270   \@ifundefined{Form@method@Hy@temp}{%
4271     \@onelevel@sanitize\Hy@temp
4272     \PackageError{hyperref}{%
4273       Unknown method '\Hy@temp'.\MessageBreak
4274       Known values are 'post' and 'get'%
4275     }\@ehc
4276   }{%
4277     \let\Form@method\Hy@temp
4278     \ifcase\@nameuse{Form@method@Hy@temp} %
4279       \Fld@getmethodfalse
4280     \else
4281       \Fld@getmethodtrue
4282     \fi

```

```

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

```

```

4340 \def\Fld@borderwidth{#1}%
4341 }
4342 \define@key{Field}{borderstyle}{%
4343 \def\Fld@borderstyle{#1}%
4344 }
4345 \define@key{Field}{bordersep}{%
4346 \def\Fld@bordersep{#1}%
4347 }
4348 \define@key{Field}{default}{%
4349 \def\Fld@default{#1}%
4350 }
4351 \define@key{Field}{align}{%
4352 \def\Fld@align{#1}%
4353 }
4354 \define@key{Field}{value}{%
4355 \def\Fld@value{#1}%
4356 }
4357 \define@key{Field}{checkboxsymbol}{%
4358 \def\Fld@cbsymbol{#1}%
4359 }

4360 \define@key{Field}{rotation}{%
4361 \def\Fld@rotation{#1}%
4362 }

4363 \define@key{Field}{backgroundcolor}{%
4364 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4365 }
4366 \define@key{Field}{bordercolor}{%
4367 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4368 }
4369 \define@key{Field}{color}{%
4370 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4371 }

4372 \def\Fld@onclick@code{}
4373 \def\Fld@format@code{}
4374 \def\Fld@validate@code{}
4375 \def\Fld@calculate@code{}
4376 \def\Fld@keystroke@code{}
4377 \def\Fld@onfocus@code{}
4378 \def\Fld@onblur@code{}
4379 \def\Fld@onmousedown@code{}
4380 \def\Fld@onmouseup@code{}
4381 \def\Fld@onenter@code{}
4382 \def\Fld@onexit@code{}
4383 \def\Hy@temp#1{%
4384 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4385 }
4386 \def\Hy@@temp#1#2{%
4387 \ifHy@pdfa
4388 \define@key{Field}{#2}{%
4389 \PackageError{hyperref}{%
4390 PDF/A: Additional action ‘#2’ is prohibited%
4391 }\@ehc
4392 }%
4393 \else
4394 \define@key{Field}{#2}{%
4395 \def#1{##1}%

```

```

4396     }%
4397   \fi
4398 }
4399 \Hy@temp{keystroke}
4400 \Hy@temp{format}
4401 \Hy@temp{validate}
4402 \Hy@temp{calculate}
4403 \Hy@temp{onfocus}
4404 \Hy@temp{onblur}
4405 \Hy@temp{onenter}
4406 \Hy@temp{onexit}
4407 \def\Hy@temp#1{%
4408   \define@key{Field}{#1}{%
4409     \Field@addtoks{#1}{##1}%
4410   }%
4411 }
4412 \Hy@temp{onselect}
4413 \Hy@temp{onchange}
4414 \Hy@temp{ondblclick}
4415 \Hy@temp{onmousedown}
4416 \Hy@temp{onmouseup}
4417 \Hy@temp{onmouseover}
4418 \Hy@temp{onmousemove}
4419 \Hy@temp{onmouseout}
4420 \Hy@temp{onkeypress}
4421 \Hy@temp{onkeydown}
4422 \Hy@temp{onkeyup}
4423 \ifHy@pdfa
4424   \define@key{Field}{onclick}{%
4425     \PackageError{hyperref}{%
4426       PDF/A: Action 'onclick' is prohibited%
4427     }\@ehc
4428   }%
4429 \else
4430   \define@key{Field}{onclick}{%
4431     \def\Fld@onclick@code{#1}%
4432     \Field@addtoks{onclick}{#1}%
4433   }%
4434 \fi
4435 \DeclareRobustCommand\TextField{%
4436   \@ifnextchar[{\@TextField}{\@TextField[]}%
4437 }
4438 \DeclareRobustCommand\ChoiceMenu{%
4439   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4440 }
4441 \DeclareRobustCommand\CheckBox{%
4442   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4443 }
4444 \DeclareRobustCommand\PushButton{%
4445   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4446 }
4447 \DeclareRobustCommand\Gauge{%
4448   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4449 }
4450 \DeclareRobustCommand\Submit{%
4451   \@ifnextchar[{\@Submit}{\@Submit[]}%
4452 }

```

```

4453 \DeclareRobustCommand\Reset{%
4454   \@ifnextchar[{\@Reset}{\@Reset[]}%
4455 }
4456 \def\LayoutTextField#1#2{% label, field
4457   #1 #2%
4458 }
4459 \def\LayoutChoiceField#1#2{% label, field
4460   #1 #2%
4461 }
4462 \def\LayoutCheckField#1#2{% label, field
4463   #1 #2%
4464 }
4465 \def\LayoutPushButtonField#1{% button
4466   #1%
4467 }
4468 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4469 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4470 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4471 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4472 \def\MakeButtonField#1{%
4473   \sbox0{%
4474     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4475   }%
4476   \@tempdima\ht0 %
4477   \advance\@tempdima by \Fld@borderwidth bp %
4478   \advance\@tempdima by \Fld@borderwidth bp %
4479   \ht0\@tempdima
4480   \@tempdima\dp0 %
4481   \advance\@tempdima by \Fld@borderwidth bp %
4482   \advance\@tempdima by \Fld@borderwidth bp %
4483   \dp0\@tempdima
4484   \box0\relax
4485 }
4486 \def\DefaultHeightofSubmit{14pt}
4487 \def\DefaultWidthofSubmit{2cm}
4488 \def\DefaultHeightofReset{14pt}
4489 \def\DefaultWidthofReset{2cm}
4490 \def\DefaultHeightofCheckBox{\baselineskip}
4491 \def\DefaultWidthofCheckBox{\baselineskip}
4492 \def\DefaultHeightofChoiceMenu{\baselineskip}
4493 \def\DefaultWidthofChoiceMenu{\baselineskip}
4494 \def\DefaultHeightofText{\baselineskip}
4495 \def\DefaultHeightofTextMultiline{4\baselineskip}
4496 \def\DefaultWidthofText{3cm}
4497 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4498 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4499 \def\DefaultOptionsofPushButton{print}
4500 \def\DefaultOptionsofCheckBox{print}
4501 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

4502 \def\DefaultOptionsofListBox{print}
4503 \def\DefaultOptionsofComboBox{print,edit,sort}
4504 \def\DefaultOptionsofPopdownBox{print}
4505 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 20 Setup

```
4506 \ifHy@figures
4507   \Hy@Info{Hyper figures ON}%
4508 \else
4509   \Hy@Info{Hyper figures OFF}%
4510 \fi
4511 \ifHy@nesting
4512   \Hy@Info{Link nesting ON}%
4513 \else
4514   \Hy@Info{Link nesting OFF}%
4515 \fi
4516 \ifHy@hyperindex
4517   \Hy@Info{Hyper index ON}%
4518 \else
4519   \Hy@Info{Hyper index OFF}%
4520 \fi
4521 \ifHy@backref
4522   \Hy@Info{backreferencing ON}%
4523 \else
4524   \Hy@Info{backreferencing OFF}%
4525 \fi
4526 \ifHy@colorlinks
4527   \Hy@Info{Link coloring ON}%
4528 \else
4529   \Hy@Info{Link coloring OFF}%
4530 \fi
4531 \ifHy@ocgcolorlinks
4532   \Hy@Info{Link coloring with OCG ON}%
4533 \else
4534   \Hy@Info{Link coloring with OCG OFF}%
4535 \fi
4536 \ifHy@pdfa
4537   \Hy@Info{PDF/A mode ON}%
4538 \else
4539   \Hy@Info{PDF/A mode OFF}%
4540 \fi
```

## 21 Low-level utility macros

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

```
4541 \edef\hyper@hash{\string#}
4542 \edef\hyper@tilde{\string~}
4543 \edef\hyper@quote{\string"}
4544 \let\@currentHref\@empty
4545 \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.

```
4546 \AfterBeginDocument{%
4547   \Hy@pdfstringtrue
4548   \PDF@SetupDoc
4549   \let\PDF@SetupDoc\@empty
4550   \Hy@DisableOption{pdfpagescrop}%
4551   \Hy@DisableOption{pdfpagemode}%
4552   \Hy@DisableOption{pdfnonfullscreenpagemode}%
4553   \Hy@DisableOption{pdfdirection}%
4554   \Hy@DisableOption{pdfviewarea}%

```

```

4555 \Hy@DisableOption{pdfviewclip}%
4556 \Hy@DisableOption{pdfprintarea}%
4557 \Hy@DisableOption{pdfprintclip}%
4558 \Hy@DisableOption{pdfprintscaling}%
4559 \Hy@DisableOption{pdfduplex}%
4560 \Hy@DisableOption{pdfpicktraybypdfsize}%
4561 \Hy@DisableOption{pdfprintpagerange}%
4562 \Hy@DisableOption{pdfnumcopies}%
4563 \Hy@DisableOption{pdfstartview}%
4564 \Hy@DisableOption{pdfstartpage}%
4565 \Hy@DisableOption{pdftoolbar}%
4566 \Hy@DisableOption{pdfmenubar}%
4567 \Hy@DisableOption{pdfwindowui}%
4568 \Hy@DisableOption{pdffitwindow}%
4569 \Hy@DisableOption{pdfcenterwindow}%
4570 \Hy@DisableOption{pdfdisplaydoctitle}%
4571 \Hy@DisableOption{pdfpagelayout}%
4572 \Hy@DisableOption{pdflang}%
4573 \Hy@DisableOption{baseurl}%
4574 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4575 \Hy@pdfstringfalse
4576 }

```

## 22 Localized nullifying of package

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

```

4577 \def\NoHyper{%
4578   \def\hyper@link@{##1}##2##3##4{##4}%
4579   \def\hyper@@anchor##1{%
4580     \global\let\hyper@livelink\hyper@link
4581     \gdef\hyper@link##1##2##3{##3}%
4582     \def\hyper@anchorstart##1{%
4583       \let\hyper@anchorend\@empty
4584       \def\hyper@linkstart##1##2{%
4585         \let\hyper@linkend\@empty
4586         \def\hyper@linkurl##1##2{##1}%
4587         \def\hyper@linkfile##1##2##3{##1}%
4588         \def\hyper@link@{##1}##2##3{%
4589           \let\Hy@backout\@gobble
4590 }
4591 \def\stop@hyper{%
4592   \def\hyper@link@{##1}##2##3##4{##4}%
4593   \let\Hy@backout\@gobble
4594   \def\hyper@@anchor##1{%
4595     \def\hyper@link##1##2##3{##3}%
4596     \def\hyper@anchorstart##1{%
4597       \let\hyper@anchorend\@empty
4598       \def\hyper@linkstart##1##2{%
4599         \let\hyper@linkend\@empty
4600         \def\hyper@linkurl##1##2{##1}%
4601         \def\hyper@linkfile##1##2##3{##1}%
4602         \def\hyper@link@{##1}##2##3{%
4603 }

```



```

4604 \def\endNoHyper{%
4605   \global\let\hyper@link\hyper@livelink
4606 }
4607 \</package>

```

## 23 Package nohyperref

This package is introduced by Sebastian Rahtz.

Package nohyperref is a dummy package that defines some low level and some top-level commands. It is done for jadetex, which calls hyperref low-level commands, but it would also be useful with people using normal hyperref, who really do not want the package loaded at all.

Some low-level commands:

```

4608 \<*nohyperref>
4609 \let\hyper@@anchor\@gobble
4610 \def\hyper@link#1#2#3{#3}%
4611 \let\hyper@anchorstart\@gobble
4612 \let\hyper@anchorend\@empty
4613 \let\hyper@linkstart\@gobbletwo
4614 \let\hyper@linkend\@empty
4615 \def\hyper@linkurl#1#2{#1}%
4616 \def\hyper@linkfile#1#2#3{#1}%
4617 \def\hyper@link@{#1}#2#3{#3}%
4618 \let\PDF@SetupDoc\@empty
4619 \let\PDF@FinishDoc\@empty
4620 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

4621 \def\Acrobatmenu#1#2{\leavevmode#2}
4622 \let\pdfstringdefDisableCommands\@gobbletwo
4623 \let\texorpdfstring\@firstoftwo
4624 \let\pdfbookmark\@undefined
4625 \newcommand\pdfbookmark[3][]{ }
4626 \let\phantomsection\@empty
4627 \let\hypersetup\@gobble
4628 \let\hyperbaseurl\@gobble
4629 \let\href\@gobble
4630 \let\hyperdef\@gobbletwo
4631 \let\hyperlink\@gobble
4632 \let\hypertarget\@gobble
4633 \def\hyperref{%
4634   \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4635 }
4636 \long\def\@gobbleopt[#1]{ }
4637 \let\hyperpage\@empty
4638 \</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}

```

4639 \<*package>
4640 \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.

```

4641 \if@files
4642 \ifHy@typexml
4643 \immediate\closeout\@mainaux
4644 \immediate\openout\@mainaux\jobname.aux\relax
4645 \immediate\write\@auxout{<relaxxml>\relax}%
4646 \fi
4647 \immediate\write\@auxout{%
4648 \string\ifx\string\hyper@anchor\string\@undefined^^J%
4649 \global\let\string\oldcontentsline\string\contentsline^^J%
4650 \gdef\string\contentsline%
4651 \string#1\string#2\string#3\string#4{%
4652 \string\oldcontentsline%
4653 {\string#1}{\string#2}{\string#3}}^^J%
4654 \global\let\string\oldnewlabel\string\newlabel^^J%
4655 \gdef\string\newlabel\string#1\string#2{%
4656 \string\newlabelxx{\string#1}\string#2^^J%
4657 \gdef\string\newlabelxx%
4658 \string#1\string#2\string#3\string#4\string#5\string#6{%
4659 \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.

```

4660 \string\AtEndDocument{%
4661 \let\string\contentsline\string\oldcontentsline^^J%
4662 \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.

```

4663 \string\else^^J%
4664 \global\let\string\hyper@last\relax^^J%
4665 \string\fi^^J%
4666 }%
4667 \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.

```

4668 \ifx\hyper@last\@undefined
4669 \def\@starttoc#1{%
4670 \begingroup
4671 \makeatletter
4672 \IfFileExists{\jobname.#1}{%
4673 \Hy@WarningNoLine{%
4674 old #1 file detected, not used; run LaTeX again%
4675 }%
4676 }{%
4677 \if@files
4678 \expandafter\newwrite\csname tf@#1\endcsname
4679 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4680 \fi
4681 \@nobreakfalse
4682 \endgroup

```

```

4683 }%
4684 \def\newlabel#1#2{\@newlabel{#1}{#2}{-}{-}{-}}%
4685 \fi
4686 }

```

## 25 Title strings

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

```

4687 \ifHy@usetitle
4688 \let\HyOrg@title\title
4689 \let\HyOrg@author\author
4690 \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
4691 \def\Hy@scanopttitle[#1]{%
4692 \gdef\Hy@title{#1}%
4693 \HyOrg@title[#1]}%
4694 }%
4695 \def\Hy@scantitle#1{%
4696 \gdef\Hy@title{#1}%
4697 \HyOrg@title{#1}%
4698 }%
4699 \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4700 \def\Hy@scanoptauthor[#1]{%
4701 \gdef\Hy@author{#1}%
4702 \HyOrg@author[#1]}%
4703 }%
4704 \def\Hy@scanauthor#1{%
4705 \gdef\Hy@author{#1}%
4706 \HyOrg@author{#1}%
4707 }%

```

The case, that `or` is given before `hyperref` is loaded, is much more complicate, because LaTeX initializes the macros `title` and `author` with LaTeX error and warning messages.

```

4708 \begingroup
4709 \def\process@me#1\@nil#2{%
4710 \expandafter\let\expandafter\x\csname @#2\endcsname
4711 \edef\y{\expandafter\strip@prefix\meaning\x}%
4712 \def\c##1##2\@nil{%
4713 \ifx\\##1\\%
4714 \else
4715 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
4716 \expandafter{\x}%
4717 \fi
4718 }%
4719 \expandafter\c\y\relax#1\@nil
4720 }%
4721 \expandafter\process@me\string\@latex@\@nil{title}%
4722 \expandafter\process@me\string\@latex@\@nil{author}%
4723 \endgroup
4724 \fi
4725 \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.

```

4726 \def\Hy@UseMaketitleString#1{%
4727   \@ifundefined{Hy@#1}{}{%
4728     \begingroup
4729     \let\Hy@saved@hook\pdfstringdefPreHook
4730     \pdfstringdefDisableCommands{%
4731       \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
4732       \let\newline\\%
4733     }%
4734     \expandafter\ifx\csname @pdf#1\endcsname\@empty
4735       \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4736         \csname Hy@#1\endcsname\@empty
4737       }%
4738     \fi
4739     \global\let\pdfstringdefPreHook\Hy@saved@hook
4740   \endgroup
4741 }%
4742 }
4743 \def\Hy@newline@title#1{ #1}
4744 \def\Hy@newline@author#1{, #1}
4745 \def\Hy@UseMaketitleInfos{%
4746   \Hy@UseMaketitleString{title}%
4747   \Hy@UseMaketitleString{author}%
4748 }

```

## 26 Page numbers

This stuff is done by Heiko Oberdick.

## 27 Every page

```

4749 \RequirePackage{atbegshi}[2007/09/09]
4750 \def\Hy@EveryPageHook{}
4751 \def\Hy@EveryPageBoxHook{}
4752 \def\Hy@FirstPageHook{}
4753 \AtBeginShipout{%
4754   \Hy@EveryPageHook
4755   \ifx\Hy@EveryPageBoxHook\@empty
4756   \else
4757     \setbox\AtBeginShipoutBox=\vbox{%
4758       \offinterlineskip
4759       \Hy@EveryPageBoxHook
4760       \box\AtBeginShipoutBox
4761     }%
4762   \fi
4763 }
4764 \AtBeginShipoutFirst{%
4765   \Hy@FirstPageHook
4766 }
4767 \g@addto@macro\Hy@FirstPageHook{%
4768   \PDF@FinishDoc
4769   \gdef\PDF@FinishDoc{}%

```

4770 }

## 27.1 PDF /PageLabels

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

```

4771 \ifHy@pagelabels
4772   \begingroup\expandafter\expandafter\expandafter\endgroup
4773   \expandafter\ifx\csname thepage\endcsname\relax
4774     \Hy@pagelabelsfalse
4775     \Hy@WarningNoLine{%
4776       Option 'pdfpagelabels' is turned off\MessageBreak
4777       because \string\thepage\space is undefined%
4778     }%
4779     \csname fi\endcsname
4780     \csname iffalse\expandafter\endcsname
4781   \fi

```

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

```

4782   \def\thispdfpagelabel#1{%
4783     \gdef\HyPL@thisLabel{#1}%
4784   }%
4785   \global\let\HyPL@thisLabel\relax

```

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

```

4786   \def\HyPL@Labels{%

```

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

```

4787   \newcount\Hy@abspage
4788   \Hy@abspage=0 %

```

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

```

4789   \def\HyPL@LastType{init}%
4790   \def\HyPL@LastNumber{0}%
4791   \def\HyPL@LastPrefix{}%

```

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

```

4792   \def\HyPL@arabic{D}%
4793   \def\HyPL@Roman{R}%
4794   \def\HyPL@roman{r}%
4795   \def\HyPL@Alph{A}%
4796   \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.

```

4797   \def\HyPL@EveryPage{%
4798     \begingroup
4799     \ifx\HyPL@thisLabel\relax
4800       \let\HyPL@page\thepage
4801     \else
4802       \let\HyPL@page\HyPL@thisLabel
4803       \global\let\HyPL@thisLabel\relax
4804     \fi
4805     \let\HyPL@Type\relax
4806     \ifnum\the\c@page>0 %
4807       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4808     \fi

```

```

4809 \let\Hy@temp Y%
4810 \ifx\HyPL@Type\HyPL@LastType
4811 \else
4812 \let\Hy@temp N%
4813 \fi
4814 \ifx\HyPL@Type\relax
4815 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4816 \else
4817 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4818 \fi
4819 \ifx\HyPL@Prefix\HyPL@LastPrefix
4820 \else
4821 \let\Hy@temp N%
4822 \fi
4823 \if Y\Hy@temp
4824 \advance\c@page by -1 %
4825 \ifnum\HyPL@LastNumber=\the\c@page\relax
4826 \else
4827 \let\Hy@temp N%
4828 \fi
4829 \Hy@StepCount\c@page
4830 \fi
4831 \if N\Hy@temp
4832 \ifx\HyPL@Type\relax
4833 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
4834 \else
4835 \HyPL@StorePageLabel{%
4836 \ifx\HyPL@Prefix\@empty
4837 \else
4838 /P(\HyPL@Prefix)%
4839 \fi
4840 /S/\csname HyPL\HyPL@Type\endcsname
4841 \ifnum\the\c@page=1 %
4842 \else
4843 \space/St \the\c@page
4844 \fi
4845 }%
4846 \fi
4847 \fi
4848 \xdef\HyPL@LastNumber{\the\c@page}%
4849 \global\let\HyPL@LastType\HyPL@Type
4850 \global\let\HyPL@LastPrefix\HyPL@Prefix
4851 \endgroup
4852 \Hy@GlobalStepCount\Hy@abspage
4853 }%

```

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

```

4854 \def\HyPL@CheckThePage#1\@nil{%
4855 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
4856 }%

```

`\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`.

```

4857 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4858 \def\Hy@tempa{#4}%

```

```

4859 \def\Hy@tempb{\csname\endcsname\c@page}%
4860 \ifx\Hy@tempa\Hy@tempb
4861 \expandafter\ifx\csname HyPL#3\endcsname\relax
4862 \else
4863 \def\HyPL@Type{#3}%
4864 \def\HyPL@Prefix{#2}%
4865 \fi
4866 \else
4867 \begingroup
4868 \let\Hy@next\endgroup
4869 \let\HyPL@found\@undefined
4870 \def\arabic{\HyPL@Format{arabic}}%
4871 \def\Roman{\HyPL@Format{Roman}}%
4872 \def\roman{\HyPL@Format{roman}}%
4873 \def\Alph{\HyPL@Format{Alph}}%
4874 \def\alph{\HyPL@Format{alph}}%
4875 \protected@edef\Hy@temp{#1}%
4876 \ifx\HyPL@found\relax
4877 \toks@\expandafter{\Hy@temp}%
4878 \edef\Hy@next{\endgroup
4879 \noexpand\HyPL@@@CheckThePage\the\toks@
4880 \noexpand\HyPL@found\relax\noexpand\@nil
4881 }%
4882 \fi
4883 \Hy@next
4884 \fi
4885 }%

```

`\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`.

```

4886 \def\HyPL@Format#1#2{%
4887 \ifx\HyPL@found\@undefined
4888 \expandafter\ifx\csname c@#2\endcsname\c@page
4889 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
4890 \else
4891 \expandafter\noexpand\csname#1\endcsname{#2}%
4892 \fi
4893 \else
4894 \expandafter\noexpand\csname#1\endcsname{#2}%
4895 \fi
4896 }%

```

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

```

4897 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
4898 \def\Hy@tempa{#3}%
4899 \def\Hy@tempb{\HyPL@found\relax}%
4900 \ifx\Hy@tempa\Hy@tempb
4901 \def\HyPL@Type{#2}%
4902 \def\HyPL@Prefix{#1}%
4903 \fi
4904 }%

```

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

```

4905 \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`.

```
4906 \def\HyPL@Useless{0<</S/D>>}%
4907 \@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.

```
4908 \def\HyPL@SetPageLabels{%
4909   \@onelevel@sanitize\HyPL@Labels
4910   \ifx\HyPL@Labels\@empty
4911   \else
4912     \ifx\HyPL@Labels\HyPL@Useless
4913     \else
4914       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
4915     \fi
4916   \fi
4917 }%
```

```
4918 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
4919 \fi
```

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

```
4920 \Hy@DisableOption{pdfpagelabels}
4921 </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`

```
4922 <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.

```
4923 <vtex>
4924 \providecommand*{\XR@ext}{pdf}
4925 \edef\Hy@VTeXversion{%
4926   \ifx\VTeXversion\@undefined
4927     \z@
4928   \else
4929     \ifx\VTeXversion\relax
4930       \z@
4931     \else
4932       \VTeXversion
4933     \fi
4934   \fi
4935 }
4936 \begingroup
4937 \ifnum\Hy@VTeXversion<660 %
4938   \gdef\Hy@PutCatalog#1{%
4939     \Hy@WarningNoLine{%
4940       VTeX 6.59g or above required for pdfpagelabels%
4941     }%
4942   }%
```



```

4943 \else
4944   \gdef\Hy@PutCatalog#1{%
4945     \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
4946   }%
4947   \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
4948     \ifx\#2\%
4949       \else
4950         \immediate\special{!pdfpagelabels #2}%
4951       \fi
4952     }%
4953   \fi
4954 \endgroup
4955 \</vtex>

4956 \<*pdfTeX | vtex>

```

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

```

4957 \ifHy@pagelabels
4958   \def\HyPL@StorePageLabel#1{%
4959     \toks@\expandafter{\HyPL@Labels}%
4960     \xdef\HyPL@Labels{%
4961       \the\toks@
4962       \the\Hy@abspage<<#1>>%
4963     }%
4964   }%

```

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.

```

4965 \@ifclassloaded{revtex4}{%
4966   \g@addto@macro\clear@document{\HyPL@SetPageLabels}%
4967 }{%
4968   \AtEndDocument{\clearpage\HyPL@SetPageLabels}%
4969 }%

4970 \fi
4971 \</pdfTeX | vtex>

```

### 27.1.2 pdfmarkbase, dvipdfm

```

4972 \<*pdfmarkbase>
4973 \begingroup
4974   \toks@\expandafter{\Hy@FirstPageHook}%
4975   \xdef\Hy@FirstPageHook{%
4976     \noexpand\headerps@out{%
4977       systemdict /pdfmark known%
4978       {%
4979         userdict /?pdfmark systemdict /exec get put%
4980       }{%
4981         userdict /?pdfmark systemdict /pop get put %
4982         userdict /pdfmark systemdict /cleartomark get put%
4983       }%
4984     }%
4985   }%
4986   \the\toks@
4987 }%
4988 \endgroup
4989 \</pdfmarkbase>

```

\Hy@PutCatalog

```

4990 <dvipdfm>\def\Hy@PutCatalog#1{\@pdfmark{docview << #1 >>}}
4991 <*pdfmarkbase>
4992 \def\Hy@PutCatalog#1{%
4993   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
4994 }
4995 </pdfmarkbase>

4996 <*pdfmarkbase | dvipdfm>
4997 \ifHy@pagelabels

```

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

```

4998   \def\HyPL@StorePageLabel#1{%
4999     \if@filesw
5000       \begingroup
5001         \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
5002         \immediate\write\@mainaux{%
5003           \string\HyPL@Entry{\Hy@tempa}%
5004         }%
5005       \endgroup
5006     \fi
5007   }%

```

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.

```

5008   \AfterBeginDocument{%
5009     \if@filesw
5010       \immediate\write\@mainaux{%
5011         \string\providecommand\string*\string\HyPL@Entry[1]{}%
5012       }%
5013     \fi
5014     \ifx\HyPL@Labels\@empty
5015       \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
5016     \else
5017       \HyPL@SetPageLabels
5018     \fi
5019     \let\HyPL@Entry\@gobble
5020   }%

```

\HyPL@Entry

```

5021   \def\HyPL@Entry#1{%
5022     \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
5023       \HyPL@Labels
5024       #1%
5025     }%
5026   }%

5027 \fi
5028 </pdfmarkbase | dvipdfm>
5029 <*package>
5030 \MaybeStopEarly

```

## 28 Automated L<sup>A</sup>T<sub>E</sub>X hypertext cross-references

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

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

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

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

Start with a fallback for equations

```

5031 \def\Hy@CounterExists#1{%
5032   \begingroup\expandafter\expandafter\expandafter\endgroup
5033   \expandafter\ifx\csname c@#1\endcsname\relax
5034     \expandafter\@gobble
5035   \else
5036     \begingroup\expandafter\expandafter\expandafter\endgroup
5037     \expandafter\ifx\csname the#1\endcsname\relax
5038       \expandafter\expandafter\expandafter\@gobble
5039     \else
5040       \expandafter\expandafter\expandafter\@firstofone
5041     \fi
5042   \fi
5043 }
5044 \Hy@CounterExists{section}{%
5045   \newcommand\theHequation{\theHsection.\arabic{equation}}%
5046 }
5047 \Hy@CounterExists{part}{%
5048   \newcommand\theHpart{\arabic{part}}%
5049 }
5050 \@ifundefined{thechapter}{%
5051   \newcommand\theHsection    {\arabic{section}}%
5052   \newcommand\theHfigure     {\arabic{figure}}%
5053   \newcommand\theHtable      {\arabic{table}}%
5054 }{%
5055   \newcommand\theHchapter    {\arabic{chapter}}%
5056   \newcommand\theHfigure     {\theHchapter.\arabic{figure}}%
5057   \newcommand\theHtable      {\theHchapter.\arabic{table}}%
5058   \newcommand\theHsection    {\theHchapter.\arabic{section}}%
5059 }
5060 \newcommand\theHsubsection   {\theHsection.\arabic{subsection}}
5061 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5062 \newcommand\theHparagraph    {\theHsubsubsection.\arabic{paragraph}}
5063 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
5064 \newcommand\theHtheorem      {\theHsection.\arabic{theorem}}
5065 \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.

```

5066 \let\H@item\item
5067 \newcounter{Item}
5068 \def\theHItem{\arabic{Item}}

```

```

5069 \def\item{%
5070   \@hyper@itemfalse
5071   \if@nmbrlist\@hyper@itemtrue\fi
5072   \H@item
5073 }

5074 \newcommand\theHenumi    {\theHItem}
5075 \newcommand\theHenumii   {\theHItem}
5076 \newcommand\theHenumiii  {\theHItem}
5077 \newcommand\theHenumiv   {\theHItem}
5078 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5079 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5080 \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.

```

5081 \let\H@refstepcounter\refstepcounter
5082 \edef\name@of@eq{equation}%
5083 \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.

```

5084 \newif\if@hyper@item
5085 \newif\if@skiphyperref
5086 \@hyper@itemfalse
5087 \@skiphyperreffalse
5088 \def\refstepcounter#1{%
5089   \ifHy@pdfstring
5090   \else
5091     \H@refstepcounter{#1}%
5092     \edef\This@name{#1}%
5093     \ifx\This@name\name@of@slide
5094     \else
5095       \if@skiphyperref
5096       \else
5097         \if@hyper@item
5098           \stepcounter{Item}%
5099           \hyper@refstepcounter{Item}%
5100           \@hyper@itemfalse
5101         \else
5102           \hyper@refstepcounter{#1}%
5103         \fi
5104       \fi
5105     \fi
5106   \fi
5107 }

```

AMSL<sup>A</sup>T<sub>E</sub>X processes all equations twice; we want to make sure that the hyper stuff is not executed twice, so we use the AMS `\ifmeasuring@`, initialized if AMS math is not used.

```

5108 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

5109 \def\hyper@refstepcounter#1{%
5110   \edef\This@name{#1}%
5111   \ifx\This@name\name@of@eq

```

```

5112 \ifundefined{theHequation}{%
5113 \make@stripped@name{theequation}%
5114 \let\theHequation\newname
5115 }{}%
5116 \fi
5117 \ifundefined{theH#1}{%
5118 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5119 }{}%
5120 \hyper@makecurrent{#1}%
5121 \ifmeasuring@
5122 \else
5123 \Hy@raisedlink{%
5124 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5125 }%
5126 \fi
5127 }

```

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`.

```

5128 \begingroup\expandafter\expandafter\expandafter\endgroup
5129 \expandafter\ifx\csname chapter\endcsname\relax
5130 \def\Hy@chapterstring{section}%
5131 \else
5132 \def\Hy@chapterstring{chapter}%
5133 \fi
5134 \def\Hy@appendixstring{appendix}
5135 \def\Hy@chapapp{\Hy@chapterstring}
5136 \let\HyOrg@appendix\appendix
5137 \def\appendix{%
5138 \ifundefined{chapter}%
5139 {\gdef\theHsection{\Alph{section}}}%
5140 {\gdef\theHchapter{\Alph{chapter}}}%
5141 \xdef\Hy@chapapp{\Hy@appendixstring}%
5142 \HyOrg@appendix
5143 }

```

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

```

5144 \def\hyper@makecurrent#1{%
5145 \begingroup
5146 \edef\Hy@param{#1}%
5147 \ifx\Hy@param\Hy@chapterstring
5148 \let\Hy@param\Hy@chapapp
5149 \fi
5150 \ifHy@hypertextnames
5151 \let\@number\@firstofone
5152 \ifundefined{latin@Alph}{%
5153 \ifx\@Alph\greek@Alph
5154 \def\@Alph{Alph\@arabic}%
5155 \fi
5156 }%
5157 \ifx\@Alph\@Alph@bul
5158 \def\@Alph{Alph\@arabic}%

```

```

5159 \fi
5160 \ifx\@alph\@alph@bul
5161 \def\@alph{alph\@arabic}%
5162 \fi
5163 \ifHy@naturalnames
5164 \let\textlatin\@firstofone
5165 \xdef\@currentHlabel{\csname the#1\endcsname}%
5166 \else
5167 \xdef\@currentHlabel{%
5168 \csname
5169 the%
5170 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
5171 #1%
5172 \endcsname
5173 }%
5174 \fi
5175 \xdef\@currentHref{%
5176 \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5177 }%
5178 \else
5179 \Hy@GlobalStepCount\Hy@linkcounter
5180 \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
5181 \fi
5182 \endgroup
5183 }

5184 \@ifpackageloaded{fancyvrb}{%
5185 \@ifpackagelater{fancyvrb}{1998/05/20}{-}{%
5186 \def\FV@StepLineNo{%
5187 \FV@SetLineNo
5188 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5189 \FV@SetLineNo
5190 }%
5191 }%
5192 }{-}

```

## 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`

```

5193 \AtBeginDocument{%
5194 \@ifclassloaded{revtex4}{%
5195 \@namedef{ver@lastpage.sty}{1994/06/25}%
5196 }{-}%
5197 \@ifpackageloaded{lastpage}{%
5198 \ifHy@pageanchor
5199 \else
5200 \Hy@WarningNoLine{%
5201 The \string\pageref{LastPage} link doesn't work\MessageBreak
5202 with disabled option 'pageanchor'%

```

```

5203     }%
5204     \fi
5205     \def\lastpage@putlabel{%
5206       \addtocounter{page}{-1}%
5207       \if@filesw
5208         \begingroup
5209           \let\@number\@firstofone
5210           \ifHy@pageanchor
5211             \ifHy@hypertexnames
5212               \ifHy@plainpages
5213                 \def\Hy@temp{\arabic{page}}%
5214               \else
5215                 \Hy@unicodedefalse
5216                 \pdfstringdef\Hy@temp{\thepage}%
5217             \fi
5218           \else
5219             \def\Hy@temp{\the\Hy@pagecounter}%
5220           \fi
5221         \fi
5222         \immediate\write\@auxout{%
5223           \string\newlabel
5224             {LastPage}{\the\Hy@temp}{\thepage}}%
5225           \ifHy@pageanchor page.\Hy@temp\fi}}}%
5226     }%
5227     \endgroup
5228     \fi
5229     \addtocounter{page}{1}%
5230   }%
5231   \@ifclassloaded{revtex4}{%
5232     \begingroup
5233       \toks@{\expandafter{\lastpage@putlabel}}%
5234       \edef\x{\endgroup
5235         \def\noexpand\lastpage@putlabel{%
5236           \noexpand\stepcounter{page}%
5237           \the\toks@
5238           \noexpand\addtocounter{page}\noexpand\m@ne
5239         }%
5240       }%
5241       \x
5242     }{}%
5243   }{}%
5244 }
5245 </package>
5246 <*check>
5247 \checkpackage{lastpage}[1994/06/25]
5248 \checkcommand\def\lastpage@putlabel{%
5249   \addtocounter{page}{-1}%
5250   \immediate\write\@auxout{%
5251     \string\newlabel{LastPage}{\the\Hy@temp}{\thepage}}%
5252   }%
5253   \addtocounter{page}{1}%
5254 }
5255 </check>
5256 <*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.

```
5257 \def\hypergetref#1{\getrefbykeydefault{#1}{}}{??}}
5258 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}}{0}}
```

## 31 Package titlesec and titletoc support

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

Package titlesec support:

```
5259 \@ifpackageloaded{titlesec}{%
5260   \def\ttl@Hy@steplink#1{%
5261     \Hy@GlobalStepCount\Hy@linkcounter
5262     \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5263     \def\ttl@Hy@saveanchor{%
5264       \Hy@raisedlink{%
5265         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5266       }%
5267     }%
5268   }%
5269   \def\ttl@Hy@refstepcounter#1{%
5270     \let\ttl@b\Hy@raisedlink
5271     \def\Hy@raisedlink##1{%
5272       \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5273     }%
5274     \refstepcounter{#1}%
5275     \let\Hy@raisedlink\ttl@b
5276   }%
5277 }{}
```

Package titletoc support:

```
5278 \@ifpackageloaded{titletoc}{%
5279   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5280 }{}
```

## 32 Package varioref support

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

```
5281 \def\Hy@varioref@undefined{??}{??}{-}{-}}
5282 \@ifpackageloaded{varioref}{%
5283   \def\vref@pagenum#1#2{%
5284     \@ifundefined{r@#2}{%
5285       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5286     }{}%
5287     \edef#1{\getpagerefnumber{#2}}%
5288   }%
5289 }{}
```



### 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

```

5290 \@ifpackageloaded{longtable}{%
5291   \begingroup
5292     \def\y{\LT@array}%
5293     \@ifundefined{scr@LT@array}{\def\y{\scr@LT@array}}{}%
5294     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5295       \expandafter\endgroup
5296       \expandafter\def\y[##1]##2{%
5297         \H@refstepcounter{#1}%
5298         \hyper@makecurrent{table}%
5299         \let\Hy@LT@currentHlabel\@currentHlabel
5300         \let\Hy@LT@currentHref\@currentHref
5301         #2\@sharp####4%
5302       }%
5303     }%
5304   \expandafter\expandafter\expandafter\x\y[##1][##2]\@nil

```

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

```

5305   \begingroup
5306     \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5307     \endgroup
5308     \def\LT@start{%
5309       #1%
5310       \let\@currentHlabel\Hy@LT@currentHlabel
5311       \let\@currentHref\Hy@LT@currentHref
5312       \Hy@raisedlink{%
5313         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5314       }%
5315       \ifvoid\LT@firsthead\copy
5316       #2%
5317     }%
5318   }%
5319   \expandafter\x\LT@start\@nil
5320 }{}

```

### 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.

```

5321 \let\new@refstepcounter\refstepcounter
5322 \let\H@equation\equation
5323 \let\H@endequation\endequation

5324 \@ifpackageloaded{amsmath}{%
5325   \long\def\Hy@temp{%
5326     \incr@eqnum
5327     \mathdisplay@push

```

```

5328 \st@rredfalse \global\@eqnswtrue
5329 \mathdisplay{equation}%
5330 }%
5331 \ifx\Hy@temp\equation
5332 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5333 \csname iftrue\endcsname
5334 \else
5335 \long\def\equation{%
5336 \mathdisplay@push
5337 \st@rredfalse \global\@eqnswtrue
5338 \mathdisplay{equation}%
5339 \incr@eqnum
5340 }%
5341 \fi
5342 \fi
5343 }{%
5344 \def\equation{%
5345 \let\refstepcounter\H@refstepcounter
5346 \H@equation
5347 \@ifundefined{theHequation}{%
5348 \make@stripped@name{\theequation}%
5349 \let\theHequation\newname
5350 }{}%
5351 \hyper@makecurrent{equation}%
5352 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5353 \let\refstepcounter\new@refstepcounter
5354 }%
5355 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5356 }

```

My goodness, why can't  $\text{\LaTeX}$  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.

```

5357 \newif\if@eqnstar
5358 \@eqnstarfalse
5359 \let\H@eqnarray\eqnarray
5360 \let\H@endeqnarray\endeqnarray
5361 \def\eqnarray{%
5362 \let\Hy@reserved@a\relax
5363 \def\@currentHref{}%
5364 \H@eqnarray
5365 \if@eqnstar
5366 \else
5367 \ifx\\\@currentHref\\%
5368 \else
5369 \@ifundefined{theHequation}{%
5370 \make@stripped@name{\theequation}%
5371 \let\theHequation\newname
5372 }{}%
5373 \hyper@makecurrent{equation}%
5374 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5375 \fi
5376 \fi
5377 }
5378 \def\endeqnarray{%

```

```

5379 \H@endeqnarray
5380 }

```

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.

```

5381 \@namedef{eqnarray*}{%
5382   \def\@eqnocr{\nonumber\@seqnocr}\@eqnstartrue\eqnarray
5383 }
5384 \@namedef{endeqnarray*}{%
5385   \nonumber\endeqnarray\@eqnstarfalse
5386 }

```

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

```

5387 \@ifundefined{subeqnarray}{}{%
5388   \let\H@subeqnarray\subeqnarray
5389   \let\H@endsubeqnarray\endsubeqnarray
5390   \def\subeqnarray{%
5391     \let\Hy@reserved@a\relax
5392     \H@subeqnarray
5393     \@ifundefined{theHequation}{%
5394       \make@stripped@name{\theequation}%
5395       \let\theHequation\newname
5396     }{}%
5397     \hyper@makecurrent{equation}%
5398     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5399   }%
5400   \def\endsubeqnarray{%
5401     \H@endsubeqnarray
5402   }%
5403   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5404 }

```

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

```

5405 \def\make@stripped@name#1{%
5406   \begingroup
5407     \escapechar\m@ne
5408     \global\let\newname\@empty
5409     \protected@edef\Hy@tempa{#1}%
5410     \edef\@tempb{%
5411       \noexpand\@tfor\noexpand\Hy@tempa:=%
5412       \expandafter\strip@prefix\meaning\Hy@tempa
5413     }%
5414     \@tempb\do{%
5415       \if\Hy@tempa\else
5416         \if}\Hy@tempa\else
5417           \xdef\newname{\newname\Hy@tempa}%
5418         \fi
5419       \fi
5420     }%
5421   \endgroup
5422 }

```

Support for amsmath's subequations:

```

5423 \begingroup\expandafter\expandafter\expandafter\endgroup
5424 \expandafter\ifx\csname subequations\endcsname\relax
5425 \else
5426   \let\HyOrg@subequations\subequations
5427   \def\subequations{%

```

```

5428 \stepcounter{equation}%
5429 \protected@edef\theHparentequation{%
5430 \ifundefined{theHequation}\theequation\theHequation
5431 }%
5432 \addtocounter{equation}{-1}%
5433 \HyOrg@subequations
5434 \def\theHequation{\theHparentequation\alph{equation}}%
5435 \ignorespaces
5436 }%
5437 \fi

Support for package amsthm (Daniel Müllner):
5438 \@ifpackageloaded{amsthm}{%
5439 \def\@thm#1#2#3{%
5440 \ifhmode
5441 \unskip\unskip\par
5442 \fi
5443 \normalfont
5444 \trivlist
5445 \let\thmheadnl\relax
5446 \let\thm@swap\@gobble
5447 \thm@notefont{\fontseries\mddefault\upshape}%
5448 \thm@headpunct{.}% add period after heading
5449 \thm@headsep 5\p@ plus\p@ minus\p@\relax
5450 \thm@space@setup
5451 #1% style overrides
5452 \@topsep \thm@preskip % used by thm head
5453 \@topsepadd \thm@postskip % used by \@endparenv
5454 \def\dth@counter{#2}%
5455 \ifx\@empty\dth@counter
5456 \def\@tempa{%
5457 \oparg{\@begintheorem{#3}{}}{}}[]%
5458 }%
5459 \else
5460 \H@refstepcounter{#2}%
5461 \hyper@makecurrent{#2}%
5462 \def\@tempa{%
5463 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}}[]%
5464 }%
5465 \fi
5466 \@tempa
5467 }%
5468 \dth@everypar={%
5469 \@minipagefalse
5470 \global\@newlistfalse
5471 \@nparitemfalse
5472 \if@inlabel
5473 \global\@inlabelfalse
5474 \begingroup
5475 \setbox\z@\lastbox
5476 \ifvoid\z@
5477 \kern-\itemindent
5478 \fi
5479 \endgroup
5480 \ifx\@empty\dth@counter
5481 \else
5482 \Hy@raisedlink{%
5483 \hyper@anchorstart{\@currentHref}\hyper@anchorend

```

```

5484     }%
5485     \fi
5486     \unhbox\@labels
5487   \fi
5488   \if@nobreak
5489     \@nobreakfalse \clubpenalty\@M
5490   \else
5491     \clubpenalty\@clubpenalty \everypar{}%
5492   \fi
5493 }%
5494 }{}

```

## 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.

```

5495 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5496 \ifHy@hyperfootnotes
5497   \newcounter{Hfootnote}%
5498   \let\H@@footnotetext\@footnotetext
5499   \let\H@@footnotemark\@footnotemark
5500   \def\@xfootnotenext[#1]{%
5501     \begingroup
5502       \csname c@\@mpfn\endcsname #1\relax
5503       \unrestored@protected@xdef\@thefnmark{\thempfn}%
5504     \endgroup
5505     \ifx\@footnotetext\@mpfootnotetext
5506       \expandafter\H@@mpfootnotetext
5507     \else
5508       \expandafter\H@@footnotetext
5509     \fi
5510   }%
5511   \def\@xfootnotemark[#1]{%
5512     \begingroup
5513       \c@footnote #1\relax
5514       \unrestored@protected@xdef\@thefnmark{\thefnmark}%
5515     \endgroup
5516     \H@@footnotemark
5517   }%
5518   \let\H@@mpfootnotetext\@mpfootnotetext
5519   \long\def\@mpfootnotetext#1{%
5520     \H@@mpfootnotetext{%
5521       \ifHy@nesting
5522         \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5523       \else
5524         \Hy@raisedlink{%
5525           \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5526         }#1%
5527       \fi
5528     }%
5529   }%
5530   \long\def\@footnotetext#1{%
5531     \H@@footnotetext{%

```

```

5532 \ifHy@nesting
5533 \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5534 \else
5535 \Hy@raisedlink{%
5536 \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5537 }%
5538 \let\@currentHlabel\Hy@footnote@currentHlabel
5539 \let\@currentHref\Hy@footnote@currentHref
5540 \let\@currentlabelname\@empty
5541 #1%
5542 \fi
5543 }%
5544 }%

```

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.

```

5545 \def\@footnotemark{%
5546 \leavevmode
5547 \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
5548 \stepcounter{Hfootnote}%
5549 \global\let\Hy@saved@currentHlabel\@currentHlabel
5550 \global\let\Hy@saved@currentHref\@currentHref
5551 \hyper@makecurrent{Hfootnote}%
5552 \global\let\Hy@footnote@currentHlabel\@currentHlabel
5553 \global\let\Hy@footnote@currentHref\@currentHref
5554 \global\let\@currentHlabel\Hy@saved@currentHlabel
5555 \global\let\@currentHref\Hy@saved@currentHref
5556 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5557 \@makefnmark
5558 \hyper@linkend
5559 \ifhmode\spacefactor\x@sf\fi
5560 \relax
5561 }%

```

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

```

5562 \@ifpackageloaded{longtable}{%
5563 \CheckCommand*{\LT@p@ftntext}[1]{%
5564 \edef\@tempa{%
5565 \the\LT@p@ftn
5566 \noexpand\footnotetext[\the\c@footnote]%
5567 }%
5568 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5569 }%
5570 \long\def\LT@p@ftntext#1{%
5571 \edef\@tempa{%
5572 \the\LT@p@ftn
5573 \begingroup
5574 \noexpand\c@footnote=\the\c@footnote\relax
5575 \noexpand\protected@xdef
5576 \noexpand\@thefnmark{\noexpand\thempfn}%
5577 \noexpand\protected@xdef\noexpand\@thefnmark{%
5578 \noexpand\thempfn
5579 }%

```

```

5580         \expandafter\expandafter\expandafter\noexpand
5581         \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5582         \expandafter\expandafter\expandafter{%
5583             \expandafter\Hy@footnote@currentHref\expandafter
5584             }\expandafter{\Hy@footnote@currentHlabel}%
5585     }%
5586     \global\LT@p@ftn\expandafter{%
5587         \@tempa{#1}%
5588     \endgroup
5589 }%
5590 }%
5591 \long\def\Hy@LT@footnotetext#1#2#3{%
5592     \H@@footnotetext{%
5593         \ifHy@nesting
5594             \hyper@@anchor{#1}{#3}%
5595         \else
5596             \Hy@raisedlink{%
5597                 \hyper@@anchor{#1}{\relax}%
5598             }%
5599             \def\@currentHlabel{#2}%
5600             \def\@currentHref{#1}%
5601             \let\@currentlabelname\@empty
5602             #3%
5603         \fi
5604     }%
5605 }%
5606 }{}%

```

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

```

5607 \ifpackageloaded{fancyvrb}{%
5608     \def\V@@footnotetext{%
5609         \insert\footins\bgroup
5610         \csname reset@font\endcsname
5611         \footnotesize
5612         \interlinepenalty\interfootnotelinepenalty
5613         \splittopskip\footnotesep
5614         \splitmaxdepth\dp\strutbox
5615         \floatingpenalty \@MM
5616         \hsize\columnwidth
5617         \@parboxrestore
5618         \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5619         \@makefntext{}%
5620         \rule{\z@}{\footnotesep}%
5621         \bgroup
5622         \aftergroup\V@@@footnotetext
5623         \Hy@raisedlink{%
5624             \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5625         }%
5626         \let\@currentHlabel\Hy@footnote@currentHlabel
5627         \let\@currentHref\Hy@footnote@currentHref
5628         \let\@currentlabelname\@empty
5629         \ignorespaces
5630     }%
5631 }{}%

```

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.

```

5632 \let\HyOrg@maketitle\maketitle

```

```

5633 \def\maketitle{%
5634   \let\Hy@saved@footnotemark\@footnotemark
5635   \let\Hy@saved@footnotetext\@footnotetext
5636   \let\@footnotemark\H@@footnotemark
5637   \let\@footnotetext\H@@footnotetext
5638   \@ifnextchar[\Hy@maketitle@optarg{% ]
5639     \HyOrg@maketitle
5640     \Hy@maketitle@end
5641   }%
5642 }%
5643 \def\Hy@maketitle@optarg[#1]{%
5644   \HyOrg@maketitle[#{#1}]%
5645   \Hy@maketitle@end
5646 }%
5647 \def\Hy@maketitle@end{%
5648   \ifx\@footnotemark\H@@footnotemark
5649     \let\@footnotemark\Hy@saved@footnotemark
5650   \fi
5651   \ifx\@footnotetext\H@@footnotetext
5652     \let\@footnotetext\Hy@saved@footnotetext
5653   \fi
5654 }%

```

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

```

5655 \def\realfootnote{%
5656   \@ifnextchar[\@xfootnote{%
5657     \stepcounter{\@mpfn}%
5658     \protected@xdef\@thefnmark{\thempfn}%
5659     \H@@footnotemark\H@@footnotetext
5660   }%
5661 }%

5662 \fi
5663 \Hy@DisableOption{hyperfootnotes}

5664 </package>
5665 <*check>
5666 \checklatex
5667 \checkcommand\def\@xfootnotenext[#1]{%
5668   \begingroup
5669     \csname c@\@mpfn\endcsname #1\relax
5670     \unrestored@protected@xdef\@thefnmark{\thempfn}%
5671   \endgroup
5672   \@footnotetext
5673 }
5674 \checkcommand\def\@xfootnotemark[#1]{%
5675   \begingroup
5676     \c@footnote #1\relax
5677     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5678   \endgroup
5679   \@footnotemark
5680 }
5681 \checkcommand\def\@footnotemark{%
5682   \leavevmode
5683   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5684   \@makefnmark
5685   \ifhmode\spacefactor\@x@sf\fi
5686   \relax

```



```

5687 }
5688 </check>
5689 <*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.

```

5690 \def\caption{%
5691   \ifx\@captype\@undefined
5692     \latex@error{\noexpand\caption outside float}\@ehd
5693     \expandafter\@gobble
5694   \else
5695     \H@refstepcounter\@captype
5696     \let\Hy@tempa\@caption
5697     \@ifundefined{float@caption}{%
5698       {%
5699         \expandafter\ifx\csname @float@c@\@captype\endcsname
5700           \float@caption
5701         \let\Hy@tempa\Hy@float@caption
5702       \fi
5703     }%
5704     \expandafter\@firstofone
5705   \fi
5706   {\@dblarg{\Hy@tempa\@captype}}}%
5707 }
5708 \long\def\@caption#1[#2]#3{%
5709   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5710     \csname iftrue\endcsname
5711     \global\let\@currentHref\hc@currentHref
5712   \else
5713     \hyper@makecurrent{\@captype}%
5714   \fi
5715   \def\@currentlabelname{#2}%
5716   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5717     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5718   }%
5719   \begingroup
5720     \@parboxrestore
5721     \if@minipage
5722       \setminipage
5723     \fi
5724     \normalsize
5725     \expandafter\ifx\csname if@capstart\expandafter\endcsname
5726       \csname iftrue\endcsname
5727       \global\@capstartfalse
5728       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5729     \else
5730       \@makecaption{\csname fnum@#1\endcsname}{%
5731         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

5732     \ifHy@nesting
5733       \hyper@@anchor{\@currentHref}{#3}%
5734     \else
5735       \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%

```

```

5736         \fi
5737     }%
5738     \fi
5739     \par
5740 \endgroup
5741 }

```

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.

```

5742 \let\Hy@float@caption\@caption
5743 \@ifpackageloaded{float}{%
5744   \def\Hy@float@caption{%
5745     \ifx\Hy@float@currentHref\@undefined
5746       \hyper@makecurrent{\@capttype}%
5747       \global\let\Hy@float@currentHref\@currentHref
5748     \else
5749       \let\@currentHref\Hy@float@currentHref
5750     \fi
5751     \float@caption
5752   }%
5753   \let\HyOrg@float@makebox\float@makebox
5754   \renewcommand{\float@makebox}[1]{%
5755     \HyOrg@float@makebox{%
5756       #1\relax
5757       \ifx\Hy@float@currentHref\@undefined
5758       \else
5759         \hyper@@anchor{\Hy@float@currentHref}{\relax}%
5760       \global\let\Hy@float@currentHref\@undefined
5761       \fi
5762     }%
5763   }%
5764 }{}

5765 \</package>
5766 \< *check>
5767 \checklatex[1999/06/01 - 2000/06/01]
5768 \checkcommand\def\caption{%
5769   \ifx\@capttype\@undefined
5770     \latex@error{\noexpand\caption outside float}\@ehd
5771     \expandafter\@gobble
5772   \else
5773     \refstepcounter\@capttype
5774     \expandafter\@firstofone
5775     \fi
5776   {\@dblarg{\@caption\@capttype}}%
5777 }
5778 \checkcommand\long\def\@caption#1[#2]#3{%
5779   \par
5780   \addcontentsline{\csname ext@#1\endcsname}{#1}%
5781     {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
5782   \begingroup
5783     \@parboxrestore
5784     \if@minipage
5785       \setminipage
5786     \fi
5787     \normalsize
5788     \makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5789   \endgroup

```

```

5790 }
5791 </check>
5792 <*package>

```

## 37 Bibliographic references

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

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

```

5793 \def\hyper@natlinkstart#1{%
5794   \Hy@backout{#1}%
5795   \hyper@linkstart{cite}{cite.#1}%
5796   \def\hyper@nat@current{#1}%
5797 }
5798 \def\hyper@natlinkend{%
5799   \hyper@linkend
5800 }
5801 \def\hyper@natlinkbreak#1#2{%
5802   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
5803 }
5804 \def\hyper@natanchorstart#1{%
5805   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
5806 }
5807 \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.

```

5808 \@ifundefined{NAT@parse}{%
5809   \providecommand*\@extra@binfo{}%
5810   \providecommand*\@extra@b@citeb{}%
5811   \def\bibcite#1#2{%
5812     \newl@bel{b}{#1\@extra@binfo}{%
5813       \hyper@@link[cite]{}{cite.#1\@extra@b@citeb}{#2}%
5814     }%
5815   }%
5816   \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.”.

```

5817 \let\Hy@bibcite\bibcite
5818 \begingroup
5819   \@ifundefined{bbl@cite@choice}{-%
5820     \g@addto@macro\bbl@cite@choice{%
5821       \let\bibcite\Hy@bibcite
5822     }%
5823   }%
5824 \endgroup

```

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

```

5825 \providecommand*\@BIBLABEL{\@biblabel}%
5826 \def\@lbibitem[#1]#2{%
5827   \@skiphyperreftrue
5828   \H@item[%
5829     \ifx\Hy@raisedlink\@empty
5830       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
5831       \@BIBLABEL{#1}%
5832       \hyper@anchorend
5833     \else
5834       \Hy@raisedlink{%
5835         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
5836       }%
5837       \@BIBLABEL{#1}%
5838     \fi
5839     \hfill
5840   ]%
5841   \@skiphyperreffalse
5842   \if@filesw
5843     \begingroup
5844       \let\protect\noexpand
5845       \immediate\write\@auxout{%
5846         \string\bibcite{#2}{#1}%
5847       }%
5848     \endgroup
5849   \fi
5850   \ignorespaces
5851 }%

```

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

```

5852 \def\@bibitem#1{%
5853   \@skiphyperreftrue\H@item\@skiphyperreffalse
5854   \Hy@raisedlink{%
5855     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
5856   }%
5857   \if@filesw
5858     \begingroup
5859       \let\protect\noexpand
5860       \immediate\write\@auxout{%
5861         \string\bibcite{#1}{\the\value{\@listctr}}%
5862       }%
5863     \endgroup
5864   \fi
5865   \ignorespaces
5866 }%
5867 {}

5868 \</package>
5869 \<check>
5870 \checklatex
5871 \checkcommand\def\@lbibitem[#1]#2{%
5872   \item[\@biblabel{#1}\hfill]%
5873   \if@filesw
5874     {%
5875       \let\protect\noexpand
5876       \immediate\write\@auxout{%
5877         \string\bibcite{#2}{#1}%
5878       }%

```

```

5879 }%
5880 \fi
5881 \ignorespaces
5882 }
5883 \checkcommand\def\bibitem#1{%
5884 \item
5885 \if@filesw
5886 \immediate\write\@auxout{%
5887 \string\bibcite{#1}{\the\value{\@listctr}}}%
5888 }%
5889 \fi
5890 \ignorespaces
5891 }
5892 \end{check}
5893 \end{package}

```

RevTeX (bless its little heart) takes over `\bibcite` and looks at the result to measure something. Make this a hypertext link and it goes ape. Therefore, make an anodyne result first, call its business, then go back to the real thing.

```

5894 \ifclassloaded{revtex}{%
5895 \Hy@Info{*** compatibility with revtex **** }%
5896 \def\revtex@checking#1#2{%
5897 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
5898 \expandafter\def\csname b@#1\endcsname{#2}%
5899 \SetMaxRnhefLabel{#1}%
5900 \expandafter\let\csname b@#1\endcsname\T@temp
5901 }%

```

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

```

5902 \ifundefined{@CITE}{\def\CITE{\@cite}}}%
5903 \providecommand*{\extra@b@citeb}{}%
5904 \def\CITE[#1]#2{%
5905 \let\@citea\@empty
5906 \leavevmode
5907 \unskip
5908 $^{}%
5909 \scriptstyle
5910 \CITE{%
5911 \for\@citeb:=#2\do{%
5912 \@citea
5913 \def\@citea{\penalty\@m }%
5914 \edef\@citeb{\expandafter\@firstofone\@citeb}%
5915 \if@filesw
5916 \immediate\write\@auxout{\string\citation{\@citeb}}%
5917 \fi
5918 \ifundefined{b@\@citeb\extra@b@citeb}{%
5919 \mbox{\reset@font\bfseries ?}%
5920 \G@refundefinedtrue
5921 \latex@warning{%
5922 Citation ‘\@citeb’ on page \thepage \space undefined%
5923 }%
5924 }{%
5925 {\csname b@\@citeb\extra@b@citeb\endcsname}%
5926 }%
5927 }%
5928 }{#1}%
5929 }$%

```

5930 }%

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.

```

5931 \def\@citex[#1]#2{%
5932   \let\@citea\@empty
5933   \@cite{%
5934     \@for\@citeb:=#2\do{%
5935       \@citea
5936       \def\@citea{\penalty\@m\ }%
5937       \edef\@citeb{\expandafter\@firstofone\@citeb}%
5938       \if@filesw
5939         \immediate\write\@auxout{\string\citation{\@citeb}}%
5940       \fi
5941       \ifundefined{b@\@citeb\@extra@b@citeb}{%
5942         \mbox{\reset@font\bfseries ?}%
5943         \G@refundefinedtrue
5944         \@latex@warning{%
5945           Citation '\@citeb' on page \thepage \space undefined%
5946         }%
5947       }{%
5948         \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
5949       }%
5950     }%
5951   }{#1}%
5952 }%
5953 }{}

```

### 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.

```

5954 \@ifpackageloaded{harvard}{%
5955   \AtBeginDocument{%
5956     \Hy@Info{*** compatibility with harvard ***}%
5957     \Hy@raiselinksfalse
5958     \def\harvardcite#1#2#3#4{%
5959       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{}{cite.#1}{#2}}%
5960       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{}{cite.#1}{#3}}%
5961       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{}{cite.#1}{#4}}%
5962       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
5963     }%
5964     \def\HAR@citetoaux#1{%
5965       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
5966       \ifHy@backref
5967         \ifx\@empty\@currentlabel
5968         \else
5969           \@bsphack
5970           \if@filesw
5971             \protected@write\@auxout{}{%
5972               \string\writefile{brf}{%
5973                 \string\backcite{#1}{%
5974                   {\thepage}{\@currentlabel}{\@currentHref}%

```

```

5975         }%
5976     }%
5977 }%
5978 \fi
5979 \@esphack
5980 \fi
5981 \fi
5982 }%
5983 \def\harvarditem{%
5984     \ifnextchar[{\@harvarditem}{\@harvarditem[\null]}}%
5985 }%
5986 \def\@harvarditem[#1]#2#3#4#5\par{%
5987     \item[]%
5988     \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
5989     \if@filesw
5990         \begingroup
5991             \def\protect##1{\string ##1\space}%
5992             \ifthenelse{\equal{#1}{\null}}%
5993                 {\def\next{{#4}{#2}{#2}{#3}}}%
5994                 {\def\next{{#4}{#2}{#1}{#3}}}%
5995             \immediate\write\@auxout{\string\harvardcite\codeof\next}%
5996         \endgroup
5997     \fi
5998     \protect\hspace*{-\labelwidth}%
5999     \protect\hspace*{-\labelsep}%
6000     \ignorespaces
6001     #5%
6002     \ifHy@backref
6003         \newblock
6004         \backref{\csname br@#4\endcsname}%
6005     \fi
6006     \par
6007 }%

```

`\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`:

```

6008 \long\def\HAR@checkcitations#1#2#3#4{%
6009     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
6010     \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
6011         \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
6012         \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
6013             \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
6014             \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
6015                 \else
6016                     \@tempwattrue
6017                 \fi
6018             \else
6019                 \@tempwattrue
6020             \fi
6021         \else
6022             \@tempwattrue
6023         \fi
6024     }%
6025 }%
6026 }{}

```

## 37.2 Package chicago

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

```
6027 \@ifpackageloaded{chicago}{%

\citeN
6028   \def\citeN{%
6029     \def\@citesep{--1000}%
6030     \def\@cite##1##2{##1}%
6031     \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
6032     \@citedata@opt
6033   }%

\shortciteN
6034   \def\shortciteN{%
6035     \def\@citesep{--1000}%
6036     \def\@cite##1##2{##1}%
6037     \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
6038     \@citedata@opt
6039   }%

\@citedata@opt
6040   \def\@citedata@opt{%
6041     \let\@cite@opt\@empty
6042     \@ifnextchar [{%
6043       \@tempwatrue
6044       \@citedatax@opt
6045     }{%
6046       \@tempwafalse
6047       \@citedatax[]%
6048     }%
6049   }%

\@citedatax@opt
6050   \def\@citedatax@opt[#1]{%
6051     \def\@cite@opt{, #1}%
6052     \@citedatax[{#1}]%
6053   }%

6054 }{-}
```

## 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.

```
6055 \def\Hy@EveryPageAnchor{%
6056   \Hy@DistillerDestFix
6057   \ifHy@pageanchor
6058     \ifHy@hypertextnames
6059     \ifHy@plainpages
6060       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
```



```

6061     \else
6062     \beginingroup
6063     \let\@number\@firstofone
6064     \Hy@unicodedefalse
6065     \pdfstringdef\@the@H@page{\thepage}%
6066     \endgroup
6067     \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
6068     \fi
6069     \else
6070     \Hy@GlobalStepCount\Hy@pagecounter
6071     \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
6072     \fi
6073     \vbox to 0pt{%
6074     \kern\voffset
6075     \kern\topmargin
6076     \kern-1bp\relax
6077     \hbox to 0pt{%
6078     \kern\hoffset
6079     \kern\ifodd\value{page}%
6080     \oddsidemargin
6081     \else
6082     \evensidemargin
6083     \fi
6084     \kern-1bp\relax
6085     \Hy@TempPageAnchor
6086     \hss
6087     }%
6088     \vss
6089     }%
6090     \fi
6091 }
6092 \g@addto@macro\Hy@EveryPageBoxHook{%
6093   \Hy@EveryPageAnchor
6094 }

```

## 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.

```

6095 \def\addcontentsline#1#2#3{% toc extension, type, tag
6096   \beginingroup
6097   \let\label\@gobble
6098   \ifx\@currentHref\@empty
6099     \Hy@Warning{%
6100       No destination for bookmark of \string\addcontentsline,%
6101       \MessageBreak destination is added%
6102     }%
6103     \phantomsection
6104   \fi
6105   \expandafter\ifx\csname toplevel@#2\endcsname\relax
6106   \beginingroup
6107     \def\Hy@tempa{#1}%
6108     \ifx\Hy@tempa\Hy@bookmarkstype
6109       \Hy@WarningNoLine{%
6110         bookmark level for unknown #2 defaults to 0%

```

```

6111         }%
6112     \else
6113         \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6114     \fi
6115 \endgroup
6116 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
6117 \fi
6118 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
6119 \Hy@writebookmark{\csname the#2\endcsname}%
6120     {#3}%
6121     {\@currentHref}%
6122     {\Hy@toplevel}%
6123     {#1}%
6124 \ifHy@verbose
6125     \def\Hy@tempa{#3}%
6126     \@onelevel@sanitize\Hy@tempa
6127     \typeout{pdfTeX: bookmark at \the\inputlineno: %
6128         {\csname the#2\endcsname}%
6129         {\Hy@tempa}%
6130         {\@currentHref}%
6131         {\Hy@toplevel}%
6132         {#1}%
6133     }%
6134 \fi
6135 \addtocontents{#1}{%
6136     \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6137 }%
6138 \endgroup
6139 }
6140 \def\contentsline#1#2#3#4{%
6141     \ifx\#4\%
6142         \csname l@#1\endcsname{#2}{#3}%
6143     \else
6144         \ifcase\Hy@linktoc % none
6145             \csname l@#1\endcsname{#2}{#3}%
6146         \or % section
6147             \csname l@#1\endcsname{%
6148                 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6149             }{#3}%
6150         \or % page
6151             \csname l@#1\endcsname{#2}{#3}%
6152             \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6153         }%
6154         \else % all
6155             \csname l@#1\endcsname{%
6156                 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6157             }{%
6158                 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6159             }%
6160         \fi
6161     \fi
6162 }
6163 </package>
6164 <*check>
6165 \checklatex
6166 \checkcommand\def\addcontentsline#1#2#3{%
6167     \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%

```

```

6168 }
6169 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6170 \end{check}
6171 \end{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.

```

6172 \let\H@definecounter\@definecounter
6173 \def\@definecounter#1{%
6174   \H@definecounter{#1}%
6175   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6176 }

```

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.

```

6177 \let\H@newctr\@newctr
6178 \def\@newctr#1[#2]{%
6179   \H@newctr{#1}[#2]%
6180   \expandafter\def\csname theH#1\endcsname{%
6181     \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}}%
6182   }%
6183 }

```

## 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.

```

6184 \@ifpackageloaded{amsmath}{%
6185   \def\Hy@make@anchor{%
6186     \Hy@GlobalStepCount\Hy@linkcounter
6187     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6188     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6189   }%
6190   \def\Hy@make@df@tag@@#1{%
6191     \gdef\df@tag{%
6192       \maketag@@@{\Hy@make@anchor#1}%
6193       \def\@currentlabel{#1}%
6194     }%
6195   }%
6196   \def\Hy@make@df@tag@@@#1{%
6197     \gdef\df@tag{%
6198       \tagform@{\Hy@make@anchor#1}%
6199       \toks@{\xp{\p@equation{#1}}}%
6200       \edef\@currentlabel{\the\toks@}%
6201     }%
6202   }%
6203   \let\HyOrg@make@df@tag@@\make@df@tag@@
6204   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
6205   \let\make@df@tag@@\Hy@make@df@tag@@

```

```

6206 \let\make@df@tag@@@Hy@make@df@tag@@@
6207 }{}

```

Only play with `\seteqlebal` if we are using pdf<sub>tex</sub>. Other drivers cause problems; requested by Michael Downes (AMS).

```

6208 \ifpackagewith{hyperref}{pdftex}{%
6209   \let\H@seteqlabel\@seteqlabel
6210   \def\@seteqlabel#1{%
6211     \H@seteqlabel{#1}%
6212     \xdef\@currentHref{AMS.\theHy@linkcounter}%
6213     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6214   }%
6215 }{}

```

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.

```

6216 \let\HyOrg@addtoreset\@addtoreset
6217 \def\@addtoreset#1#2{%
6218   \HyOrg@addtoreset{#1}{#2}%
6219   \expandafter\xdef\csname theH#1\endcsname{%
6220     \expandafter\noexpand
6221     \csname the\@ifundefined{theH#2}{}H#2\endcsname
6222     .\noexpand\the\noexpand\value{#1}%
6223   }%
6224 }

```

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

```

6225 </package>
6226 <*check>
6227 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6228 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6229   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6230     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6231       \@addtoreset{#2}{#3}%
6232       \xp\xdef\csname the#2\endcsname{%
6233         \xp\xnx\csname the#3\endcsname .\nx#1{#2}%
6234       }%
6235     }%
6236   }%
6237 }%
6238 </check>
6239 <*package>
6240 \ifpackageloaded{amsmath}{%
6241   \@ifpackagelater{amsmath}{1999/12/14}{%

```

```

6242 \renewcommand*{\numberwithin}[3][\arabic]{%
6243 \ifundefined{c#2}{\@nocounterr{#2}}{%
6244 \ifundefined{c#3}{\@nocnterr{#3}}{%
6245 \HyOrg@addtoreset{#2}{#3}%
6246 \xp\xdef\csname the#2\endcsname{%
6247 \xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6248 }%
6249 \xp\xdef\csname theH#2\endcsname{%
6250 \xp\@nx
6251 \csname the\ifundefined{theH#3}{H#3\endcsname
6252 .\@nx#1{#2}%
6253 }%
6254 }%
6255 }%
6256 }%
6257 }{%
6258 \Hy@WarningNoLine{%
6259 \string\numberwithin\space of package ‘amsmath’ %
6260 only fixed\MessageBreak
6261 for version 2000/06/06 v2.12 or newer%
6262 }%
6263 }%
6264 }{}

```

## 42 Included figures

Simply intercept the low level graphics package macro.

```

6265 \ifHy@figures
6266 \let\Hy@Gin@setfile\Gin@setfile
6267 \def\Gin@setfile#1#2#3{%
6268 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6269 }%
6270 \fi
6271 \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.

```

6272 \ifHy@hyperindex
6273 \def\HyInd@ParenLeft{(%}
6274 \def\HyInd@ParenRight{)%}
6275 \Hy@nextfalse
6276 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6277 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6278 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
6279 \begingroup

```

```

6280 \lccode'\|=\expandafter'\HyInd@EncapChar\relax
6281 \lowercase{\endgroup
6282 \ifHy@next
6283 \let\HyInd@org@wrindex\@wrindex
6284 \def\@wrindex#1#2{\HyInd@wrindex{#1}#2||\}%
6285 \def\HyInd@wrindex#1#2|#3|#4\{\%
6286 \ifx\|#3\%
6287 \HyInd@org@wrindex{#1}{#2|hyperpage}%
6288 \else
6289 \def\Hy@temp@A{#3}%
6290 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6291 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6292 \relax
6293 \HyInd@org@wrindex{#1}{#2|#3}%
6294 \else
6295 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6296 \fi
6297 \fi
6298 }%
6299 \else
6300 \def\@wrindex#1{\@wrindex#1||\}%
6301 \def\@wrindex#1|#2|#3\{\%
6302 \if@files
6303 \ifx\|#2\%
6304 \protected@write\@indexfile{\%
6305 \string\indexentry{#1|hyperpage}{\thepage}%
6306 }%
6307 \else
6308 \def\Hy@temp@A{#2}%
6309 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6310 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6311 \relax
6312 \protected@write\@indexfile{\%
6313 \string\indexentry{#1|#2}{\thepage}%
6314 }%
6315 \else
6316 \protected@write\@indexfile{\%
6317 \string\indexentry{#1|#2hyperpage}{\thepage}%
6318 }%
6319 \fi
6320 \fi
6321 \fi
6322 \endgroup
6323 \esphack
6324 }%
6325 \fi
6326 }%
6327 \fi
6328 \Hy@DisableOption{hyperindex}
6329 \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.

```
6330 \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.

```

6331 \def\hyperpage#1{%
6332   \HyInd@hyperpage#1\nohyperpage{}\@nil
6333 }
6334 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
6335   \HyInd@@hyperpage{#1}%
6336   #2%
6337   \def\Hy@temp{#3}%
6338   \ifx\Hy@temp\@empty
6339   \else
6340     \Hy@ReturnAfterFi{%
6341       \HyInd@hyperpage#3\@nil
6342     }%
6343   \fi
6344 }
6345 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
6346 \def\@hyperpage#1--#2--#3\{%
6347   \ifx\#2\%
6348     \@commahyperpage{#1}%
6349   \else
6350     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6351   \fi
6352 }
6353 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6354 \def\@commahyperpage#1, #2,#3\{%
6355   \ifx\#2\%
6356     \HyInd@pagelink{#1}%
6357   \else
6358     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6359   \fi
6360 }

```

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

```

6361 \def\HyInd@pagelink#1{%
6362   \beginingroup
6363   \toks@={}%
6364   \HyInd@removespaces#1 \@nil
6365   \endgroup
6366 }
6367 \def\HyInd@removespaces#1 #2\@nil{%
6368   \toks@=\expandafter{\the\toks@#1}%
6369   \ifx\#2\%
6370     \edef\x{\the\toks@}%
6371     \ifx\x\@empty
6372     \else
6373       \hyperlink{page.\the\toks@}{\the\toks@}%
6374     \fi
6375   \else
6376     \Hy@ReturnAfterFi{%
6377       \HyInd@removespaces#2\@nil
6378     }%
6379   \fi
6380 }

```

## 44 Compatibility with foiltex

```

6381 \@ifclassloaded{foils}{%

```

```

6382 \providecommand*\ext@table{lot}%
6383 \providecommand*\ext@figure{lof}%
6384 }{}

```

## 45 Compatibility with seminar slide package

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

```

6385 \@ifclassloaded{seminar}{%
6386   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
6387 }{%
6388   \Hy@seminarslidesfalse
6389 }
6390 \@ifpackageloaded{slidesec}{%
6391   \newcommand\theHslidesection {\arabic{slidesection}}}%
6392   \newcommand\theHslidesubsection{%
6393     \theHslidesection.\arabic{slidesubsection}}%
6394 }%
6395 \def\slide@heading[#1]#2{%
6396   \H@refstepcounter{slidesection}%
6397   \@addtoreset{slidesubsection}{slidesection}%
6398   \addtocontents{los}{%
6399     \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6400     {\@SCTR}{slideheading.\theslide\section}%
6401   }%
6402   \def\Hy@tempa{#2}%
6403   \ifx\Hy@tempa\@empty
6404   \else
6405     {%
6406       \edef\@currentlabel{%
6407         \csname p@slidesection\endcsname\theslide\section
6408       }%
6409       \makeslideheading{#2}%
6410     }%
6411   \fi
6412   \gdef\theslideheading{#1}%
6413   \gdef\theslidesubheading{}%
6414   \ifHy@bookmarksnumbered
6415     \def\Hy@slidetitle{\theslide\section\space #1}%
6416   \else
6417     \def\Hy@slidetitle{#1}%
6418   \fi
6419   \ifHy@hypertextnames
6420     \ifHy@naturalnames
6421       \hyper@@anchor{slideheading.\theslide\section}{\relax}%
6422       \Hy@writebookmark
6423         {\theslide\section}%
6424         {\Hy@slidetitle}%
6425         {slideheading.\theslide\section}%
6426         {1}%
6427         {toc}%
6428     \else
6429       \hyper@@anchor{slideheading.\theHslide\section}{\relax}%
6430       \Hy@writebookmark
6431         {\theslide\section}%
6432         {\Hy@slidetitle}%
6433         {slideheading.\theHslide\section}%

```



```

6434         {1}%
6435         {toc}%
6436     \fi
6437 \else
6438     \Hy@GlobalStepCount\Hy@linkcounter
6439     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6440     \Hy@writebookmark
6441         {\theslidesubsection}%
6442         {\Hy@slidetitle}%
6443         {slideheading.\the\Hy@linkcounter}%
6444         {1}%
6445         {toc}%
6446 \fi
6447 }%
6448 \def\slide@subheading[#1]#2{%
6449     \H@refstepcounter{slidesubsection}%
6450     \addtocontents{los}{%
6451         \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6452         {\@SCTR}{slideheading.\theslidesubsection}%
6453     }%
6454     \def\Hy@tempa{#2}%
6455     \ifx\Hy@tempa\@empty
6456     \else
6457         {%
6458             \edef\@currentlabel{%
6459                 \csname p@slidesubsection\endcsname\theslidesubsection
6460             }%
6461             \makeslidesubheading{#2}%
6462         }%
6463     \fi
6464     \gdef\theslidesubheading{#1}%
6465     \ifHy@bookmarksnumbered
6466         \def\Hy@slidetitle{\theslidesubsection\space #1}%
6467     \else
6468         \def\Hy@slidetitle{#1}%
6469     \fi
6470     \ifHy@hypertextnames
6471         \ifHy@naturalnames
6472             \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6473             \Hy@writebookmark
6474                 {\theslidesubsection}%
6475                 {\Hy@slidetitle}%
6476                 {slideheading.\theslidesubsection}%
6477                 {2}%
6478                 {toc}%
6479         \else
6480             \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6481             \Hy@writebookmark
6482                 {\theslidesubsection}%
6483                 {\Hy@slidetitle}%
6484                 {slideheading.\theHslidesubsection}%
6485                 {2}%
6486                 {toc}%
6487         \fi
6488     \else
6489         \Hy@GlobalStepCount\Hy@linkcounter
6490         \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%

```

```

6491 \Hy@writebookmark
6492 {\theslidesubsection}%
6493 {\Hy@slidetitle}%
6494 {slideheading.\the\Hy@linkcounter}%
6495 {1}%
6496 {toc}%
6497 \fi
6498 }%
6499 \providecommand*\listslidenamelist{List of Slides}%
6500 \def\listofslides{%
6501 \section*{%
6502 \listslidenamelist
6503 \@mkboth{%
6504 \expandafter\MakeUppercase\listslidenamelist
6505 }{%
6506 \expandafter\MakeUppercase\listslidenamelist
6507 }%
6508 }%
6509 \def\l@slide##1##2##3##4{%
6510 \slide@undottedcline{%
6511 \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
6512 }{}%
6513 }%
6514 \let\l@subslide\l@slide
6515 \@startlos
6516 }%
6517 \def\slide@contents{%
6518 \def\l@slide##1##2##3##4{%
6519 \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6520 }%
6521 \let\l@subslide\@gobblefour
6522 \@startlos
6523 }%
6524 \def\Slide@contents{%
6525 \def\l@slide##1##2##3##4{%
6526 \ifcase\lslide@flag
6527 \message{##1 ** \the\c@slidesection}%
6528 \ifnum##1>\c@slidesection
6529 \def\lslide@flag{1}%
6530 {%
6531 \large
6532 \slide@ccline{%
6533 \slidenumberline{$\Rightarrow\bullet$}%
6534 {\hyperlink{##4}{##2}}}%
6535 }{##3}%
6536 }%
6537 \else
6538 {%
6539 \large
6540 \slide@ccline{%
6541 \slidenumberline{$\surd\;\bullet$}%
6542 {\hyperlink{##4}{##2}}}%
6543 }{##3}%
6544 }%
6545 \fi
6546 \or
6547 \def\lslide@flag{2}%

```

```

6548      {%
6549      \large
6550      \slide@ccline{%
6551      \slidenumberline{$\bullet$}%
6552      {\hyperlink{##4}{##2}}%
6553      }{##3}%
6554      }%
6555      \or
6556      {%
6557      \large
6558      \slide@ccline{%
6559      \slidenumberline{$\bullet$}%
6560      {\hyperlink{##4}{##2}}%
6561      }{##3}%
6562      }%
6563      \fi
6564      }%
6565      \def\l@subslide##1##2##3##4{%
6566      \ifnum\lslide@flag=1 %
6567      \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6568      \fi
6569      }%
6570      \def\lslide@flag{0}%
6571      \@startlos
6572      }%
6573      }{}

```

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.)

```

6574 \ifHy@texht
6575   \expandafter\endinput
6576 \fi
6577 \let\real@setref\@setref
6578 \def\@setref#1#2#3{% csname, extract group, refname
6579   \ifx#1\relax
6580     \protect\G@refundefinedtrue
6581     \nfss@text{\reset@font\bfseries ??}%
6582     \@latex@warning{%
6583       Reference ‘#3’ on page \thepage \space undefined%
6584     }%
6585   \else
6586     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6587   \fi
6588 }

```

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

```

6589 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6590   \begingroup
6591     \toks0={\hyper@@link{#5}{#4}}%
6592     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6593     \edef\x{\endgroup
6594       \the\toks0 {\the\toks1 }%
6595     }%
6596   \x
6597 }
6598 \def\@pagesetref#1#2#3{% csname, extract macro, ref

```

```

6599 \ifx#1\relax
6600   \protect\G@refundefinedtrue
6601   \nfss@text{\reset@font\bfseries ??}%
6602   \@latex@warning{%
6603     Reference ‘#3’ on page \thepage \space undefined%
6604   }%
6605 \else
6606   \protect\hyper@@link
6607   {\expandafter\@fifthoffive#1}%
6608   {page.\expandafter\@secondoffive#1}%
6609   {\expandafter\@secondoffive#1}%
6610 \fi
6611 }

6612 </package>
6613 <*check>
6614 \checklatex
6615 \checkcommand\def\@setref#1#2#3{%
6616   \ifx#1\relax
6617     \protect\G@refundefinedtrue
6618     \nfss@text{\reset@font\bfseries ??}%
6619     \@latex@warning{%
6620       Reference ‘#3’ on page \thepage\space undefined%
6621     }%
6622   \else
6623     \expandafter#2#1\null
6624   \fi
6625 }
6626 </check>
6627 <*package>

```

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

```

6628 \def\HyRef@StarSetRef#1{%
6629   \begingroup
6630   \Hy@safe@activetrue
6631   \edef\x{#1}%
6632   \@onelevel@sanitize\x
6633   \edef\x{\endgroup
6634     \noexpand\HyRef@@StarSetRef
6635     \expandafter\noexpand\csname r@\x\endcsname{\x}%
6636   }%
6637   \x
6638 }
6639 \def\HyRef@@StarSetRef#1#2#3{%
6640   \ifx#1\@undefined
6641     \let#1\relax
6642   \fi
6643   \real@setref#1#3{#2}%
6644 }
6645 \def\@refstar#1{%
6646   \HyRef@StarSetRef{#1}\@firstoffive
6647 }
6648 \def\@pagerefstar#1{%
6649   \HyRef@StarSetRef{#1}\@secondoffive
6650 }
6651 \AtBeginDocument{%
6652   \ifpackageloaded{varioref}{%

```

```

6653 \def\@Refstar#1{%
6654   \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6655 }%
6656 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
6657   \MakeUppercase#1%
6658 }%
6659 \DeclareRobustCommand*\Ref{%
6660   \@ifstar\@Refstar\HyRef@Ref
6661 }%
6662 \def\HyRef@Ref#1{%
6663   \hyperref[#{1}]{\Ref*{#1}}%
6664 }%
6665 \def\Vr@f#1{%
6666   \leavevmode\unskip\vref@space
6667   \hyperref[#{1}]{%
6668     \Ref*{#1}%
6669     \let\vref@space\nobreakspace
6670     \@vpageref[\unskip]{#1}%
6671   }%
6672 }%
6673 \def\vr@f#1{%
6674   \leavevmode\unskip\vref@space
6675   \begingroup
6676   \let\T@pageref\@pagerefstar
6677   \hyperref[#{1}]{%
6678     \ref*{#1}%
6679     \vpageref[\unskip]{#1}%
6680   }%
6681   \endgroup
6682 }%
6683 }-%
6684 }
6685 \DeclareRobustCommand*\autopageref{%
6686   \@ifstar{%
6687     \HyRef@autopagerefname\pageref*%
6688   }\HyRef@autopageref
6689 }
6690 \def\HyRef@autopageref#1{%
6691   \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%
6692 }
6693 \def\HyRef@autopagerefname{%
6694   \@ifundefined{pageautorefname}{%
6695     \@ifundefined{pagename}{%
6696       \Hy@Warning{No autoref name for 'page'}%
6697     }{%
6698       \pagename\nobreakspace
6699     }%
6700   }-%
6701   \pageautorefname\nobreakspace
6702 }%
6703 }
6704 \DeclareRobustCommand*\autoref{%
6705   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
6706 }
6707 \def\HyRef@autoref#1#2{%
6708   \begingroup
6709   \Hy@safe@activetrue

```

```

6710 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
6711 \endgroup
6712 }
6713 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
6714 \HyRef@ShowKeysRef{#2}%
6715 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6716 \edef\HyRef@thisref{%
6717 \expandafter\@fourthoffive#1\@empty\@empty\@empty
6718 }%
6719 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6720 \Hy@safe@activesfalse
6721 #3{%
6722 \expandafter\@fifthoffive#1\@empty\@empty\@empty
6723 }{%
6724 \expandafter\@fourthoffive#1\@empty\@empty\@empty
6725 }{%
6726 \HyRef@currentHtag
6727 \expandafter\@firstoffive#1\@empty\@empty\@empty
6728 \null
6729 }%
6730 \else
6731 \protect\G@refundefinedtrue
6732 \nfss@text{\reset@font\bfseries ??}%
6733 \@latex@warning{%
6734 Reference ‘#2’ on page \thepage\space undefined%
6735 }%
6736 \fi
6737 }
6738 \def\HyRef@testreftype#1.#2\{%
6739 \@ifundefined{#1autorefname}{%
6740 \@ifundefined{#1name}{%
6741 \HyRef@StripStar#1\*\@nil{#1}%
6742 \@ifundefined{\HyRef@name autorefname}{%
6743 \@ifundefined{\HyRef@name name}{%
6744 \def\HyRef@currentHtag{%
6745 \Hy@Warning{No autoref name for ‘#1’}%
6746 }{%
6747 \edef\HyRef@currentHtag{%
6748 \expandafter\noexpand\csname\HyRef@name name\endcsname
6749 \noexpand~%
6750 }%
6751 }%
6752 }{%
6753 \edef\HyRef@currentHtag{%
6754 \expandafter\noexpand\csname\HyRef@name autorefname\endcsname
6755 \noexpand~%
6756 }%
6757 }%
6758 }{%
6759 \edef\HyRef@currentHtag{%
6760 \expandafter\noexpand\csname#1name\endcsname
6761 \noexpand~%
6762 }%
6763 }%
6764 }{%
6765 \edef\HyRef@currentHtag{%
6766 \expandafter\noexpand\csname#1autorefname\endcsname

```

```

6767     \noexpand~%
6768   }%
6769 }%
6770 }
6771 \def\HyRef@StripStar#1*\#2\@nil#3{%
6772   \def\HyRef@name{#2}%
6773   \ifx\HyRef@name\HyRef@CaseStar
6774     \def\HyRef@name{#1}%
6775   \else
6776     \def\HyRef@name{#3}%
6777   \fi
6778 }
6779 \def\HyRef@CaseStar{*\\}
6780 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

6781 \let\HyRef@ShowKeysRef\@gobble
6782 \def\HyRef@ShowKeysInit{%
6783   \begingroup\expandafter\expandafter\expandafter\endgroup
6784   \expandafter\ifx\csname SK@@label\endcsname\relax
6785   \else
6786     \ifx\SK@ref\@empty
6787     \else
6788       \def\HyRef@ShowKeysRef{%
6789         \SK@\SK@@ref
6790       }%
6791     \fi
6792   \fi
6793 }
6794 \@ifpackageloaded{showkeys}{%
6795   \HyRef@ShowKeysInit
6796 }{%
6797   \AtBeginDocument{%
6798     \@ifpackageloaded{showkeys}{%
6799       \HyRef@ShowKeysInit
6800     }{%
6801     }%
6802 }

```

Defaults for the names that \autoref uses.

```

6803 \providecommand*\AMSautorefname{\equationautorefname}
6804 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
6805 \providecommand*\Itemautorefname{\itemautorefname}
6806 \providecommand*\itemautorefname{item}
6807 \providecommand*\equationautorefname{Equation}
6808 \providecommand*\footnoteautorefname{footnote}
6809 \providecommand*\itemautorefname{item}
6810 \providecommand*\figureautorefname{Figure}
6811 \providecommand*\tableautorefname{Table}
6812 \providecommand*\partautorefname{Part}
6813 \providecommand*\appendixautorefname{Appendix}
6814 \providecommand*\chapterautorefname{chapter}
6815 \providecommand*\sectionautorefname{section}
6816 \providecommand*\subsectionautorefname{subsection}
6817 \providecommand*\subsubsectionautorefname{subsubsection}
6818 \providecommand*\paragraphautorefname{paragraph}

```

```

6819 \providecommand*\subparagraphautorefname{subparagraph}
6820 \providecommand*\FancyVerbLineautorefname{line}
6821 \providecommand*\theoremautorefname{Theorem}
6822 \providecommand*\pageautorefname{page}
6823 \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`.

```

6824 <*pdfTEX | dvipdfm | vtEX | pdfmarkbase | dviwindo>
6825 \RequirePackage{pdfTEXcmds}[2007/11/11]
6826 \begin{group}\expandafter\expandafter\expandafter\end{group}
6827 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
6828   \begin{group}
6829     \catcode'\|=0 %
6830     \@makeother\| %
6831     \@firstofone\end{group}
6832     \def\Hy@pstringdef#1#2{%
6833       \begin{group}
6834         \edef~{\string~}%
6835         \xdef\Hy@gtemp{#2}%
6836       \end{group}
6837       \let#1\Hy@gtemp
6838       \@onelevel@sanitize#1%
6839       \edef#1{\expandafter\Hy@ExchangeBackslash#1\@nil}%
6840       \edef#1{\expandafter\Hy@ExchangeLeftParenthesis#1(\@nil}%
6841       \edef#1{\expandafter\Hy@ExchangeRightParenthesis#1)\@nil}%
6842     }%
6843     \def\Hy@ExchangeBackslash#1\#2\@nil{%
6844       #1%
6845       \ifx\#2\%
6846       \else
6847         \|
6848         \Hy@ReturnAfterFi{%
6849           \Hy@ExchangeBackslash#2\@nil
6850         }%
6851       \fi
6852     }%
6853   }%
6854   \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
6855     #1%
6856     \ifx\#2\%
6857     \else
6858       \@backslashchar(%
6859       \Hy@ReturnAfterFi{%
6860         \Hy@ExchangeLeftParenthesis#2\@nil
6861       }%
6862     \fi

```



```

6863 }%
6864 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
6865   #1%
6866   \ifx\#2\%
6867   \else
6868     \@backslashchar)%
6869     \Hy@ReturnAfterFi{%
6870       \Hy@ExchangeRightParenthesis#2\@nil
6871     }%
6872   \fi
6873 }%
6874 \else
6875   \def\Hy@pstringdef#1#2{%
6876     \begingroup
6877     \edef~{\string~}%
6878     \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
6879   \endgroup
6880   \let#1\Hy@gtemp
6881 }%
6882 \fi
6883 </pdfTeX | dvipdfm | vtex | pdfmarkbase | dviwindo>

```

## 46.2 pdfTeX

```

6884 <*pdfTeX>
6885 \providecommand*{\XR@ext}{pdf}
6886 \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

```

6887 \let\Hy@pdfminorversion\relax
6888 \begingroup\expandafter\expandafter\expandafter\endgroup
6889 \expandafter\ifx\csname pdfminorversion\endcsname\relax
6890   \begingroup\expandafter\expandafter\expandafter\endgroup
6891   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
6892   \else
6893     \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
6894   \fi
6895 \else
6896   \def\Hy@pdfminorversion{\pdfminorversion}%
6897 \fi
6898 \@ifundefined{Hy@pdfminorversion}{%
6899   \PackageInfo{hyperref}{%
6900     PDF version is not set, because pdfTeX is too old (<1.10a)%
6901   }%
6902 }{%
6903   \ifHy@ocgcolorlinks
6904     \ifnum\Hy@pdfminorversion<5 %
6905       \setkeys{Hyp}{pdfversion=1.5}%
6906     \fi
6907   \fi
6908   \ifHy@setpdfversion

```

```

6909 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
6910 \else
6911 \Hy@pdfminorversion=\Hy@pdfversion\relax
6912 \fi
6913 \PackageInfo{hyperref}{%
6914 \expandafter\string\Hy@pdfminorversion
6915 :=\number\Hy@pdfversion\space
6916 }%
6917 \fi
6918 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
6919 }
6920 \Hy@DisableOption{pdfversion}%

6921 \ifHy@ocgcolorlinks
6922 \immediate\pdfobj{%
6923 <<%
6924 /Type/OCG%
6925 /Name(View)%
6926 /Usage<<%
6927 /Print<<%
6928 /PrintState/OFF%
6929 >>%
6930 /View<<%
6931 /ViewState/ON%
6932 >>%
6933 >>%
6934 >>%
6935 }%
6936 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
6937 \immediate\pdfobj{%
6938 <<%
6939 /Type/OCG%
6940 /Name(Print)%
6941 /Usage<<%
6942 /Print<<%
6943 /PrintState/ON%
6944 >>%
6945 /View<<%
6946 /ViewState/OFF%
6947 >>%
6948 >>%
6949 >>%
6950 }%
6951 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
6952 \immediate\pdfobj{%
6953 [%
6954 \OBJ@OCG@view\space\OBJ@OCG@print
6955 ]%
6956 }%
6957 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
6958 \pdfcatalog{%
6959 /OCProperties<<%
6960 /OCGs \OBJ@OCGs
6961 /D<<%
6962 /OFF[\OBJ@OCG@print]%
6963 /AS[%
6964 <<%
6965 /Event/View%

```

```

6966         /OCGs \OBJ@OCGs
6967         /Category[/View]%
6968     >>%
6969     <<%
6970         /Event/Print%
6971         /OCGs \OBJ@OCGs
6972         /Category[/Print]%
6973     >>%
6974     <<%
6975         /Event/Export%
6976         /OCGs \OBJ@OCGs
6977         /Category[/Print]%
6978     >>%
6979     ]%
6980 >>%
6981 >>%
6982 }%
6983 \begingroup
6984     \edef\x{\endgroup
6985         \pdfpageresources{%
6986             /Properties<<%
6987                 /OCView \OBJ@OCG@view
6988                 /OCPrint \OBJ@OCG@print
6989             >>%
6990         }%
6991     }%
6992 \x
6993 \AtBeginDocument{%
6994     \def\Hy@colorlink#1{%
6995         \begingroup
6996             \ifHy@ocgcolorlinks
6997                 \def\Hy@ocgcolor{#1}%
6998                 \setbox0=\color@hbox
6999             \else
7000                 \HyColor@UseColor#1%
7001             \fi
7002         }%
7003     \def\Hy@endcolorlink{%
7004         \ifHy@ocgcolorlinks
7005             \color@endbox
7006             \mbox{%
7007                 \pdfliteral page{/OC/OCPrint BDC}%
7008                 \rlap{\copy0}%
7009                 \pdfliteral page{EMC/OC/OCView BDC}%
7010                 \begingroup
7011                     \expandafter\HyColor@UseColor\Hy@ocgcolor
7012                     \box0 %
7013                 \endgroup
7014                 \pdfliteral page{EMC}%
7015             }%
7016         \fi
7017     \endgroup
7018 }%
7019 }%
7020 \else
7021     \Hy@DisableOption{ocgcolorlinks}%
7022 \fi

```

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

```

7023 \def\setpdflinkmargin#1{\pdflinkmargin#1}
7024 \ifx\pdfstartlink\undefined% less than version 14
7025   \let\pdfstartlink\pdfannotlink
7026   \let\pdflinkmargin\@tempdima
7027   \let\pdfxform\pdfform
7028   \let\pdflastxform\pdflastform
7029   \let\pdfrefxform\pdfrefform
7030 \else
7031   \pdflinkmargin1pt %
7032 \fi

```

First set up the default linking

```

7033 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

7034 \def\new@pdflink#1{%
7035   \ifHy@verbose
7036     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
7037   \fi
7038   \Hy@SaveLastskip
7039   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7040   \Hy@DestName\Hy@pstringDest\@pdfview
7041   \Hy@RestoreLastskip
7042 }
7043 \let\pdf@endanchor\@empty

```

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

```

7044 \def\Hy@DestName#1#2{%
7045   \pdfdest name{#1}#2\relax
7046 }

```

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.

```

7047 \providecommand*\@pdfborder{0 0 1}
7048 \providecommand*\@pdfborderstyle{}
7049 \def\Hy@undefinedname{UNDEFINED}
7050 \def\find@pdflink#1#2{%
7051   \leavevmode
7052   \protected@edef\Hy@testname{#2}%
7053   \ifx\Hy@testname\@empty
7054     \Hy@Warning{%
7055       Empty destination name,\MessageBreak
7056       using ‘\Hy@undefinedname’%
7057     }%
7058     \let\Hy@testname\Hy@undefinedname
7059   \else
7060     \Hy@pstringdef\Hy@testname{%
7061       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7062     }%
7063   \fi
7064   \Hy@StartlinkName{%
7065     \ifHy@pdfa /F 4\fi
7066     \Hy@setpdfborder

```

```

7067 \ifx\@pdfhighlight\@empty
7068 \else
7069 /H\@pdfhighlight
7070 \fi
7071 \ifx\CurrentBorderColor\relax
7072 \else
7073 /C[\CurrentBorderColor]%
7074 \fi
7075 }\Hy@testname
7076 \expandafter\Hy@colorlink\csname @#1color\endcsname
7077 }
7078 \def\Hy@StartlinkName#1#2{%
7079 \pdfstartlink attr{#1}goto name{#2}\relax
7080 }
7081 \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
7082 \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
7083 \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
7084 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
7085 \def\hyper@linkstart#1#2{%
7086 \ifundefined{@#1bordercolor}{%
7087 \let\CurrentBorderColor\relax
7088 }{%
7089 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7090 }%
7091 \find@pdflink{#1}{#2}%
7092 }
7093 \def\hyper@linkend{\close@pdflink}
7094 \def\hyper@link#1#2#3{%
7095 \ifundefined{@#1bordercolor}{%
7096 \let\CurrentBorderColor\relax
7097 }{%
7098 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7099 }%
7100 \find@pdflink{#1}{#2}#3%
7101 \close@pdflink
7102 }
7103 \let\CurrentBorderColor\@linkbordercolor
7104 \def\hyper@linkurl#1#2{%
7105 \begingroup
7106 \Hy@pstringdef\Hy@pstringURI{#2}%
7107 \hyper@chars
7108 \leavevmode
7109 \pdfstartlink
7110 attr{%
7111 \Hy@setpdfborder
7112 \ifx\@pdfhighlight\@empty
7113 \else
7114 /H\@pdfhighlight
7115 \fi
7116 \ifx\@urlbordercolor\relax
7117 \else
7118 /C[\@urlbordercolor]%
7119 \fi
7120 }%
7121 user{%
7122 /Subtype/Link%
7123 \ifHy@pdfa /F 4\fi

```

```

7124      /A<<%
7125      /Type/Action%
7126      /S/URI%
7127      /URI(\Hy@pstringURI)%
7128      >>%
7129      }%
7130      \relax
7131      \Hy@colorlink\@urlcolor#1%
7132      \close@pdflink
7133      \endgroup
7134 }
7135 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7136   \begingroup
7137     \Hy@pstringdef\Hy@pstringF{#2}%
7138     \Hy@pstringdef\Hy@pstringD{#3}%
7139     \leavevmode
7140     \pdfstartlink
7141     attr{%
7142       \Hy@setpdfborder
7143       \ifx\@pdfhighlight\@empty
7144       \else
7145         /H\@pdfhighlight
7146       \fi
7147       \ifx\@filebordercolor\relax
7148       \else
7149         /C[\@filebordercolor]%
7150       \fi
7151     }%
7152     user {%
7153       /Subtype/Link%
7154       \ifHy@pdfa /F 4\fi
7155       /A<<%
7156       /F(\Hy@pstringF)%
7157       /S/GoToR%
7158       \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}

7159      \ifx\#3\%
7160      /D[0 \@pdfstartview]%
7161      \else
7162      /D(\Hy@pstringD)%
7163      \fi
7164      >>%
7165      }%
7166      \relax
7167      \Hy@colorlink\@filecolor#1%
7168      \close@pdflink
7169      \endgroup

```

```

7170 }
7171 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
7172   \beginngroup
7173     \Hy@pstringdef\Hy@pstringF{#1}%
7174     \Hy@pstringdef\Hy@pstringP{#3}%
7175     \leavevmode
7176     \pdfstartlink
7177     attr{%
7178       \Hy@setpdfborder
7179       \ifx\@pdfhighlight\@empty
7180       \else
7181         /H\@pdfhighlight
7182       \fi
7183       \ifx\@runbordercolor\relax
7184       \else
7185         /C[\@runbordercolor]%
7186       \fi
7187     }%
7188     user {%
7189       /Subtype/Link%
7190       \ifHy@pdfa /F 4\fi
7191       /A<<%
7192         /F(\Hy@pstringF)%
7193         /S/Launch%
7194         \Hy@SetNewWindow
7195         \ifx\#3\%
7196         \else
7197           /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7198         \fi
7199       >>%
7200     }%
7201     \relax
7202     \Hy@colorlink\@runcolor#2%
7203     \close@pdflink
7204   \endgroup
7205 }

```

\@pdfproducer

```

7206 \ifx\@pdfproducer\relax
7207   \beginngroup\expandafter\expandafter\expandafter\endgroup
7208   \expandafter\ifx\csname luatexversion\endcsname\relax
7209     \def\@pdfproducer{pdfTeX}%
7210     \ifx\@eTeXversion\@undefined
7211     \else
7212       \ifx\@eTeXversion\relax
7213       \else
7214         \ifnum\@eTeXversion>0 %
7215           \def\@pdfproducer{pdfTeX}%
7216         \fi
7217       \fi
7218     \fi
7219     \ifx\pdftexversion\@undefined
7220     \else
7221       \ifnum\pdftexversion<100 %
7222       \edef\@pdfproducer{%
7223         \@pdfproducer
7224         \the\pdftexversion.\pdftexrevision

```

```

7225     }%
7226   \else
7227     \ifnum\pdfTeXversion<130 %
7228       \edef\@pdfproducer{%
7229         \@pdfproducer-%
7230         \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7231         \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
7232         \pdfTeXrevision
7233       }%
7234   \else
7235     \ifnum\pdfTeXversion<140 %
7236     \else
7237       \def\@pdfproducer{pdfTeX}%
7238     \fi
7239     \edef\@pdfproducer{%
7240       \@pdfproducer-%
7241       \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7242       \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7243       \pdfTeXrevision
7244     }%
7245   \fi
7246 \fi
7247 \fi
7248 \else
7249   \begingroup
7250     \count@=\luatexversion
7251     \divide\count@ by 100 %
7252     \edef\x{\the\count@}%
7253     \count@=-\x\relax
7254     \multiply\count@ by 100 %
7255     \advance\count@ by \luatexversion
7256     \edef\x{\endgroup
7257       \def\noexpand\@pdfproducer{%
7258         LuaTeX-\x.\the\count@.\luatexrevision
7259       }%
7260     }%
7261   \x
7262 \fi
7263 \fi

```

\PDF@SetupDox

```

7264 \def\PDF@SetupDoc{%
7265   \ifx\@pdfpagescrop\@empty
7266   \else
7267     \edef\process@me{%
7268       \pdfpagesattr={%
7269         /CropBox[\@pdfpagescrop]%
7270         \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
7271         \else
7272           ^^J\the\pdfpagesattr
7273         \fi
7274       }%
7275     }%
7276     \process@me
7277   \fi
7278   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7279   \pdfcatalog{%

```



```

7280 /PageMode/\@pdfpagemode
7281 \ifx\@baseurl\@empty
7282 \else
7283 /URI<</Base(\Hy@pstringB)>>%
7284 \fi
7285 }%
7286 \ifx\@pdfstartpage\@empty
7287 \else
7288 \ifx\@pdfstartview\@empty
7289 \else
7290 openaction goto page\@pdfstartpage{\@pdfstartview}%
7291 \fi
7292 \fi
7293 \edef\Hy@temp{%
7294 \ifHy@toolbar\else /HideToolbar true\fi
7295 \ifHy@menubar\else /HideMenubar true\fi
7296 \ifHy>windowui\else /HideWindowUI true\fi
7297 \ifHy@fitwindow /FitWindow true\fi
7298 \ifHy@centerwindow /CenterWindow true\fi
7299 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7300 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7301 \Hy@UseNameKey{Direction}\@pdfdirection
7302 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7303 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7304 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7305 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7306 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7307 \Hy@UseNameKey{Duplex}\@pdfduplex
7308 \ifx\@pdfpicktraybypdfsize\@empty
7309 \else
7310 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7311 \fi
7312 \ifx\@pdfprintpagerange\@empty
7313 \else
7314 /PrintPageRange[\@pdfprintpagerange]%
7315 \fi
7316 \ifx\@pdfnumcopies\@empty
7317 \else
7318 /NumCopies \@pdfnumcopies
7319 \fi
7320 }%
7321 \pdfcatalog{%
7322 \ifx\Hy@temp\@empty
7323 \else
7324 /ViewerPreferences<<\Hy@temp>>%
7325 \fi
7326 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7327 \ifx\@pdflang\@empty
7328 \else
7329 /Lang(\@pdflang)%
7330 \fi
7331 }%
7332 }

```

\PDF@FinishDoc

```

7333 \def\PDF@FinishDoc{%
7334 \Hy@UseMaketitleInfos

```

```

7335 \pdfinfo{%
7336   /Author(\@pdfauthor)%
7337   /Title(\@pdftitle)%
7338   /Subject(\@pdfsubject)%
7339   /Creator(\@pdfcreator)%
7340   \ifx\@pdfcreationdate\@empty
7341   \else
7342     /CreationDate(\@pdfcreationdate)%
7343   \fi
7344   \ifx\@pdfmoddate\@empty
7345   \else
7346     /ModDate(\@pdfmoddate)%
7347   \fi
7348   \ifx\@pdfproducer\relax
7349   \else
7350     /Producer(\@pdfproducer)%
7351   \fi
7352   /Keywords(\@pdfkeywords)%
7353 }%
7354 \Hy@DisableOption{pdfauthor}%
7355 \Hy@DisableOption{pdftitle}%
7356 \Hy@DisableOption{pdfsubject}%
7357 \Hy@DisableOption{pdfcreator}%
7358 \Hy@DisableOption{pdfcreationdate}%
7359 \Hy@DisableOption{pdfmoddate}%
7360 \Hy@DisableOption{pdfproducer}%
7361 \Hy@DisableOption{pdfkeywords}%
7362 }

```

`\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`.

```

7363 \def\hyper@pagetransition{%
7364   \ifx\@pdfpagetransition\relax
7365   \else
7366     \expandafter\Hy@RemoveTransPageAttr
7367     \the\pdfpageattr^^J/Trans{>>\END
7368     \ifx\@pdfpagetransition\@empty
7369     \else
7370       \edef\@processme{%
7371         \global\pdfpageattr{%
7372           \the\pdfpageattr
7373           ^^J/Trans << /S /\@pdfpagetransition\space >>%
7374         }%
7375       }%
7376       \@processme
7377     \fi
7378   \fi
7379 }

```

`\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.

```

7380 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7381   \ifx\#2\%
7382     \global\pdfpageattr{#1}%

```

```

7383 \else
7384 \Hy@RemoveTransPageAttr#1#4\END
7385 \fi
7386 }

```

**\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.

```

7387 \def\hyper@pageduration{%
7388 \ifx\@pdfpageduration\relax
7389 \else
7390 \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
7391 \ifx\@pdfpageduration\@empty
7392 \else
7393 \edef\@processme{%
7394 \global\pdfpageattr{%
7395 \the\pdfpageattr
7396 ^^J/Dur \@pdfpageduration\space
7397 }%
7398 }%
7399 \@processme
7400 \fi
7401 \fi
7402 }

```

**\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.

```

7403 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7404 \ifx\#2\%
7405 \global\pdfpageattr{#1}%
7406 \else
7407 \Hy@RemoveDurPageAttr#1#4\END
7408 \fi
7409 }

```

**\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).

```

7410 \def\hyper@pagehidden{%
7411 \ifHy@useHidKey
7412 \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7413 \ifHy@pdfpagehidden
7414 \edef\@processme{%
7415 \global\pdfpageattr{%
7416 \the\pdfpageattr
7417 ^^J/Hid true % SPACE
7418 }%
7419 }%
7420 \@processme
7421 \fi
7422 \fi
7423 }

```

**\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.

```

7424 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7425   \ifx\#2\%
7426     \global\pdfpageattr{#1}%
7427   \else
7428     \Hy@RemoveHidPageAttr#1#4\END
7429   \fi
7430 }

7431 \g@addto@macro\Hy@EveryPageHook{%
7432   \hyper@pagetransition
7433   \hyper@pageduration
7434   \hyper@pagehidden
7435 }

7436 \AtBeginDocument{%
7437   \ifHy@setpagesize
7438     \expandafter\@firstofone
7439   \else
7440     \expandafter\@gobble
7441   \fi
7442   {%
7443     \@ifclassloaded{seminar}{%
7444       \setlength{\pdfhorigin}{1truein}%
7445       \setlength{\pdfvorigin}{1truein}%
7446       \ifportrait
7447         \ifdim\paperwidth=\z@
7448         \else
7449           \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7450         \fi
7451         \ifdim\paperheight=\z@
7452         \else
7453           \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7454         \fi
7455       \else
7456         \ifdim\paperheight=\z@
7457         \else
7458           \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7459         \fi
7460         \ifdim\paperwidth=\z@
7461         \else
7462           \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7463         \fi
7464       \fi
7465     }{%
7466       \@ifundefined{stockwidth}{%
7467         \ifdim\paperwidth=\z@
7468         \else
7469           \setlength{\pdfpagewidth}{\paperwidth}%
7470         \fi
7471         \ifdim\paperheight=\z@
7472         \else
7473           \setlength{\pdfpageheight}{\paperheight}%
7474         \fi
7475       }{%
7476         \ifdim\stockwidth=\z@
7477         \else

```

```

7478         \setlength{\pdfpagewidth}{\stockwidth}%
7479         \fi
7480         \ifdim\stockheight=\z@
7481         \else
7482         \setlength{\pdfpageheight}{\stockheight}%
7483         \fi
7484     }%
7485 }%
7486 }%
7487 \Hy@DisableOption{setpagesize}%
7488 }
7489 \def\Acrobatmenu#1#2{%
7490 \Hy@Acrobatmenu{#1}{#2}{%
7491 \pdfstartlink
7492 attr{%
7493 \Hy@setpdfborder
7494 \ifx\@pdfhighlight\@empty
7495 \else
7496 /H\@pdfhighlight
7497 \fi
7498 \ifx\@menubordercolor\relax
7499 \else
7500 /C[\@menubordercolor]%
7501 \fi
7502 }%
7503 user{%
7504 /Subtype/Link%
7505 \ifHy@pdfa /F 4\fi
7506 /A<<%
7507 /S/Named/N/#1%
7508 >>%
7509 }%
7510 \relax
7511 \Hy@colorlink\@menucolor#2%
7512 \close@pdflink
7513 }%
7514 }

```

#### 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.

```

7515 \def\Hy@FixNotFirstPage{%
7516 \gdef\Hy@FixNotFirstPage{%
7517 \setbox\AtBeginShipoutBox=\hbox{%
7518 \copy\AtBeginShipoutBox
7519 }%
7520 }%
7521 }
7522 \AtBeginShipout{\Hy@FixNotFirstPage}
7523 </pdfTeX>

```

## 46.3 hypertext

The HyperTeX specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of `\special` commands:

**href:** `html:<a href = "href_string">`

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

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

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

**base\_name:** `html:<base href = "href_string">`

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base\_name* command is be used to communicate to the *dvi* viewer the full (URL) location of the current document so that files specified by relative URL's may be retrieved correctly.

The *href* and *name* commands must be paired with an *end* command later in the 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.

```
7524 \*hypertext
7525 \providecommand*\XR@ext}{dvi}
7526 \def\PDF@FinishDoc{}
7527 \def\PDF@SetupDoc{%
7528   \ifx\@baseurl\@empty
7529   \else
7530     \special{html:<base href="\@baseurl">}%
7531   \fi
7532 }
7533 \def\hyper@anchor#1{%
7534   \Hy@SaveLastskip
7535   \begingroup
7536     \let\protect=\string
7537     \hyper@chars
7538     \special{html:<a name=%
7539       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7540   \endgroup
7541   \Hy@activeanchortrue
7542   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7543   \special{html:</a>}%
7544   \Hy@activeanchorfalse
7545   \Hy@RestoreLastskip
7546 }
7547 \def\hyper@anchorstart#1{%
```

```

7548 \Hy@SaveLastskip
7549 \begingroup
7550   \hyper@chars
7551   \special{html:<a name=%
7552     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7553 \endgroup
7554 \Hy@activeanchortrue
7555 }
7556 \def\hyper@anchorend{%
7557   \special{html:</a>}%
7558   \Hy@activeanchorfalse
7559   \Hy@RestoreLastskip
7560 }
7561 \def\@urlltype{url}
7562 \def\hyper@linkstart#1#2{%
7563   \expandafter\Hy@colorlink\csname @#1color\endcsname
7564   \def\Hy@tempa{#1}%
7565   \ifx\Hy@tempa\@urlltype
7566     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7567   \else
7568     \begingroup
7569     \hyper@chars
7570     \special{html:<a href=%
7571       \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
7572     \endgroup
7573   \fi
7574 }
7575 \def\hyper@linkend{%
7576   \special{html:</a>}%
7577   \Hy@endcolorlink
7578 }
7579 \def\hyper@linkfile#1#2#3{%
7580   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
7581 }
7582 \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.

```

7583 \leavevmode
7584 \ifHy@raiselinks
7585   \setbox\@tempboxa=\color@hbox #1\color@endbox
7586   \@linkdim\dp\@tempboxa
7587   \lower\@linkdim\hbox{%
7588     \hyper@chars
7589     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7590   }%
7591   \Hy@colorlink\@urlcolor#1%
7592   \@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).

```

7593   \advance\@linkdim by -6.5\p@
7594   \raise\@linkdim\hbox{\special{html:</a>}}%
7595   \Hy@endcolorlink
7596 \else
7597   \begingroup

```

```

7598     \hyper@chars
7599     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7600     \Hy@colorlink\@urlcolor#1%
7601     \special{html:</a>}}%
7602     \Hy@endcolorlink
7603   \endgroup
7604 \fi
7605 }

```

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

```

7606 \def\hyper@link#1#2#3{%
7607   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}}%
7608 }

7609 \def\hyper@image#1#2{%
7610   \begingroup
7611     \hyper@chars
7612     \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
7613   \endgroup
7614 }
7615 \</hypertex>
7616 \<*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.

```

7617 \providecommand*\XR@ext}{dvi}
7618 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
7619 \def\hyper@anchor#1{%
7620   \Hy@SaveLastskip
7621   \begingroup
7622     \let\protect=\string
7623     \special{mark: #1}%
7624   \endgroup
7625   \Hy@activeanchortrue
7626   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7627   \Hy@activeanchorfalse
7628   \Hy@RestoreLastskip
7629 }
7630 \def\hyper@anchorstart#1{%
7631   \Hy@SaveLastskip
7632   \special{mark: #1}%
7633   \Hy@activeanchortrue
7634 }
7635 \def\hyper@anchorend{%
7636   \Hy@activeanchorfalse
7637   \Hy@RestoreLastskip
7638 }

```



```

7639 \def\hyper@linkstart#1#2{%
7640   \expandafter\Hy@colorlink\csname @#1color\endcsname
7641   \special{button: %
7642     10000000 %
7643     \number\baselineskip\space
7644     #2%
7645   }%
7646 }
7647 \def\hyper@linkend{%
7648   \Hy@endcolorlink
7649 }
7650 \def\hyper@link#1#2#3{%
7651   \setbox\@tempboxa=\color@hbox #3\color@endbox
7652   \leavevmode
7653   \ifHy@raiselinks
7654     \@linkdim\dp\@tempboxa
7655     \lower\@linkdim\hbox{%
7656       \special{button: %
7657         \number\wd\@tempboxa\space
7658         \number\ht\@tempboxa\space
7659         #2%
7660       }%
7661       \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7662       \Hy@endcolorlink
7663     }%
7664     \@linkdim\ht\@tempboxa
7665     \advance\@linkdim by -6.5\p@
7666     \raise\@linkdim\hbox{}%
7667   \else
7668     \special{button: %
7669       \number\wd\@tempboxa\space
7670       \number\ht\@tempboxa\space
7671       #2%
7672     }%
7673     \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7674     \Hy@endcolorlink
7675   \fi
7676 }
7677 \def\hyper@linkurl#1#2{%
7678   \begingroup
7679   \hyper@chars
7680   \leavevmode
7681   \setbox\@tempboxa=\color@hbox #1\color@endbox
7682   \ifHy@raiselinks
7683     \@linkdim\dp\@tempboxa
7684     \lower\@linkdim\hbox{%
7685       \special{button: %
7686         \number\wd\@tempboxa\space
7687         \number\ht\@tempboxa\space
7688         launch: \wwwbrowser\space
7689         #2%
7690       }%
7691       \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7692     }%
7693     \@linkdim\ht\@tempboxa
7694     \advance\@linkdim by -6.5\p@
7695     \raise\@linkdim\hbox{}%

```

```

7696 \else
7697 \special{button: %
7698 \number\wd\@tempboxa\space
7699 \number\ht\@tempboxa\space
7700 launch: \wwwbrowser\space
7701 #2%
7702 }%
7703 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7704 \fi
7705 \endgroup
7706 }
7707 \def\hyper@linkfile#1#2#3{%
7708 \begingroup
7709 \hyper@chars
7710 \leavevmode
7711 \setbox\@tempboxa=\color@hbox #1\color@endbox
7712 \ifHy@raiselinks
7713 \@linkdim\dp\@tempboxa
7714 \lower\@linkdim\hbox{%
7715 \special{button: %
7716 \number\wd\@tempboxa\space
7717 \number\ht\@tempboxa\space
7718 #3,%
7719 file: #2%
7720 }%
7721 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7722 }%
7723 \@linkdim\ht\@tempboxa
7724 \advance\@linkdim by -6.5\p@
7725 \raise\@linkdim\hbox{}}%
7726 \else
7727 \special{button: %
7728 \number\wd\@tempboxa\space
7729 \number\ht\@tempboxa\space
7730 #3,%
7731 file: #2%
7732 }%
7733 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7734 \fi
7735 \endgroup
7736 }
7737 \ifx\@pdfproducer\relax
7738 \def\@pdfproducer{dviwindo + Distiller}%
7739 \fi
7740 \def\PDF@FinishDoc{%
7741 \Hy@UseMaketitleInfos
7742 \special{PDF: Keywords \@pdfkeywords}%
7743 \special{PDF: Title \@pdftitle}%
7744 \special{PDF: Creator \@pdfcreator}%
7745 \ifx\@pdfcreationdate\@empty
7746 \else
7747 \special{PDF: CreationDate \@pdfcreationdate}%
7748 \fi
7749 \ifx\@pdfmoddate\@empty
7750 \else
7751 \special{PDF: ModDate \@pdfmoddate}%
7752 \fi

```

```

7753 \special{PDF: Author \@pdfauthor}%
7754 \ifx\@pdfproducer\relax
7755 \else
7756 \special{PDF: Producer \@pdfproducer}%
7757 \fi
7758 \special{PDF: Subject \@pdfsubject}%
7759 \Hy@DisableOption{pdfauthor}%
7760 \Hy@DisableOption{pdftitle}%
7761 \Hy@DisableOption{pdfsubject}%
7762 \Hy@DisableOption{pdfcreator}%
7763 \Hy@DisableOption{pdfcreationdate}%
7764 \Hy@DisableOption{pdfmoddate}%
7765 \Hy@DisableOption{pdfproducer}%
7766 \Hy@DisableOption{pdfkeywords}%
7767 }
7768 \def\PDF@SetupDoc{%
7769 \ifx\@baseurl\@empty
7770 \else
7771 \special{PDF: Base \@baseurl}%
7772 \fi
7773 \ifx\@pdfpagescrop\@empty\else
7774 \special{PDF: BBox \@pdfpagescrop}%
7775 \fi
7776 \def\Hy@temp{%
7777 \ifx\@pdfstartpage\@empty
7778 \else
7779 \ifx\@pdfstartview\@empty
7780 \else
7781 \edef\Hy@temp{%
7782 ,Page=\@pdfstartpage
7783 ,View=\@pdfstartview
7784 }%
7785 \fi
7786 \fi
7787 \edef\Hy@temp{%
7788 \noexpand\pdfmark{%
7789 pdfmark=/DOCVIEW,%
7790 PageMode=/\@pdfpagemode
7791 \Hy@temp
7792 }%
7793 }%
7794 \Hy@temp
7795 \ifx\@pdfpagescrop\@empty
7796 \else
7797 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7798 \fi
7799 \edef\Hy@temp{%
7800 \ifHy@toolbar\else /HideToolbar true\fi
7801 \ifHy@menubar\else /HideMenubar true\fi
7802 \ifHy>windowui\else /HideWindowUI true\fi
7803 \ifHy@fitwindow /FitWindow true\fi
7804 \ifHy@centerwindow /CenterWindow true\fi
7805 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7806 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7807 \Hy@UseNameKey{Direction}\@pdfdirection
7808 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7809 \Hy@UseNameKey{ViewClip}\@pdfviewclip

```

```

7810 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7811 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7812 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7813 \Hy@UseNameKey{Duplex}\@pdfduplex
7814 \ifx\@pdfpicktraybypdfsize\@empty
7815 \else
7816 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7817 \fi
7818 \ifx\@pdfprintpagerange\@empty
7819 \else
7820 /PrintPageRange[\@pdfprintpagerange]%
7821 \fi
7822 \ifx\@pdfnumcopies\@empty
7823 \else
7824 /NumCopies \@pdfnumcopies
7825 \fi
7826 }%
7827 \pdfmark{pdfmark=/PUT,%
7828 Raw={%
7829 \string{Catalog\string}<<%
7830 \ifx\Hy@temp\@empty
7831 \else
7832 /ViewerPreferences<<\Hy@temp>>%
7833 \fi
7834 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7835 \ifx\@pdflang\@empty
7836 \else
7837 /Lang(\@pdflang)%
7838 \fi
7839 >>%
7840 }%
7841 }%
7842 }
7843 </dviwindo>
7844 <*dvi pdfm>

```

## 46.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

7845 \providecommand*{\XR@ext}{pdf}
7846 \Hy@setbreaklinks{true}
7847 \newsavebox{\pdfm@box}
7848 \def\@pdfm@mark#1{\special{pdf:#1}}
7849 \def\@pdfm@dest#1{%
7850 \Hy@SaveLastskip
7851 \beginingroup
7852 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7853 \def\x{XYZ}%
7854 \ifx\x\@pdfview
7855 \def\x{XYZ @xpos @ypos null}%
7856 \else
7857 \def\x{FitH}%
7858 \ifx\x\@pdfview
7859 \def\x{FitH @ypos}%
7860 \else
7861 \def\x{FitBH}%
7862 \ifx\x\@pdfview

```

```

7863         \def\x{FitBH @ypos}%
7864     \else
7865         \def\x{FitV}%
7866         \ifx\x\@pdfview
7867             \def\x{FitV @xpos}%
7868         \else
7869             \def\x{FitBV}%
7870             \ifx\x\@pdfview
7871                 \def\x{FitBV @xpos}%
7872             \else
7873                 \def\x{Fit}%
7874                 \ifx\x\@pdfview
7875                     \let\x\@pdfview
7876                 \else
7877                     \def\x{FitB}%
7878                     \ifx\x\@pdfview
7879                         \let\x\@pdfview
7880                     \else
7881                         \def\x{FitR}%
7882                         \ifx\x\@pdfview
7883                             \Hy@Warning{'pdfview=FitR' is not supported}%
7884                             \def\x{XYZ @xpos @ypos null}%
7885                         \else
7886                             \@onelevel@sanitize\@pdfview
7887                             \Hy@Warning{Unknown value '\@pdfview' for pdfview}%
7888                             \def\x{XYZ @xpos @ypos null}%
7889                         \fi
7890                     \fi
7891                 \fi
7892             \fi
7893         \fi
7894     \fi
7895 \fi
7896 \fi
7897 \pdfmark{dest (\Hy@pstringDest) [@thispage /\x]}%
7898 \endgroup
7899 \Hy@RestoreLastskip
7900 }
7901 \providecommand*\@pdfview{XYZ}
7902 \providecommand*\@pdfborder{0 0 1}
7903 \providecommand*\@pdfborderstyle{}
7904 \def\hyper@anchor#1{%
7905     \@pdfmark{dest{#1}}%
7906 }
7907 \def\hyper@anchorstart#1{%
7908     \Hy@activeanchortrue
7909     \@pdfmark{dest{#1}}%
7910 }
7911 \def\hyper@anchorend{%
7912     \Hy@activeanchorfalse
7913 }
7914 \newcounter{Hy@AnnotLevel}
7915 \ifHy@ocgcolorlinks
7916     \def\OBJ@OCG@view{@OCG@view}%
7917     \@pdfmark{%
7918         obj \OBJ@OCG@view <<%
7919         /Type/OCG%

```

```

7920     /Name(View)%
7921     /Usage<<%
7922     /Print<<%
7923         /PrintState/OFF%
7924     >>%
7925     /View<<%
7926         /ViewState/ON%
7927     >>%
7928 >>%
7929 >>%
7930 }%
7931 \@pdfmark{close \OBJ@OCG@view}%
7932 \def\OBJ@OCG@print{@OCG@print}%
7933 \@pdfmark{%
7934     obj \OBJ@OCG@print <<%
7935         /Type/OCG%
7936         /Name(Print)%
7937         /Usage<<%
7938         /Print<<%
7939         /PrintState/ON%
7940     >>%
7941     /View<<%
7942         /ViewState/OFF%
7943     >>%
7944 >>%
7945 >>%
7946 }%
7947 \@pdfmark{close \OBJ@OCG@print}%
7948 \def\OBJ@OCGs{@OCGs}%
7949 \@pdfmark{%
7950     obj \OBJ@OCGs [%
7951         \OBJ@OCG@view\space\OBJ@OCG@print
7952     ]%
7953 }%
7954 \@pdfmark{close \OBJ@OCGs}%
7955 \@pdfmark{%
7956     put @catalog <<%
7957         /OCProperties<<%
7958         /OCGs \OBJ@OCGs
7959         /D<<%
7960             /OFF[\OBJ@OCG@print]%
7961             /AS[%
7962                 <<%
7963                     /Event/View%
7964                     /OCGs \OBJ@OCGs
7965                     /Category[/View]%
7966                 >>%
7967                 <<%
7968                     /Event/Print%
7969                     /OCGs \OBJ@OCGs
7970                     /Category[/Print]%
7971                 >>%
7972                 <<%
7973                     /Event/Export%
7974                     /OCGs \OBJ@OCGs
7975                     /Category[/Print]%
7976                 >>%

```

```

7977         ]%
7978         >>%
7979         >>%
7980         >>%
7981     }%
7982     \AtBeginShipout{%
7983         \setbox\AtBeginShipoutBox=\hbox{%
7984             \copy\AtBeginShipoutBox
7985             \@pdfm@mark{%
7986                 put @resources <<%
7987                 /Properties<<%
7988                 /OCView \OBJ@OCG@view
7989                 /OCPrint \OBJ@OCG@print
7990                 >>%
7991                 >>%
7992             }%
7993         }%
7994     }%
7995     \AtBeginDocument{%
7996         \def\Hy@colorlink#1{%
7997             \begingroup
7998             \ifHy@ocgcolorlinks
7999                 \def\Hy@ocgcolor{#1}%
8000                 \setbox0=\color@hbox
8001             \else
8002                 \HyColor@UseColor#1%
8003             \fi
8004         }%
8005         \def\Hy@endcolorlink{%
8006             \ifHy@ocgcolorlinks
8007                 \color@endbox
8008                 \mbox{%
8009                     \@pdfm@mark{content /OC/OCPrint BDC}%
8010                     \rlap{\copy0}%
8011                     \@pdfm@mark{content EMC/OC/OCView BDC}%
8012                     \begingroup
8013                         \expandafter\HyColor@UseColor\Hy@ocgcolor
8014                         \box0 %
8015                     \endgroup
8016                     \@pdfm@mark{content EMC}%
8017                 }%
8018             \fi
8019         \endgroup
8020     }%
8021 }%
8022 \else
8023     \Hy@DisableOption{ocgcolorlinks}%
8024 \fi
8025 \def\Hy@BeginAnnot#1{%
8026     \stepcounter{Hy@AnnotLevel}%
8027     \ifnum\value{Hy@AnnotLevel}=\@ne
8028         #1%
8029     \fi
8030 }
8031 \def\Hy@EndAnnot{%
8032     \ifnum\value{Hy@AnnotLevel}=\@ne
8033         \Hy@endcolorlink

```

```

8034 \pdfmark{eann}%
8035 \fi
8036 \addtocounter{Hy@AnnotLevel}\m@ne
8037 }

8038 \def\Hy@undefinedname{UNDEFINED}
8039 \def\hyper@linkstart#1#2{%
8040 \Hy@BeginAnnot{%
8041 \protected@edef\Hy@testname{#2}%
8042 \ifx\Hy@testname\@empty
8043 \Hy@Warning{%
8044 Empty destination name,\MessageBreak
8045 using '\Hy@undefinedname'%
8046 }%
8047 \let\Hy@testname\Hy@undefinedname
8048 \else
8049 \Hy@pstringdef\Hy@testname{%
8050 \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8051 }%
8052 \fi
8053 \pdfmark{%
8054 bann<<%
8055 /Type/Annot%
8056 /Subtype/Link%
8057 \ifHy@pdfa /F 4\fi
8058 \Hy@setpdfborder
8059 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
8060 \else
8061 /C[\csname @#1bordercolor\endcsname]%
8062 \fi
8063 /A<<%
8064 /S/GoTo%
8065 /D(\Hy@testname)%
8066 >>%
8067 >>%
8068 }%
8069 \expandafter\Hy@colorlink\csname @#1color\endcsname
8070 }%
8071 }

8072 \def\hyper@linkend{\Hy@EndAnnot}%
8073 \def\hyper@link#1#2#3{%
8074 \hyper@linkstart{#1}{#2}#3\hyper@linkend
8075 }

8076 \def\hyper@linkfile#1#2#3{%
8077 \leavevmode
8078 \Hy@BeginAnnot{%
8079 \Hy@pstringdef\Hy@pstringF{#2}%
8080 \Hy@pstringdef\Hy@pstringD{#3}%
8081 \pdfmark{%
8082 bann<<%
8083 /Type/Annot%
8084 /Subtype/Link%
8085 \ifHy@pdfa /F 4\fi
8086 \Hy@setpdfborder
8087 \ifx\@filebordercolor\relax
8088 \else
8089 /C[\@filebordercolor]%
8090 \fi

```



```

8091      /A<<%
8092      /S/GoToR%
8093      /F(\Hy@pstringF)%
8094      /D\ifx\#3\ [0 \pdfstartview]\else(\Hy@pstringD)\fi
8095      \Hy@SetNewWindow
8096      >>%
8097      >>%
8098      }%
8099      \Hy@colorlink\@filecolor
8100      }%
8101      #1%
8102      \Hy@endAnnot
8103      }
8104      \def\hyper@linkurl#1#2{%
8105        \leavevmode
8106        \Hy@BeginAnnot{%
8107          \Hy@pstringdef\Hy@pstringURI{#2}%
8108          \@pdfm@mark{%
8109            bann<<%
8110            /Type/Annot%
8111            /Subtype/Link%
8112            \ifHy@pdfa /F 4\fi
8113            \Hy@setpdfborder
8114            \ifx\@urlbordercolor\relax
8115              \else
8116                /C[\@urlbordercolor]%
8117              \fi
8118            /A<<%
8119            /S/URI%
8120            /URI(\Hy@pstringURI)%
8121            >>%
8122            >>%
8123            }%
8124            \Hy@colorlink\@urlcolor
8125          }%
8126          #1%
8127          \Hy@endAnnot
8128        }
8129      \def\Acrobatmenu#1#2{%
8130        \Hy@Acrobatmenu{#1}{#2}{%
8131          \Hy@BeginAnnot{%
8132            \@pdfm@mark{%
8133              bann<<%
8134              /Type/Annot%
8135              /Subtype/Link%
8136              \ifHy@pdfa /F 4\fi
8137              /A<<%
8138              /S/Named%
8139              /N/#1%
8140              >>%
8141              \Hy@setpdfborder
8142              \ifx\@menubordercolor\relax
8143                \relax
8144                /C[\@menubordercolor]%
8145              \fi
8146              >>%
8147            }%

```

```

8148     \Hy@colorlink\@menucolor
8149   }%
8150   #2%
8151   \Hy@EndAnnot
8152 }%
8153 }
8154 \ifx\@pdfproducer\relax
8155   \def\@pdfproducer{dvipdfm}%

```

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

```

8156 \begingroup\expandafter\expandafter\expandafter\endgroup
8157 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8158   \else
8159     \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8160   \fi
8161 \fi
8162 \def\PDF@FinishDoc{%
8163   \Hy@UseMaketitleInfos
8164   \@pdfm@mark{%
8165     docinfo<<%
8166       /Title(\@pdftitle)%
8167       /Subject(\@pdfsubject)%
8168       /Creator(\@pdfcreator)%
8169       \ifx\@pdfcreationdate\@empty
8170       \else
8171         /CreationDate(\@pdfcreationdate)%
8172       \fi
8173       \ifx\@pdfmoddate\@empty
8174       \else
8175         /ModDate(\@pdfmoddate)%
8176       \fi
8177       /Author(\@pdfauthor)%
8178       \ifx\@pdfproducer\relax
8179       \else
8180         /Producer(\@pdfproducer)%
8181       \fi
8182       /Keywords(\@pdfkeywords)%
8183     >>%
8184   }%
8185   \Hy@DisableOption{pdfauthor}%
8186   \Hy@DisableOption{pdftitle}%
8187   \Hy@DisableOption{pdfsubject}%
8188   \Hy@DisableOption{pdfcreator}%
8189   \Hy@DisableOption{pdfcreationdate}%
8190   \Hy@DisableOption{pdfmoddate}%
8191   \Hy@DisableOption{pdfproducer}%
8192   \Hy@DisableOption{pdfkeywords}%
8193 }
8194 \def\PDF@SetupDoc{%
8195   \edef\Hy@temp{%
8196     \ifHy@toolbar\else /HideToolbar true\fi
8197     \ifHy@menubar\else /HideMenubar true\fi
8198     \ifHy>windowui\else /HideWindowUI true\fi
8199     \ifHy@fitwindow /FitWindow true\fi
8200     \ifHy@centerwindow /CenterWindow true\fi
8201     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8202     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode

```

```

8203 \Hy@UseNameKey{Direction}\@pdfdirection
8204 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8205 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8206 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8207 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8208 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8209 \Hy@UseNameKey{Duplex}\@pdfduplex
8210 \ifx\@pdfpicktraybypdfsize\@empty
8211 \else
8212 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8213 \fi
8214 \ifx\@pdfprintpagerange\@empty
8215 \else
8216 /PrintPageRange[\@pdfprintpagerange]%
8217 \fi
8218 \ifx\@pdfnumcopies\@empty
8219 \else
8220 /NumCopies \@pdfnumcopies
8221 \fi
8222 }%
8223 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8224 \@pdfm@mark{%
8225 docview<<%
8226 \ifx\@pdfstartpage\@empty
8227 \else
8228 \ifx\@pdfstartview\@empty
8229 \else
8230 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
8231 \fi
8232 \fi
8233 \ifx\@baseurl\@empty
8234 \else
8235 /URI<</Base(\Hy@pstringB)>>%
8236 \fi
8237 /PageMode/\@pdfpagemode
8238 \ifx\Hy@temp\@empty
8239 \else
8240 /ViewerPreferences<<\Hy@temp>>%
8241 \fi
8242 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8243 \ifx\@pdflang\@empty
8244 \else
8245 /Lang(\@pdflang)%
8246 \fi
8247 >>%
8248 }%
8249 \ifx\@pdfpagescrop\@empty
8250 \else
8251 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
8252 \fi
8253 }

8254 \AtBeginShipoutFirst{%
8255 \ifx\special@paper\@empty
8256 \else
8257 \ifHy@setpagesize
8258 \special{papersize=\special@paper}%
8259 \fi

```

```

8260 \fi
8261 \Hy@DisableOption{setpagesize}%
8262 }
8263 </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.

```

8264 <*vtexhtml>
8265 \providecommand*{\XR@ext}{htm}
8266 \RequirePackage{vtexhtml}
8267 \newif\if@Localurl
8268 \def\PDF@FinishDoc{}
8269 \def\PDF@SetupDoc{%
8270   \ifx\@baseurl\@empty
8271   \else
8272     \special{!direct <base href="\@baseurl">}%
8273   \fi
8274 }
8275 \def\@urltype{url}
8276 \def\hyper@link#1#2#3{%
8277   \leavevmode
8278   \special{!direct <a href=%
8279     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8280   #3%
8281   \special{!direct </a>}%
8282 }
8283 \def\hyper@linkurl#1#2{%
8284   \begingroup
8285     \hyper@chars
8286     \leavevmode
8287     \MathBSuppress=1\relax
8288     \special{!direct <a href=%
8289       \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8290     #1%
8291     \MathBSuppress=0\relax
8292     \special{!direct </a>}%
8293   \endgroup
8294 }
8295 \def\hyper@linkfile#1#2#3{%
8296   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
8297 }
8298 \def\hyper@linkstart#1#2{%
8299   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8300     \@Localurltrue
8301     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8302   \else
8303     \@Localurlfalse
8304     \begingroup
8305       \hyper@chars
8306       \special{!aref \HyperDestNameFilter{#2}}%
8307     \endgroup
8308   \fi
8309 }
8310 \def\hyper@linkend{%
8311   \if@Localurl

```

```

8312     \special{!endaref}%
8313     \else
8314         \special{!direct </a>}%
8315     \fi
8316 }
8317 \def\hyper@anchorstart#1{%
8318     \Hy@SaveLastskip
8319     \begingroup
8320         \hyper@chars
8321         \special{!aname #1}%
8322         \special{!direct <a name=%
8323             \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8324     \endgroup
8325     \Hy@activeanchortrue
8326 }
8327 \def\hyper@anchorend{%
8328     \special{!direct </a>}%
8329     \Hy@activeanchorfalse
8330     \Hy@RestoreLastskip
8331 }
8332 \def\hyper@anchor#1{%
8333     \Hy@SaveLastskip
8334     \begingroup
8335         \let\protect=\string
8336         \hyper@chars
8337         \leavevmode
8338         \special{!aname #1}%
8339         \special{!direct <a name=%
8340             \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8341     \endgroup
8342     \Hy@activeanchortrue
8343     \bgroup\anchor@spot\egroup
8344     \special{!direct </a>}%
8345     \Hy@activeanchorfalse
8346     \Hy@RestoreLastskip
8347 }
8348 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
8349 \def\@endForm{}
8350 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8351     \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8352 }
8353 \def\@TextField[#1]#2{% parameters, label
8354     \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8355 }
8356 \def\@CheckBox[#1]#2{% parameters, label
8357     \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8358 }
8359 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8360     \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8361 }
8362 \def\@PushButton[#1]#2{% parameters, label
8363     \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8364 }
8365 \def\@Reset[#1]#2{%
8366     \typeout{Sorry, TeXpider does not yet support FORMs}%
8367 }
8368 \def\@Submit[#1]#2{%

```

```

8369 \typeout{Sorry, TeXpider does not yet support FORMs}%
8370 }
8371 </vtexhtml>
8372 <*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.

```

8373 \ifx\mediaheight\@undefined
8374 \else
8375   \ifx\mediaheight\relax
8376   \else
8377     \ifHy@setpagesize
8378       \providecommand*{\VTeXInitMediaSize}{%
8379         \@ifundefined{stockwidth}{%
8380           \ifdim\paperheight>0pt %
8381             \setlength\mediaheight\paperheight
8382           \fi
8383           \ifdim\paperheight>0pt %
8384             \setlength\mediawidth\paperwidth
8385           \fi
8386         }{%
8387           \ifdim\stockheight>0pt %
8388             \setlength\mediaheight\stockheight
8389           \fi
8390           \ifdim\stockwidth>0pt %
8391             \setlength\mediawidth\stockwidth
8392           \fi
8393         }%
8394       }%
8395     \AtBeginDocument{\VTeXInitMediaSize}%
8396   \fi
8397   \Hy@DisableOption{setpagesize}%
8398 \fi
8399 \fi

```

Older versions of VTeX require xyz in lower case.

```

8400 \providecommand*\@pdfview{xyz}
8401 \providecommand*\@pdfborder{0 0 1}
8402 \providecommand*\@pdfborderstyle{}
8403 \let\CurrentBorderColor\@linkbordercolor
8404 \def\hyper@anchor#1{%
8405   \Hy@SaveLastskip
8406   \begingroup
8407     \let\protect=\string
8408     \hyper@chars
8409     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8410   \endgroup
8411   \Hy@activeanchortrue
8412   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8413   \Hy@activeanchorfalse
8414   \Hy@RestoreLastskip
8415 }
8416 \def\hyper@anchorstart#1{%
8417   \Hy@SaveLastskip
8418   \begingroup
8419     \hyper@chars
8420     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%

```

```

8421 \endgroup
8422 \Hy@activeanchortrue
8423 }
8424 \def\hyper@anchorend{%
8425 \Hy@activeanchorfalse
8426 \Hy@RestoreLastskip
8427 }
8428 \def\@urltype{url}
8429 \def\Hy@undefinedname{UNDEFINED}
8430 \def\hyper@linkstart#1#2{%
8431 \Hy@pstringdef\Hy@pstringURI{#2}%
8432 \expandafter\Hy@colorlink\csname @#1color\endcsname
8433 \@ifundefined{@#1bordercolor}{%
8434 \let\CurrentBorderColor\relax
8435 }{%
8436 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8437 }%
8438 \def\Hy@tempa{#1}%
8439 \ifx\Hy@tempa\@urltype
8440 \special{!%
8441 aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8442 a=<%
8443 \ifHy@pdfa /F 4\fi
8444 \Hy@setpdfborder
8445 \ifx\CurrentBorderColor\relax
8446 \else
8447 /C [\CurrentBorderColor]%
8448 \fi
8449 >%
8450 }%
8451 \else
8452 \protected@edef\Hy@testname{#2}%
8453 \ifx\Hy@testname\@empty
8454 \Hy@Warning{%
8455 Empty destination name,\MessageBreak
8456 using '\Hy@undefinedname'%
8457 }%
8458 \let\Hy@testname\Hy@undefinedname
8459 \fi
8460 \special{!%
8461 aref \expandafter\HyperDestNameFilter
8462 \expandafter{\Hy@testname};%
8463 a=<%
8464 \ifHy@pdfa /F 4\fi
8465 \Hy@setpdfborder
8466 \ifx\CurrentBorderColor\relax
8467 \else
8468 /C [\CurrentBorderColor]%
8469 \fi
8470 >%
8471 }%
8472 \fi
8473 }
8474 \def\hyper@linkend{%
8475 \special{!endaref}%
8476 \Hy@endcolorlink
8477 }

```

```

8478 \def\hyper@linkfile#1#2#3{%
8479   \leavevmode
8480   \special{!%
8481     aref <%
8482     \ifnum\Hy@TeXversion>753 \ifHy@newwindow n\fi\fi
8483     f=#2>#3;%
8484     a=<%
8485     \ifHy@pdfa /F 4\fi
8486     \Hy@setpdfborder
8487     \ifx\@filebordercolor\relax
8488     \else
8489       /C [\@filebordercolor]%
8490     \fi
8491     >%
8492   }%
8493   \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8494   \special{!endaref}%
8495 }
8496 \def\hyper@linkurl#1#2{%
8497   \begingroup
8498   \Hy@pstringdef\Hy@pstringURI{#2}%
8499   \hyper@chars
8500   \leavevmode
8501   \special{!%
8502     aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8503     a=<%
8504     \ifHy@pdfa /F 4\fi
8505     \Hy@setpdfborder
8506     \ifx\@urlbordercolor\relax
8507     \else
8508       /C [\@urlbordercolor]%
8509     \fi
8510     >%
8511   }%
8512   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8513   \special{!endaref}%
8514   \endgroup
8515 }
8516 \def\hyper@link#1#2#3{%
8517   \@ifundefined{@#1bordercolor}{%
8518     \let\CurrentBordercolor\relax
8519   }{%
8520     \edef\CurrentBordercolor{\csname @#1bordercolor\endcsname}%
8521   }%
8522   \leavevmode
8523   \protected@edef\Hy@testname{#2}%
8524   \ifx\Hy@testname\@empty
8525     \Hy@Warning{%
8526       Empty destination name,\MessageBreak
8527       using '\Hy@undefinedname'%
8528     }%
8529     \let\Hy@testname\Hy@undefinedname
8530   \fi
8531   \special{!%
8532     aref \expandafter\HyperDestNameFilter
8533     \expandafter{\Hy@testname};%
8534     a=<%

```



```

8535     \ifHy@pdfa /F 4\fi
8536     \Hy@setpdfborder
8537     \ifx\CurrentBorderColor\relax
8538     \else
8539     /C [\CurrentBorderColor]%
8540     \fi
8541     >%
8542     }%
8543     \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8544     \special{!endaref}%
8545 }
8546 \def\hyper@image#1#2{%
8547     \hyper@linkurl{#2}{#1}%
8548 }
8549 \def\@hyper@launch run:#1\#2#3{%
8550     \Hy@pstringdef\Hy@pstringF{#1}%
8551     \Hy@pstringdef\Hy@pstringP{#3}%
8552     \leavevmode
8553     \special{!aref %
8554         <u=%
8555             /Type/Action%
8556             /S/Launch%
8557             /F(\Hy@pstringF)%
8558             \Hy@SetNewWindow
8559             \ifx\#3\else /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
8560         >;%
8561         a=<%
8562             \ifHy@pdfa /F 4\fi
8563             \Hy@setpdfborder
8564             \ifx\@runbordercolor\relax
8565             \else
8566             /C[\@runbordercolor]%
8567             \fi
8568         >%
8569     }%
8570     \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8571     \special{!endaref}%
8572 }
8573 \def\Acrobatmenu#1#2{%
8574     \Hy@Acrobatmenu{#1}{#2}{%
8575         \special{!%
8576             aref <u=/S /Named /N /#1>;%
8577             a=<%
8578                 \ifHy@pdfa /F 4\fi
8579                 \Hy@setpdfborder
8580                 \ifx\@menubordercolor\relax
8581                 \else
8582                 /C[\@menubordercolor]%
8583                 \fi
8584             >%
8585         }%
8586         \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8587         \special{!endaref}%
8588     }%
8589 }

```

The following code (transition effects) is made by Alex Kostin.  
The code below makes sense for VT<sub>E</sub>X 7.02 or later.

Please never use `\ifundefined{VTeXversion}{...}{...}` globally.

```
8590 \ifnum\Hy@VTeXversion<702 %
8591 \else
8592   \def\hyper@pagetransition{%
8593     \ifx\@pdfpagetransition\relax
8594     \else
8595       \ifx\@pdfpagetransition\@empty
```

Standard incantation.

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

```
8596   \else
8597     \hvtex@parse@trans\@pdfpagetransition
8598   \fi
8599 \fi
8600 }%
```

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

Syntax of  $\text{\TeX}$  `\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:

```
8601 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8602 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8603 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8604 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8605 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8606 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8607 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%
```

Optional parameters:

```
8608 \def\hvtex@par@dimension{/Dm}%
8609 \def\hvtex@par@direction{/Di}%
8610 \def\hvtex@par@duration{/D}%
8611 \def\hvtex@par@motion{/M}%
```

Tokenizer:

```
8612 \def\hvtex@gettoken{\expandafter\hvtex@gettoken\hvtex@buffer\@nil}%
```

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

```
8613 \def\hvtex@gettoken@#1 #2\@nil{%
8614   \edef\hvtex@token{#1}%
8615   \edef\hvtex@buffer{#2}%
8616 }%
8617 \def\hvtex@parse@trans#1{%
```

Initializing code:

```
8618 \let\hvtex@trans@code\@empty
8619 \let\hvtex@param@dimension\@empty
8620 \let\hvtex@param@direction\@empty
8621 \let\hvtex@param@duration\@empty
8622 \let\hvtex@param@motion\@empty
8623 \edef\hvtex@buffer{#1\space}%
```

First token is the PDF transition name without escape.

```
8624 \hvtex@gettoken
8625 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
8626 \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
8627 \else
8628 \hvtex@gettoken
8629 \fi
8630 \fi
8631 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
8632 \hvtex@trans@params
8633 }%
```

Reentrant macro to parse optional parameters.

```
8634 \def\hvtex@trans@params{%
8635 \ifx\hvtex@buffer\@empty
8636 \else
8637 \hvtex@gettoken
8638 \let\hvtex@trans@par\hvtex@token
8639 \ifx\hvtex@buffer\@empty
8640 \else
8641 \hvtex@gettoken
8642 \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.

```
8643 \let\hvtex@param@duration\hvtex@token
8644 \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
8645 \expandafter\edef\expandafter\hvtex@param@motion
8646 \expandafter{\expandafter\@gobble\hvtex@token}%
8647 \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
8648 \expandafter\edef\expandafter\hvtex@param@dimension
8649 \expandafter{\expandafter\@gobble\hvtex@token}%
8650 \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).

```
8651 \let\hvtex@param@direction\hvtex@token
8652 \fi\fi\fi\fi
8653 \fi
8654 \fi
8655 \ifx\hvtex@buffer\@empty
8656 \let\next\hvtex@produce@trans
8657 \else
8658 \let\next\hvtex@trans@params
```

```

8659 \fi
8660 \next
8661 }%

```

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

```

8662 \def\hvtex@produce@trans{%
8663 \let\vtex@trans@special\@empty
8664 \if S\hvtex@trans@code
8665 \edef\vtex@trans@special{\hvtex@trans@code
8666 \hvtex@param@dimension\hvtex@param@motion}%
8667 \else\if B\hvtex@trans@code
8668 \edef\vtex@trans@special{%
8669 \hvtex@trans@code\hvtex@param@dimension
8670 }%
8671 \else\if X\hvtex@trans@code
8672 \edef\vtex@trans@special{%
8673 \hvtex@trans@code\hvtex@param@motion
8674 }%
8675 \else\if W\hvtex@trans@code
8676 \edef\vtex@trans@special{%
8677 \hvtex@trans@code\hvtex@param@direction
8678 }%
8679 \else\if D\hvtex@trans@code
8680 \let\vtex@trans@special\hvtex@trans@code
8681 \else\if R\hvtex@trans@code
8682 \let\vtex@trans@special\hvtex@trans@code
8683 \else\if G\hvtex@trans@code
8684 \edef\vtex@trans@special{%
8685 \hvtex@trans@code\hvtex@param@direction
8686 }%
8687 \fi\fi\fi\fi\fi\fi\fi
8688 \ifx\vtex@trans@special\@empty
8689 \else
8690 \ifx\hvtex@param@duration\@empty
8691 \else
8692 \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

8693 \multiply\dimen@\@m
8694 \edef\vtex@trans@special{%
8695 \vtex@trans@special,\strip@pt\dimen@
8696 }%
8697 \fi

```

And all the mess is just for this.

```

8698 \special{!trans \vtex@trans@special}%
8699 \fi
8700 }%

8701 \def\hyper@pageduration{%
8702 \ifx\@pdfpageduration\relax
8703 \else
8704 \ifx\@pdfpageduration\@empty
8705 \special{!duration-}%
8706 \else
8707 \special{!duration \@pdfpageduration}%
8708 \fi
8709 \fi

```

```

8710 }%
8711 \def\hyper@pagehidden{%
8712   \ifHy@useHidKey
8713     \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8714   \fi
8715 }%
8716 \g@addto@macro\Hy@EveryPageBoxHook{%
8717   \hyper@pagetransition
8718   \hyper@pageduration
8719   \hyper@pagehidden
8720 }%
8721 \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

```

8722 \ifx\@pdfproducer\relax
8723   \def\@pdfproducer{VTeX}%
8724   \ifnum\Hy@VTeXversion>\z@
8725     \count@\VTeXversion
8726     \divide\count@ 100 %
8727     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
8728     \multiply\count@ -100 %
8729     \advance\count@\VTeXversion
8730     \edef\@pdfproducer{%
8731       \@pdfproducer
8732       .\ifnum\count@<10 0\fi\the\count@
8733       \ifx\VTeXOS\@undefined\else
8734         \ifnum\VTeXOS>0 %
8735           \ifnum\VTeXOS<6 %
8736             \space(
8737             \ifcase\VTeXOS
8738             \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
8739             \fi
8740           )%
8741         \fi
8742       \fi
8743     \fi
8744     ,\space
8745     \ifnum\OpMode=\@ne PDF\else PS\fi
8746     \space backend%
8747     \ifx\gexmode\@undefined\else
8748       \ifnum\gexmode>\z@\space with GeX\fi
8749     \fi
8750   }%
8751 \fi
8752 \fi

```

Current `!pdfinfo` key syntax:

Key	Field	Type
a	Author	String
b	CropBox	String
c	Creator	String
k	Keywords	String
l	PageLayout	PS
p	PageMode	PS
r	Producer	String
s	Subject	String
t	Title	String
u	URI	PS
v	ViewPreferences	PS

Note: PS objects that are dicts are in <<<. . >>> (yuck; no choice).

```

8753 \def\PDF@SetupDoc{%
8754   \ifx\@pdfpagescrop\@empty
8755   \else
8756     \special{!pdfinfo b=<\@pdfpagescrop>}%
8757   \fi
8758   \ifx\@pdfstartpage\@empty
8759   \else
8760     \ifx\@pdfstartview\@empty
8761     \else
8762       \special{!onopen Page\@pdfstartpage}%
8763     \fi
8764   \fi
8765   \special{!pdfinfo p=</\@pdfpagemode>}%
8766   \ifx\@baseurl\@empty
8767   \else
8768     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
8769   \fi
8770   \special{!pdfinfo v=<<<%
8771     \ifHy@toolbar\else /HideToolbar true\fi
8772     \ifHy@menubar\else /HideMenubar true\fi
8773     \ifHy@windowui\else /HideWindowUI true\fi
8774     \ifHy@fitwindow /FitWindow true\fi
8775     \ifHy@centerwindow /CenterWindow true\fi
8776     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8777     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8778     \Hy@UseNameKey{Direction}\@pdfdirection
8779     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8780     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8781     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8782     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8783     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8784     \Hy@UseNameKey{Duplex}\@pdfduplex
8785     \ifx\@pdfpicktraybypdfsize\@empty
8786     \else
8787       /PickTrayByPDFSize \@pdfpicktraybypdfsize
8788     \fi
8789     \ifx\@pdfprintpagerange\@empty
8790     \else
8791       /PrintPageRange[\@pdfprintpagerange]%
8792     \fi
8793     \ifx\@pdfnumcopies\@empty
8794     \else
8795       /NumCopies \@pdfnumcopies

```

```

8796 \fi
8797 >>>}%
8798 \ifx\@pdfpagelayout\@empty
8799 \else
8800 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
8801 \fi
8802 }%
8803 \def\PDF@FinishDoc{%
8804 \Hy@UseMaketitleInfos
8805 \special{!pdfinfo a=<\@pdfauthor>}%
8806 \special{!pdfinfo t=<\@pdftitle>}%
8807 \special{!pdfinfo s=<\@pdfsubject>}%
8808 \special{!pdfinfo c=<\@pdfcreator>}%
8809 \ifx\@pdfproducer\relax
8810 \else
8811 \special{!pdfinfo r=<\@pdfproducer>}%
8812 \fi
8813 \special{!pdfinfo k=<\@pdfkeywords>}%
8814 \Hy@DisableOption{pdfauthor}%
8815 \Hy@DisableOption{pdftitle}%
8816 \Hy@DisableOption{pdfsubject}%
8817 \Hy@DisableOption{pdfcreator}%
8818 \Hy@DisableOption{pdfcreationdate}%
8819 \Hy@DisableOption{pdfmoddate}%
8820 \Hy@DisableOption{pdfproducer}%
8821 \Hy@DisableOption{pdfkeywords}%
8822 }
8823 </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.

```

8824 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
8825 <package>\providecommand*\Hy@DistillerDestFix{}
8826 <*pdfmark | dviwindo>
8827 \def\Hy@DistillerDestFix{%
8828 \begingroup
8829 \let\x\literalps@out

```

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

```

8830 \ifnum \@ifundefined{OpMode}{0}{}%
8831 \@ifundefined{gexmode}{0}{%
8832 \ifnum\gexmode>0 \OpMode\else 0\fi
8833 }}>1 %
8834 \def\x##1{%
8835 \immediate\special{!=##1}%
8836 }%
8837 \fi

```

```

8838 \x{%
8839 /product where{%
8840   pop %
8841   product(Distiller)search{%
8842     pop pop pop %
8843     version(.)search{%
8844       exch pop exch pop%
8845       (3011)eq{%
8846         gsave %
8847         newpath 0 0 moveto closepath clip%
8848         /Courier findfont 10 scalefont setfont %
8849         72 72 moveto(.)show %
8850         grestore%
8851       }if%
8852     }{pop}ifelse%
8853   }{pop}ifelse%
8854 }if%
8855 }%
8856 \endgroup
8857 }
8858 </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

```

```

8859 <*pdfmark>
8860 \Hy@breaklinks@unsupported
8861 \def\hyper@anchor#1{%
8862   \Hy@SaveLastskip
8863   \begingroup
8864     \pdfmark[\anchor@spot]{%
8865       pdfmark=/DEST,%
8866       linktype=anchor,%
8867       View=/\@pdfview \@pdfviewparams,%
8868       DestAnchor={#1}%
8869     }%
8870   \endgroup
8871   \Hy@RestoreLastskip
8872 }
8873 \@ifundefined{hyper@anchorstart}{-}{\endinput}
8874 \def\hyper@anchorstart#1{%
8875   \Hy@SaveLastskip
8876   \literalps@out{H.S}%
8877   \xdef\hyper@currentanchor{#1}%
8878   \Hy@activeanchortrue

```



```

8879 }
8880 \def\hyper@anchorend{%
8881   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
8882   \pdfmark{%
8883     pdfmark=/DEST,%
8884     linktype=anchor,%
8885     View=/\@pdfview \@pdfviewparams,%
8886     DestAnchor=\hyper@currentanchor,%
8887   }%
8888   \Hy@activeanchorfalse
8889   \Hy@RestoreLastskip
8890 }
8891 \def\hyper@linkstart#1#2{%
8892   \ifHy@breaklinks
8893   \else
8894     \leavevmode\hbox\bgroup
8895     \fi
8896     \expandafter\Hy@colorlink\csname @#1color\endcsname
8897     \literalps@out{H.S}%
8898     \xdef\hyper@currentanchor{#2}%
8899     \gdef\hyper@currentlinktype{#1}%
8900 }
8901 \def\hyper@linkend{%
8902   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
8903   \@ifundefined{@\hyper@currentlinktype bordercolor}{%
8904     \let\Hy@tempcolor\relax
8905   }{%
8906     \edef\Hy@tempcolor{%
8907       \csname @\hyper@currentlinktype bordercolor\endcsname
8908     }%
8909   }%
8910   \pdfmark{%
8911     pdfmark=/ANN,%
8912     linktype=link,%
8913     Subtype=/Link,%
8914     PDFAFlags=4,%
8915     Dest=\hyper@currentanchor,%
8916     AcroHighlight=\@pdfhighlight,%
8917     Border=\@pdfborder,%
8918     BorderStyle=\@pdfborderstyle,%
8919     Color=\Hy@tempcolor,%
8920     Raw=H.B%
8921   }%
8922   \Hy@endcolorlink
8923   \ifHy@breaklinks
8924   \else
8925     \egroup
8926   \fi
8927 }

```

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.

```

8928 \begingroup
8929   \catcode'P=12 %
8930   \catcode'T=12 %
8931   \lowercase{\endgroup
8932   \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%

```

```

8933 }
8934 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

8935 \def\hyper@pagetransition{%
8936   \ifx\@pdfpagetransition\relax
8937   \else
8938     \ifx\@pdfpagetransition\@empty
8939     % 1. Does an old entry have to be deleted?
8940     % 2. If 1=yes, how to delete?
8941     \else
8942     \pdfmark{%
8943       pdfmark=/PUT,%
8944       Raw={%
8945         \string{ThisPage\string}%
8946         <</Trans << /S /\@pdfpagetransition\space >> >>%
8947       }%
8948     }%
8949     \fi
8950   \fi
8951 }

```

\hyper@pageduration

```

8952 \def\hyper@pageduration{%
8953   \ifx\@pdfpageduration\relax
8954   \else
8955     \ifx\@pdfpageduration\@empty
8956     % 1. Does an old entry have to be deleted?
8957     % 2. If 1=yes, how to delete?
8958     \else
8959     \pdfmark{%
8960       pdfmark=/PUT,%
8961       Raw={%
8962         \string{ThisPage\string}%
8963         <</Dur \@pdfpageduration>>%
8964       }%
8965     }%
8966     \fi
8967   \fi
8968 }

```

\hyper@pagehidden

```

8969 \def\hyper@pagehidden{%
8970   \ifHy@useHidKey
8971   \pdfmark{%
8972     pdfmark=/PUT,%
8973     Raw={%
8974       \string{ThisPage\string}%
8975       <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
8976     }%
8977   }%
8978   \fi
8979 }

8980 \g@addto@macro\Hy@EveryPageBoxHook{%
8981   \hyper@pagetransition
8982   \hyper@pageduration

```

```

8983 \hyper@pagehidden
8984 }

8985 \def\hyper@image#1#2{%
8986 \hyper@linkurl{#2}{#1}%
8987 }

8988 \def\Hy@undefinedname{UNDEFINED}
8989 \def\hyper@link#1#2#3{%
8990 \@ifundefined{#1bordercolor}{%
8991 \let\Hy@tempcolor\relax
8992 }{%
8993 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
8994 }%
8995 \begingroup
8996 \protected@edef\Hy@testname{#2}%
8997 \ifx\Hy@testname\@empty
8998 \Hy@Warning{%
8999 Empty destination name,\MessageBreak
9000 using '\Hy@undefinedname'%
9001 }%
9002 \let\Hy@testname\Hy@undefinedname
9003 \fi
9004 \pdfmark[{#3}]{%
9005 Color=\Hy@tempcolor,%
9006 linktype={#1},%
9007 AcroHighlight=\@pdfhighlight,%
9008 Border=\@pdfborder,%
9009 BorderStyle=\@pdfborderstyle,%
9010 pdfmark=/ANN,%
9011 Subtype=/Link,%
9012 PDFAFlags=4,%
9013 Dest=\Hy@testname
9014 }%
9015 \endgroup
9016 }

9017 \newtoks\pdf@docset
9018 \def\PDF@FinishDoc{%
9019 \Hy@UseMaketitleInfos
9020 \let\Hy@temp\@empty
9021 \ifx\@pdfcreationdate\@empty
9022 \else
9023 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
9024 \fi
9025 \ifx\@pdfmoddate\@empty
9026 \else
9027 \expandafter\def\expandafter\Hy@temp\expandafter{%
9028 \Hy@temp
9029 ModDate=\@pdfmoddate,%
9030 }%
9031 \fi
9032 \ifx\@pdfproducer\relax
9033 \else
9034 \expandafter\def\expandafter\Hy@temp\expandafter{%
9035 \Hy@temp
9036 Producer=\@pdfproducer,%
9037 }%
9038 \fi
9039 \expandafter

```

```

9040 \pdfmark\expandafter{%
9041   \Hy@temp
9042   pdfmark=/DOCINFO,%
9043   Title=\@pdftitle,%
9044   Subject=\@pdfsubject,%
9045   Creator=\@pdfcreator,%
9046   Author=\@pdfauthor,%
9047   Keywords=\@pdfkeywords
9048 }%
9049 \Hy@DisableOption{pdfauthor}%
9050 \Hy@DisableOption{pdftitle}%
9051 \Hy@DisableOption{pdfsubject}%
9052 \Hy@DisableOption{pdfcreator}%
9053 \Hy@DisableOption{pdfcreationdate}%
9054 \Hy@DisableOption{pdfmoddate}%
9055 \Hy@DisableOption{pdfproducer}%
9056 \Hy@DisableOption{pdfkeywords}%
9057 }
9058 \def\PDF@SetupDoc{%
9059   \def\Hy@temp{%
9060     \ifx\@pdfstartpage\@empty
9061     \else
9062       \ifx\@pdfstartview\@empty
9063       \else
9064         \edef\Hy@temp{%
9065           ,Page=\@pdfstartpage
9066           ,View=\@pdfstartview
9067         }%
9068       \fi
9069     \fi
9070     \edef\Hy@temp{%
9071       \noexpand\pdfmark{%
9072         pdfmark=/DOCVIEW,%
9073         PageMode=/\@pdfpagemode
9074         \Hy@temp
9075       }%
9076     }%
9077     \Hy@temp
9078     \ifx\@pdfpagescrop\@empty
9079     \else
9080       \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9081     \fi
9082     \edef\Hy@temp{%
9083       \ifHy@toolbar\else /HideToolbar true\fi
9084       \ifHy@menubar\else /HideMenubar true\fi
9085       \ifHy>windowui\else /HideWindowUI true\fi
9086       \ifHy@fitwindow /FitWindow true\fi
9087       \ifHy@centerwindow /CenterWindow true\fi
9088       \ifHy@displaydoctitle /DisplayDocTitle true\fi
9089       \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9090       \Hy@UseNameKey{Direction}\@pdfdirection
9091       \Hy@UseNameKey{ViewArea}\@pdfviewarea
9092       \Hy@UseNameKey{ViewClip}\@pdfviewclip
9093       \Hy@UseNameKey{PrintArea}\@pdfprintarea
9094       \Hy@UseNameKey{PrintClip}\@pdfprintclip
9095       \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9096       \Hy@UseNameKey{Duplex}\@pdfduplex

```

```

9097 \ifx\@pdfpicktraybypdfsize\@empty
9098 \else
9099 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9100 \fi
9101 \ifx\@pdfprintpagerange\@empty
9102 \else
9103 /PrintPageRange[\@pdfprintpagerange]%
9104 \fi
9105 \ifx\@pdfnumcopies\@empty
9106 \else
9107 /NumCopies \@pdfnumcopies
9108 \fi
9109 }%
9110 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9111 \pdfmark{%
9112 pdfmark=/PUT,%
9113 Raw={%
9114 \string{Catalog\string}<<%
9115 \ifx\Hy@temp\@empty
9116 \else
9117 /ViewerPreferences<<\Hy@temp>>%
9118 \fi
9119 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9120 \ifx\@pdflang\@empty
9121 \else
9122 /Lang(\@pdflang)%
9123 \fi
9124 \ifx\@baseurl\@empty
9125 \else
9126 /URI<</Base(\Hy@pstringB)>>%
9127 \fi
9128 >>%
9129 }%
9130 }%
9131 }
9132 </pdfmark>
9133 <*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.

```

9134 \newif\ifHy@pdfmarkerror
9135 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
9136 \def\pdfmark@[#1]#2{%
9137 \Hy@pdfmarkerrorfalse
9138 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9139 \@processme
9140 \let\pdf@type\relax
9141 \setkeys{PDF}{#2}%
9142 \ifHy@pdfmarkerror
9143 \else
9144 \ifx\pdf@type\relax
9145 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9146 \ifx\#1\%
9147 \else

```

```

9148     \pdf@rect{#1}%
9149     \fi
9150   \else
9151     \ifx\#1\%
9152       \literalps@out{%
9153         [\the\pdf@toks\space\pdf@type\space pdfmark%
9154       ]%
9155     \else
9156       \@ifundefined{@\pdf@linktype color}{%
9157         \Hy@colorlink\@linkcolor
9158       }{%
9159         \expandafter\Hy@colorlink
9160           \csname @\pdf@linktype color\endcsname
9161       }%
9162       \pdf@rect{#1}%
9163       \literalps@out{%
9164         [\the\pdf@toks\space\pdf@type\space pdfmark%
9165       ]%
9166       \Hy@endcolorlink
9167     \fi
9168   \fi
9169 \fi
9170 }

```

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}

```

```

9171 \newsavebox{\pdf@box}
9172 \providecommand*{\Hy@setouterhbox}{\sbox}
9173 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
9174 \def\Hy@DEST{/DEST}
9175 \def\pdf@rect#1{%
9176   \leavevmode
9177   \ifHy@breaklinks
9178     \Hy@setouterhbox\pdf@box{#1}%
9179   \else
9180     \sbox\pdf@box{#1}%
9181   \fi
9182   \dimen@ht\pdf@box
9183   \ifdim\dp\pdf@box=\z@
9184     \literalps@out{H.S}%
9185   \else
9186     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9187   \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...).

```

9188   \ifHy@breaklinks
9189     \expandafter\Hy@breaklinksunhbox
9190   \else

```

```

9191 \expandafter\box
9192 \fi
9193 \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

9194 \ifdim\dimen@=\z@
9195 \literalps@out{H.R}%
9196 \else
9197 \raise\dimen@ \hbox{\literalps@out{H.R}}%
9198 \fi
9199 \ifx\pdf@type\Hy@DEST
9200 \else
9201 \pdf@addtoksx{H.B}%
9202 \fi
9203 }

```

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.

```

9204 \newtoks\pdf@toks
9205 \newtoks\pdf@defaulttoks
9206 \pdf@defaulttoks={}%
9207 \def\pdf@addtoks#1#2{%
9208 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9209 \@processme
9210 }
9211 \def\pdf@addtoksx#1{%
9212 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9213 \@processme
9214 }
9215 \def\PDFdefaults#1{%
9216 \pdf@defaulttoks={#1}%
9217 }

```

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

```

9218 % what is the type of pdfmark?
9219 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9220 % what is the link type?
9221 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
9222 \def\pdf@linktype{link}
9223 % parameter is a stream of PDF
9224 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
9225 % parameter is a name
9226 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9227 % parameter is a array
9228 \define@key{PDF}{Border}{%
9229 \edef\Hy@temp{#1}%
9230 \ifx\Hy@temp\@empty
9231 \else
9232 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
9233 \fi
9234 }
9235 \let\Hy@BorderArrayPatch\@empty
9236 % parameter is a dictionary
9237 \define@key{PDF}{BorderStyle}{%

```

```

9238 \edef\Hy@temp{#1}%
9239 \ifx\Hy@temp\@empty
9240 \else
9241 \pdf@addtoks{<<#1>>}{BS}%
9242 \fi
9243 }
9244 % parameter is a array
9245 \define@key{PDF}{Color}{%
9246 \ifx\relax#1\relax
9247 \else
9248 \pdf@addtoks{[#1]}{Color}% hash-ok
9249 \fi
9250 }
9251 % parameter is a string
9252 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9253 % parameter is a integer
9254 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9255 % parameter is a array
9256 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9257 % parameter is a string
9258 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9259 % parameter is a string or file
9260 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9261 % parameter is a destination
9262 \define@key{PDF}{Dest}{%
9263 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9264 \ifx\Hy@pstringDest\@empty
9265 \Hy@pdfmarkerrortrue
9266 \Hy@Warning{Destination with empty name ignored}%
9267 \else
9268 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9269 \fi
9270 }
9271 \define@key{PDF}{DestAnchor}{%
9272 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9273 \ifx\Hy@pstringDest\@empty
9274 \Hy@pdfmarkerrortrue
9275 \Hy@Warning{Destination with empty name ignored}%
9276 \else
9277 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9278 \fi
9279 }
9280 % parameter is a string
9281 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9282 % parameter is a string
9283 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9284 % parameter is a int
9285 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9286 \define@key{PDF}{PDFAFlags}{%
9287 \ifHy@pdfa
9288 \pdf@addtoks{#1}{F}%
9289 \fi
9290 }
9291 % parameter is a name
9292 \define@key{PDF}{AcroHighlight}{%
9293 \begingroup
9294 \edef\x{#1}%

```



```

9295 \expandafter\endgroup\ifx\x\@empty
9296 \else
9297 \pdf@addtoks{#1}{H}%
9298 \fi
9299 }
9300 % parameter is a string
9301 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9302 % parameter is a string
9303 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9304 % parameter is a string
9305 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9306 % parameter is a string
9307 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9308 % parameter is a Boolean
9309 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9310 % parameter is a integer or name
9311 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9312 % parameter is a name
9313 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9314 % parameter is a string
9315 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9316 % parameter is a array
9317 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9318 % parameter is a integer
9319 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9320 % parameter is a name
9321 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9322 % parameter is a string
9323 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9324 % parameter is a string
9325 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9326 % parameter is a string
9327 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9328 % parameter is an array
9329 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9330 % parameter is a string
9331 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9332 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9333 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9334 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9335 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9336 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
9337 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9338 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9339 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9340 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9341 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
9342 </pdfmarkbase>
9343 <*pdfmark>
9344 \def\Acrobatmenu#1#2{%
9345 \Hy@Acrobatmenu{#1}{#2}{%
9346 \pdfmark[{#2}]{%
9347 linktype=menu,%
9348 pdfmark=/ANN,%
9349 AcroHighlight=\@pdfhighlight,%
9350 Border=\@pdfborder,%

```

```

9351     BorderStyle=\@pdfborderstyle,%
9352     Action={<< /Subtype /Named /N /#1 >>},%
9353     Subtype=/Link,%
9354     PDFAFlags=4%
9355 }%
9356 }%
9357 }

```

And now for some useful examples:

```

9358 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9359 \def\PDFNextPage@[#1]#2{%
9360   \pdfmark[{#2}] {%
9361     #1,%
9362     Border=\@pdfborder,%
9363     BorderStyle=\@pdfborderstyle,%
9364     Color=.2 .1 .5,%
9365     pdfmark=/ANN,%
9366     Subtype=/Link,%
9367     PDFAFlags=4,%
9368     Page=/Next%
9369   }%
9370 }
9371 \def\PDFPreviousPage{%
9372   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}]%
9373 }
9374 \def\PDFPreviousPage@[#1]#2{%
9375   \pdfmark[{#2}] {%
9376     #1,%
9377     Border=\@pdfborder,%
9378     BorderStyle=\@pdfborderstyle,%
9379     Color=.4 .4 .1,%
9380     pdfmark=/ANN,%
9381     Subtype=/Link,%
9382     PDFAFlags=4,%
9383     Page=/Prev%
9384   }%
9385 }
9386 \def\PDFOpen#1{%
9387   \pdfmark{#1,pdfmark=/DOCVIEW}%
9388 }

```

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

```

9389 \def\hyper@linkurl#1#2{%
9390   \begingroup
9391     \Hy@pstringdef\Hy@pstringURI{#2}%
9392     \hyper@chars
9393     \leavevmode
9394     \pdfmark[{#1}] {%
9395       pdfmark=/ANN,%
9396       linktype=url,%
9397       AcroHighlight=\@pdfhighlight,%
9398       Border=\@pdfborder,%
9399       BorderStyle=\@pdfborderstyle,%
9400       Color=\@urlbordercolor,%
9401       Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9402       Subtype=/Link,%
9403       PDFAFlags=4%
9404     }%

```

```

9405 \endgroup
9406 }
9407 \def\hyper@linkfile#1#2#3{%
9408 \beginingroup
9409 \Hy@pstringdef\Hy@pstringF{#2}%
9410 \Hy@pstringdef\Hy@pstringD{#3}%
9411 \leavevmode
9412 \pdfmark[{#1}]{%
9413 pdfmark=/ANN,%
9414 Subtype=/Link,%
9415 PDFAFlags=4,%
9416 AcroHighlight=\@pdfhighlight,%
9417 Border=\@pdfborder,%
9418 BorderStyle=\@pdfborderstyle,%
9419 linktype=file,%
9420 Color=\@filebordercolor,%
9421 Action={%
9422 <<%
9423 /S/GoToR%
9424 \Hy@SetNewWindow
9425 /F(\Hy@pstringF)%
9426 /D\ifx\#3\@0 \pdfstartview\else(\Hy@pstringD)cvn\fi
9427 >>%
9428 }%
9429 }%
9430 \endgroup
9431 }
9432 \def\hyper@launch run:#1\#2#3{%
9433 \beginingroup
9434 \Hy@pstringdef\Hy@pstringF{#1}%
9435 \Hy@pstringdef\Hy@pstringP{#3}%
9436 \leavevmode
9437 \pdfmark[{#2}]{%
9438 pdfmark=/ANN,%
9439 Subtype=/Link,%
9440 PDFAFlags=4,%
9441 AcroHighlight=\@pdfhighlight,%
9442 Border=\@pdfborder,%
9443 BorderStyle=\@pdfborderstyle,%
9444 linktype=run,%
9445 Color=\@runbordercolor,%
9446 Action={%
9447 <<%
9448 /S/Launch%
9449 \Hy@SetNewWindow
9450 /F(\Hy@pstringF)%
9451 \ifx\#3\@
9452 \else
9453 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9454 \fi
9455 >>%
9456 }%
9457 }%
9458 \endgroup
9459 }
9460 </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.

```

9461 <*dvips>
9462 \providecommand*{\XR@ext}{pdf}
9463 \def\Hy@raisedlink{}
9464 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9465 \def\headerps@out#1{\special{! #1}}%
9466 \input{pdfmark.def}%
9467 \ifx\pdfproducer\relax
9468   \def\pdfproducer{dvips + Distiller}%
9469 \fi
9470 \providecommand*\pdfborder{0 0 1}
9471 \providecommand*\pdfborderstyle{}
9472 \providecommand*\pdfview{XYZ}
9473 \providecommand*\pdfviewparams{ H.V}
9474 \def\Hy@BorderArrayPatch{BorderArrayPatch}
9475 \g@addto@macro\Hy@FirstPageHook{%
9476   \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.

```

9477   /DvipsToPDF{72.27 mul Resolution div} def%
9478   /PDFToDvips{72.27 div Resolution mul} def%
9479   /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.

```

9480   /BorderArrayPatch{%
9481     [exch{%
9482       dup dup type/integertype eq exch type/realtype eq or%
9483       {BPToDvips}if%
9484     }forall]%
9485   }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.

```

9486   /HyperBorder {1 PDFToDvips} def%
9487   /H.V {pdf@hoff pdf@voff null} def%
9488   /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

```

9489    /H.S {%
9490        currentpoint %
9491        HyperBorder add /pdf@lly exch def %
9492        dup DvipsToPDF 72 add /pdf@hoff exch def %
9493        HyperBorder sub /pdf@llx exch def%
9494    } 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`

```

9495    /H.L {%
9496        2 sub dup%
9497        /HyperBasePt exch def %
9498        PDFToDvips /HyperBaseDvips exch def %
9499        currentpoint %
9500        HyperBaseDvips sub /pdf@ury exch def%
9501        /pdf@urx exch def%
9502    } def%
9503    /H.A {%
9504        H.L %
9505        % | /pdf@voff| = the distance from the top of the page to a point
9506        % | \baselineskip| above the current point in PDF coordinates
9507        currentpoint exch pop %
9508        vsize 72 sub exch DvipsToPDF %
9509        HyperBasePt sub % baseline skip
9510        sub /pdf@voff exch def%
9511    } def%
9512    /H.R {%
9513        currentpoint %
9514        HyperBorder sub /pdf@ury exch def %
9515        HyperBorder add /pdf@urx exch def %
9516        % | /pdf@voff| = the distance from the top of the page to the current point, in
9517        % PDF coordinates
9518        currentpoint exch pop vsize 72 sub %
9519        exch DvipsToPDF sub /pdf@voff exch def%
9520    } def%
9521 }%
9522 }
9523 \AfterBeginDocument{%
9524     \ifx\special@paper\@empty\else
9525         \ifHy@setpagesize
9526             \special{papersize=\special@paper}%
9527         \fi
9528     \fi
9529     \Hy@DisableOption{setpagesize}%
9530 }
9531 </dvips>

```

## 46.10 $\text{\TeX}$ '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.

```

9532 <*vtxpdfmark>
9533 \providecommand*{\XR@ext}{pdf}
9534 \def\Hy@raisedlink{}
9535 \def\literalps@out#1{\special{pS:#1}}%
9536 \def\headerps@out#1{\immediate\special{pS:#1}}%
9537 \input{pdfmark.def}%
9538 \ifx\@pdfproducer\relax
9539   \ifnum\OpMode=\@ne
9540     \def\@pdfproducer{VTeX}%
9541   \else
9542     \def\@pdfproducer{VTeX + Distiller}%
9543   \fi
9544 \fi
9545 \providecommand*\@pdfborder{0 0 1}
9546 \providecommand*\@pdfborderstyle{}
9547 \providecommand*\@pdfview{XYZ}
9548 \providecommand*\@pdfviewparams{ H.V}
9549 \g@addto@macro\Hy@FirstPageHook{%
9550   \headerps@out{%
9551     /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.

```

9552   /HyperBorder {1} def%
9553   /H.V {pdf@hoff pdf@voff null} def%
9554   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9555   /H.S {%
9556     currentpoint %
9557     HyperBorder sub%
9558     /pdf@lly exch def %
9559     dup 72 add /pdf@hoff exch def %
9560     HyperBorder sub%
9561     /pdf@llx exch def%
9562   } def%

```

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

```

9563   /H.L {%
9564     2 sub%
9565     /HyperBasePt exch def %
9566     currentpoint %
9567     HyperBasePt add HyperBorder add%
9568     /pdf@ury exch def %
9569     HyperBorder add%
9570     /pdf@urx exch def%
9571   } def%
9572   /H.A {%
9573     H.L %
9574     currentpoint exch pop %
9575     vsize 72 sub exch %

```

```

9576      HyperBasePt add add%
9577      /pdf@voff exch def%
9578    } def%
pdf@ury =  $Y_c + \text{HyperBorder}$ , pdf@urx =  $X_c + \text{HyperBorder}$ 
9579    /H.R {%
9580      currentpoint %
9581      HyperBorder add%
9582      /pdf@ury exch def %
9583      HyperBorder add%
9584      /pdf@urx exch def %
9585      currentpoint exch pop vsize 72 sub add%
9586      /pdf@voff exch def%
9587    } def%
9588  }%
9589 }
9590 </vtxpdfmark>

```

## 46.11 Textures

```

9591 <*textures>
9592 \providecommand*{\XR@ext}{pdf}

```

At the suggestion of Jacques Distler (distler@golem.ph.utexas.edu), try to derive a suitable driver for Textures. This was initially a copy of dvips, with some guesses about Textures behaviour. Ross Moore (ross@maths.mq.edu.au) has added modifications for better compatibility, and to support use of pdfmark.

Start by defining a macro that expands to the end-of-line character. This will be used to format the appearance of PostScript code, to enhance readability, and avoid excessively long lines which might otherwise become broken to bad places.

`\Hy@ps@CR` The macro `\Hy@ps@CR` contains the end-of-line character.

```

9593 \begingroup
9594   \obeylines %
9595   \gdef\Hy@ps@CR{\noexpand
9596     }%
9597 \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`.

```

9598 \def\literalps@out#1{%
9599   \special{postscript 0 0 transform}%
9600   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9601 }%
9602 %

```

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.

```

9603 \def\headerps@out#1{%
9604   \special{%

```

```

9605     prepostscript TeXdict begin\Hy@ps@CR
9606         #1\Hy@ps@CR
9607     end%
9608 }%
9609 }%
9610 %

```

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.

```

9611 \g@addto@macro\Hy@FirstPageHook{%
9612     \headerps@out{%
9613         /betterpdfmark {%
9614             systemdict begin %
9615                 dup /BP eq%
9616                 {cleartomark gsave nulldevice []%
9617                 {dup /EP eq%
9618                 {cleartomark cleartomark grestore}%
9619                 {cleartomark}%
9620                 ifelse%
9621             }ifelse %
9622         end%
9623     }def\Hy@ps@CR
9624     __pdfmark__ not{/pdfmark /betterpdfmark load def}if%
9625 }% end of \headerps@out
9626 }% end of \AtBeginShipoutFirst
9627 %
9628 \input{pdfmark.def}%
9629 %
9630 \ifx\@pdfproducer\relax
9631     \def\@pdfproducer{Textures + Distiller}%
9632 \fi
9633 \providecommand*\@pdfborder{0 0 1}
9634 \providecommand*\@pdfborderstyle{}
9635 \providecommand*\@pdfview{XYZ}
9636 \providecommand*\@pdfviewparams{ H.V}
9637 %

```

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 T<sub>E</sub>X.

```

9638 \headerps@out{%

```

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

```

9639     /vsize {\Hy@pageheight} def%
9640     /DvipsToPDF {} def%
9641     /PDFToDvips {} def%
9642     /BPTToDvips {} def%
9643     /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9644     /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9645     /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9646     /H.S {%
9647         currentpoint %
9648         HyperBorder add /pdf@lly exch def %
9649         dup DvipsToPDF 72 add /pdf@hoff exch def %
9650         HyperBorder sub /pdf@llx exch def%

```



```

9651 } def\Hy@ps@CR
9652 /H.L {%
9653   2 sub %
9654   PDFToDvips /HyperBase exch def %
9655   currentpoint %
9656   HyperBase sub /pdf@ury exch def%
9657   /pdf@urx exch def%
9658 } def\Hy@ps@CR
9659 /H.A {%
9660   H.L %
9661   currentpoint exch pop %
9662   vsize 72 sub exch DvipsToPDF %
9663   HyperBase sub % baseline skip
9664   sub /pdf@voff exch def%
9665 } def\Hy@ps@CR
9666 /H.R {%
9667   currentpoint %
9668   HyperBorder sub /pdf@ury exch def %
9669   HyperBorder add /pdf@urx exch def %
9670   currentpoint exch pop vsize 72 sub %
9671   exch DvipsToPDF sub /pdf@voff exch def%
9672 } def\Hy@ps@CR
9673 }

9674 \AfterBeginDocument{%
9675   \ifHy@colorlinks
9676     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9677   \fi
9678 }

```

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.

```

9679 \expandafter\let\expandafter\keepPDF@SetupDoc
9680 \csname PDF@SetupDoc\endcsname
9681 \def\PDF@SetupDoc{%
9682   \ifx\@baseurl\@empty
9683   \else
9684     \special{html:<base href="\@baseurl">}%
9685   \fi
9686   \keepPDF@SetupDoc
9687 }
9688 \def\hyper@anchor#1{%
9689   \Hy@SaveLastskip
9690   \begingroup
9691     \let\protect=\string
9692     \special{html:<a name=%
9693       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9694   \endgroup
9695   \Hy@activeanchortrue
9696   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9697   \special{html:</a>}%
9698   \Hy@activeanchorfalse
9699   \Hy@RestoreLastskip
9700 }
9701 \def\hyper@anchorstart#1{%
9702   \Hy@SaveLastskip
9703   \begingroup
9704     \hyper@chars

```

```

9705     \special{html:<a name=%
9706         \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9707 \endgroup
9708 \Hy@activeanchortrue
9709 }
9710 \def\hyper@anchorend{%
9711     \special{html:</a>}%
9712     \Hy@activeanchorfalse
9713     \Hy@RestoreLastskip
9714 }
9715 \def\@urlltype{url}
9716 \def\hyper@linkstart#1#2{%
9717     \expandafter\Hy@colorlink\csname @#1color\endcsname
9718     \def\Hy@tempa{#1}%
9719     \ifx\Hy@tempa\@urlltype
9720         \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9721     \else
9722         \begingroup
9723         \hyper@chars
9724         \special{html:<a href=%
9725             \hyper@quote\#1\HyperDestNameFilter{#2}\hyper@quote>}%
9726         \endgroup
9727     \fi
9728 }
9729 \def\hyper@linkend{%
9730     \special{html:</a>}%
9731     \Hy@endcolorlink
9732 }
9733 \def\hyper@linkfile#1#2#3{%
9734     \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi}%
9735 }
9736 \def\hyper@linkurl#1#2{%
9737     \leavevmode
9738     \ifHy@raiselinks
9739         \setbox\@tempboxa=\color@hbox #1\color@endbox
9740         \@linkdim\dp\@tempboxa
9741         \lower\@linkdim\hbox{%
9742             \hyper@chars
9743             \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9744     }%
9745     \Hy@colorlink\@urlcolor#1%
9746     \@linkdim\ht\@tempboxa
9747     \advance\@linkdim by -6.5\p@
9748     \raise\@linkdim\hbox{\special{html:</a>}}%
9749     \Hy@endcolorlink
9750 \else
9751     \begingroup
9752     \hyper@chars
9753     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9754     \Hy@colorlink\@urlcolor#1%
9755     \special{html:</a>}%
9756     \Hy@endcolorlink
9757 \endgroup
9758 \fi
9759 }

```

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

```

9760 \def\hyper@link#1#2#3{%

```

```

9761 \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
9762 }
9763 \def\hyper@image#1#2{%
9764   \begin{group}
9765     \hyper@chars
9766     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9767   \end{group}
9768 }
9769 </textures>

```

## 46.12 dvipsone

```

9770 % \subsection{dvipsone driver}
9771 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
9772 % |\special| commands.
9773 < *dvipsone>
9774 \providecommand*\XR@ext}{pdf}
9775 \def\Hy@raisedlink{}
9776 \providecommand*\@pdfborder{0 0 1}
9777 \providecommand*\@pdfborderstyle{}
9778 \def\literalps@out#1{\special{ps:#1}}%
9779 \def\headerps@out#1{\special{headertext=#1}}%
9780 \input{pdfmark.def}%
9781 \ifx\@pdfproducer\relax
9782   \def\@pdfproducer{dvipsone + Distiller}%
9783 \fi
9784 \def\PDF@FinishDoc{%
9785   \Hy@UseMaketitleInfos
9786   \special{PDF: Keywords \@pdfkeywords}%
9787   \special{PDF: Title \@pdftitle}%
9788   \special{PDF: Creator \@pdfcreator}%
9789   \ifx\@pdfcreationdate\@empty
9790   \else
9791     \special{PDF: CreationDate \@pdfcreationdate}%
9792   \fi
9793   \ifx\@pdfmoddate\@empty
9794   \else
9795     \special{PDF: ModDate \@pdfmoddate}%
9796   \fi
9797   \special{PDF: Author \@pdfauthor}%
9798   \ifx\@pdfproducer\relax
9799   \else
9800     \special{PDF: Producer \@pdfproducer}%
9801   \fi
9802   \special{PDF: Subject \@pdfsubject}%
9803   \Hy@DisableOption{pdfauthor}%
9804   \Hy@DisableOption{pdftitle}%
9805   \Hy@DisableOption{pdfsubject}%
9806   \Hy@DisableOption{pdfcreator}%
9807   \Hy@DisableOption{pdfcreationdate}%
9808   \Hy@DisableOption{pdfmoddate}%
9809   \Hy@DisableOption{pdfproducer}%
9810   \Hy@DisableOption{pdfkeywords}%
9811 }
9812 \def\PDF@SetupDoc{%
9813   \def\Hy@temp{}%
9814   \ifx\@pdfstartpage\@empty

```

```

9815 \else
9816 \ifx\@pdfstartview\@empty
9817 \else
9818 \edef\Hy@temp{%
9819 ,Page=\@pdfstartpage
9820 ,View=\@pdfstartview
9821 }%
9822 \fi
9823 \fi
9824 \edef\Hy@temp{%
9825 \noexpand\pdfmark{%
9826 pdfmark=/DOCVIEW,%
9827 PageMode=/\@pdfpagemode
9828 \Hy@temp
9829 }%
9830 }%
9831 \Hy@temp
9832 \ifx\@pdfpagescrop\@empty
9833 \else
9834 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9835 \fi
9836 \edef\Hy@temp{%
9837 \ifHy@toolbar\else /HideToolbar true\fi
9838 \ifHy@menubar\else /HideMenubar true\fi
9839 \ifHy@windowui\else /HideWindowUI true\fi
9840 \ifHy@fitwindow /FitWindow true\fi
9841 \ifHy@centerwindow /CenterWindow true\fi
9842 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9843 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9844 \Hy@UseNameKey{Direction}\@pdfdirection
9845 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9846 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9847 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9848 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9849 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9850 \Hy@UseNameKey{Duplex}\@pdfduplex
9851 \ifx\@pdfpicktraybypdfsize\@empty
9852 \else
9853 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9854 \fi
9855 \ifx\@pdfprintpagerange\@empty
9856 \else
9857 /PrintPageRange[\@pdfprintpagerange]%
9858 \fi
9859 \ifx\@pdfnumcopies\@empty
9860 \else
9861 /NumCopies \@pdfnumcopies
9862 \fi
9863 }%
9864 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9865 \pdfmark{%
9866 pdfmark=/PUT,%
9867 Raw={%
9868 \string{Catalog\string}<<%
9869 \ifx\Hy@temp\@empty
9870 \else
9871 /ViewerPreferences<<\Hy@temp>>%

```

```

9872      \fi
9873      \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9874      \ifx\@pdflang\@empty
9875      \else
9876        /Lang(\@pdflang)%
9877      \fi
9878      \ifx\@baseurl\@empty
9879      \else
9880        /URI<</Base(\Hy@pstringB)>>%
9881      \fi
9882    >>%
9883  }%
9884 }%
9885 }
9886 \providecommand*\@pdfview{XYZ}
9887 \providecommand*\@pdfviewparams{ %
9888   gsave revscl currentpoint grestore %
9889   72 add exch pop null exch null%
9890 }
9891 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to T<sub>E</sub>X.

```

9892 \g@addto@macro\Hy@FirstPageHook{%
9893   \headerps@out{%

```

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

```

9894   /DvipsToPDF { 65781 div } def%
9895   /PDFToDvips { 65781 mul } def%
9896   /BPToDvips{65781 mul}def%
9897   /HyperBorder { 1 PDFToDvips } def%
9898   /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.

```

9899   /BorderArrayPatch{%
9900     [exch{%
9901       dup dup type/integertype eq exch type/realtype eq or%
9902       {BPToDvips}if%
9903     }forall]%
9904   }def%
9905   /H.S {%
9906     currentpoint %
9907     HyperBorder add /pdf@lly exch def %
9908     dup DvipsToPDF 72 add /pdf@hoff exch def %
9909     HyperBorder sub /pdf@llx exch def%
9910   } def%
9911   /H.L {%
9912     2 sub %
9913     PDFToDvips /HyperBase exch def %
9914     currentpoint %
9915     HyperBase sub /pdf@ury exch def%
9916     /pdf@urx exch def%
9917   } def%
9918   /H.A {%

```

```

9919      H.L %
9920      currentpoint exch pop %
9921      HyperBase sub % baseline skip
9922      DvipsToPDF /pdf@voff exch def%
9923    } def%
9924    /H.R {%
9925      currentpoint %
9926      HyperBorder sub /pdf@ury exch def %
9927      HyperBorder add /pdf@urx exch def %
9928      currentpoint exch pop DvipsToPDF /pdf@voff exch def%
9929    } def%
9930  }%
9931 }
9932 </dvipsone>

```

## 46.13 TeX4ht

```

9933 <*tex4ht>
9934 \providecommand*{\XR@ext}{html}
9935 \def\Hy@raisedlink{}
9936 \@ifpackageloaded{tex4ht}{%
9937   \typeout{hyperref tex4ht: tex4ht already loaded}%
9938 }{%
9939   \RequirePackage[htex4ht]{tex4ht}%
9940 }
9941 \hyperlinkfileprefix{}
9942 \def\PDF@FinishDoc{}
9943 \def\PDF@SetupDoc{%
9944   \ifx\@baseurl\@empty
9945     \else
9946       \special{t4ht=<base href="\@baseurl">}%
9947     \fi
9948 }
9949 \def\hyper@anchor#1{%
9950   \Hy@SaveLastskip
9951   \begingroup
9952     \let\protect=\string
9953     \special{t4ht=<a name=%
9954       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9955   \endgroup
9956   \Hy@activeanchortrue
9957   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9958   \special{t4ht=</a>}%
9959   \Hy@activeanchorfalse
9960   \Hy@RestoreLastskip
9961 }
9962 \def\hyper@anchorstart#1{%
9963   \Hy@SaveLastskip
9964   \begingroup
9965     \hyper@chars\special{t4ht=<a name=%
9966       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9967   \endgroup
9968   \Hy@activeanchortrue
9969 }
9970 \def\hyper@anchorend{%
9971   \special{t4ht=</a>}%
9972   \Hy@activeanchorfalse
9973   \Hy@RestoreLastskip

```

```

9974 }
9975 \def\@urltype{url}
9976 \def\hyper@linkstart#1#2{%
9977   \expandafter\Hy@colorlink\csname @#1color\endcsname
9978   \def\Hy@tempa{#1}%
9979   \ifx\Hy@tempa\@urltype
9980     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9981   \else
9982     \begingroup
9983       \hyper@chars
9984       \special{t4ht=<a href=
9985         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9986     \endgroup
9987   \fi
9988 }
9989 \def\hyper@linkend{%
9990   \special{t4ht=</a>}%
9991   \Hy@endcolorlink
9992 }
9993 \def\hyper@linkfile#1#2#3{%
9994   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
9995 }
9996 \def\hyper@linkurl#1#2{%
9997   \leavevmode
9998   \ifHy@raiselinks
9999     \setbox\@tempboxa=\color@hbox #1\color@endbox
10000     \@linkdim\dp\@tempboxa
10001     \lower\@linkdim\hbox{%
10002       \begingroup
10003         \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10004       \endgroup
10005     }%
10006     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10007     \@linkdim\ht\@tempboxa
10008     \advance\@linkdim by -6.5\p@
10009     \raise\@linkdim\hbox{\special{t4ht=</a>}}%
10010   \else
10011     \begingroup
10012       \hyper@chars
10013       \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10014       \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10015       \special{t4ht=</a>}%
10016     \endgroup
10017   \fi
10018 }

```

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

```

10019 \def\hyper@link#1#2#3{%
10020   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
10021 }
10022 \def\hyper@image#1#2{%
10023   \begingroup
10024     \hyper@chars
10025     \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
10026   \endgroup
10027 }
10028 \let\autoref\ref
10029 \ifx \rEfLiNK \UnDef

```

```

10030 \def\rEfLiNK #1#2{#2}%
10031 \fi
10032 \def\backref#1{}
10033 </tex4ht>
10034 <*tex4htcfg>
10035 \IfFileExists{\jobname.cfg}{\endinput}{}
10036 \Preamble{html}
10037 \begin{document}%
10038 \EndPreamble
10039 \def\TeX{TeX}
10040 \def\OMEGA{\Omega}
10041 \def\LaTeX{LaTeX}
10042 \def\LaTeXe{\LaTeX2e}
10043 \def\eTeX{e-TeX}
10044 \def\MF{Metafont}
10045 \def\MP{MetaPost}
10046 </tex4htcfg>

```

## 47 Driver-specific form support

### 47.1 pdfmarks

```

10047 <*pdfmark>
10048 \long\def\@Form[#1]{%
10049 \g@addto@macro\Hy@FirstPageHook{%
10050 \headerps@out{%
10051 [%
10052 /_objdef{pdfDocEncoding}%
10053 /type/dict%
10054 /OBJ pdfmark%
10055 [%
10056 {pdfDocEncoding}%
10057 <<%
10058 /Type/Encoding%
10059 /Differences[%
10060 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
10061 /tilde %
10062 39/quotesingle %
10063 96/grave %
10064 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10065 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10066 /quotedblbase/quotedblleft/quotedblright/quoteleft%
10067 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
10068 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10069 164/currency %
10070 166/brokenbar %
10071 168/dieresis/copyright/ordfeminine %
10072 172/logicalnot/.notdef/registered/macron/degree/plusminus%
10073 /twosuperior/threesuperior/acute/mu %
10074 183/periodcentered/cedilla/onesuperior/ordmasculine %
10075 188/onequarter/onehalf/threequarters %
10076 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10077 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10078 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10079 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10080 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10081 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10082 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%

```



```

10083      /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
10084      /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
10085      /ucircumflex/udieresis/yacute/thorn/ydieresis%
10086    ]%
10087  >>%
10088 /PUT pdfmark%
10089 [%
10090   /_objdef{ZaDb}%
10091   /type/dict%
10092 /OBJ pdfmark%
10093 [%
10094   {ZaDb}%
10095   <<%
10096     /Type/Font%
10097     /Subtype/Type1%
10098     /Name/ZaDb%
10099     /BaseFont/ZapfDingbats%
10100   >>%
10101 /PUT pdfmark%
10102 [%
10103   /_objdef{Helv}%
10104   /type/dict%
10105 /OBJ pdfmark%
10106 [%
10107   {Helv}%
10108   <<%
10109     /Type/Font%
10110     /Subtype/Type1%
10111     /Name/Helv%
10112     /BaseFont/Helvetica%
10113     /Encoding{pdfDocEncoding}%
10114   >>%
10115 /PUT pdfmark%
10116 [%
10117   /_objdef{aform}%
10118   /type/dict%
10119 /OBJ pdfmark%
10120 [%
10121   /_objdef{afields}%
10122   /type/array%
10123 /OBJ pdfmark%
10124 {%
10125   [%
10126     /BBox[0 0 100 100]%
10127     /_objdef{Check}%
10128   /BP pdfmark %
10129   1 0 0 setrgbcolor%
10130   /ZapfDingbats 80 selectfont %
10131   20 20 moveto%
10132   (4)show%
10133   [/EP pdfmark%
10134   [%
10135     /BBox[0 0 100 100]%
10136     /_objdef{Cross}%
10137   /BP pdfmark %
10138   1 0 0 setrgbcolor%
10139   /ZapfDingbats 80 selectfont %

```

```

10140 20 20 moveto%
10141 (8)show%
10142 [/EP pdfmark%
10143 [%
10144   /BBox[0 0 250 100]%
10145   /_objdef{Submit}%
10146 /BP pdfmark %
10147 0.6 setgray %
10148 0 0 250 100 rectfill %
10149 1 setgray %
10150 2 2 moveto %
10151 2 98 lineto %
10152 248 98 lineto %
10153 246 96 lineto %
10154 4 96 lineto %
10155 4 4 lineto %
10156 fill %
10157 0.34 setgray %
10158 248 98 moveto %
10159 248 2 lineto %
10160 2 2 lineto %
10161 4 4 lineto %
10162 246 4 lineto %
10163 246 96 lineto %
10164 fill%
10165 /Helvetica 76 selectfont %
10166 0 setgray %
10167 8 22.5 moveto%
10168 (Submit)show%
10169 [/EP pdfmark%
10170 [%
10171   /BBox[0 0 250 100]%
10172   /_objdef{SubmitP}%
10173 /BP pdfmark %
10174 0.6 setgray %
10175 0 0 250 100 rectfill %
10176 0.34 setgray %
10177 2 2 moveto %
10178 2 98 lineto %
10179 248 98 lineto %
10180 246 96 lineto %
10181 4 96 lineto %
10182 4 4 lineto %
10183 fill %
10184 1 setgray %
10185 248 98 moveto %
10186 248 2 lineto %
10187 2 2 lineto %
10188 4 4 lineto %
10189 246 4 lineto %
10190 246 96 lineto %
10191 fill%
10192 /Helvetica 76 selectfont %
10193 0 setgray %
10194 10 20.5 moveto%
10195 (Submit)show%
10196 [/EP pdfmark%

```

```

10197 } ?pdfmark%
10198 [%
10199   {aform}%
10200   <<%
10201     /Fields{afields}%
10202     /DR<<%
10203       /Font<<%
10204         /ZaDb{ZaDb}%
10205         /Helv{Helv}%
10206       >>%
10207     >>%
10208     /DA(/Helv 10 Tf 0 g)%
10209     /CO{corder}%
10210     \ifHy@pdfa
10211     \else
10212       /NeedAppearances true%
10213     \fi
10214   >>%
10215 /PUT pdfmark%
10216 [%
10217   {Catalog}%
10218   <<%
10219     /AcroForm{aform}%
10220   >>%
10221 /PUT pdfmark%
10222 [%
10223   /_objdef{corder}%
10224   /type/array%
10225 /OBJ pdfmark% dps
10226 }}%
10227 \setkeys{Form}{#1}%
10228 }
10229 \def\@endForm{}
10230 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10231 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10232 }
10233 \def\@TextField[#1]#2{% parameters, label
10234   \def\Fld@name{#2}%
10235   \def\Fld@default{}%
10236   \let\Fld@value\@empty
10237   \def\Fld@width{\DefaultWidthofText}%
10238   \def\Fld@height{%
10239     \ifFld@multiline
10240       \DefaultHeightofTextMultiline
10241     \else
10242       \DefaultHeightofText
10243     \fi
10244   }%
10245   \begingroup
10246     \Fld@toks={ }%
10247     \expandafter\HyField@SetKeys\expandafter{%
10248       \DefaultOptionsofText,#1%
10249     }%
10250     \HyField@FlagsText
10251     \ifFld@hidden\def\Fld@width{1sp}\fi
10252     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10253     \LayoutTextField{#2}{%

```

```

10254 \Hy@escapeform\PDFForm@Text
10255 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10256 pdfmark=/ANN,Raw={\PDFForm@Text}%
10257 }%
10258 }%
10259 \endgroup
10260 }
10261 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10262 \def\Fld@name{#2}%
10263 \let\Fld@default\relax
10264 \let\Fld@value\relax
10265 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10266 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10267 \begingroup
10268 \Fld@menulength=0 %
10269 \@tempdima\z@
10270 \@for\@curropt:=#3\do{%
10271 \expandafter\Fld@checkequals\@curropt==\%
10272 \Hy@StepCount\Fld@menulength
10273 \settowidth{\@tempdimb}{\@currDisplay}%
10274 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10275 }%
10276 \advance\@tempdima by 15\p@
10277 \Field@toks={ }%
10278 \begingroup
10279 \HyField@SetKeys{#1}%
10280 \edef\x{\endgroup
10281 \noexpand\expandafter
10282 \noexpand\HyField@SetKeys
10283 \noexpand\expandafter{%
10284 \expandafter\noexpand\cname DefaultOptionsof%
10285 \ifFld@radio
10286 Radio%
10287 \else
10288 \ifFld@combo
10289 \ifFld@popdown
10290 PopdownBox%
10291 \else
10292 ComboBox%
10293 \fi
10294 \else
10295 ListBox%
10296 \fi
10297 \fi
10298 \endcname
10299 }%
10300 }\x
10301 \HyField@SetKeys{#1}%
10302 \ifFld@hidden\def\Fld@width{1sp}\fi
10303 \ifx\Fld@value\relax
10304 \let\Fld@value\Fld@default
10305 \fi
10306 \LayoutChoiceField{#2}{%
10307 \ifFld@radio
10308 \HyField@FlagsRadioButton
10309 \@Radio{#3}%
10310 \else

```

```

10311     \begingroup
10312     \HyField@FlagsChoice
10313     \ifdim\Fld@width<\@tempdima
10314         \ifdim\@tempdima<1cm\@tempdima1cm\fi
10315         \edef\Fld@width{\the\@tempdima}%
10316     \fi
10317     \ifFld@combo
10318     \else
10319         \@tempdima=\the\Fld@menulength\Fld@charsize
10320         \advance\@tempdima by \Fld@borderwidth bp %
10321         \advance\@tempdima by \Fld@borderwidth bp %
10322         \edef\Fld@height{\the\@tempdima}%
10323     \fi
10324     \@@ListBox{#3}%
10325 \endgroup
10326 \fi
10327 }%
10328 \endgroup
10329 }
10330 \def\@@Radio#1{%
10331     \Fld@listcount=0 %
10332     \@for\@curropt:=#1\do{%
10333         \expandafter\Fld@checkequals\@curropt==\\%
10334         \Hy@StepCount\Fld@listcount
10335         \@currDisplay\space
10336         \Hy@escapeform\PDFForm@Radio
10337         \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10338             pdfmark=/ANN,%
10339             Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
10340         } % deliberate space between radio buttons
10341     }%
10342 }
10343 \newcount\Fld@listcount
10344 \def\@@ListBox#1{%
10345     \HyField@PDFChoices{#1}%
10346     \Hy@escapeform\PDFForm@List
10347     \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10348         pdfmark=/ANN,Raw={\PDFForm@List}%
10349     }%
10350 }
10351 \def\@PushButton[#1]#2{% parameters, label
10352     \def\Fld@name{#2}%
10353     \begingroup
10354         \Fld@toks={}%
10355         \expandafter\HyField@SetKeys\expandafter{%
10356             \DefaultOptionsofPushButton,#1%
10357         }%
10358         \ifHy@pdfa
10359             \PackageError{hyperref}{%
10360                 PDF/A: Push button with JavaScript is prohibited%
10361             }\@ehc
10362             \LayoutPushButtonField{%
10363                 \leavevmode
10364                 \MakeButtonField{#2}%
10365             }%
10366         \else
10367             \HyField@FlagsPushButton

```

```

10368     \ifFld@hidden\def\Fld@width{1sp}\fi
10369     \LayoutPushButtonField{%
10370         \leavevmode
10371         \Hy@escapeform\PDFForm@Push
10372         \pdfmark[\MakeButtonField{#2}]{%
10373             pdfmark=/ANN,Raw={\PDFForm@Push}%
10374         }%
10375     }%
10376     \fi
10377 \endgroup
10378 }
10379 \def\@Submit[#1]#2{%
10380     \Field@toks={ }%
10381     \def\Fld@width{\DefaultWidthofSubmit}%
10382     \def\Fld@height{\DefaultHeightofSubmit}%
10383     \begingroup
10384         \expandafter\HyField@SetKeys\expandafter{%
10385             \DefaultOptionsofSubmit,#1%
10386         }%
10387         \HyField@FlagsPushButton
10388         \HyField@FlagsSubmit
10389         \ifFld@hidden\def\Fld@width{1sp}\fi
10390         \Hy@escapeform\PDFForm@Submit
10391         \pdfmark[\MakeButtonField{#2}]{%
10392             pdfmark=/ANN,%
10393             Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10394         }%
10395     \endgroup
10396 }
10397 \def\@Reset[#1]#2{%
10398     \Field@toks={ }%
10399     \def\Fld@width{\DefaultWidthofReset}%
10400     \def\Fld@height{\DefaultHeightofReset}%
10401     \begingroup
10402         \expandafter\HyField@SetKeys\expandafter{%
10403             \DefaultOptionsofReset,#1%
10404         }%
10405         \leavevmode
10406         \ifHy@pdfa
10407             \PackageError{hyperref}{%
10408                 PDF/A: Reset action is prohibited%
10409             }\@ehc
10410             \MakeButtonField{#2}%
10411         \else
10412             \HyField@FlagsPushButton
10413             \ifFld@hidden\def\Fld@width{1sp}\fi
10414             \Hy@escapeform\PDFForm@Reset
10415             \pdfmark[\MakeButtonField{#2}]{%
10416                 pdfmark=/ANN,Raw={\PDFForm@Reset}%
10417             }%
10418         \fi
10419     \endgroup
10420 }%
10421 \def\@CheckBox[#1]#2{% parameters, label
10422     \def\Fld@name{#2}%
10423     \def\Fld@default{0}%
10424     \begingroup

```

```

10425 \def\Fld@width{\DefaultWidthofCheckBox}%
10426 \def\Fld@height{\DefaultHeightofCheckBox}%
10427 \Field@toks={ }%
10428 \expandafter\HyField@SetKeys\expandafter{%
10429 \DefaultOptionsofCheckBox,#1%
10430 }%
10431 \HyField@FlagsCheckBox
10432 \ifFld@hidden\def\Fld@width{1sp}\fi
10433 \LayoutCheckField{#2}{%
10434 \Hy@escapeform\PDFForm@Check
10435 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10436 pdfmark=/ANN,Raw={\PDFForm@Check}%
10437 }%
10438 }%
10439 \endgroup
10440 }
10441 \pdfmark

```

## 47.2 HyperTeX

```

10442 \hypertex
10443 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10444 \def\@endForm{}
10445 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10446 \typeout{Sorry, HyperTeX does not support FORM gauges}%
10447 }
10448 \def\@TextField[#1]#2{% parameters, label
10449 \typeout{Sorry, HyperTeX does not support FORM text fields}%
10450 }
10451 \def\@CheckBox[#1]#2{% parameters, label
10452 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10453 }
10454 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10455 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10456 }
10457 \def\@PushButton[#1]#2{% parameters, label
10458 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10459 }
10460 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10461 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10462 \hypertex

```

## 47.3 TeX4ht

```

10463 \tex4ht
10464 \def\@Form[#1]{%
10465 \setkeys{Form}{#1}%
10466 \HCode{<form action="\Form@action" method="\Form@method">}%
10467 }
10468 \def\@endForm{\HCode{</form>}}
10469 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10470 \typeout{Sorry, TeX4ht does not support gauges}%
10471 }
10472 \def\@TextField[#1]#2{% parameters, label
10473 \let\Hy@reserved@a\@empty
10474 \def\Fld@name{#2}%
10475 \def\Fld@default{}%
10476 \bgroup
10477 \Field@toks={ }%

```

```

10478 \setkeys{Field}{#1}%
10479 \HCode{<label for="\Fld@name">#2</label>}%
10480 \ifFld@password
10481 \@@PasswordField
10482 \else
10483 \@@TextField
10484 \fi
10485 \egroup
10486 }
10487 \def\@@PasswordField{%
10488 \HCode{%
10489 <input type="password" %
10490 id="\Fld@name" %
10491 name="\Fld@name" %
10492 \ifFld@hidden type="hidden" \fi
10493 value="\Fld@default" %
10494 \the\Field@toks
10495 >%
10496 }%
10497 }
10498 \def\@@TextField{%
10499 \ifFld@multiline
10500 \HCode{<textarea %
10501 \ifFld@readonly readonly \fi
10502 id="\Fld@name" %
10503 name="\Fld@name" %
10504 \ifFld@hidden type="hidden" \fi
10505 \the\Field@toks>%
10506 }%
10507 \Fld@default
10508 \HCode{</textarea>}%
10509 \else
10510 \HCode{<input type="text" %
10511 \ifFld@readonly readonly \fi
10512 id="\Fld@name" %
10513 name="\Fld@name" %
10514 \ifFld@hidden type="hidden" \fi
10515 value="\Fld@default" %
10516 \the\Field@toks>%
10517 }%
10518 \fi
10519 }
10520 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10521 \def\Fld@name{#2}%
10522 \def\Fld@default{}%
10523 \let\Hy@reserved@a\relax
10524 \begin{group}
10525 \expandafter\Fld@findlength#3\\%
10526 \Field@toks={ }%
10527 \setkeys{Field}{#1}%
10528 #2%
10529 \ifFld@radio
10530 \expandafter\@@Radio#3\\%
10531 \else
10532 \expandafter\@@Menu#3\\%
10533 \fi
10534 \end{group}

```



```

10535 }
10536 \def\Fld@findlength#1\{%
10537   \Fld@menulength=0 %
10538   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10539 }
10540 \def\@@Menu#1\{%
10541   \HCode{<select size="\the\Fld@menulength" %
10542     name="\Fld@name" %
10543     \the\Field@toks>%
10544   }%
10545   \@for\@curropt:=#1\do{%
10546     \expandafter\Fld@checkequals\@curropt==\\%
10547     \HCode{<option %
10548       \ifx\@curropt\Fld@default selected \fi
10549       value="\@currValue">\@currDisplay</option>%
10550     }%
10551   }%
10552   \HCode{</select>}%
10553 }
10554 \def\@@Radio#1\{%
10555   \@for\@curropt:=#1\do{%
10556     \expandafter\Fld@checkequals\@curropt==\\%
10557     \HCode{<input type="radio" %
10558       \ifx\@curropt\Fld@default checked \fi
10559       name="\Fld@name" %
10560       value="\@currValue" %
10561       \the\Field@toks>%
10562     }%
10563     \@currDisplay
10564   }%
10565 }
10566 \def\@PushButton[#1]#2{% parameters, label
10567   \def\Fld@name{#2}%
10568   \bgroup
10569     \Field@toks={ }%
10570     \setkeys{Field}{#1}%
10571     \HCode{<input type="button" %
10572       name="\Fld@name" %
10573       value="#2" %
10574       \the\Field@toks>%
10575     }%
10576     \HCode{</button>}%
10577   \egroup
10578 }
10579 \def\@Submit[#1]#2{%
10580   \HCode{<button type="submit">#2</button>}%
10581 }
10582 \def\@Reset[#1]#2{%
10583   \HCode{<button type="reset">#2</button>}%
10584 }
10585 \def\@CheckBox[#1]#2{% parameters, label
10586   \let\Hy@reserved@a\@empty
10587   \def\Fld@name{#2}%
10588   \def\Fld@default{0}%
10589   \bgroup
10590     \Field@toks={ }%
10591     \setkeys{Field}{#1}%

```

```

10592 \HCode{<input type="checkbox" %
10593 \ifFld@checked checked \fi
10594 \ifFld@disabled disabled \fi
10595 \ifFld@readonly readonly \fi
10596 name="\Fld@name" %
10597 \ifFld@hidden type="hidden" \fi
10598 value="\Fld@default" %
10599 \the\Field@toks>%
10600 #2%
10601 }%
10602 \egroup
10603 }
10604 </tex4ht>

```

## 47.4 pdfTeX

```

10605 <*pdfTeX>
10606 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10607 \typeout{Sorry, pdfTeX does not support FORM gauges}%
10608 }
10609 \def\MakeFieldObject#1#2{\sbox0{#1}%
10610 \immediate\pdfxform0 %
10611 \expandafter\edef\csname #2Object\endcsname{%
10612 \the\pdflastxform\space 0 R%
10613 }%
10614 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
10615 }%
10616 \def\HyField@afields{}
10617 \begingroup\expandafter\expandafter\expandafter\endgroup
10618 \expandafter\ifx\csname pdflastlink\endcsname\relax
10619 \let\HyField@AddToFields\relax
10620 \PackageInfo{hyperref}{%
10621 You need pdfTeX 1.40.0 for setting the /Fields entry.\MessageBreak
10622 Adobe Reader/Acrobat accepts an empty /Field array,\MessageBreak
10623 but other PDF viewers might complain%
10624 }%
10625 \else
10626 \def\HyField@AddToFields{%
10627 \xdef\HyField@afields{%
10628 \ifx\HyField@afields\@empty
10629 \else
10630 \HyField@afields
10631 \space
10632 \fi
10633 \the\pdflastlink\space 0 R%
10634 }%
10635 }%
10636 \fi
10637 \def\@Form[#1]{%
10638 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}}%
10639 \setkeys{Form}{#1}%
10640 \Hy@FormObjects
10641 \ifnum\pdftexversion>13 %
10642 \pdfrefobj\OBJ@pdfdocencoding
10643 \pdfrefobj\OBJ@ZaDb
10644 \pdfrefobj\OBJ@Helv
10645 \fi
10646 \AtEndDocument{%

```

```

10647 \immediate\pdfobj{%
10648   <<%
10649     /Fields[\HyField@afields]%
10650     /DR<<%
10651     /Font<<%
10652       /ZaDb \OBJ@ZaDb\space 0 R%
10653       /Helv \OBJ@Helv\space 0 R%
10654     >>%
10655   >>%
10656   /DA(/Helv 10 Tf 0 g)%
10657   \ifHy@pdfa
10658   \else
10659     /NeedAppearances true%
10660   \fi
10661 >>%
10662 }%
10663 \edef\OBJ@acroform{\the\pdflastobj}%
10664 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10665 }%
10666 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

10667 \begingroup
10668   \fontfamily{pzd}%
10669   \fontencoding{U}%
10670   \fontseries{m}%
10671   \fontshape{n}%
10672   \selectfont
10673   \char123 %
10674 \endgroup
10675 }{Ding}%
10676 \MakeFieldObject{%
10677   \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10678 }{Submit}%
10679 \MakeFieldObject{%
10680   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10681 }{SubmitP}%
10682 }
10683 \def\@endForm{}
10684 \def\@TextField[#1]#2{% parameters, label
10685   \def\Fld@name{#2}%
10686   \def\Fld@default{}%
10687   \let\Fld@value\@empty
10688   \def\Fld@width{\DefaultWidthofText}%
10689   \def\Fld@height{%
10690     \ifFld@multiline
10691       \DefaultHeightofTextMultiline
10692     \else
10693       \DefaultHeightofText
10694     \fi
10695   }%
10696 \begingroup
10697   \Field@toks={ }%
10698   \expandafter\HyField@SetKeys\expandafter{%
10699     \DefaultOptionsofText,#1%
10700   }%
10701   \PDFForm@Name
10702   \HyField@FlagsText

```

```

10703 \ifFld@hidden\def\Fld@width{1sp}\fi
10704 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10705 \LayoutTextField{#2}{%
10706   \Hy@escapeform\PDFForm@Text
10707   \pdfstartlink user {\PDFForm@Text}\relax
10708   \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
10709   \HyField@AddToFields
10710 }%
10711 \endgroup
10712 }
10713 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10714 \def\Fld@name{#2}%
10715 \let\Fld@default\relax
10716 \let\Fld@value\relax
10717 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10718 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10719 \begingroup
10720 \Fld@menulength=0 %
10721 \@tempdima\z@
10722 \@for\@curropt:=#3\do{%
10723   \expandafter\Fld@checkequals\@curropt==\%
10724   \Hy@StepCount\Fld@menulength
10725   \settowidth{\@tempdimb}{\@currDisplay}%
10726   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10727 }%
10728 \advance\@tempdima by 15\p@
10729 \Field@toks={ }%
10730 \begingroup
10731 \HyField@SetKeys{#1}%
10732 \edef\x{\endgroup
10733   \noexpand\expandafter
10734   \noexpand\HyField@SetKeys
10735   \noexpand\expandafter{%
10736     \expandafter\noexpand\csname DefaultOptionsof%
10737       \ifFld@radio
10738         Radio%
10739       \else
10740         \ifFld@combo
10741           \ifFld@popdown
10742             PopdownBox%
10743           \else
10744             ComboBox%
10745           \fi
10746         \else
10747           ListBox%
10748         \fi
10749       \fi
10750     \endcsname
10751   }%
10752 }\x
10753 \HyField@SetKeys{#1}%
10754 \PDFForm@Name
10755 \ifFld@hidden\def\Fld@width{1sp}\fi
10756 \ifx\Fld@value\relax
10757   \let\Fld@value\Fld@default
10758 \fi
10759 \LayoutChoiceField{#2}{%

```

```

10760 \ifFld@radio
10761 \HyField@FlagsRadioButton
10762 \@@Radio{#3}%
10763 \else
10764 \beginngroup
10765 \HyField@FlagsChoice
10766 \ifdim\Fld@width<\@tempdima
10767 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10768 \edef\Fld@width{\the\@tempdima}%
10769 \fi
10770 \ifFld@combo
10771 \else
10772 \@tempdima=\the\Fld@menulength\Fld@charsize
10773 \advance\@tempdima by \Fld@borderwidth bp %
10774 \advance\@tempdima by \Fld@borderwidth bp %
10775 \edef\Fld@height{\the\@tempdima}%
10776 \fi
10777 \@@ListBox{#3}%
10778 \endgroup
10779 \fi
10780 }%
10781 \endgroup
10782 }
10783 \def\@@Radio#1{%
10784 \Fld@listcount=0 %
10785 \@for\@curropt:=#1\do{%
10786 \expandafter\Fld@checkequals\@curropt==\\%
10787 \Hy@StepCount\Fld@listcount
10788 \currDisplay\space
10789 \leavevmode
10790 \Hy@escapeform\PDFForm@Radio
10791 \pdfstartlink user {%
10792 \PDFForm@Radio
10793 /AP<<%
10794 /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.

```

10795 /\@currValue\space \DingObject
10796 >>%
10797 >>%
10798 }%
10799 \relax
10800 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10801 \ifnum\Fld@listcount=1 %
10802 \HyField@AddToFields
10803 \fi
10804 \space % deliberate space between radio buttons
10805 }%
10806 }
10807 \newcount\Fld@listcount
10808 \def\@@ListBox#1{%
10809 \HyField@PDFChoices{#1}%
10810 \leavevmode
10811 \Hy@escapeform\PDFForm@List
10812 \pdfstartlink user {\PDFForm@List}\relax
10813 \MakeChoiceField{\Fld@width}{\Fld@height}%

```

```

10814 \pdfendlink
10815 \HyField@AddToFields
10816 }
10817 \def\@PushButton[#1]#2{% parameters, label
10818 \def\Fld@name{#2}%
10819 \begingroup
10820 \Field@toks={ }%
10821 \expandafter\HyField@SetKeys\expandafter{%
10822 \DefaultOptionsofPushButton,#1%
10823 }%
10824 \PDFForm@Name
10825 \ifHy@pdfa
10826 \PackageError{hyperref}{%
10827 PDF/A: Push button with JavaScript is prohibited%
10828 }{\@ehc
10829 \LayoutPushButtonField{%
10830 \leavevmode
10831 \MakeButtonField{#2}%
10832 }%
10833 \else
10834 \HyField@FlagsPushButton
10835 \ifFld@hidden\def\Fld@width{1sp}\fi
10836 \LayoutPushButtonField{%
10837 \leavevmode
10838 \Hy@escapeform\PDFForm@Push
10839 \pdfstartlink user {\PDFForm@Push}\relax
10840 \MakeButtonField{#2}%
10841 \pdfendlink
10842 \HyField@AddToFields
10843 }%
10844 \fi
10845 \endgroup
10846 }
10847 \def\@Submit[#1]#2{%
10848 \Field@toks={ }%
10849 \def\Fld@width{\DefaultWidthofSubmit}%
10850 \def\Fld@height{\DefaultHeightofSubmit}%
10851 \begingroup
10852 \expandafter\HyField@SetKeys\expandafter{%
10853 \DefaultOptionsofSubmit,#1%
10854 }%
10855 \HyField@FlagsPushButton
10856 \HyField@FlagsSubmit
10857 \ifFld@hidden\def\Fld@width{1sp}\fi
10858 \leavevmode
10859 \Hy@escapeform\PDFForm@Submit
10860 \pdfstartlink user {%
10861 \PDFForm@Submit
10862 /AP<</N \SubmitObject/D \SubmitPObject>>%
10863 }%
10864 \relax
10865 \MakeButtonField{#2}%
10866 \pdfendlink
10867 \HyField@AddToFields
10868 \endgroup
10869 }
10870 \def\@Reset[#1]#2{%

```

```

10871 \Field@toks={ }%
10872 \def\Fld@width{\DefaultWidthofReset}%
10873 \def\Fld@height{\DefaultHeightofReset}%
10874 \begingroup
10875   \expandafter\HyField@SetKeys\expandafter{%
10876     \DefaultOptionsofReset,#1%
10877   }%
10878   \leavevmode
10879   \ifHy@pdfa
10880     \PackageError{hyperref}{%
10881       PDF/A: Reset action is prohibited%
10882     }\@ehc
10883     \MakeButtonField{#2}%
10884   \else
10885     \HyField@FlagsPushButton
10886     \ifFld@hidden\def\Fld@width{1sp}\fi
10887     \Hy@escapeform\PDFForm@Reset
10888     \pdfstartlink user {\PDFForm@Reset}\relax
10889     \MakeButtonField{#2}%
10890     \pdfendlink
10891     \HyField@AddToFields
10892   \fi
10893 \endgroup
10894 }
10895 \def\@CheckBox[#1]#2{% parameters, label
10896   \def\Fld@name{#2}%
10897   \def\Fld@default{0}%
10898   \begingroup
10899     \def\Fld@width{\DefaultWidthofCheckBox}%
10900     \def\Fld@height{\DefaultHeightofCheckBox}%
10901     \Field@toks={ }%
10902     \expandafter\HyField@SetKeys\expandafter{%
10903       \DefaultOptionsofCheckBox,#1%
10904     }%
10905     \PDFForm@Name
10906     \HyField@FlagsCheckBox
10907     \ifFld@hidden\def\Fld@width{1sp}\fi
10908     \LayoutCheckField{#2}{%
10909       \Hy@escapeform\PDFForm@Check
10910       \pdfstartlink user {\PDFForm@Check}\relax
10911       \MakeCheckField{\Fld@width}{\Fld@height}%
10912       \pdfendlink
10913       \HyField@AddToFields
10914     }%
10915   \endgroup
10916 }
10917 \def\Hy@FormObjects{%
10918   \pdfobj {%
10919     <<%
10920       /Type/Encoding%
10921       /Differences[%
10922         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
10923         /ring/tilde %
10924         39/quotesingle %
10925         96/grave %
10926         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10927         /fraction/guilsinglleft/guilsinglright/minus/perthousand%

```

```

10928      /quotedblbase/quotedblleft/quotedblright/quoteleft%
10929      /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
10930      /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10931      164/currency %
10932      166/brokenbar %
10933      168/dieresis/copyright/ordfeminine %
10934      172/logicalnot/.notdef/registered/macron/degree/plusminus%
10935      /twosuperior/threesuperior/acute/mu %
10936      183/periodcentered/cedilla/onesuperior/ordmasculine %
10937      188/onequarter/onehalf/threequarters %
10938      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10939      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10940      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10941      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10942      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10943      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10944      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10945      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
10946      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
10947      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
10948      ]%
10949      >>%
10950      }%
10951      \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
10952      \pdfobj{%
10953      <<%
10954      /Type/Font%
10955      /Subtype/Type1%
10956      /Name/ZaDb%
10957      /BaseFont/ZapfDingbats%
10958      >>%
10959      }%
10960      \xdef\OBJ@ZaDb{\the\pdflastobj}%
10961      \pdfobj{%
10962      <<%
10963      /Type/Font%
10964      /Subtype/Type1%
10965      /Name/Helv%
10966      /BaseFont/Helvetica%
10967      /Encoding \OBJ@pdfdocencoding\space 0 R%
10968      >>%
10969      }%
10970      \xdef\OBJ@Helv{\the\pdflastobj}%
10971      \global\let\Hy@FormObjects\relax
10972      }
10973      </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.

```
10974 <*dvipdfm>
```

\@Gauge

```

10975 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10976   \typeout{Sorry, dvipdfm does not support FORM gauges}%
10977 }

```



\@Form

```
10978 \def\@Form[#1]{%
10979   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10980   \setkeys{Form}{#1}%
10981   \Hy@FormObjects
10982   \@pdfm@mark{obj @afields []}%
10983   \@pdfm@mark{obj @corder []}%
10984   \@pdfm@mark{%
10985     obj @aform <<%
10986       /Fields @afields%
10987       /DR<<%
10988       /Font<<%
10989       /ZaDb @OBJZaDb%
10990       /Helv @OBJHelv%
10991       >>%
10992       >>%
10993       /DA(/Helv 10 Tf 0 g)%
10994       /CO @corder%
10995       \ifHy@pdfa
10996       \else
10997         /NeedAppearances true%
10998       \fi
10999       >>%
11000   }%
11001   \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
11002 }
```

\@endForm

```
11003 \def\@endForm{}
```

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

```
11004 \def\dvipdfm@setdim{%
11005   height \the\ht\pdfm@box\space
11006   width \the\wd\pdfm@box\space
11007   depth \the\dp\pdfm@box\space
11008 }
```

\HyField@AnnotCount

```
11009 \newcount\HyField@AnnotCount
11010 \HyField@AnnotCount=\z@
```

\HyField@AdvanceAnnotCount

```
11011 \def\HyField@AdvanceAnnotCount{%
11012   \global\advance\HyField@AnnotCount\@ne
11013 }
```

\HyField@TheAnnotCount

```
11014 \def\HyField@TheAnnotCount{%
11015   \the\HyField@AnnotCount
11016 }
```

\@TextField

```
11017 \def\@TextField[#1]#2{% parameters, label
11018   \def\Fld@name{#2}%
11019   \def\Fld@default{}}%
```

```

11020 \let\Fld@value\@empty
11021 \def\Fld@width{\DefaultWidthofText}%
11022 \def\Fld@height{%
11023   \ifFld@multiline
11024     \DefaultHeightofTextMultiline
11025   \else
11026     \DefaultHeightofText
11027   \fi
11028 }%
11029 \beginingroup
11030   \Field@toks={ }%
11031   \expandafter\HyField@SetKeys\expandafter{%
11032     \DefaultOptionsofText,#1%
11033   }%
11034   \PDFForm@Name
11035   \HyField@FlagsText
11036   \ifFld@hidden\def\Fld@width{1sp}\fi
11037   \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11038   \setbox\pdfm@box=\hbox{%
11039     \MakeTextField{\Fld@width}{\Fld@height}%
11040   }%
11041   \HyField@AdvanceAnnotCount
11042   \LayoutTextField{#2}{%
11043     \Hy@escapeform\PDFForm@Text
11044     \@pdfm@mark{%
11045       ann @text\HyField@TheAnnotCount\space
11046       \dvipdfm@setdim << \PDFForm@Text >>%
11047     }%
11048   }%
11049   \unhbox\pdfm@box
11050   \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
11051   % record in @afields array
11052 \endgroup
11053 }

```

#### \@ChoiceMenu

```

11054 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11055   \def\Fld@name{#2}%
11056   \let\Fld@default\relax
11057   \let\Fld@value\relax
11058   \def\Fld@width{\DefaultWidthofChoiceMenu}%
11059   \def\Fld@height{\DefaultHeightofChoiceMenu}%
11060   \beginingroup
11061     \Fld@menulength=0 %
11062     \@tempdima\z@
11063     \@for\@curropt:=#3\do{%
11064       \expandafter\Fld@checkequals\@curropt==\%
11065       \Hy@StepCount\Fld@menulength
11066       \settowidth{\@tempdimb}{\@currDisplay}%
11067       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11068     }%
11069     \advance\@tempdima by 15\p@
11070     \Field@toks={ }%
11071     \beginingroup
11072       \HyField@SetKeys{#1}%
11073     \edef\x{\endgroup
11074       \noexpand\expandafter

```

```

11075 \noexpand\HyField@SetKeys
11076 \noexpand\expandafter{%
11077 \expandafter\noexpand\csname DefaultOptionsof%
11078 \ifFld@radio
11079 Radio%
11080 \else
11081 \ifFld@combo
11082 \ifFld@popdown
11083 PopdownBox%
11084 \else
11085 ComboBox%
11086 \fi
11087 \else
11088 ListBox%
11089 \fi
11090 \fi
11091 \endcsname
11092 }%
11093 }\x
11094 \HyField@SetKeys{#1}%
11095 \PDFForm@Name
11096 \ifFld@hidden\def\Fld@width{1sp}\fi
11097 \ifx\Fld@value\relax
11098 \let\Fld@value\Fld@default
11099 \fi
11100 \LayoutChoiceField{#2}{%
11101 \ifFld@radio
11102 \HyField@FlagsRadioButton
11103 @@Radio{#3}%
11104 \else
11105 \begingroup
11106 \HyField@FlagsChoice
11107 \ifdim\Fld@width<\@tempdima
11108 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11109 \edef\Fld@width{\the\@tempdima}%
11110 \fi
11111 \ifFld@combo
11112 \else
11113 \@tempdima=\the\Fld@menulength\Fld@charsize
11114 \advance\@tempdima by \Fld@borderwidth bp %
11115 \advance\@tempdima by \Fld@borderwidth bp %
11116 \edef\Fld@height{\the\@tempdima}%
11117 \fi
11118 @@ListBox{#3}%
11119 \endgroup
11120 \fi
11121 }%
11122 \endgroup
11123 }

```

\@@Radio

```

11124 \def\@@Radio#1{%
11125 \Fld@listcount=0 %
11126 \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
11127 \@for\@curropt:=#1\do{%
11128 \expandafter\Fld@checkequals\@curropt==\%
11129 \Hy@StepCount\Fld@listcount

```

```

11130 \currDisplay\space
11131 \leavevmode
11132 \Hy@escapeform\PDFForm@Radio
11133 \ifnum\Fld@listcount=1 %
11134 \HyField@AdvanceAnnotCount
11135 \fi
11136 \@pdfm@mark{%
11137 ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi
11138 \dvipdfm@setdim
11139 <<%
11140 \PDFForm@Radio
11141 /AP<</N<</\@currValue /null>>>>%
11142 >>%
11143 }%
11144 \unhcopy\pdfm@box\space% deliberate space between radio buttons
11145 \ifnum\Fld@listcount=1 %
11146 \@pdfm@mark{put @afields @radio\HyField@TheAnnotCount}%
11147 \fi
11148 }%
11149 }

\Fld@listcount

11150 \newcount\Fld@listcount

@@@Listbox

11151 \def\@@Listbox#1{%
11152 \HyField@PDFChoices{#1}%
11153 \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
11154 \leavevmode
11155 \Hy@escapeform\PDFForm@List
11156 \HyField@AdvanceAnnotCount
11157 \@pdfm@mark{%
11158 ann @list\HyField@TheAnnotCount\space
11159 \dvipdfm@setdim
11160 <<\PDFForm@List>>%
11161 }%
11162 \unhbox\pdfm@box
11163 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
11164 }

\@PushButton

11165 \def\@PushButton[#1]#2{% parameters, label
11166 \def\Fld@name{#2}%
11167 \begingroup
11168 \Field@toks={ }%
11169 \expandafter\HyField@SetKeys\expandafter{%
11170 \DefaultOptionsofPushButton,#1%
11171 }%
11172 \PDFForm@Name
11173 \ifHy@pdfa
11174 \PackageError{hyperref}{%
11175 PDF/A: Push button with JavaScript is prohibited%
11176 }\@ehc
11177 \LayoutPushButtonField{%
11178 \leavevmode
11179 \MakeButtonField{#2}%
11180 }%

```

```

11181 \else
11182 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11183 \HyField@FlagsPushButton
11184 \ifFld@hidden\def\Fld@width{1sp}\fi
11185 \HyField@AdvanceAnnotCount
11186 \LayoutPushButtonField{%
11187 \leavevmode
11188 \Hy@escapeform\PDFForm@Push
11189 \@pdfm@mark{%
11190 ann @push\HyField@TheAnnotCount\space
11191 \dvi pdfm@setdim
11192 <<\PDFForm@Push>>%
11193 }%
11194 }%
11195 \unhbox\pdfm@box
11196 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
11197 \fi
11198 \endgroup
11199 }

\@Submit

11200 \def\@Submit[#1]#2{%
11201 \Field@toks={ }%
11202 \def\Fld@width{\DefaultWidthofSubmit}%
11203 \def\Fld@height{\DefaultHeightofSubmit}%
11204 \begingroup
11205 \expandafter\HyField@SetKeys\expandafter{%
11206 \DefaultOptionsofSubmit,#1%
11207 }%
11208 \HyField@FlagsPushButton
11209 \HyField@FlagsSubmit
11210 \ifFld@hidden\def\Fld@width{1sp}\fi
11211 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11212 \leavevmode
11213 \Hy@escapeform\PDFForm@Submit
11214 \HyField@AdvanceAnnotCount
11215 \@pdfm@mark{%
11216 ann @submit\HyField@TheAnnotCount\space
11217 \dvi pdfm@setdim
11218 <<\PDFForm@Submit>>%
11219 }%
11220 \unhbox\pdfm@box%
11221 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
11222 \endgroup
11223 }

\@Reset

11224 \def\@Reset[#1]#2{%
11225 \Field@toks={ }%
11226 \def\Fld@width{\DefaultWidthofReset}%
11227 \def\Fld@height{\DefaultHeightofReset}%
11228 \begingroup
11229 \expandafter\HyField@SetKeys\expandafter{%
11230 \DefaultOptionsofReset,#1%
11231 }%
11232 \leavevmode
11233 \ifHy@pdfa

```

```

11234 \PackageError{hyperref}{%
11235   PDF/A: Reset action is prohibited%
11236 }{\@ehc
11237 \MakeButtonField{#2}}%
11238 \else
11239 \HyField@FlagsPushButton
11240 \ifFld@hidden\def\Fld@width{1sp}\fi
11241 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11242 \Hy@escapeform\PDFForm@Reset
11243 \HyField@AdvanceAnnotCount
11244 \@pdfm@mark{%
11245   ann @reset\HyField@TheAnnotCount\space
11246   \dvipdfm@setdim
11247   <<\PDFForm@Reset>>%
11248 }%
11249 \unhbox\pdfm@box
11250 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11251 \fi
11252 \endgroup
11253 }

```

\@CheckBox

```

11254 \def\@CheckBox[#1]#2{% parameters, label
11255 \def\Fld@name{#2}%
11256 \def\Fld@default{0}%
11257 \begingroup
11258 \def\Fld@width{\DefaultWidthofCheckBox}%
11259 \def\Fld@height{\DefaultHeightofCheckBox}%
11260 \Field@toks={ }%
11261 \expandafter\HyField@SetKeys\expandafter{%
11262   \DefaultOptionsofCheckBox,#1%
11263 }%
11264 \PDFForm@Name
11265 \HyField@FlagsCheckBox
11266 \ifFld@hidden\def\Fld@width{1sp}\fi
11267 \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
11268 \HyField@AdvanceAnnotCount
11269 \LayoutCheckField{#2}{%
11270   \Hy@escapeform\PDFForm@Check
11271   \@pdfm@mark{%
11272     ann @check\HyField@TheAnnotCount\space
11273     \dvipdfm@setdim
11274     <<\PDFForm@Check>>%
11275   }%
11276   \unhbox\pdfm@box
11277   \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11278 }%
11279 \endgroup
11280 }

11281 \def\Hy@FormObjects{%
11282 \@pdfm@mark{obj @OBJpdfdocencoding%
11283 <<%
11284 /Type/Encoding%
11285 /Differences[%
11286   24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11287   39/quotesingle %
11288   96/grave %

```

```

11289      128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11290      /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11291      /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11292      /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11293      /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11294      164/currency %
11295      166/brokenbar %
11296      168/dieresis/copyright/ordfeminine %
11297      172/logicalnot/.notdef/registered/macron/degree/plusminus%
11298      /twosuperior/threesuperior/acute/mu %
11299      183/periodcentered/cedilla/onesuperior/ordmasculine %
11300      188/onequarter/onehalf/threequarters %
11301      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11302      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11303      /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11304      /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11305      /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11306      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11307      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11308      /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
11309      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11310      /thorn/ydieresis%
11311      ]%
11312      >>%
11313    }%
11314    \@pdfm@mark{obj @OBJZaDb%
11315      <<%
11316      /Type/Font%
11317      /Subtype/Type1%
11318      /Name/ZaDb%
11319      /BaseFont/ZapfDingbats%
11320      >>%
11321    }%
11322    \@pdfm@mark{obj @OBJHelv%
11323      <<%
11324      /Type/Font%
11325      /Subtype/Type1%
11326      /Name/Helv%
11327      /BaseFont/Helvetica%
11328      /Encoding @OBJpdfdocencoding%
11329      >>%
11330    }%
11331    \global\let\Hy@FormObjects\relax
11332  }
11333 </dvipdfm>

```

## 47.6 Common forms part

```
11334 <*pdfform>
```

\Hy@escapestring

```

11335 \begingroup\expandafter\expandafter\expandafter\endgroup
11336 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11337   \let\Hy@escapestring\@firstofone
11338   \def\Hy@escapeform#1{%
11339     \ifHy@escapeform
11340     \def\Hy@escapestring##1{%

```

```

11341         \noexpand\Hy@escapestring{\noexpand##1}%
11342     }%
11343     \edef\Hy@temp{#1}%
11344     \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{ }\@nil
11345     \def\Hy@escapestring##1{%
11346         \@ifundefined{Hy@esc@\string##1}{%
11347             ##1%
11348             \ThisShouldNotHappen
11349         }{%
11350             \csname Hy@esc@\string##1\endcsname
11351         }%
11352     }%
11353     \else
11354         \let\Hy@escapestring\@firstofone
11355     \fi
11356 }%
11357 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11358     \ifx\#3\%
11359     \else
11360         \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11361         \Hy@ReturnAfterFi{%
11362             \Hy@@escapeform#3\@nil
11363         }%
11364     \fi
11365 }%
11366 \else
11367     \def\Hy@escapeform#1{%
11368         \ifHy@escapeform
11369             \let\Hy@escapestring\pdfescapestring
11370         \else
11371             \let\Hy@escapestring\@firstofone
11372         \fi
11373     }%
11374     \Hy@escapeform{ }%
11375 \fi

```

#### \PDFForm@Name

```

11376 \def\PDFForm@Name{%
11377     \begingroup
11378         \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11379             \ifHy@unicode
11380                 \Hy@unicodedefalse
11381             \fi
11382         \fi
11383         \pdfstringdef\Hy@gtemp\Fld@name
11384     \endgroup
11385     \let\Fld@name\Hy@gtemp
11386 }

```

#### \PDFForm@Check

```

11387 \def\PDFForm@Check{%
11388     /Subtype/Widget%
11389     \Fld@annotflags
11390     /T(\Fld@name)%
11391     /FT/Btn%
11392     \Fld@flags
11393     /Q \Fld@align

```



```

11394 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11395 /MK<<%
11396   \ifnum\Fld@rotation=\z@
11397   \else
11398     /R \Fld@rotation
11399   \fi
11400   \ifx\Fld@bordercolor\relax
11401   \else
11402     /BC[\Fld@bordercolor]%
11403   \fi
11404   \ifx\Fld@bcolor\relax
11405   \else
11406     /BG[\Fld@bcolor]%
11407   \fi
11408   /CA(\Hy@escapestring{\Fld@cbsymbol})%
11409 >>%
11410 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11411   \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11412 /H/P%
11413 \ifFld@checked /V/Yes\else /V/Off\fi
11414 }

```

\PDFForm@Push

```

11415 \ifHy@pdfa
11416 \else
11417   \def\PDFForm@Push{%
11418     /Subtype/Widget%
11419     \Fld@annotflags
11420     /T(\Fld@name)%
11421     /FT/Btn%
11422     \Fld@flags
11423     /H/P%
11424     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11425     \ifcase0\ifnum\Fld@rotation=\z@   \else 1\fi
11426       \ifx\Fld@bordercolor\relax\else 1\fi
11427       \space
11428     \else
11429       /MK<<%
11430         \ifnum\Fld@rotation=\z@
11431         \else
11432           /R \Fld@rotation
11433         \fi
11434         \ifx\Fld@bordercolor\relax
11435         \else
11436           /BC[\Fld@bordercolor]%
11437         \fi
11438       >>%
11439     \fi
11440     /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
11441   }%
11442 \fi

```

\Fld@additionalactions

```

11443 \def\Fld@@additionalactions{%
K input (keystroke) format
11444   \ifx\Fld@keystroke@code\@empty

```

```

11445 \else
11446     /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11447 \fi

F display format
11448 \ifx\Fld@format@code\@empty
11449 \else
11450     /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11451 \fi

V validation
11452 \ifx\Fld@validate@code\@empty
11453 \else
11454     /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11455 \fi

C calculation
11456 \ifx\Fld@calculate@code\@empty
11457 \else
11458     /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11459 \fi

Fo receiving the input focus
11460 \ifx\Fld@onfocus@code\@empty
11461 \else
11462     /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11463 \fi

Bl loosing the input focus (blurred)
11464 \ifx\Fld@onblur@code\@empty
11465 \else
11466     /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11467 \fi

D pressing the mouse button (down)
11468 \ifx\Fld@onmousedown@code\@empty
11469 \else
11470     /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11471 \fi

U releasing the mouse button (up)
11472 \ifx\Fld@onmouseup@code\@empty
11473 \else
11474     /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11475 \fi

E cursor enters the annotation's active area.
11476 \ifx\Fld@onenter@code\@empty
11477 \else
11478     /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11479 \fi

X cursor exits the annotation's active area.
11480 \ifx\Fld@onexit@code\@empty
11481 \else
11482     /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11483 \fi
11484 }
11485 \def\Fld@additionalactions{%
11486 \if-\Fld@@additionalactions-%
11487 \else

```

```

11488     \ifHy@pdfa
11489     \else
11490         /AA<<\Fld@@additionalactions>>%
11491     \fi
11492 \fi
11493 }

```

#### \PDFForm@List

```

11494 \def\PDFForm@List{%
11495     /Subtype/Widget%
11496     \Fld@annotflags
11497     /T(\Fld@name)%
11498     /FT/Ch%
11499     \Fld@flags
11500     /Q \Fld@align
11501     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11502     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11503         \ifx\Fld@bordercolor\relax\else 1\fi
11504         \ifx\Fld@bcolor\relax \else 1\fi
11505         \space
11506     \else
11507         /MK<<%
11508         \ifnum\Fld@rotation=\z@
11509         \else
11510             /R \Fld@rotation
11511         \fi
11512         \ifx\Fld@bordercolor\relax
11513         \else
11514             /BC[\Fld@bordercolor]%
11515         \fi
11516         \ifx\Fld@bcolor\relax
11517         \else
11518             /BG[\Fld@bcolor]%
11519         \fi
11520         >>%
11521     \fi
11522     /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11523         \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11524     \Fld@choices
11525     \Fld@additionalactions
11526 }

```

#### \PDFForm@Radio

```

11527 \def\PDFForm@Radio{%
11528     /Subtype/Widget%
11529     \Fld@annotflags
11530     /T(\Fld@name)%
11531     /FT/Btn%
11532     \Fld@flags
11533     /H/P%
11534     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11535     /MK<<%
11536         \ifnum\Fld@rotation=\z@
11537         \else
11538             /R \Fld@rotation
11539         \fi
11540         \ifx\Fld@bordercolor\relax

```

```

11541     \else
11542         /BC[\Fld@bordercolor]%
11543     \fi
11544     \ifx\Fld@bcolor\relax
11545     \else
11546         /BG[\Fld@bcolor]%
11547     \fi
11548     /CA(H)%
11549 >>%
11550 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11551     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11552 \ifx\@currValue\Fld@default
11553     /V\Fld@default
11554 \else
11555     /V/Off%
11556 \fi
11557 \Fld@additionalactions
11558 }

```

\PDFForm@Text

```

11559 \def\PDFForm@Text{%
11560     /Subtype/Widget%
11561     \Fld@annotflags
11562     /T(\Fld@name)%
11563     /FT/Tx%
11564     \Fld@flags
11565     /Q \Fld@align
11566     /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11567     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11568         \ifx\Fld@bordercolor\relax\else 1\fi
11569         \ifx\Fld@bcolor\relax \else 1\fi
11570         \space
11571     \else
11572         /MK<<%
11573         \ifnum\Fld@rotation=\z@
11574         \else
11575             /R \Fld@rotation
11576         \fi
11577         \ifx\Fld@bordercolor\relax
11578         \else
11579             /BC[\Fld@bordercolor]%
11580         \fi
11581         \ifx\Fld@bcolor\relax
11582         \else
11583             /BG[\Fld@bcolor]%
11584         \fi
11585     >>%
11586     \fi
11587 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11588     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11589 /DV(\Hy@escapestring{\Fld@default})%
11590 /V(\Hy@escapestring{\Fld@value})%
11591 \Fld@additionalactions
11592 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11593 }

```

\PDFForm@Submit

```

11594 \def\PDFForm@Submit{%
11595   /Subtype/Widget%
11596   \Fld@annotflags
11597   /T(\Fld@name)%
11598   /FT/Btn%
11599   \Fld@flags
11600   /H/P%
11601   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11602   \ifcase0\ifnum\Fld@rotation=\z@   \else 1\fi
11603       \ifx\Fld@bordercolor\relax\else 1\fi
11604       \space
11605   \else
11606       /MK<<%
11607       \ifnum\Fld@rotation=\z@
11608       \else
11609       /R \Fld@rotation
11610       \fi
11611       \ifx\Fld@bordercolor\relax
11612       \else
11613       /BC[\Fld@bordercolor]%
11614       \fi
11615       >>%
11616   \fi
11617   /A<<%
11618   /S/SubmitForm%
11619   /F<<%
11620   /FS/URL%
11621   /F(\Hy@escapestring{\Form@action})%
11622   >>%
11623   \Fld@submitflags
11624   >>%
11625 }

```

\PDFForm@Reset

```

11626 \ifHy@pdfa
11627 \else
11628   \def\PDFForm@Reset{%
11629     /Subtype/Widget%
11630     \Fld@annotflags
11631     /T(\Fld@name)%
11632     /FT/Btn%
11633     \Fld@flags
11634     /H/P%
11635     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11636     \ifcase0\ifnum\Fld@rotation=\z@   \else 1\fi
11637         \ifx\Fld@bordercolor\relax\else 1\fi
11638         \space
11639     \else
11640         /MK<<%
11641         \ifnum\Fld@rotation=\z@
11642         \else
11643         /R \Fld@rotation
11644         \fi
11645         \ifx\Fld@bordercolor\relax
11646         \else
11647         /BC[\Fld@bordercolor]%
11648         \fi

```

```

11649 %      /CA (Clear)
11650 %      /AC (Done)
11651      >>%
11652      \fi
11653      /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11654      /A<</S/ResetForm>>%
11655  }%
11656 \fi

11657 </pdfform>
11658 <*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`

```

11659 \def\phantomsection{%
11660   \Hy@GlobalStepCount\Hy@linkcounter
11661   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11662   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11663 }
11664 </package>

```

### 48.1 Bookmarks

```
11665 <*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`.

```

11666 \def\Hy@writebookmark#1#2#3#4#5{%
11667   % section number, text, label, level, file
11668   \ifx\WriteBookmarks\relax%
11669   \else
11670     \ifnum#4>\Hy@bookmarksdepth\relax
11671     \else
11672       \@writetorep{#1}{#2}{#3}{#4}{#5}%
11673     \fi
11674   \fi
11675 }
11676 \def\Hy@currentbookmarklevel{0}
11677 \def\Hy@numberline#1{#1 }
11678 \def\@writetorep#1#2#3#4#5{%
11679   \begingroup
11680     \edef\Hy@tempa{#5}%
11681     \ifx\Hy@tempa\Hy@bookmarkstype
11682       \edef\Hy@level{#4}%
11683       \ifx\Hy@levelcheck Y%

```

```

11684 \@tempcnta\Hy@level\relax
11685 \advance\@tempcnta by -1 %
11686 \ifnum\Hy@currentbookmarklevel<\@tempcnta
11687 \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
11688 \advance\@tempcnta by 1 %
11689 \Hy@Warning{%
11690     Difference (\the\@tempcnta) between bookmark levels is %
11691     greater \MessageBreak than one, level fixed%
11692 }%
11693 \@tempcnta\Hy@currentbookmarklevel
11694 \advance\@tempcnta by 1 %
11695 \edef\Hy@level{\the\@tempcnta}%
11696 \fi
11697 \else
11698 \global\let\Hy@levelcheck Y%
11699 \fi
11700 \global\let\Hy@currentbookmarklevel\Hy@level
11701 \@tempcnta\Hy@level\relax
11702 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
11703 \advance\@tempcnta by -1 %
11704 \edef\Hy@tempa{#3}%
11705 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
11706 \ifx\Hy@tempa\Hy@tempb
11707 \Hy@Warning{%
11708     The anchor of a bookmark and its parent's must not%
11709     \MessageBreak be the same. Added a new anchor%
11710 }%
11711 \phantomsection
11712 \fi
11713 \ifHy@bookmarksnumbered
11714 \let\numberline\Hy@numberline
11715 \let\partnumberline\Hy@numberline
11716 \let\chapternumberline\Hy@numberline
11717 \else
11718 \let\numberline\@gobble
11719 \let\partnumberline\@gobble
11720 \let\chapternumberline\@gobble
11721 \fi
11722 \pdfstringdef\Hy@tempa{#2}%
11723 \if@files
11724 \protected@write\@outlinefile{}{%
11725     \protect\BOOKMARK
11726     [\Hy@level] [\@bookmarkopenstatus{\Hy@level}]{#3}%
11727     {\Hy@tempa}{\Hy@tempb}%
11728 }%
11729 \fi
11730 \fi
11731 \endgroup
11732 }

```

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

```

11733 \newcommand{\currentpdfbookmark}{%
11734 \pdfbookmark[\Hy@currentbookmarklevel]%
11735 }
11736 \newcommand{\subpdfbookmark}{%
11737 \@tempcnta\Hy@currentbookmarklevel
11738 \Hy@StepCount\@tempcnta

```

```

11739 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
11740 }
11741 \newcommand{\belowpdfbookmark}[2]{%
11742 \@tempcnta\Hy@currentbookmarklevel
11743 \Hy@StepCount\@tempcnta
11744 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
11745 \advance\@tempcnta by -1 %
11746 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
11747 }

```

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.

```

11748 \renewcommand\pdfbookmark[3][0]{%
11749 \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
11750 \hyper@anchorstart{#3.#1}\hyper@anchorend
11751 }
11752 \def\BOOKMARK{\@ifnextchar[{\@BOOKMARK}{\@BOOKMARK[1] [-]}}
11753 \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` macros.

The VTEX section was written originally by VTEX, but then amended by Denis Girou ([denis.girou@idris.fr](mailto:denis.girou@idris.fr)), then by Taco Hoekwater ([taco.hoekwater@wkap.nl](mailto:taco.hoekwater@wkap.nl)). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping `\` and the like.

```

11754 <*vtex>
11755 \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.

```

11756 \begingroup
11757 \catcode'\'=12 %
11758 \ifnum\Hy@VTeXversion<650 %
11759 \catcode\'=12 %
11760 \gdef\hv@pdf@char#1#2#3{%
11761 \char
11762 \ifcase'#1#2#3 %
11763 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
11764 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
11765 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
11766 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
11767 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
11768 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
11769 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
11770 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
11771 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
11772 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
11773 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
11774 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
11775 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
11776 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
11777 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
11778 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
11779 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
11780 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
11781 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%

```



```

11782 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
11783 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
11784 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
11785 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
11786 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
11787 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
11788 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
11789 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
11790 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
11791 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
11792 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
11793 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
11794 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
11795 \fi
11796 }%
11797 \else
11798 \gdef\hv@pdf@char{\char'}%
11799 \fi
11800 \endgroup

```

\@@BOOKMARK

```

11801 \def\@@BOOKMARK[#1][#2]#3#4#5{%
11802 \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
11803 \edef\@mycount{\the\@serial@counter}%
11804 \Hy@StepCount\@serial@counter
11805 \edef\@parcount{%
11806 \expandafter\ifx\csname @count@#5\endcsname\relax
11807 0%
11808 \else
11809 \csname @count@#5\endcsname
11810 \fi
11811 }%
11812 \immediate\special{%
11813 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
11814 s=\ifx#2-c\else o\fi,t=#4%
11815 }%
11816 }%

```

\ReadBookmarks

```

11817 \def\ReadBookmarks{%
11818 \begingroup
11819 \def\0{\hv@pdf@char 0}%
11820 \def\1{\hv@pdf@char 1}%
11821 \def\2{\hv@pdf@char 2}%
11822 \def\3{\hv@pdf@char 3}%
11823 \def\({}%
11824 \def\)}%
11825 \def\do##1{%
11826 \ifnum\the\catcode'##1=\active
11827 \makeother##1%
11828 \fi
11829 }%
11830 \dospecials
11831 \InputIfFileExists{\jobname.out}{-}{-}%
11832 \endgroup
11833 \ifx\WriteBookmarks\relax
11834 \else

```

```

11835 \if@filesw
11836 \newwrite\@outlinefile
11837 \immediate\openout\@outlinefile=\jobname.out\relax
11838 \ifHy@typexml
11839 \immediate\write\@outlinefile{<relaxxml>\relax}%
11840 \fi
11841 \fi
11842 \fi
11843 }

11844 </vtx>
11845 <!*vtx>
11846 \def\ReadBookmarks{%
11847 \begingroup
11848 \escapechar='\\%
11849 \let\escapechar\@gobble %
11850 \def\@BOOKMARK[##1][##2]##3##4##5{\calc@bm@number{##5}}%
11851 \InputIfFileExists{\jobname.out}{-}{-}%
11852 \ifx\WriteBookmarks\relax
11853 \global\let\WriteBookmarks\relax
11854 \fi
11855 \def\@BOOKMARK[##1][##2]##3##4##5{%
11856 \def\Hy@temp{##4}%
11857 <*pdftex>
11858 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11859 \Hy@OutlineName{}\Hy@pstringName{%
11860 ##2\check@bm@number{##3}%
11861 }{%
11862 \expandafter\strip@prefix\meaning\Hy@temp
11863 }%
11864 </pdftex>
11865 <*pdfmark>
11866 \pdfmark{%
11867 pdfmark=/OUT,%
11868 Count={##2\check@bm@number{##3}},%
11869 Dest={##3},%
11870 Title=\expandafter\strip@prefix\meaning\Hy@temp
11871 }%
11872 </pdfmark>
11873 <*dvipdfm>
11874 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11875 \@pdfm@mark{%
11876 outline \ifHy@DvipdfmxOutlineOpen
11877 [%
11878 \ifnum##21>\z@
11879 \else
11880 -%
11881 \fi
11882 ] %
11883 \fi
11884 ##1<<%
11885 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
11886 /A<<%
11887 /S/GoTo%
11888 /D(\Hy@pstringName)%
11889 >>%
11890 >>%
11891 }%

```

```

11892 </dvipdfm>
11893 }%
11894 {%
11895   \def\WriteBookmarks{0}%
11896   \InputIfFileExists{\jobname.out}{-}{-}%
11897 }%
11898 {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
11899 \ifx\WriteBookmarks\relax
11900 \else
11901   \if@files
11902     \newwrite\@outlinefile
11903     \immediate\openout\@outlinefile=\jobname.out\relax
11904     \ifHy@typexml
11905       \immediate\write\@outlinefile{<relaxxml>\relax}%
11906     \fi
11907   \fi
11908 \fi
11909 \endgroup
11910 }
11911 <*pdfTeX>
11912 \def\Hy@OutlineName#1#2#3#4{%
11913   \pdfoutline goto name{#2}count#3{#4}%
11914 }
11915 </pdfTeX>
11916 \def\check@bm@number#1{%
11917   \expandafter\ifx\csname B_#1\endcsname\relax
11918     0%
11919   \else
11920     \csname B_#1\endcsname
11921   \fi
11922 }
11923 \def\calc@bm@number#1{%
11924   \@tempcnta=\check@bm@number{#1}\relax
11925   \advance\@tempcnta by 1 %
11926   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
11927 }
11928 </!vTeX>

11929 \ifHy@implicit
11930 \else
11931   \expandafter\endinput
11932 \fi

11933 </outlines>
11934 <*outlines | hypertex>

11935 \let\H@old@ssect\@ssect
11936 \def\@ssect#1#2#3#4#5{%
11937   \H@old@ssect{#1}{#2}{#3}{#4}{#5}%
11938   \phantomsection
11939 }
11940 \let\H@old@schapter\@schapter
11941 \def\@schapter#1{%
11942   \H@old@schapter{#1}%
11943   \begingroup
11944     \let\mkboth\gobbletwo
11945     \Hy@GlobalStepCount\Hy@linkcounter
11946     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11947     \Hy@raisedlink{%

```

```

11948     \hyper@anchorstart{\@currentHref}\hyper@anchorend
11949   }%
11950 \endgroup
11951 }

```

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:

```

11952 \@ifundefined{chapter}{%
11953   \let\Hy@org@chapter\@chapter
11954   \def\@chapter{%
11955     \def\Hy@next{%
11956       \Hy@GlobalStepCount\Hy@linkcounter
11957       \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11958       \Hy@raisedlink{%
11959         \hyper@anchorstart{\@currentHref}\hyper@anchorend
11960       }%
11961     }%
11962     \ifnum\c@secnumdepth>\m@ne
11963       \@ifundefined{if@mainmatter}%
11964       \iftrue{\csname if@mainmatter\endcsname}%
11965       \let\Hy@next\relax
11966     \fi
11967   \fi
11968   \Hy@next
11969   \Hy@org@chapter
11970 }%
11971 }

11972 \let\H@old@part\@part
11973 \begingroup\expandafter\expandafter\expandafter\endgroup
11974 \expandafter\ifx\csname chapter\endcsname\relax
11975   \let\Hy@secnum@part\z@
11976 \else
11977   \let\Hy@secnum@part\m@ne
11978 \fi
11979 \def\@part{%
11980   \ifnum\Hy@secnum@part>\c@secnumdepth
11981     \phantomsection
11982   \fi
11983   \H@old@part
11984 }

11985 \let\H@old@spart\@spart
11986 \def\@spart#1{%
11987   \H@old@spart{#1}%
11988   \Hy@GlobalStepCount\Hy@linkcounter
11989   \xdef\@currentHref{part*.\the\Hy@linkcounter}%
11990   \Hy@raisedlink{%
11991     \hyper@anchorstart{\@currentHref}\hyper@anchorend
11992   }%
11993 }

11994 \let\H@old@sect\@sect
11995 \def\@sect#1#2#3#4#5#6[#7]#8{%
11996   \ifnum #2>\c@secnumdepth
11997     \Hy@GlobalStepCount\Hy@linkcounter
11998     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11999   \fi
12000   \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%

```

```

12001 \ifnum #2>\c@secnumdepth
12002   \Hy@raisedlink{%
12003     \hyper@anchorstart{\@currentHref}\hyper@anchorend
12004   }%
12005 \fi
12006 }

12007 </outlines | hypertex>
12008 <*outlines>

12009 \expandafter\def\csname Parent-4\endcsname{}
12010 \expandafter\def\csname Parent-3\endcsname{}
12011 \expandafter\def\csname Parent-2\endcsname{}
12012 \expandafter\def\csname Parent-1\endcsname{}
12013 \expandafter\def\csname Parent0\endcsname{}
12014 \expandafter\def\csname Parent1\endcsname{}
12015 \expandafter\def\csname Parent2\endcsname{}
12016 \expandafter\def\csname Parent3\endcsname{}
12017 \expandafter\def\csname Parent4\endcsname{}

12018 </outlines>

```

## 49 Compatibility with koma-script classes

```

12019 <*outlines | hypertex>

```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias.Isenberg@gmx.de. With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

12020 \def\Hy@tempa{%
12021   \def\@addchap[##1]##2{%
12022     \typeout{##2}%
12023     \if@twoside
12024       \mkboth{##1}{}%
12025     \else
12026       \mkboth{}{##1}%
12027     \fi
12028     \addtocontents{lof}{\protect\addvspace{10\p@}}%
12029     \addtocontents{lot}{\protect\addvspace{10\p@}}%
12030     \Hy@GlobalStepCount\Hy@linkcounter
12031     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12032     \Hy@raisedlink{%
12033       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12034     }%
12035     \if@twocolumn
12036       \@topnewpage[\@makeschapterhead{##2}]%
12037     \else
12038       \@makeschapterhead{##2}%
12039       \@afterheading
12040     \fi
12041     \addcontentsline{toc}{chapter}{##1}%
12042   }%
12043 }
12044 \@ifclassloaded{scrbook}{%
12045   \@ifclasslater{scrbook}{2001/01/01}{%
12046     \let\Hy@tempa\@empty
12047   }{}%
12048 }{%
12049   \@ifclassloaded{scrreprt}{%

```

```

12050 \@ifclasslater{scrreprt}{2001/01/01}{%
12051 \let\Hy@tempa\@empty
12052 }{}%
12053 }{%
12054 \let\Hy@tempa\@empty
12055 }%
12056 }%
12057 \Hy@tempa
12058 </outlines | hypertex>

```

## 50 Encoding definition files for encodings of PDF strings

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

### 50.1 PD1 encoding

```

12059 <*pd1enc>
12060 \DeclareFontEncoding{PD1}{}{}

Accents
12061 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
12062 \DeclareTextAccent{\'}{PD1}{\textacute}
12063 \DeclareTextAccent{\~}{PD1}{\textasciicircum}
12064 \DeclareTextAccent{\~}{PD1}{\texttilde}
12065 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
12066 \DeclareTextAccent{\r}{PD1}{\textring}
12067 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
12068 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
12069 \DeclareTextAccent{\c}{PD1}{\textcedilla}
12070 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
12071 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
12072 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
12073 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
12074 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
12075 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
12076 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
12077 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
12078 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
12079 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
12080 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
12081 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
12082 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
12083 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
12084 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
12085 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
12086 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
12087 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
12088 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
12089 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
12090 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
12091 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
12092 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
12093 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
12094 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
12095 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
12096 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
12097 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}

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12098 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}  
 12099 \DeclareTextCommand{\newtie}{PD1}[1]{\TextSymbolUnavailable{\newtie{#1}}#1}

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

12100 % U+0009 (CHARACTER TABULATION)  
 12101 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009  
 12102 % U+000A (LINE FEED)  
 12103 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A  
 12104 % U+000D (CARRIAGE RETURN)  
 12105 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

Accent glyph names

12106 % U+02D8 BREVE; breve  
 12107 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8  
 12108 % U+02C7 CARON; caron  
 12109 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7  
 12110 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex  
 12111 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6  
 12112 % U+02D9 DOT ABOVE; dotaccent  
 12113 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9  
 12114 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 12115 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD  
 12116 % U+02DB OGONEK; ogonek  
 12117 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB  
 12118 % U+02DA RING ABOVE; ring  
 12119 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA  
 12120 % U+02DC SMALL TILDE; ilde, \*tilde  
 12121 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

\040: U+0020 SPACE; \*space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

12122 % U+0022 QUOTATION MARK; quotedbl

12123 \DeclareTextCommand{\textquotedbl}{PD1}{\string"%} \042 U+0022

12124 % U+0023 NUMBER SIGN; numbersign

12125 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023

12126 % U+0024 DOLLAR SIGN; dollar

12127 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024

12128 % U+0025 PERCENT SIGN; percent

12129 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025

12130 % U+0026 AMPERSAND; ampersand

12131 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

\047: U+0027 APOSTROPHE; quotesingle

12132 % U+0028 LEFT PARENTHESIS; parenleft

12133 \DeclareTextCommand{\textparenleft}{PD1}{\string\(%} \050 U+0028

12134 % U+0029 RIGHT PARENTHESIS; parenright

12135 \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

12136 % U+002E FULL STOP; period

12137 \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  
 12138 % U+003C LESS-THAN SIGN; less  
 12139 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 12140 % U+003E GREATER-THAN SIGN; greater  
 12141 \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  
 12142 % U+005C REVERSE SOLIDUS; backslash  
 12143 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 12144 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 12145 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 12146 % U+005F LOW LINE; underscore  
 12147 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 12148 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 12149 % U+0060 GRAVE ACCENT; grave  
 12150 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 12151 % U+0069 LATIN SMALL LETTER I; i  
 12152 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 12153 % U+007B LEFT CURLY BRACKET; braceleft  
 12154 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 12155 % U+007C VERTICAL LINE; \*bar, verticalbar  
 12156 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 12157 % U+007D RIGHT CURLY BRACKET; braceright  
 12158 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 12159 % U+007E TILDE; asciitilde  
 12160 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 12161 % U+2022 BULLET; bullet  
 12162 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 12163 % U+2020 DAGGER; dagger  
 12164 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 12165 % U+2021 DOUBLE DAGGER; daggerdbl  
 12166 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 12167 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 12168 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 12169 % U+2014 EM DASH; emdash  
 12170 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 12171 % U+2013 EN DASH; endash  
 12172 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 12173 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 12174 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192



12175 % U+2044 FRACTION SLASH; fraction  
12176 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
12177 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft  
12178 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039  
12179 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright  
12180 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A  
12181 % U+2212 MINUS SIGN; minus  
12182 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
12183 % U+2030 PER MILLE SIGN; perthousand  
12184 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
12185 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
12186 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
12187 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
12188 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
12189 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
12190 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
12191 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
12192 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
12193 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
12194 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
12195 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
12196 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
12197 % U+2122 TRADE MARK SIGN; trademark  
12198 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
12199 % U+FB01 LATIN SMALL LIGATURE FI; fi  
12200 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
12201 % U+FB02 LATIN SMALL LIGATURE FL; fl  
12202 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
12203 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
12204 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
12205 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
12206 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
12207 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
12208 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
12209 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
12210 \DeclareTextCompositeCommand{\Y}{PD1}{Y}{\230}% U+0178  
12211 \DeclareTextCommand{\IJ}{PD1}{\230}  
12212 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
12213 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
12214 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
12215 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
12216 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
12217 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
12218 % U+0153 LATIN SMALL LIGATURE OE; oe  
12219 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
12220 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
12221 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
12222 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
12223 \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.  
12224 % U+20AC EURO SIGN; \*Euro, euro  
12225 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
12226 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
12227 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
12228 % U+00A2 CENT SIGN; cent  
12229 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2

12230 % U+00A3 POUND SIGN; sterling  
 12231 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
 12232 % U+00A4 CURRENCY SIGN; currency  
 12233 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
 12234 % U+00A5 YEN SIGN; yen  
 12235 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
 12236 % U+00A6 BROKEN BAR; brokenbar  
 12237 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
 12238 % U+00A7 SECTION SIGN; section  
 12239 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
 12240 % U+00A8 DIAERESIS; dieresis  
 12241 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
 12242 % U+00A9 COPYRIGHT SIGN; copyright  
 12243 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
 12244 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 12245 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
 12246 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 12247 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
 12248 % U+00AC NOT SIGN; logicalnot  
 12249 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
 12250 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not

No glyph \255 in PDFDocEncoding.

12251 % U+00AE REGISTERED SIGN; registered  
 12252 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
 12253 % U+00AF MACRON; \*macron, overscore  
 12254 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
 12255 % U+00B0 DEGREE SIGN; degree  
 12256 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
 12257 % U+00B1 PLUS-MINUS SIGN; plusminus  
 12258 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
 12259 % U+00B2 SUPERSCRIFT TWO; twosuperior  
 12260 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2  
 12261 % U+00B3 SUPERSCRIFT THREE; threesuperior  
 12262 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3  
 12263 % U+00B4 ACUTE ACCENT; acute  
 12264 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
 12265 % U+00B5 MICRO SIGN; mu, mu1  
 12266 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
 12267 % U+00B6 PILCROW SIGN; paragraph  
 12268 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
 12269 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 12270 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
 12271 % U+00B8 CEDILLA; cedilla  
 12272 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
 12273 % U+00B9 SUPERSCRIFT ONE; onesuperior  
 12274 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9  
 12275 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 12276 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
 12277 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
 12278 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
 12279 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 12280 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
 12281 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 12282 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
 12283 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
 12284 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
 12285 % U+00BF INVERTED QUESTION MARK; questiondown

12286 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
12287 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
12288 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
12289 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
12290 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
12291 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
12292 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
12293 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
12294 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
12295 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
12296 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
12297 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
12298 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
12299 % U+00C6 LATIN CAPITAL LETTER AE; AE  
12300 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
12301 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
12302 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
12303 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
12304 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
12305 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
12306 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
12307 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
12308 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
12309 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
12310 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
12311 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
12312 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
12313 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
12314 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
12315 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
12316 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
12317 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
12318 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
12319 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
12320 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
12321 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
12322 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
12323 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
12324 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
12325 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
12326 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
12327 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
12328 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
12329 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
12330 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
12331 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
12332 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
12333 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
12334 % U+00D7 MULTIPLICATION SIGN; multiply  
12335 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
12336 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
12337 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
12338 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
12339 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
12340 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
12341 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
12342 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex

12343 \DeclareTextCompositeCommand{\~}{PD1}{U}{\333}% U+00DB  
12344 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
12345 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
12346 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
12347 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
12348 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
12349 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
12350 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
12351 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
12352 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
12353 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
12354 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
12355 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
12356 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
12357 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
12358 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
12359 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
12360 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
12361 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
12362 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
12363 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
12364 % U+00E6 LATIN SMALL LETTER AE; ae  
12365 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
12366 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
12367 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
12368 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
12369 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
12370 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
12371 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
12372 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
12373 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
12374 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
12375 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
12376 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
12377 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
12378 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
12379 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
12380 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
12381 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
12382 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
12383 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
12384 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
12385 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
12386 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
12387 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
12388 % U+00F0 LATIN SMALL LETTER ETH; eth  
12389 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
12390 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
12391 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
12392 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
12393 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2  
12394 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
12395 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
12396 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
12397 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
12398 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
12399 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5

12400 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 12401 \DeclareTextCompositeCommand{"}{PD1}{o}{\366}% U+00F6  
 12402 % U+00F7 DIVISION SIGN; divide  
 12403 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
 12404 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 12405 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
 12406 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 12407 \DeclareTextCompositeCommand{'}{PD1}{u}{\371}% U+00F9  
 12408 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 12409 \DeclareTextCompositeCommand{'}{PD1}{u}{\372}% U+00FA  
 12410 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 12411 \DeclareTextCompositeCommand{'}{PD1}{u}{\373}% U+00FB  
 12412 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 12413 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC  
 12414 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 12415 \DeclareTextCompositeCommand{'}{PD1}{y}{\375}% U+00FD  
 12416 % U+00FE LATIN SMALL LETTER THORN; thorn  
 12417 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE  
 12418 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 12419 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF  
 12420 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

12421 \DeclareTextCommand{\SS}{PD1}{SS}  
 12422 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

12423 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}  
 12424 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}  
 12425 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}  
 12426 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}  
 12427 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}  
 12428 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}  
 12429 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}  
 12430 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

Aliases (math names)

12431 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}  
 12432 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}  
 12433 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}  
 12434 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}  
 12435 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}  
 12436 \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;

12437 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek  
 12438 \DeclareTextCompositeCommand{'}{PD1}{c}{c}% cacute  
 12439 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek  
 12440 \DeclareTextCompositeCommand{'}{PD1}{n}{n}% nacute  
 12441 \DeclareTextCompositeCommand{'}{PD1}{s}{s}% sacute  
 12442 \DeclareTextCompositeCommand{'}{PD1}{z}{z}% zacute  
 12443 \DeclareTextCompositeCommand{.}{PD1}{z}{z}% zdot  
 12444 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek  
 12445 \DeclareTextCompositeCommand{'}{PD1}{C}{C}% Cacute  
 12446 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek  
 12447 \DeclareTextCompositeCommand{'}{PD1}{N}{N}% Nacute  
 12448 \DeclareTextCompositeCommand{'}{PD1}{S}{S}% Sacute  
 12449 \DeclareTextCompositeCommand{'}{PD1}{Z}{Z}% Zacute  
 12450 \DeclareTextCompositeCommand{.}{PD1}{Z}{Z}% Zdot

12451  $\langle$ /pdlenc)

## 50.2 PU encoding

12452  $\langle$ \*puenc)

12453 \DeclareFontEncoding{PU}{-}{-}

### 50.2.1 NFSS2 accents

12454 % U+0300 COMBINING GRAVE ACCENT; gravecmb, \*gravecmb  
12455 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300  
12456 % U+0301 COMBINING ACUTE ACCENT; acutecmb, \*acutecmb  
12457 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301  
12458 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb  
12459 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302  
12460 % U+0303 COMBINING TILDE; tildecmb, \*tildecmb  
12461 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303  
12462 % U+0304 COMBINING MACRON; macroncmb  
12463 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304  
12464 % U+0306 COMBINING BREVE; brevecmb  
12465 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306  
12466 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306  
12467 % U+0307 COMBINING DOT ABOVE; dotaccentcmb  
12468 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307  
12469 % U+0308 COMBINING DIAERESIS; dieresiscmb  
12470 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308  
12471 % U+030A COMBINING RING ABOVE; ringcmb  
12472 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A  
12473 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb  
12474 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B  
12475 % U+030C COMBINING CARON; caroncmb  
12476 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C  
12477 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
12478 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F  
12479 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F  
12480 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
12481 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311  
12482 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcmb  
12483 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323  
12484 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
12485 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331  
12486 % U+0327 COMBINING CEDILLA; cedillacmb  
12487 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327  
12488 % U+0328 COMBINING OGONEK; ogonekcmb  
12489 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328  
12490 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
12491 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361  
12492 % U+20DD COMBINING ENCLOSING CIRCLE  
12493 \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.

12494 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}  
12495 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}  
12496 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}  
12497 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}  
12498 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}  
12499 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}  
12500 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}  
12501 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}

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12502 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12503 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
12504 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
12505 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
12506 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
12507 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
12508 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
12509 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
12510 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
12511 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
12512 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

12513 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
12514 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
12515 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
12516 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
12517 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
12518 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
12519 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
12520 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
12521 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
12522 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
12523 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
12524 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
12525 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
12526 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
12527 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
12528 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
12529 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
12530 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
12531 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

12532 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
12533 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
12534 \DeclareTextCommand{\capitalgrave}{PU}[1]{\c{#1}}
12535 \DeclareTextCommand{\capitalacute}{PU}[1]{\c{#1}}
12536 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\c{#1}}
12537 \DeclareTextCommand{\capitaltilde}{PU}[1]{\c{#1}}
12538 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\c{#1}}
12539 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
12540 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
12541 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
12542 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
12543 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
12544 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1}}
12545 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
12546 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

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

Special white space escape characters.

```

12547 % U+0009 (CHARACTER TABULATION)
12548 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
12549 % U+000A (LINE FEED)
12550 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
12551 % U+000D (CARRIAGE RETURN)
12552 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

```

\80\040: U+0020 SPACE; space, spacehackarabic  
 \80\041: U+0021 EXCLAMATION MARK; exclam  
 12553 % U+0022 QUOTATION MARK; quotedbl  
 12554 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022  
 12555 % U+0023 NUMBER SIGN; numbersign  
 12556 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023  
 12557 % U+0024 DOLLAR SIGN; dollar  
 12558 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024  
 12559 % U+0025 PERCENT SIGN; percent  
 12560 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025  
 12561 % U+0026 AMPERSAND; ampersand  
 12562 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026  
 12563 % U+0027 APOSTROPHE; quotesingle  
 12564 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027  
 12565 % U+0028 LEFT PARENTHESIS; parenleft  
 12566 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
 12567 % U+0029 RIGHT PARENTHESIS; parenright  
 12568 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
 12569 % U+002A ASTERISK; asterisk  
 12570 \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  
 12571 % U+003C LESS-THAN SIGN; less  
 12572 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
 \80\075: U+003D EQUALS SIGN; equal  
 12573 % U+003E GREATER-THAN SIGN; greater  
 12574 \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  
 12575 % U+005C REVERSE SOLIDUS; backslash  
 12576 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 12577 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 12578 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 12579 % U+005F LOW LINE; underscore  
 12580 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 12581 % U+0060 GRAVE ACCENT; grave  
 12582 \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



12583 % U+0069 LATIN SMALL LETTER I; i  
 12584 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069  
 12585 \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  
 12586 % U+007B LEFT CURLY BRACKET; braceleft  
 12587 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 12588 % U+007C VERTICAL LINE; \*bar, verticalbar  
 12589 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 12590 % U+007D RIGHT CURLY BRACKET; braceright  
 12591 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 12592 % U+007E TILDE; asciitilde  
 12593 \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  
 12594 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 12595 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 12596 % U+00A2 CENT SIGN; cent  
 12597 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 12598 % U+00A3 POUND SIGN; sterling  
 12599 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 12600 % U+00A4 CURRENCY SIGN; currency  
 12601 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 12602 % U+00A5 YEN SIGN; yen  
 12603 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 12604 % U+00A6 BROKEN BAR; brokenbar  
 12605 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 12606 % U+00A7 SECTION SIGN; section  
 12607 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 12608 % U+00A8 DIAERESIS; dieresis  
 12609 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
 12610 % U+00A9 COPYRIGHT SIGN; copyright  
 12611 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9  
 12612 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 12613 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
 12614 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 12615 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
 12616 % U+00AC NOT SIGN; logicalnot  
 12617 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
 12618 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softhyphen  
 12619 % U+00AE REGISTERED SIGN; registered  
 12620 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
 12621 % U+00AF MACRON; \*macron, overscore  
 12622 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
 12623 % U+00B0 DEGREE SIGN; degree  
 12624 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
 12625 % U+00B1 PLUS-MINUS SIGN; plusminus  
 12626 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
 12627 % U+00B2 SUPERScript TWO; twosuperior  
 12628 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2  
 12629 % U+00B3 SUPERScript THREE; threesuperior  
 12630 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3

12631 % U+00B4 ACUTE ACCENT; acute  
12632 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
12633 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
12634 % U+00B5 MICRO SIGN; mu, mu1  
12635 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
12636 % U+00B6 PILCROW SIGN; paragraph  
12637 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
12638 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
12639 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
12640 % U+00B8 CEDILLA; cedilla  
12641 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
12642 % U+00B9 SUPERSCRIPT ONE; onesuperior  
12643 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9  
12644 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
12645 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
12646 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
12647 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
12648 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
12649 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
12650 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
12651 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
12652 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
12653 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
12654 % U+00BF INVERTED QUESTION MARK; questiondown  
12655 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
12656 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
12657 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
12658 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
12659 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
12660 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
12661 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
12662 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
12663 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
12664 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
12665 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
12666 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
12667 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
12668 % U+00C6 LATIN CAPITAL LETTER AE; AE  
12669 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
12670 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
12671 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
12672 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
12673 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
12674 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
12675 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
12676 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
12677 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
12678 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
12679 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
12680 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
12681 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
12682 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
12683 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
12684 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
12685 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
12686 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
12687 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF

12688 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
12689 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
12690 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
12691 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
12692 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
12693 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
12694 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
12695 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
12696 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
12697 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
12698 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
12699 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
12700 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
12701 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
12702 % U+00D7 MULTIPLICATION SIGN; multiply  
12703 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
12704 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
12705 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
12706 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
12707 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
12708 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
12709 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
12710 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
12711 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
12712 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
12713 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
12714 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
12715 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
12716 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
12717 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
12718 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
12719 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
12720 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
12721 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
12722 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
12723 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
12724 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
12725 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
12726 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
12727 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
12728 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
12729 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
12730 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
12731 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
12732 % U+00E6 LATIN SMALL LETTER AE; ae  
12733 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
12734 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
12735 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
12736 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
12737 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
12738 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
12739 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
12740 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
12741 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
12742 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
12743 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
12744 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave

12745 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC  
 12746 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
 12747 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
 12748 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 12749 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 12750 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
 12751 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
 12752 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
 12753 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
 12754 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
 12755 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
 12756 % U+00F0 LATIN SMALL LETTER ETH; eth  
 12757 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
 12758 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
 12759 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
 12760 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 12761 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2  
 12762 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 12763 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 12764 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 12765 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4  
 12766 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 12767 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 12768 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 12769 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
 12770 % U+00F7 DIVISION SIGN; divide  
 12771 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 12772 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 12773 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 12774 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 12775 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9  
 12776 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 12777 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 12778 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 12779 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB  
 12780 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 12781 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
 12782 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 12783 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 12784 % U+00FE LATIN SMALL LETTER THORN; thorn  
 12785 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 12786 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 12787 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

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

12788 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 12789 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
 12790 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 12791 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
 12792 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 12793 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 12794 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 12795 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 12796 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 12797 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
 12798 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek

12799 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
12800 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
12801 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
12802 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
12803 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
12804 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
12805 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
12806 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
12807 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
12808 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
12809 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
12810 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
12811 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
12812 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
12813 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
12814 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
12815 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
12816 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
12817 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
12818 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
12819 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
12820 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
12821 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
12822 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron  
12823 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
12824 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
12825 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
12826 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
12827 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
12828 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
12829 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
12830 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
12831 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
12832 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
12833 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
12834 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
12835 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
12836 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
12837 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
12838 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
12839 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
12840 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
12841 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
12842 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
12843 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
12844 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
12845 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
12846 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
12847 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
12848 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
12849 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
12850 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
12851 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
12852 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
12853 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
12854 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
12855 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121

12856 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent  
 12857 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
 12858 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
 12859 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
 12860 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
 12861 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
 12862 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
 12863 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
 12864 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
 12865 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
 12866 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar  
 12867 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127  
 12868 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
 12869 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
 12870 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
 12871 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
 12872 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
 12873 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
 12874 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
 12875 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
 12876 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
 12877 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
 12878 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibrevé  
 12879 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
 12880 % U+012D LATIN SMALL LETTER I WITH BREVE; ibrevé  
 12881 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
 12882 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
 12883 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
 12884 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
 12885 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
 12886 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
 12887 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
 12888 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
 12889 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
 12890 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
 12891 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
 12892 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
 12893 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
 12894 % U+0133 LATIN SMALL LIGATURE IJ; ij  
 12895 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
 12896 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
 12897 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
 12898 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
 12899 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
 12900 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
 12901 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
 12902 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
 12903 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
 12904 \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`.

12905 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
 12906 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
 12907 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
 12908 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
 12909 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute

12910 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
12911 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
12912 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
12913 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
12914 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
12915 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
12916 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
12917 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
12918 \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.

12919 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
12920 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
12921 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
12922 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
12923 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
12924 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
12925 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
12926 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
12927 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
12928 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
12929 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
12930 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
12931 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent  
12932 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
12933 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
12934 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
12935 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
12936 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
12937 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
12938 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
12939 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn  
12940 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
12941 % U+014A LATIN CAPITAL LETTER ENG; Eng  
12942 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
12943 % U+014B LATIN SMALL LETTER ENG; eng  
12944 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
12945 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
12946 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
12947 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
12948 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
12949 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
12950 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
12951 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
12952 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
12953 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut  
12954 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
12955 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut  
12956 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
12957 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
12958 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
12959 % U+0153 LATIN SMALL LIGATURE OE; oe  
12960 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
12961 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
12962 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
12963 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
12964 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155

12965 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent  
 12966 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
 12967 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
 12968 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
 12969 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
 12970 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
 12971 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
 12972 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
 12973 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
 12974 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
 12975 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
 12976 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
 12977 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
 12978 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
 12979 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
 12980 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
 12981 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
 12982 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
 12983 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
 12984 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
 12985 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
 12986 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
 12987 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 12988 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
 12989 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent  
 12990 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
 12991 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
 12992 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
 12993 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
 12994 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
 12995 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
 12996 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
 12997 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
 12998 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
 12999 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
 13000 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
 13001 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
 13002 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
 13003 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
 13004 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 13005 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
 13006 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
 13007 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
 13008 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
 13009 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
 13010 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
 13011 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
 13012 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
 13013 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
 13014 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
 13015 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
 13016 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
 13017 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
 13018 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
 13019 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
 13020 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
 13021 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek



13022 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
 13023 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
 13024 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
 13025 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
 13026 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
 13027 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
 13028 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
 13029 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
 13030 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
 13031 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 13032 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
 13033 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 13034 \DeclareTextCompositeCommand{"}{PU}{Y}{\81\170}% U+0178  
 13035 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 13036 \DeclareTextCompositeCommand{'}{PU}{Z}{\81\171}% U+0179  
 13037 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 13038 \DeclareTextCompositeCommand{'}{PU}{z}{\81\172}% U+017A  
 13039 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 13040 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
 13041 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 13042 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 13043 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 13044 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 13045 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 13046 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 13047 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 13048 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

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

13049 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 13050 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
 13051 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 13052 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 13053 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
 13054 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 13055 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 13056 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 13057 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 13058 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 13059 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 13060 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 13061 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 13062 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 13063 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 13064 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 13065 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
 13066 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
 13067 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
 13068 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
 13069 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
 13070 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
 13071 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
 13072 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
 13073 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
 13074 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
 13075 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
 13076 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron

13077 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
13078 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
13079 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
13080 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
13081 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
13082 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
13083 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
13084 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
13085 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
13086 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
13087 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
13088 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
13089 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
13090 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
13091 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
13092 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8  
13093 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
13094 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9  
13095 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
13096 \DeclareTextCompositeCommand{\'}{PU}{AE}{\81\374}% U+01FC  
13097 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
13098 \DeclareTextCompositeCommand{\'}{PU}{ae}{\81\375}% U+01FD  
13099 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; \*Oslashacute, Ostrokeacut  
13100 \DeclareTextCompositeCommand{\'}{PU}{O}{\81\376}% U+01FE  
13101 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; \*oslashacute, ostrokeacute  
13102 \DeclareTextCompositeCommand{\'}{PU}{o}{\81\377}% U+01FF  
13103 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
13104 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
13105 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
13106 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
13107 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
13108 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
13109 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
13110 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
13111 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
13112 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
13113 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
13114 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
13115 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
13116 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
13117 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
13118 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
13119 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
13120 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
13121 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
13122 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
13123 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
13124 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
13125 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
13126 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
13127 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
13128 % U+021E LATIN CAPITAL LETTER H WITH CARON  
13129 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
13130 % U+021F LATIN SMALL LETTER H WITH CARON  
13131 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
13132 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
13133 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226

13134 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
13135 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
13136 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
13137 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
13138 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
13139 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
13140 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
13141 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
13142 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
13143 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
13144 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
13145 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
13146 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
13147 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
13148 % U+0237 LATIN SMALL LETTER DOTLESS J  
13149 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

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

13150 % U+02C7 CARON; caron  
13151 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
13152 % U+02D8 BREVE; breve  
13153 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
13154 % U+02D9 DOT ABOVE; dotaccent  
13155 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
13156 % U+02DA RING ABOVE; ring  
13157 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
13158 % U+02DB OGONEK; ogonek  
13159 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
13160 % U+02DC SMALL TILDE; ilde, \*tilde  
13161 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
13162 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
13163 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
13164 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
13165 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
13166 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
13167 % U+02F7 MODIFIER LETTER LOW TILDE  
13168 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

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

13169 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
13170 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
13171 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
13172 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
13173 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcmb  
13174 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
13175 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
13176 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
13177 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
13178 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

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

13179 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
13180 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
13181 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
13182 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
13183 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos  
13184 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386

13185 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
13186 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
13187 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
13188 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
13189 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
13190 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
13191 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrantonos  
13192 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
13193 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos  
13194 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
13195 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
13196 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
13197 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadieresis  
13198 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390  
13199 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
13200 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
13201 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
13202 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
13203 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma  
13204 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393  
13205 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta  
13206 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394  
13207 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
13208 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
13209 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
13210 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
13211 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
13212 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
13213 % U+0398 GREEK CAPITAL LETTER THETA; Theta  
13214 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398  
13215 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
13216 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
13217 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
13218 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
13219 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda  
13220 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B  
13221 % U+039C GREEK CAPITAL LETTER MU; Mu  
13222 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
13223 % U+039D GREEK CAPITAL LETTER NU; Nu  
13224 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
13225 % U+039E GREEK CAPITAL LETTER XI; Xi  
13226 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E  
13227 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
13228 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
13229 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
13230 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0  
13231 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
13232 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
13233 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma  
13234 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3  
13235 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
13236 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
13237 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon  
13238 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5  
13239 % U+03A6 GREEK CAPITAL LETTER PHI; Phi  
13240 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6  
13241 % U+03A7 GREEK CAPITAL LETTER CHI; Chi

13242 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
13243 % U+03A8 GREEK CAPITAL LETTER PSI; Psi  
13244 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8  
13245 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega  
13246 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9  
13247 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
13248 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
13249 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA  
13250 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilondieresis  
13251 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB  
13252 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos  
13253 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC  
13254 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilononos  
13255 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD  
13256 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos  
13257 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE  
13258 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotonos  
13259 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF  
13260 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilondieresis  
13261 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0  
13262 % U+03B1 GREEK SMALL LETTER ALPHA; alpha  
13263 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1  
13264 % U+03B2 GREEK SMALL LETTER BETA; beta  
13265 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2  
13266 % U+03B3 GREEK SMALL LETTER GAMMA; gamma  
13267 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3  
13268 % U+03B4 GREEK SMALL LETTER DELTA; delta  
13269 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4  
13270 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon  
13271 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5  
13272 % U+03B6 GREEK SMALL LETTER ZETA; zeta  
13273 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6  
13274 % U+03B7 GREEK SMALL LETTER ETA; eta  
13275 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7  
13276 % U+03B8 GREEK SMALL LETTER THETA; theta  
13277 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8  
13278 % U+03B9 GREEK SMALL LETTER IOTA; iota  
13279 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9  
13280 % U+03BA GREEK SMALL LETTER KAPPA; kappa  
13281 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA  
13282 % U+03BB GREEK SMALL LETTER LAMDA; lambda  
13283 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB  
13284 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu  
13285 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC  
13286 % U+03BD GREEK SMALL LETTER NU; nu  
13287 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD  
13288 % U+03BE GREEK SMALL LETTER XI; xi  
13289 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE  
13290 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
13291 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
13292 % U+03C0 GREEK SMALL LETTER PI; pi  
13293 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0  
13294 % U+03C1 GREEK SMALL LETTER RHO; rho  
13295 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1  
13296 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
13297 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2  
13298 % U+03C3 GREEK SMALL LETTER SIGMA; sigma

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13299 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
13300 % U+03C4 GREEK SMALL LETTER TAU; tau
13301 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
13302 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
13303 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
13304 % U+03C6 GREEK SMALL LETTER PHI; phi
13305 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
13306 % U+03C7 GREEK SMALL LETTER CHI; chi
13307 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
13308 % U+03C8 GREEK SMALL LETTER PSI; psi
13309 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
13310 % U+03C9 GREEK SMALL LETTER OMEGA; omega
13311 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
13312 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
13313 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
13314 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; upsilondieresis
13315 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
13316 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
13317 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
13318 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
13319 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
13320 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
13321 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
13322 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
13323 % U+03DA GREEK LETTER STIGMA; Stigmagreek
13324 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
13325 % U+03DB GREEK SMALL LETTER STIGMA
13326 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
13327 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
13328 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
13329 % U+03DD GREEK SMALL LETTER DIGAMMA
13330 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
13331 % U+03DE GREEK LETTER KOPPA; Koppagreek
13332 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
13333 % U+03DF GREEK SMALL LETTER KOPPA
13334 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
13335 % U+03E0 GREEK LETTER SAMPI; Sampigreek
13336 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
13337 % U+03E1 GREEK SMALL LETTER SAMPI
13338 \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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13339 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
13340 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400
13341 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrillic, *afii10023
13342 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
13343 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???
13344 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
13345 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
13346 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
13347 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% U+0403
13348 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrillic, *afii10053
13349 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
13350 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
13351 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405

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13352 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, \*afii10055  
13353 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
13354 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, \*afii10056  
13355 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
13356 \DeclareTextCompositeCommand{\}{PU}{\CYRII}{\84\007}% U+0407  
13357 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
13358 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
13359 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
13360 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
13361 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
13362 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
13363 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
13364 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
13365 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
13366 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
13367 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
13368 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D  
13369 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
13370 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
13371 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
13372 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
13373 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
13374 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
13375 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
13376 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
13377 \DeclareTextCommand{\CYRE}{PU}{\84\021}% U+0411  
13378 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
13379 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
13380 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
13381 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
13382 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
13383 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
13384 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
13385 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
13386 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
13387 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
13388 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
13389 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
13390 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
13391 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
13392 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
13393 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
13394 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
13395 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
13396 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
13397 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
13398 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
13399 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
13400 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
13401 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
13402 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
13403 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
13404 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
13405 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
13406 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
13407 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
13408 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420

13409 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
13410 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
13411 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
13412 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
13413 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
13414 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
13415 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
13416 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
13417 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
13418 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
13419 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
13420 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
13421 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
13422 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
13423 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
13424 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
13425 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
13426 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
13427 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, \*afii10044  
13428 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
13429 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
13430 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
13431 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, \*afii10046  
13432 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
13433 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
13434 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
13435 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
13436 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
13437 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
13438 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
13439 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
13440 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
13441 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
13442 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
13443 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
13444 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
13445 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
13446 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
13447 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
13448 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
13449 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
13450 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
13451 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
13452 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436  
13453 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
13454 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
13455 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, icyrillic  
13456 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
13457 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
13458 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
13459 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
13460 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
13461 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
13462 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
13463 \DeclareTextCommand{\cyr1}{PU}{\84\073}% U+043B  
13464 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
13465 \DeclareTextCommand{\cyr1m}{PU}{\84\074}% U+043C



13466 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
13467 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
13468 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
13469 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
13470 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
13471 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
13472 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
13473 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
13474 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
13475 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441  
13476 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
13477 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
13478 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
13479 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
13480 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
13481 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
13482 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
13483 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
13484 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
13485 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446  
13486 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
13487 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
13488 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
13489 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
13490 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
13491 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
13492 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
13493 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A  
13494 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
13495 \DeclareTextCommand{\cyry}{PU}{\84\113}% U+044B  
13496 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
13497 \DeclareTextCommand{\cyrsftsn}{PU}{\84\114}% U+044C  
13498 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
13499 \DeclareTextCommand{\cyrrerev}{PU}{\84\115}% U+044D  
13500 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
13501 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E  
13502 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
13503 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F  
13504 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
13505 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
13506 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
13507 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451  
13508 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
13509 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
13510 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
13511 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
13512 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
13513 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
13514 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
13515 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
13516 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
13517 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; \*afii10103, icyrillic  
13518 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
13519 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
13520 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
13521 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
13522 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic

13523 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
13524 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
13525 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459  
13526 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
13527 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
13528 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
13529 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
13530 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
13531 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
13532 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
13533 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
13534 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
13535 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
13536 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
13537 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
13538 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
13539 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
13540 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
13541 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
13542 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
13543 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
13544 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
13545 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
13546 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
13547 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
13548 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
13549 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
13550 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
13551 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
13552 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
13553 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
13554 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
13555 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleiotifiedcyrillic  
13556 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
13557 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleiotifiedcyrillic  
13558 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
13559 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
13560 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
13561 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
13562 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
13563 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotifiedcyrillic  
13564 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
13565 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyrillic  
13566 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
13567 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
13568 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
13569 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
13570 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
13571 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
13572 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
13573 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
13574 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
13575 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
13576 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
13577 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
13578 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
13579 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148

13580 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
13581 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
13582 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
13583 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; Izhitsadblgravecyrillic  
13584 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
13585 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; izhitsadblgravecyrillic  
13586 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
13587 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
13588 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
13589 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
13590 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
13591 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
13592 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
13593 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
13594 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
13595 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
13596 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
13597 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
13598 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
13599 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
13600 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
13601 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
13602 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
13603 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
13604 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
13605 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
13606 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
13607 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
13608 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
  
\84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb  
\84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrillicmb  
\84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrillicmb  
\84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrillicmb  
\84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
\84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
\84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
  
13609 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
13610 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
13611 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
13612 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
13613 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
13614 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
13615 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
13616 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
13617 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
13618 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
13619 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
13620 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
13621 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, \*afii10050  
13622 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
13623 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, gheupturncyrillic  
13624 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
13625 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic

13626 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
13627 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
13628 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
13629 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic  
13630 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
13631 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic  
13632 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
13633 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic  
13634 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
13635 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic  
13636 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
13637 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic  
13638 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
13639 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
13640 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic  
13641 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
13642 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
13643 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic  
13644 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
13645 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic  
13646 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
13647 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaverticalstrokecyrillic  
13648 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
13649 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaverticalstrokecyrillic  
13650 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
13651 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
13652 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
13653 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
13654 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
13655 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
13656 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
13657 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
13658 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
13659 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic  
13660 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
13661 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic  
13662 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
13663 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
13664 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
13665 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
13666 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
13667 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
13668 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
13669 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
13670 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
13671 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
13672 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
13673 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
13674 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
13675 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
13676 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
13677 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
13678 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
13679 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
13680 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB  
13681 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
13682 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC

13683 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
13684 \DeclareTextCommand{\cyrtddsc}{PU}{\84\255}% U+04AD  
13685 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
13686 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
13687 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
13688 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF  
13689 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
13690 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
13691 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic  
13692 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1  
13693 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesendercyrillic  
13694 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
13695 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
13696 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
13697 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
13698 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
13699 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
13700 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
13701 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic  
13702 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
13703 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
13704 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
13705 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Cheverticalstrokecyrillic  
13706 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
13707 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; cheverticalstrokecyrillic  
13708 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
13709 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
13710 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
13711 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
13712 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
13713 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic  
13714 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
13715 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic  
13716 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
13717 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic  
13718 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
13719 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
13720 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic  
13721 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
13722 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
13723 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
13724 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
13725 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
13726 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
13727 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
13728 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
13729 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
13730 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
13731 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
13732 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
13733 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
13734 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
13735 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
13736 \DeclareTextCommand{\cyrlddsc}{PU}{\84\306}% U+04C6  
13737 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
13738 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
13739 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic

13740 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
 13741 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic  
 13742 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
 13743 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic  
 13744 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
 13745 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
 13746 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
 13747 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
 13748 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
 13749 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
 13750 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
 13751 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
 13752 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
 13753 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic  
 13754 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2  
 13755 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
 13756 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3  
 13757 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
 13758 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
 13759 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
 13760 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
 13761 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevcyrillic  
 13762 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
 13763 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevcyrillic  
 13764 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
 13765 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
 13766 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
 13767 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afiii0846, schwacyrillic  
 13768 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
 13769 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiescyrillic  
 13770 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
 13771 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiescyrillic  
 13772 \DeclareTextCompositeCommand{\U}{PU}{\cyrschwa}{\84\333}% U+04DB  
 13773 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresiscyrillic  
 13774 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC  
 13775 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic  
 13776 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\335}% U+04DD  
 13777 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic  
 13778 \DeclareTextCompositeCommand{\U}{PU}{\CYRZ}{\84\336}% U+04DE  
 13779 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic  
 13780 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\337}% U+04DF  
 13781 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic  
 13782 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
 13783 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic  
 13784 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
 13785 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
 13786 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\342}% U+04E2  
 13787 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
 13788 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\343}% U+04E3  
 13789 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
 13790 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\344}% U+04E4  
 13791 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
 13792 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\345}% U+04E5  
 13793 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
 13794 \DeclareTextCompositeCommand{\U}{PU}{\CYRO}{\84\346}% U+04E6  
 13795 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic

13796 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
 13797 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
 13798 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
 13799 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
 13800 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
 13801 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic  
 13802 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
 13803 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic  
 13804 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
 13805 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
 13806 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
 13807 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
 13808 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
 13809 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
 13810 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE  
 13811 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
 13812 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% U+04EF  
 13813 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
 13814 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
 13815 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
 13816 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
 13817 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic  
 13818 \DeclareTextCompositeCommand{H}{PU}{\CYRU}{\84\362}% U+04F2  
 13819 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic  
 13820 \DeclareTextCompositeCommand{H}{PU}{\cyru}{\84\363}% U+04F3  
 13821 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic  
 13822 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
 13823 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
 13824 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 13825 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 13826 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 13827 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 13828 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
 13829 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic  
 13830 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
 13831 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic  
 13832 \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  
 13833 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 13834 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 13835 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 13836 \DeclareTextCommand{\cyrhkh}{PU}{\84\375}% U+04FD  
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE  
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

#### 50.2.10 Thai: U+0E00 to U+0E7F

13837 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 13838 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

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

13839 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 13840 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02  
 13841 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 13842 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03

13843 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
13844 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
13845 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
13846 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
13847 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
13848 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
13849 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
13850 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
13851 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
13852 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
13853 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
13854 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
13855 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
13856 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
13857 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
13858 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
13859 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
13860 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
13861 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
13862 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
13863 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
13864 \DeclareTextCompositeCommand{=} {PU}{G}{\9036\040}% U+1E20  
13865 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
13866 \DeclareTextCompositeCommand{=} {PU}{g}{\9036\041}% U+1E21  
13867 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
13868 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
13869 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
13870 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
13871 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
13872 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26  
13873 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
13874 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27  
13875 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
13876 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
13877 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
13878 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
13879 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
13880 \DeclareTextCompositeCommand{\'} {PU}{K}{\9036\060}% U+1E30  
13881 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
13882 \DeclareTextCompositeCommand{\'} {PU}{k}{\9036\061}% U+1E31  
13883 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
13884 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
13885 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
13886 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
13887 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
13888 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
13889 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
13890 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
13891 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
13892 \DeclareTextCompositeCommand{\'} {PU}{M}{\9036\076}% U+1E3E  
13893 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
13894 \DeclareTextCompositeCommand{\'} {PU}{m}{\9036\077}% U+1E3F  
13895 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
13896 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
13897 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
13898 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
13899 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent



13900 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
13901 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
13902 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
13903 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
13904 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
13905 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
13906 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
13907 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
13908 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
13909 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
13910 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
13911 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
13912 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
13913 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
13914 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
13915 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
13916 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
13917 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
13918 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
13919 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
13920 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
13921 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
13922 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
13923 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
13924 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
13925 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
13926 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
13927 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
13928 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
13929 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
13930 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
13931 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
13932 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
13933 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
13934 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
13935 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
13936 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
13937 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
13938 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
13939 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
13940 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
13941 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
13942 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
13943 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
13944 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
13945 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
13946 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
13947 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
13948 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
13949 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
13950 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
13951 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
13952 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
13953 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
13954 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
13955 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
13956 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C

13957 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
 13958 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D  
 13959 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
 13960 \DeclareTextCompositeCommand{.}{PU}{Y}{\9036\216}% U+1E8E  
 13961 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
 13962 \DeclareTextCompositeCommand{.}{PU}{y}{\9036\217}% U+1E8F  
 13963 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
 13964 \DeclareTextCompositeCommand{^}{PU}{Z}{\9036\220}% U+1E90  
 13965 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
 13966 \DeclareTextCompositeCommand{^}{PU}{z}{\9036\221}% U+1E91  
 13967 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
 13968 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
 13969 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
 13970 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
 13971 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
 13972 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
 13973 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
 13974 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97  
 13975 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
 13976 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
 13977 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
 13978 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
 13979 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent  
 13980 \DeclareTextCompositeCommand{.}{PU}{\textlongs}{\9036\233}% U+1E9B  
 13981 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
 13982 \DeclareTextCompositeCommand{~}{PU}{E}{\9036\274}% U+1EBC  
 13983 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
 13984 \DeclareTextCompositeCommand{~}{PU}{e}{\9036\275}% U+1EBD  
 13985 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
 13986 \DeclareTextCompositeCommand{`}{PU}{Y}{\9036\362}% U+1EF2  
 13987 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 13988 \DeclareTextCompositeCommand{`}{PU}{y}{\9036\363}% U+1EF3  
 13989 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 13990 \DeclareTextCompositeCommand{~}{PU}{Y}{\9036\370}% U+1EF8  
 13991 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 13992 \DeclareTextCompositeCommand{~}{PU}{y}{\9036\371}% U+1EF9

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

13993 % U+200C ZERO WIDTH NON-JOINER; \*afii61664, zerowidthnonjoiner  
 13994 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 13995 % U+2013 EN DASH; endash  
 13996 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 13997 % U+2014 EM DASH; emdash  
 13998 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 13999 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 14000 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 14001 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 14002 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 14003 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 14004 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 14005 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 14006 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 14007 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 14008 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 14009 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 14010 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 14011 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase

14012 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 14013 % U+2020 DAGGER; dagger  
 14014 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020  
 14015 % U+2021 DOUBLE DAGGER; daggerdbl  
 14016 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 14017 % U+2022 BULLET; bullet  
 14018 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022  
 14019 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 14020 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 14021 % U+2030 PER MILLE SIGN; perthousand  
 14022 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 14023 % U+2031 PER TEN THOUSAND SIGN  
 14024 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 14025 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft  
 14026 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
 14027 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright  
 14028 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
 14029 % U+203B REFERENCE MARK; referencemark  
 14030 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 14031 % U+203D INTERROBANG  
 14032 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 14033 % U+2044 FRACTION SLASH; fraction  
 14034 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 14035 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 14036 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 14037 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 14038 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 14039 % U+2052 COMMERCIAL MINUS SIGN  
 14040 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

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

14041 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 14042 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070  
 14043 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 14044 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074  
 14045 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 14046 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075  
 14047 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 14048 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076  
 14049 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 14050 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077  
 14051 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 14052 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078  
 14053 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 14054 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079  
 14055 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 14056 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A  
 14057 % U+207B SUPERSCRIPT MINUS  
 14058 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}  
 14059 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 14060 \DeclareTextCommand{\textequalssuperior}{PU}{\9040\174}  
 14061 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 14062 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}  
 14063 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 14064 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}  
 14065 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 14066 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}

14067 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 14068 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080  
 14069 % U+2081 SUBSCRIPT ONE; oneinferior  
 14070 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081  
 14071 % U+2082 SUBSCRIPT TWO; twoinferior  
 14072 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082  
 14073 % U+2083 SUBSCRIPT THREE; threeinferior  
 14074 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083  
 14075 % U+2084 SUBSCRIPT FOUR; fourinferior  
 14076 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084  
 14077 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 14078 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085  
 14079 % U+2086 SUBSCRIPT SIX; sixinferior  
 14080 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086  
 14081 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 14082 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087  
 14083 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 14084 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088  
 14085 % U+2089 SUBSCRIPT NINE; nineinferior  
 14086 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089  
 14087 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 14088 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D  
 14089 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 14090 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

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

14091 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 14092 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 14093 % U+20A4 LIRA SIGN; afii08941, \*lira  
 14094 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 14095 % U+20A6 NAIRA SIGN  
 14096 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 14097 % U+20A7 PESETA SIGN; peseta  
 14098 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 14099 % U+20A9 WON SIGN; won  
 14100 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 14101 % U+20AB DONG SIGN; dong  
 14102 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 14103 % U+20AC EURO SIGN; \*Euro, euro  
 14104 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 14105 % U+20B1 PESO SIGN  
 14106 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 14107 % U+20B2 GUARANI SIGN  
 14108 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

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

14109 % U+2103 DEGREE CELSIUS; centigrade  
 14110 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 14111 % U+2116 NUMERO SIGN; \*afii61352, numero  
 14112 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 14113 % U+2117 SOUND RECORDING COPYRIGHT  
 14114 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 14115 % U+211E PRESCRIPTION TAKE; prescription  
 14116 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 14117 % U+2120 SERVICE MARK  
 14118 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 14119 % U+2122 TRADE MARK SIGN; trademark

14120 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 14121 % U+2126 OHM SIGN; Ohm, Omega  
 14122 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 14123 % U+2127 INVERTED OHM SIGN  
 14124 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127  
 14125 % U+212B ANGSTROM SIGN; angstrom  
 14126 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 14127 % U+212E ESTIMATED SYMBOL; estimated  
 14128 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 14129 % U+2135 ALEF SYMBOL; aleph  
 14130 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

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

14131 % U+2190 LEFTWARDS ARROW; arrowleft  
 14132 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190  
 14133 % U+2191 UPWARDS ARROW; arrowup  
 14134 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191  
 14135 % U+2192 RIGHTWARDS ARROW; arrowright  
 14136 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192  
 14137 % U+2193 DOWNWARDS ARROW; arrowdown  
 14138 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

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

14139 % U+2212 MINUS SIGN; minus  
 14140 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
 14141 % U+221A SQUARE ROOT; radical  
 14142 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

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

14143 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft  
 14144 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329  
 14145 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright  
 14146 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

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

14147 % U+2422 BLANK SYMBOL  
 14148 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
 14149 % U+2423 OPEN BOX; blank  
 14150 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

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

14151 % U+2460 CIRCLED DIGIT ONE; onecircle  
 14152 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
 14153 % U+2461 CIRCLED DIGIT TWO; twocircle  
 14154 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
 14155 % U+2462 CIRCLED DIGIT THREE; threecircle  
 14156 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
 14157 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
 14158 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
 14159 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
 14160 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
 14161 % U+2465 CIRCLED DIGIT SIX; sixcircle  
 14162 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
 14163 % U+2466 CIRCLED DIGIT SEVEN; sevendigit  
 14164 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
 14165 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
 14166 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467

14167 % U+2468 CIRCLED DIGIT NINE; ninecircle  
14168 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
14169 % U+2469 CIRCLED NUMBER TEN; tencircle  
14170 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
14171 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
14172 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
14173 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
14174 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
14175 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
14176 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
14177 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
14178 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
14179 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
14180 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
14181 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
14182 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
14183 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
14184 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
14185 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
14186 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
14187 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
14188 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
14189 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
14190 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
14191 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
14192 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
14193 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
14194 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
14195 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
14196 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
14197 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
14198 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
14199 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
14200 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
14201 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
14202 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
14203 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
14204 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
14205 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
14206 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
14207 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
14208 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
14209 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
14210 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
14211 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
14212 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
14213 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
14214 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
14215 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
14216 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
14217 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
14218 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
14219 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
14220 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
14221 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
14222 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
14223 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle

14224 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
14225 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
14226 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
14227 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
14228 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
14229 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
14230 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
14231 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
14232 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
14233 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
14234 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
14235 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
14236 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
14237 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
14238 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
14239 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
14240 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
14241 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
14242 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
14243 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
14244 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
14245 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
14246 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
14247 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
14248 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
14249 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
14250 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
14251 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
14252 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
14253 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
14254 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
14255 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
14256 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
14257 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
14258 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
14259 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
14260 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
14261 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
14262 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
14263 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
14264 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
14265 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
14266 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
14267 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
14268 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
14269 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
14270 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
14271 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
14272 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
14273 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
14274 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
14275 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
14276 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
14277 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
14278 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
14279 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
14280 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2

14281 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 14282 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 14283 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 14284 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 14285 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 14286 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 14287 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 14288 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 14289 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 14290 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 14291 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 14292 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 14293 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 14294 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 14295 % U+24EA CIRCLED DIGIT ZERO  
 14296 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

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

14297 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
 14298 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6  
 14299 % U+25EF LARGE CIRCLE; largecircle  
 14300 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

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

14301 % U+266A EIGHTH NOTE; musicalnote  
 14302 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
 14303 % U+26AD MARRIAGE SYMBOL  
 14304 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 14305 % U+26AE DIVORCE SYMBOL  
 14306 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

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

14307 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 14308 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6  
 14309 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 14310 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

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

14311 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 14312 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 14313 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 14314 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 50.2.25 Miscellaneous

14315 \DeclareTextCommand{\SS}{PU}{SS}

### 50.2.26 Aliases

Aliases (german.sty)

14316 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}  
 14317 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}  
 14318 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}  
 14319 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}  
 14320 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}  
 14321 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}  
 14322 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}  
 14323 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}



Aliases (math names)

```
14324 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
14325 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
14326 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
14327 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
14328 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
14329 </puenc>
```

### 50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```
14330 <*puvnenc>

14331 \DeclareTextCommand{\abreve}{PU}{\81\003}
14332 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
14333 \DeclareTextCommand{\dj}{PU}{\81\021}
14334 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
14335 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
14336 \DeclareTextCommand{\ohorn}{PU}{\81\241}
14337 \DeclareTextCommand{\uhorn}{PU}{\81\260}
14338 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
14339 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
14340 \DeclareTextCommand{\DJ}{PU}{\81\020}
14341 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
14342 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
14343 \DeclareTextCommand{\OHORN}{PU}{\81\240}
14344 \DeclareTextCommand{\UHORN}{PU}{\81\257}

14345 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
14346 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
14347 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
14348 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
14349 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
14350 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
14351 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
14352 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
14353 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
14354 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
14355 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
14356 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
14357 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
14358 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
14359 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
14360 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
14361 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
14362 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
14363 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
14364 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
14365 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
14366 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
14367 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
14368 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
14369 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
14370 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
14371 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
14372 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
14373 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
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14374 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}  
14375 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}  
14376 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}  
14377 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}  
14378 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}  
14379 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}  
14380 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}  
14381 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}  
14382 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}  
14383 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}  
14384 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}  
14385 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}  
14386 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}  
14387 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}  
14388 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}  
14389 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}  
14390 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}  
14391 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}  
14392 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}  
14393 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}  
14394 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}  
14395 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}  
14396 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}  
14397 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}  
14398 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}  
14399 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}  
14400 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}  
14401 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}  
14402 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}  
14403 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}  
14404 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}  
14405 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}  
14406 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}  
14407 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}  
14408 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}  
14409 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}  
14410 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}  
14411 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}  
14412 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}  
14413 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}  
14414 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}  
14415 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}  
14416 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}  
14417 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}  
14418 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}  
14419 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}  
14420 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}  
14421 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}  
14422 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}  
14423 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}  
14424 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}  
14425 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}  
14426 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}  
14427 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}  
14428 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}  
14429 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}  
14430 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}

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14431 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
14432 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
14433 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
14434 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
14435 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
14436 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
14437 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
14438 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
14439 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
14440 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
14441 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
14442 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
14443 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
14444 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
14445 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
14446 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
14447 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
14448 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
14449 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
14450 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
14451 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
14452 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
14453 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
14454 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
14455 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
14456 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
14457 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
14458 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}
14459 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
14460 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
14461 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
14462 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
14463 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
14464 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
14465 </puvnenc>

```

## 50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```
14466 <*puarenc>
```

```

14467 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
14468 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA A
14469 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA A
14470 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA AE
14471 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HA
14472 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
14473 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
14474 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
14475 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
14476 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
14477 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
14478 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
14479 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
14480 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
14481 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
14482 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL

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14483 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
14484 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
14485 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
14486 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
14487 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
14488 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
14489 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
14490 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
14491 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
14492 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN
14493 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
14494 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
14495 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
14496 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
14497 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
14498 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
14499 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
14500 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
14501 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
14502 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA
14503 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH

14504 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
14505 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
14506 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
14507 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
14508 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
14509 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
14510 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA
14511 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

Farsi

14512 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
14513 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
14514 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
14515 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii????;FARSI LETTER KAF
14516 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
14517 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii????;FARSI LETTER YEH

14518 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
14519 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

14520 \puarenc)

```

## 51 End of file hycheck.tex

```

14521 \*check)
14522 \typeout{}
14523 \begin{document}
14524 \end{document}
14525 \check)

```

## 52 Index

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	12077, 12089, 12210, 12296,	13253, 13255, 13257, 13259,	10554, 10762, 10783, 11103,
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