

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

Sebastian Rahtz

Email: `sebastian.rahtz at oucs.ox.ac.uk`

Heiko Oberdiek

Email: `heiko.oberdiek at gmail.com`

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## 1 Documentation overview for hyperref

The documentation for package hyperref consists of several files:

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

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


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

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

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

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

Source code documentation:

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

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

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

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### 3 File hyccheck.tex

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

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

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

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

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

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

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

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

`\HyC@checkPackage`

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

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

```

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

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

```

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

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

```

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

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

```

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

`\HyC@noValue`

```

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

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



```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

\HyC@edef
125 \def\HyC@def#1#{%
126   \HyC@Toks={#1}%

```

```

127 \HyC@nc@noopt
128 }
129 \let\HyC@edef\HyC@def

```

`\HyC@doCheck` This command performs the checks and prints the result.

```

130 \def\HyC@doCheck{%
131 \typeout{* Checking '\HyC@string\HyC@cmd':}%
132 \HyC@checkItem{cmd}%
133 \HyC@checkItem{robustcmd}%
134 \HyC@checkItem{optcmd}%
135 \HyC@checkItem{robustoptcmd}%
136 \endgroup
137 }

```

`\HyC@checkItem` A single check.

```

138 \def\HyC@checkItem#1{%
139 \expandafter\ifx\csname HyC@org@#1\endcsname\HyC@noValue
140 \else
141 \expandafter\expandafter\expandafter\ifx
142 \csname HyC@#1\expandafter\endcsname
143 \csname HyC@org@#1\endcsname
144 \expandafter\HyC@checkOk\csname HyC@#1\endcsname
145 \else
146 \expandafter\HyC@checkFailed
147 \csname HyC@#1\expandafter\endcsname
148 \csname HyC@org@#1\endcsname
149 \fi
150 \fi
151 }

```

`\HyC@string` Some shorthands.

```

\HyC@meaning 152 \def\HyC@string#1{\expandafter\string#1}
153 \def\HyC@meaning#1{\expandafter\meaning#1}

```

`\HyC@checkOk` The result, if the check succeeds.

```

154 \def\HyC@checkOk#1{%
155 \typeout{\space\space'\HyC@string#1' ok.}%
156 }

```

`\HyC@checkFailed` The result, if the check fails.

```

157 \def\HyC@checkFailed#1#2{%
158 \typeout{\space\space'\HyC@string#1' failed.}%
159 \typeout{\space\space* original: \meaning#2}%
160 \typeout{\space\space* expected: \HyC@meaning#1}%
161 }

162 % *****
163 </check>
164 <*package>

```

## 4 Package options and setup

### 4.1 Save catcodes

There are many packages that change the standard catcodes.

First we save the original meaning of ‘ and = in the token register \toks@, because we need the two characters in the macros \Hy@SetCatcodes and \Hy@RestoreCatcodes.

```

165 \begingroup
166 \makeother\'%
167 \makeother\=%
168 \edef\x{%
169   \edef\noexpand\x{%
170     \endgroup
171     \noexpand\toks@{%
172       \catcode 96=\noexpand\the\catcode'\noexpand\' \relax
173       \catcode 61=\noexpand\the\catcode'\noexpand\= \relax
174     }%
175   }%
176   \noexpand\x
177 }%
178 \x
179 \makeother\'
180 \makeother\=

```

\Hy@SetCatcodes

```

181 \def\Hy@SetCatcodes{%
182   \makeother\'%
183   \makeother\=%
184   \catcode'\$=3 %
185   \catcode'\&=4 %
186   \catcode'\^=7 %
187   \catcode'\_ =8 %
188   \makeother\| %
189   \makeother\: %
190   \makeother\(%
191   \makeother\)%
192   \makeother\[ %
193   \makeother\] %
194   \makeother\/ %
195   \makeother\! %
196   \makeother\< %
197   \makeother\> %
198   \makeother\. %
199   \makeother\; %
200   \makeother\+ %
201   \makeother\- %
202   \makeother\" %
203   \makeother\' %
204 }

```

\Hy@RestoreCatcodes

```

205 \begingroup
206 \def\x#1{\catcode'\noexpand#1=\the\catcode'#1\relax}%
207 \xdef\Hy@RestoreCatcodes{%
208   \the\toks@
209   \x\$%
210   \x\&%
211   \x\^%
212   \x\_ %
213   \x\| %
214   \x\: %
215   \x\(%

```

```

216 \x\)%
217 \x\[%
218 \x\l%
219 \x\/%
220 \x\!%
221 \x\<%
222 \x\>%
223 \x\.%
224 \x\;%
225 \x\+%
226 \x\-%
227 \x\"%
228 \x\'%
229 }%
230 \endgroup

```

```
231 \Hy@SetCatcodes
```

It needs the December 95 release of L<sup>A</sup>T<sub>E</sub>X, because it uses `\protected@write`, and it defines commands in options; and the page setup internal code changed at that point. It'll probably break with the later releases!

```

232 \RequirePackage{keyval}[1997/11/10]
233 \RequirePackage{kvsetkeys}[2007/09/29]
234 \RequirePackage{pdfescape}[2007/11/11]
235 \RequirePackage{ifpdf}[2006/02/20]
236 \RequirePackage{ifvtex}
237 \RequirePackage{ifxetex}[2006/08/21]
238 \RequirePackage{hycolor}
239 \RequirePackage{letltxmacro}[2008/06/13]
240 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
241 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
242 \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`.

```

243 \@ifundefined{AfterBeginDocument}{%
244   \def\AfterBeginDocument{\AtBeginDocument}%
245 }{}%

```

## 4.3 Switches

```

246 \newif\ifHy@typexml
247 \newif\ifHy@activeanchor
248 \newif\ifHy@backref
249 \newif\ifHy@bookmarks
250 \newif\ifHy@bookmarksnumbered
251 \newif\ifHy@bookmarksopen
252 \newif\ifHy@breaklinks
253 \newif\ifHy@centerwindow
254 \newif\ifHy@CJKbookmarks
255 \newif\ifHy@colorlinks

```

```

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

```

Defaults for the switches are now set.

```

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

```

```

312 \Hy@pagelabelstrue
313 \Hy@pdfpagehiddenfalse
314 \Hy@pdfstringfalse
315 \Hy@plainpagesfalse
316 \Hy@raiselinksfalse
317 \Hy@setpagesizetrue
318 \Hy@texhtfalse
319 \Hy@toolbartrue
320 \Hy@typexmlfalse
321 \Hy@unicodedefalse
322 \Hy@usetitlefalse
323 \Hy@verbosefalse
324 \Hy>windowuitrue
325 \Hy@displaydoctitlefalse
326 \Hy@pdfafalse

```

## 5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

329 \newdimen\@linkdim
330 \let\Hy@driver\@empty
331 \let\MaybeStopEarly\relax
332 \newcount\Hy@linkcounter
333 \newcount\Hy@pagecounter
334 \Hy@linkcounter0
335 \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.

```

336 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
337 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

338 \let\Hy@ReturnEnd\@empty
339 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
340 \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 used directly, because they can be undefined if  
 \Hy@safe@activesfalse babel is not loaded.

```

341 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
342 \def\Hy@safe@activesfalse{\csname @safe@activesfalse\endcsname}

```

### 5.3 Coordinate transformations

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

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

```
pdfstartview={FitBH \hypercalsbp{\paperheight-\topmargin-1in}}
```

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

Example (TeX):

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

`\hypercalsbp`

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

```

374   }%
375   }\x
376   \HyCal@scan#2\@nil
377   }%
378 \else
379 \def\hypercalcbp#1{%
380   \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
381   }%
382 \def\hypercalcbpdef{\def}%
383 \fi

```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

### 6.1 Description of PDF strings

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

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

<code>\\</code>	the backslash itself
<code>\), \((</code>	unbalanced parentheses
<code>\n, \r, \t, \b, \f</code>	special white space escape sequences
<code>\ddd</code>	octal character code <i>ddd</i>
- Strings are stored either in PDFDocEncoding, which is a superset of ISO Latin1 and is compatible with Unicode with character codes below 256, or in Unicode.

### 6.2 Definition of `\pdfstringdef`

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

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

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

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

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

- The result should obey the rules of the PDF specification for strings.



- The string can safely be processed by T<sub>E</sub>X, because the tokens have only catcodes 10 until 12.

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

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

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

```
385 \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 T<sub>E</sub>X escape character indeed prints as a normal backslash. Eventually this line can be removed, because this is standard L<sup>A</sup>T<sub>E</sub>X behaviour.

```
386 \escapechar'\%
```

From the view of T<sub>E</sub>X 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.

```
387 \edef\0{\string\0}%
388 \edef\1{\string\1}%
389 \edef\2{\string\2}%
390 \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.

```
391 \ifHy@unicode
392 \edef\8{\string\8}%
393 \edef\9{\string\9}%
394 \fontencoding{PU}%
395 \HyPsd@UTFviii
396 \def\ifpdfstringunicode##1##2{##1}%
397 \else
398 \fontencoding{PD1}%
399 \def\ifpdfstringunicode##1##2{##2}%
400 \fi
401 \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).

```
402 \@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).

```
403 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
404 \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.

```
405 \let\{\textbraceleft
406 \let\}\textbraceright
407 \let\\\textbackslash
408 \let\#\textnumbersign
409 \let\$\textdollar
410 \let\%\textpercent
411 \let\&\textampersand
412 % \let\~\textasciitilde
413 \let\_ \textunderscore
414 \let\textP\textparagraph
415 \let\ldots\textellipsis
416 \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.

```
417 \def\{\pdfstringdefWarn\\}%
418 \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.

```
419 \def\TeX{\TeX}%
420 \def\LaTeX{\LaTeX}%
421 \def\LaTeXe{\LaTeX2e}%
422 \def\eTeX{e-TeX}%
423 \def\SliTeX{SliTeX}%
424 \def\MF{Metafont}%
425 \def\MP{Metapost}%
```

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

```

426 \let\fontencoding\@gobble
427 \let\fontfamily\@gobble
428 \let\fontseries\@gobble
429 \let\fontshape\@gobble
430 \let\fontsize\@gobbletwo
431 \let\selectfont\@empty
432 \let\usefont\@gobblefour
433 \let\emph\@firstofone
434 \let\textnormal\@firstofone
435 \let\textrm\@firstofone
436 \let\textsf\@firstofone
437 \let\texttt\@firstofone
438 \let\textbf\@firstofone
439 \let\textmd\@firstofone
440 \let\textit\@firstofone
441 \let\textsc\@firstofone
442 \let\textsl\@firstofone
443 \let\textup\@firstofone
444 \let\normalfont\@empty
445 \let\rmfamily\@empty
446 \let\sffamily\@empty
447 \let\ttfamily\@empty
448 \let\bfseries\@empty
449 \let\mdseries\@empty
450 \let\itshape\@empty
451 \let\scshape\@empty
452 \let\slshape\@empty
453 \let\upshape\@empty
454 \let\em\@empty
455 \let\rm\@empty
456 \let\Huge\@empty
457 \let\LARGE\@empty
458 \let\Large\@empty
459 \let\footnotesize\@empty
460 \let\huge\@empty
461 \let\large\@empty
462 \let\normalsize\@empty
463 \let\scriptsize\@empty
464 \let\small\@empty
465 \let\tiny\@empty
466 \let\mathversion\@gobble
467 \let\phantom\@gobble
468 \let\vphantom\@gobble
469 \let\hphantom\@gobble

```

**Package color.**

```

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

```

**Upper- and lowercase.**

```

471 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
472 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

473 \let\textlatin\@firstofone
474 \@ifundefined{language@group}{\}%
475 \csname HyPsd@babel@language@group\endcsname
476 }%
477 \HyPsd@GreekPatch
478 \HyPsd@SpanishPatch
479 \HyPsd@BabelPatch
480 \let\@safe@activestrue\relax
481 \let\@safe@activesfalse\relax

```

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

```
482 \let\cyr\relax
```

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

```
483 \let\es@roman\@Roman
```

**Package german.**

```

484 \let\glqq\textglqq
485 \let\grqq\textgrqq
486 \let\glq\textglq
487 \let\grq\textgrq
488 \let\flqq\textflqq
489 \let\frqq\textfrqq
490 \let\flq\textflq
491 \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}
```

```
492 \let\if@mid@expandable\@firstoftwo
```

**AMS classes.**

```
493 \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.

```
494 \let\hspace\HyPsd@hspace
```

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

```

495 \let\label\@gobble
496 \let\index\@gobble
497 \let\glossary\@gobble
498 \let\href\@secondoftwo
499 \let\@mkboth\@gobbletwo

```

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

```
500 \let\ref\HyPsd@ref
501 \let\pageref\HyPsd@pageref
502 \let\nameref\HyPsd@nameref
503 \let\autoref\HyPsd@autoref
```

#### Miscellaneous commands.

```
504 \let\leavevmode\@empty
505 \let\mbox\@empty
```

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

```
506 \def\halign{\pdfstringdefWarn\halign\@gobble}%
507 \let\ignorespaces\HyPsd@ignorespaces
508 \let\Hy@SectionAnchorHref\@gobble
```

#### Patch for cjk bookmarks.

```
509 \ifHy@CJKbookmarks
510 \HyPsd@CJKhook
511 \fi
```

**User hook.** The switch `\Hy@pdfstring` is turned on. So user commands can detect that they are processed not to be typesetted 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`).

```
512 \Hy@pdfstringtrue
513 \pdfstringdefPreHook
```

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

```
514 \HyPsd@LetUnexpandableSpace\space
515 \HyPsd@LetUnexpandableSpace\ %
516 \HyPsd@LetUnexpandableSpace~%
517 \HyPsd@LetUnexpandableSpace\nobreakspace
```

#### Package xspace.

```
518 \@ifundefined{@xspace}{%
519 \let\xspace\HyPsd@ITALCORR
520 }{%
521 \let\xspace\HyPsd@XSPACE
522 }%
523 \let\/\HyPsd@ITALCORR
524 \let\bgroup\/%
525 \let\egroup\/%
```

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

```
526 \let\discretionary\@gobbletwo
```

\@ifstar is defined in L<sup>A</sup>T<sub>E</sub>X as follows:

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

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

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

```
527 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
528 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
529 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
530 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

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

## 6.2.2 Expansion

There are several possibilities to expand tokens within L<sup>A</sup>T<sub>E</sub>X:

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

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

**\edef** This version uses this standard form for expansion. It is stronger than L<sup>A</sup>T<sub>E</sub>X'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 L<sup>A</sup>T<sub>E</sub>X 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 T<sub>E</sub>X, 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).

```
532 \begingroup
533 \let\GenericError\@gobblefour
534 \let\GenericWarning\@gobbletwo
535 \let\GenericInfo\@gobbletwo
```

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

```
536 \ifx\nofrenchguillemets\@undefined
537 \else
538 \nofrenchguillemets
539 \fi
```

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

```
540 \let\Hy@temp\xdef
541 \let\def\HyPsd@DefCommand
542 \let\gdef\HyPsd@DefCommand
543 \let\edef\HyPsd@DefCommand
544 \let\xdef\HyPsd@DefCommand
545 \let\futurelet\HyPsd@LetCommand
546 \let\let\HyPsd@LetCommand
547 \Hy@temp#1{#2}%
548 \endgroup
```

### 6.2.3 Postprocessing

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

```
549 \ifx#1\@empty
550 \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 take the following into account, that makes things a little 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 found 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 a 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.

```

551 \HyPsd@ProtectSpaces#1%
552 \let\HyPsd@String\@empty
553 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
554 \global\let#1\HyPsd@String

```

**Check tokens.** After removing the spaces and the grouping characters the string now should only consist of the following tokens/catcodes:

- 0 command names with start with an escape character.
- 3 math shift
- 4 alignment tabs
- 6 parameter, but this is unlikely.
- 7 superscript
- 8 subscript
- 11 letter
- 12 other
- 13 commands that are active characters.

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

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

```

555 \let\HyPsd@SPACEOPTI\relax
556 {%
557 \let\HyPsd@String\@empty
558 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
559 \global\let#1\HyPsd@String
560}%
561 \expandafter\HyPsd@RemoveMask\expandafter
562 |\expandafter\@empty#1\HyPsd@End#1%

```

`\HyPsd@CheckCatcodes` should not have removed the tokens with catcode 3, 4, 7, and 8. Because a parameter token (6) would cause too 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.

```

563 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
564 \let\HyPsd@String\@empty
565 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
566 \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.

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

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



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

```

568 \ifHy@unicode
569 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
570 \HyPsd@SPACEOPTI#1%
571 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
572 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
573 {\HyPsd@SPACEOPTI\80\273}#1%
574 \else
575 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
576 \expandafter\HyPsd@Subst\expandafter{%
577 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
578 \string\273}\HyPsd@SPACEOPTI\273}#1%
579 \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 be removed later.

```

580 \ifHy@unicode
581 \HyPsd@StringSubst{\}){\80\051}#1%
582 \HyPsd@Subst){\80\051}#1%
583 \let\HyPsd@empty\relax
584 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
585 {\HyPsd@empty\80\051}#1%
586 \else
587 \HyPsd@StringSubst{\}){\051}#1%
588 \HyPsd@Subst){\051}#1%
589 \let\HyPsd@empty\relax
590 \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
591 \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`.

```

592 \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
593 \@ifundefined{@xspace}{%
594 }{%
595 \let\HyPsd@xspace\relax
596 \expandafter\HyPsd@Subst\expandafter
597 {\HyPsd@XSPACE}\HyPsd@xspace#1%
598 \let\HyPsd@xspace\HyPsd@doxspace
599 }%
600 \xdef#1{#1\HyPsd@empty}%

```

**Ligatures.** T<sub>E</sub>X forms ligatures in its stomach, but the PDF strings are treated only by T<sub>E</sub>X'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 6.78l.

```
601 \HyPsd@Subst{---}\textendash#1%
602 \HyPsd@Subst{--}\textendash#1%
603 % \HyPsd@Subst{fi}\textfi#1%
604 % \HyPsd@Subst{fl}\textfl#1%
605 \HyPsd@Subst{!}\textexclamdown#1%
606 \HyPsd@Subst{?}\textquestiondown#1%
```

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

```
607 \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 T<sub>E</sub>X memory and time.

```
608 \ifHy@unicode
609 \HyPsd@StringSubst{\textparenleft#1%
610 \HyPsd@Subst(\textparenleft#1%
611 \else
612 \HyPsd@StringSubst({\050}#1%
613 \HyPsd@Subst({\050}#1%
614 \HyPsd@StringSubst{\050}{\string\{ }#1%
615 \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.

```
616 \ifHy@unicode
617 \edef\HyPsd@SPACEOPTI{\80\040}%
618 \else
619 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
620 \fi
621 \xdef#1{#1\@empty}%
622 \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.

```
623 \endgroup
624 \begingroup
625 \ifHy@unicode
626 \HyPsd@ConvertToUnicode#1%
```

### Try conversion back to PDFDocEncoding.

```
627 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
628 \ifundefined{StringEncodingConvertTest}{%
629 }{%
630 \EdefUnescapeString\HyPsd@temp#1%
631 \ifxetex
632 \let\HyPsd@UnescapedString\HyPsd@temp
633 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
634 {utf16be}{ascii-print}{%
635 \EdefEscapeString\HyPsd@temp\HyPsd@temp
636 \global\let#1\HyPsd@temp
637 \Hy@unicodetrue
638 }{%
639 \HyPsd@ToBigChars#1%
640 }%
641 \else
642 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
643 {utf16be}{pdfdoc}{%
644 \EdefEscapeString\HyPsd@temp\HyPsd@temp
645 \global\let#1\HyPsd@temp
646 \Hy@unicodetrue
647 }{%}%
648 \fi
649 }%
650 \fi
651 \fi
652 \HyPsd@XeTeXBigCharsfalse
```

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

```
653 \pdfstringdefPostHook#1%
654 \endgroup
655 }
```

`\Hy@pdfstringdef`

```
656 \def\Hy@pdfstringdef#1#2{%
657 \pdfstringdef\Hy@gtemp{#2}%
658 \let#1\Hy@gtemp
659 }
```

## 6.3 Encodings

### 6.3.1 XeTeX

```
660 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
661 \catcode\z@=12 %
662 \ifxetex
663 \expandafter\@firstofone
664 \else
665 \let\HyPsd@XeTeXBigCharstrue\@empty
666 \let\HyPsd@XeTeXBigCharsfalse\@empty
667 \expandafter\@gobble
668 \fi
669 {%
670 \newif\ifHyPsd@XeTeXBigChars
671 \def\HyPsd@XeTeXBigCharsfalse{%
```

```

672 \global\let\ifHyPsd@XeTeXBigChars\iffalse
673 }%
674 \def\HyPsd@XeTeXBigCharstrue{%
675 \global\let\ifHyPsd@XeTeXBigChars\iftrue
676 }%
677 \def\HyPsd@ToBigChars#1{%
678 \ifHyPsd@XeTeXBigChars
679 \EdefEscapeHex\HyPsd@UnescapedString{%
680 \expandafter\@gobbletwo\HyPsd@UnescapedString
681 }%
682 \begingroup
683 \toks@{%}%
684 \escapechar=92\relax
685 \let\x\HyPsd@ToBigChar
686 \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
687 \relax\relax\relax\relax\relax\relax\relax
688 \edef\x{%
689 \endgroup
690 \gdef\noexpand#1{\the\toks@}%
691 }%
692 \x
693 \fi
694 }%
695 \def\HyPsd@ToBigChar#1#2#3#4{%
696 \ifx\relax#1\relax
697 \let\x\relax
698 \else
699 \count@=#1#2#3#4\relax
700 \let\y\@empty
701 \lccode\z@=\count@
702 \ifnum\count@=40 % (
703 \let\y\@backslashchar
704 \else
705 \ifnum\count@=41 % )
706 \let\y\@backslashchar
707 \else
708 \ifnum\count@=92 % backslash
709 \let\y\@backslashchar
710 \else
711 \ifnum\count@=10 % newline
712 \edef\y##1{\string\n}%
713 \else
714 \ifnum\count@=13 % carriage return
715 \edef\y##1{\string\r}%
716 \fi
717 \fi
718 \fi
719 \fi
720 \fi
721 \lowercase{%
722 \toks@\expandafter{%
723 \the\expandafter\toks@
724 \y
725 ~@%
726 }%
727 }%
728 \fi

```

```

729 \x
730 }%
731 }
732 \Hy@temp

```

### 6.3.2 Workaround for package linguex

```

733 \@ifpackageloaded{linguex}{%
734 \let\HyLinguex@OrgB\b
735 \let\HyLinguex@OrgC\c
736 \let\HyLinguex@OrgD\d
737 \def\HyLinguex@Restore{%
738 \let\b\HyLinguex@OrgB
739 \let\c\HyLinguex@OrgC
740 \let\d\HyLinguex@OrgD
741 }%
742 \AtEndOfPackage{%
743 \pdfstringdefDisableCommands{%
744 \ifundefined{oldb}{\let\b\oldb}%
745 \ifundefined{oldc}{\let\c\oldc}%
746 \ifundefined{oldd}{\let\d\oldd}%
747 }%
748 }%
749 }{%
750 \let\HyLinguex@Restore\relax
751 }%

```

### 6.3.3 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L<sup>A</sup>T<sub>ε</sub>X 2<sub>ε</sub>'s NFSS. Because the informational strings are not set by T<sub>ε</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>ε</sub>X does not process it anyway. So use CM.

```

752 \ifundefined{T@PD1}{%
753 \input{pdlenc.def}%
754 \HyLinguex@Restore
755 }{}
756 \DeclareFontFamily{PD1}{pdf}{}
757 \DeclareFontShape{PD1}{pdf}{m}{n}{<-> cmr10 }{}
758 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

### 6.3.4 PU encoding

The PU encoding implements the Unicode encoding for use with L<sup>A</sup>T<sub>ε</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`.

```

759 \def\HyPsd@InitUnicode{%
760 \ifundefined{T@PU}{%
761 \input{puenc.def}%
762 \HyLinguex@Restore
763 }{}%
764 \DeclareFontFamily{PU}{pdf}{}%

```

```

765 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
766 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
767 \let\HyPsd@InitUnicode\relax
768 }

```

## 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 expandible macro `\texorpdfstring`. It expects two arguments, the first contains the string that will be set and processed by  $\TeX$ 's stomach, the second contains the replacement for PDF strings.

```

769 \def\texorpdfstring{%
770   \ifHy@pdfstring
771     \expandafter\@secondoftwo
772   \else
773     \expandafter\@firstoftwo
774   \fi
775 }

```

### 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`.

```

776 \@ifundefined{pdfstringdefPreHook}{%
777   \let\pdfstringdefPreHook\empty
778 }{}
779 \@ifundefined{pdfstringdefPostHook}{%
780   \let\pdfstringdefPostHook\@gobble
781 }{}

```

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

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

```

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

```

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

```

782 \def\pdfstringdefDisableCommands{%
783   \begingroup
784   \makeatletter
785   \HyPsd@DisableCommands
786 }

```

`\HyPsd@DisableCommands`

```

787 \long\def\HyPsd@DisableCommands#1{%

```

```

788 \toks0=\expandafter{\pdfstringdefPreHook}%
789 \toks1={#1}%
790 \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
791 \endgroup
792 }

```

`\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`.

```

793 \def\pdfstringdefWarn#1{%
794 \expandafter\noexpand\csname<>-string#1\endcsname
795 }

```

## 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.

```

796 \begingroup
797 \catcode0=12 %
798 \def\x{\endgroup
799 \def\HyPsd@ignorespaces{%
800 \romannumeral\expandafter'\expandafter^^@%
801 \romannumeral'^^@%
802 }%
803 }%
804 \x

```

### 6.5.2 Babel languages

Since version 2008/03/16 v3.8j babel uses inside `\AtBeginDocument`:

```

\pdfstringdefDisableCommands{%
\languageshorthands\system}%
}

```

As consequence the shorthands are shown in the bookmarks, not its result. Therefore `\languageshorthands` is disabled before the user hook. If there is a need to use the command, then `\HyOrg@languageshorthands` can be used inside `\pdfstringdefDisableCommands`.

```

805 \def\HyPsd@BabelPatch{%
806 \let\HyOrg@languageshorthands\languageshorthands
807 \let\languageshorthands\HyPsd@LanguageShorthands
808 }
809 \RequirePackage{pdfTeXcmds}[2009/04/10]
810 \begingroup\expandafter\expandafter\expandafter\endgroup
811 \expandafter\ifx\csname pdf@strcmp\endcsname\relax

```

```

812 \let\HyPsd@langshort@system\@empty
813 \def\HyPsd@LanguageShorthands#1{%
814   \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
815     \HyPsd@langshort@system
816   \expandafter\@gobble
817 \else
818   \expandafter\@firstofone
819 \fi
820 {%
821   \HyOrg@languageshorthands{#1}%
822 }%
823 }%
824 \else
825 \def\HyPsd@LanguageShorthands#1{%
826   \ifnum\pdf@strcmp{#1}{system}=\z@
827     \expandafter\@gobble
828   \else
829     \expandafter\@firstofone
830   \fi
831   {%
832     \HyOrg@languageshorthands{#1}%
833   }%
834 }%
835 \fi
836 \def\Hy@temp{%
837   \@ifpackageloaded{babel}{%
838     \@ifpackagelater{babel}{2008/03/16}{%
839       \let\Hy@temp\@empty
840     }{%
841       \def\HyPsd@BabelPatch{%
842         \let\HyOrg@languageshorthands\languageshorthands
843       }%
844     }%
845   }{}%
846 }
847 \Hy@temp
848 \expandafter\AtBeginDocument\expandafter{\Hy@temp}
849 \newif\ifHy@next

  Nothing to do for english.
850 \@ifundefined{danish@sh@"@sel}{-}{%
851   \def\HyPsd@babel@danish{%
852     \declare@shorthand{danish}{|}{-}%
853     \declare@shorthand{danish}{~}{-}%
854   }%
855 }
856 \@ifundefined{dutch@sh@"@sel}{-}{%
857   \def\HyPsd@babel@dutch{%
858     \declare@shorthand{dutch}{|}{-}%
859     \declare@shorthand{dutch}{~}{-}%
860   }%
861 }
862 \@ifundefined{finnish@sh@"@sel}{-}{%
863   \def\HyPsd@babel@finnish{%
864     \declare@shorthand{finnish}{|}{-}%
865   }%
866 }

```



```

867 \@ifundefined{french@sh@:@sel}{-}{-}%
868 \def\HyPsd@babel@frenchb{%
869 \def\guill@spacing{ }%
870 }%
871 }
872 \@ifundefined{german@sh@"@sel}{-}{-}%
873 \def\HyPsd@babel@german{%
874 \declare@shorthand{german}{-f}{f}%
875 \declare@shorthand{german}{-|}{|}%
876 \declare@shorthand{german}{-~}{-}%
877 }%
878 }
879 \@ifundefined{macedonian@sh@"@sel}{-}{-}%
880 \def\HyPsd@babel@macedonian{%
881 \declare@shorthand{macedonian}{-|}{|}%
882 \declare@shorthand{macedonian}{-~}{-}%
883 }%
884 }{}
885 \@ifundefined{ngerman@sh@"@sel}{-}{-}%
886 \def\HyPsd@babel@ngerman{%
887 \declare@shorthand{ngerman}{-|}{|}%
888 \declare@shorthand{ngerman}{-~}{-}%
889 }%
890 }
891 \@ifundefined{portuges@sh@"@sel}{-}{-}%
892 \def\HyPsd@babel@portuges{%
893 \declare@shorthand{portuges}{-|}{|}%
894 }%
895 }
896 \@ifundefined{russian@sh@"@sel}{-}{-}%
897 \def\HyPsd@babel@russian{%
898 \declare@shorthand{russian}{-|}{|}%
899 \declare@shorthand{russian}{-~}{-}%
900 }%
901 }
902 \@ifundefined{slovene@sh@"@sel}{-}{-}%
903 \def\HyPsd@babel@slovene{%
904 \declare@shorthand{slovene}{-|}{|}%
905 }%
906 }

```

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

```

907 \@ifundefined{spanish@sh@>@sel}{-}{-}%
908 \def\HyPsd@babel@spanish{%
909 \declare@shorthand{spanish}{<<}{\guillemotleft}%
910 \declare@shorthand{spanish}{>>}{\guillemotright}%
911 \declare@shorthand{spanish}{=}{-}%
912 \declare@shorthand{spanish}{~}{-}%
913 \declare@shorthand{spanish}{!}{\textexclamdown}%
914 \declare@shorthand{spanish}{?}{\textquestiondown}%
915 }%
916 }
917 \@ifundefined{swedish@sh@"@sel}{-}{-}%
918 \def\HyPsd@babel@swedish{%
919 \declare@shorthand{swedish}{-|}{|}%
920 \declare@shorthand{swedish}{-~}{-}%
921 }%
922 }

```

```

923 \@ifundefined{ukrainian@sh@"@sel}{ }{%
924   \def\HyPsd@babel@ukrainian{%
925     \declare@shorthand{ukrainian}{ " | }{% }%
926     \declare@shorthand{ukrainian}{ " ~ }{- }%
927   }%
928 }
929 \@ifundefined{usorbian@sh@"@sel}{ }{%
930   \def\HyPsd@babel@usorbian{%
931     \declare@shorthand{usorbian}{ " f }{ f }%
932     \declare@shorthand{usorbian}{ " | }{ }%
933   }%
934 }
935 \@ifundefined{greek@sh@\string~@sel}{ }{%
936   \let\HyPsd@GreekPatch\@empty
937 }{%
938   \def\HyPsd@GreekPatch{%
939     \let\greeknumeral\HyPsd@greeknumeral
940     \let\Greeknumeral\HyPsd@Greeknumeral
941   }%
942 }
943 \def\HyPsd@greeknumeral#1{%
944   \HyPsd@GreekNum\@firstoftwo{#1}%
945 }
946 \def\HyPsd@Greeknumeral#1{%
947   \HyPsd@GreekNum\@secondoftwo{#1}%
948 }
949 \def\HyPsd@GreekNum#1#2{%
950   \ifHy@unicode
951     \ifnum#2<\@ne
952       \@arabic{#2}%
953     \else
954       \ifnum#2<1000000 %
955         \HyPsd@@GreekNum#1{#2}%
956       \else
957         \@arabic{#2}%
958       \fi
959     \fi
960   \else
961     \@arabic{#2}%
962   \fi
963 }
964 \def\HyPsd@@GreekNum#1#2{%
965   \ifnum#2<\@m
966     \ifnum#2<10 %
967       \expandafter\HyPsd@GreekNumI
968       \expandafter\@gobble\expandafter#1\number#2%
969     \else
970       \ifnum#2<100 %
971         \expandafter\HyPsd@GreekNumII
972         \expandafter\@gobble\expandafter#1\number#2%
973       \else
974         \expandafter\HyPsd@GreekNumIII
975         \expandafter\@gobble\expandafter#1\number#2%
976       \fi
977     \fi
978   \ifnum#2>\z@
979     \textnumeralsigngreek

```

```

980 \fi
981 \else
982 \ifnum#2<\@M
983 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
984 \else
985 \ifnum#2<100000 %
986 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
987 \else
988 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
989 \fi
990 \fi
991 \fi
992 }
993 \def\HyPsd@GreekNumI#1#2#3{%
994 #1{%
995 \ifnum#3>\z@
996 \textnumeralsignlowergreek
997 \fi
998 }%
999 \expandafter#2%
1000 \ifcase#3 %
1001 {}{}%
1002 \or\textalpha\textAlpha
1003 \or\textbeta\textBeta
1004 \or\textgamma\textGamma
1005 \or\textdelta\textDelta
1006 \or\textepsilon\textEpsilon
1007 \or\textstigmagreek\textStigmagreek
1008 \or\textzeta\textZeta
1009 \or\texteta\textEta
1010 \or\texttheta\textTheta
1011 \else
1012 {}{}%
1013 \fi
1014 }
1015 \def\HyPsd@GreekNumII#1#2#3#4{%
1016 #1{%
1017 \ifnum#3>\z@
1018 \textnumeralsignlowergreek
1019 \fi
1020 }%
1021 \expandafter#2%
1022 \ifcase#3 %
1023 {}{}%
1024 \or\textiota\textIota
1025 \or\textkappa\textKappa
1026 \or\textlambda\textLambda
1027 \or\textmu\textMu
1028 \or\textnu\textNu
1029 \or\textxi\textXi
1030 \or\textomicron\textOmicron
1031 \or\textpi\textPi
1032 \or\textkoppagreek\textKoppagreek
1033 \else
1034 {}{}%
1035 \fi
1036 \HyPsd@GreekNumI#1#2#4%

```

```

1037 }
1038 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1039   #1{%
1040     \ifnum#3>\z@
1041       \textnumeralsignlowergreek
1042     \fi
1043   }%
1044   \expandafter#2%
1045   \ifcase#3 %
1046     {}{}%
1047   \or\textrho\textRho
1048   \or\textsigma\textSigma
1049   \or\texttau\textTau
1050   \or\textupsilon\textUpsilon
1051   \or\textphi\textPhi
1052   \or\textchi\textChi
1053   \or\textpsi\textPsi
1054   \or\textomega\textOmega
1055   \or\textsampigreek\textSampigreek
1056   \else
1057     {}{}%
1058   \fi
1059   \HyPsd@GreekNumII#1#2#4#5%
1060 }
1061 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1062   \HyPsd@GreekNumI\@firstofone#1#2%
1063   \HyPsd@@GreekNum#1{#3#4#5}%
1064 }
1065 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1066   \HyPsd@GreekNumII\@firstofone#1#2#3%
1067   \HyPsd@@GreekNum#1{#4#5#6}%
1068 }
1069 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1070   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1071   \HyPsd@@GreekNum#1{#5#6#7}%
1072 }
1073 \def\HyPsd@SpanishPatch{%
1074   \begingroup\expandafter\expandafter\expandafter\endgroup
1075   \expandafter\ifx\csname es@save@dot\endcsname\relax
1076   \else
1077     \let\.\es@save@dot
1078   \fi
1079 }

```

### 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 ( $\geq 0x40$ ).

```
1080 \begingroup
```

```

1081 \catcode"7F=\active
1082 \toks@{%
1083 \let\CJK@ignorespaces\empty
1084 \def\CJK@char#1{\@gobbletwo}%
1085 \let\CJK@charx\@gobblefour
1086 \let\CJK@punctchar\@gobblefour
1087 \def\CJK@punctcharx#1{\@gobblefour}%
1088 \catcode"7F=\active
1089 \def^^7f#1^^7f#2^^7f{%
1090 \string #1\HyPsd@DecimalToOctal{#2}%
1091 }%
1092 % ... ?
1093 \ifHy@unicode
1094 \def\Hy@cjkpu{\80}%
1095 \else
1096 \let\Hy@cjkpu\@empty
1097 \fi
1098 \HyPsd@CJKActiveChars
1099 }%
1100 \count@=127 %
1101 \@whilenum\count@<255 \do{%
1102 \advance\count@ by 1 %
1103 \lccode'\~=\count@
1104 \lowercase{%
1105 \toks@\expandafter{\the\toks@ ~}%
1106 }%
1107 }%
1108 \toks@\expandafter{\the\toks@ !}%
1109 \xdef\HyPsd@CJKhook{\the\toks@}%
1110 \endgroup

```

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

```

1111 \def\HyPsd@CJKActiveChars#1{%
1112 \ifx#1!%
1113 \let\HyPsd@CJKActiveChars\relax
1114 \else
1115 \edef#1{\noexpand\Hy@cjkpu\string#1}%
1116 \fi
1117 \HyPsd@CJKActiveChars
1118 }

```

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

```

1119 \def\HyPsd@DecimalToOctal#1{%
1120 \ifcase #1 %
1121 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1122 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1123 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1124 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1125 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1126 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1127 \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1128 \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1129 \or @\or A\or B\or C\or D\or E\or F\or G%
1130 \or H\or I\or J\or K\or L\or M\or N\or O%
1131 \or P\or Q\or R\or S\or T\or U\or V\or W%
1132 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%

```

```

1133 \or \140\or a\or b\or c\or d\or e\or f\or g%
1134 \or h\or i\or j\or k\or l\or m\or n\or o%
1135 \or p\or q\or r\or s\or t\or u\or v\or w%
1136 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1137 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1138 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1139 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1140 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1141 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1142 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1143 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1144 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1145 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1146 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1147 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1148 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1149 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1150 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1151 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1152 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1153 \fi
1154 }

```

#### 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}

1155 \def\HyPsd@inmathwarn#1#2{%
1156   \ifx#2\expandafter
1157     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1158       \HyPsd@GLYPHERR
1159       \expandafter\@gobble\string#1%
1160       >%
1161       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1162     \else
1163       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1164     \fi
1165   \else
1166     \expandafter#2%
1167   \fi
1168 }
1169 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1170 \def\HyPsd@EndWithElse#1\else\else{}

```

\HyPsd@add@accent

```

1171 \def\HyPsd@add@accent#1#2{%
1172   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1173   #2%
1174 }%

```

### 6.5.5 Unexpandable spaces

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

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

These properties are used in \HyPsd@CheckCatcodes.

```

1175 \def\HyPsd@LetUnexpandableSpace#1{%
1176   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1177 }

```

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

```

1178 \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.

```

1179 \edef\HyPsd@XSPACE{\string#\string X}
1180 \edef\HyPsd@ITALCORR{\string#\string I}
1181 \edef\HyPsd@GLYPHERR{\string#\string G}

```

### 6.5.7 \hspace fix

\HyPsd@hspace

```

1182 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}

```

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

```

1183 \def\HyPsd@@hspace#1*#2\END{%
1184   \ifx\#2\%
1185     \HyPsd@hspacetest{#1}%
1186   \else
1187     \expandafter\HyPsd@hspacetest
1188   \fi
1189 }

```

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

```

1190 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}

```

### 6.5.8 Fix for AMS classes

```

1191 \ifundefined{tocsection}{%
1192   \let\HyPsd@AMSclassfix\relax
1193 }{%
1194   \def\HyPsd@AMSclassfix{%
1195     \let\tocpart\HyPsd@tocsection
1196     \let\tocchapter\HyPsd@tocsection
1197     \let\tocappendix\HyPsd@tocsection
1198     \let\tocsection\HyPsd@tocsection
1199     \let\tocsubsection\HyPsd@tocsection
1200     \let\tocsubsubsection\HyPsd@tocsection
1201     \let\tocparagraph\HyPsd@tocsection
1202   }%
1203   \def\HyPsd@tocsection#1#2#3{%
1204     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1205     #3%
1206   }%
1207 }

```

### 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.

```

1208 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%

```

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

```

1209 \def\HyPsd@@ref#1*#2\END{%
1210   \ifx\#2\%
1211     \HyPsd@@@ref{#1}%
1212   \else
1213     \expandafter\HyPsd@@@ref
1214   \fi
1215 }%

```



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

```
1216 \def\HyPsd@@@ref#1{%
1217   \expandafter\ifx\csname r@#1\endcsname\relax
1218     ??%
1219   \else
1220     \expandafter\expandafter\expandafter
1221     \@car\csname r@#1\endcsname\@nil
1222   \fi
1223 }
```

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

```
1224 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```
1225 \def\HyPsd@@pageref#1*#2\END{%
1226   \ifx\#2\%
1227     \HyPsd@@@pageref{#1}%
1228   \else
1229     \expandafter\HyPsd@@@pageref
1230   \fi
1231 }
```

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

```
1232 \def\HyPsd@@@pageref#1{%
1233   \expandafter\ifx\csname r@#1\endcsname\relax
1234     ??%
1235   \else
1236     \expandafter\expandafter\expandafter\expandafter
1237     \expandafter\expandafter\expandafter\@car
1238     \expandafter\expandafter\expandafter\@gobble
1239     \csname r@#1\endcsname{}\@nil
1240   \fi
1241 }
```

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

```
1242 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```
1243 \def\HyPsd@@nameref#1*#2\END{%
1244   \ifx\#2\%
1245     \HyPsd@@@nameref{#1}%
1246   \else
1247     \expandafter\HyPsd@@@nameref
1248   \fi
1249 }
```

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

```
1250 \def\HyPsd@@@nameref#1{%
1251   \expandafter\ifx\csname r@#1\endcsname\relax
1252     ??%
1253   \else
1254     \expandafter\expandafter\expandafter\expandafter
1255     \expandafter\expandafter\expandafter\@car
1256     \expandafter\expandafter\expandafter\@gobbletwo
```

```

1257 \csname r@#1\endcsname{}\}\@nil
1258 \fi
1259 }

```

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

```

1260 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1261 \def\HyPsd@@autoref#1*#2\END{%
1262 \ifx\#2\%
1263 \HyPsd@@@autoref{#1}%
1264 \else
1265 \expandafter\HyPsd@@@autoref
1266 \fi
1267 }

```

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

```

1268 \def\HyPsd@@@autoref#1{%
1269 \expandafter\ifx\csname r@#1\endcsname\relax
1270 ??%
1271 \else
1272 \expandafter\expandafter\expandafter\HyPsd@autorefname
1273 \csname r@#1\endcsname{}\}\}\}\@nil
1274 \expandafter\expandafter\expandafter
1275 \@car\csname r@#1\endcsname\@nil
1276 \fi
1277 }

```

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

```

1278 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1279 \ifx\#4\%
1280 \else
1281 \HyPsd@@autorefname#4.\@nil
1282 \fi
1283 }

```

`\HyPsd@@autorefname`

```

1284 \def\HyPsd@@autorefname#1.#2\@nil{%
1285 \@ifundefined{#1autorefname}{%
1286 \@ifundefined{#1name}{%
1287 }{%
1288 \csname#1name\endcsname\space
1289 }%
1290 }{%
1291 \csname#1autorefname\endcsname\space
1292 }%
1293 }

```

### 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
1294 \begingroup
1295   \def\x#1#2{%
1296     \endgroup
1297     \let#1\def
1298     \def\HyPsd@DefCommand##1##2##{%
1299       #1%
1300       \expandafter\noexpand
1301       \csname\expandafter\@gobble\string##1\@empty\endcsname
1302       \@gobble
1303     }%
1304     \let#2\let
1305     \def\HyPsd@@LetCommand##1{%
1306       \expandafter\ifx\csname##1\expandafter\endcsname
1307         \csname iftrue\endcsname
1308         \pdfstringdefWarn\let
1309         \expandafter\@gobble
1310       \else
1311         \expandafter\ifx\csname##1\expandafter\endcsname
1312           \csname iffalse\endcsname
1313           \pdfstringdefWarn\let
1314           \expandafter\expandafter\expandafter\@gobble
1315         \else
1316           #2%
1317           \expandafter\noexpand
1318           \csname##1\expandafter\expandafter\expandafter\endcsname
1319         \fi
1320       \fi
1321     }%
1322   }%
1323   \expandafter\x\csname <def>-command\expandafter\endcsname
1324     \csname <let>-command\endcsname
1325   \def\HyPsd@LetCommand#1{%

```

```

1326 \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1327 \expandafter\expandafter\expandafter{%
1328 \expandafter\@gobble\string#1\@empty
1329 }%
1330 }

```

### 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).

```

1331 \def\HyPsd@ifnextchar#1{%
1332 \pdfstringdefWarn#1%
1333 \expandafter\@gobbletwo\@gobble
1334 }

```

### 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`.

```

1335 \def\HyPsd@protected@testopt#1{%
1336 \pdfstringdefWarn#1%
1337 \@gobbletwo
1338 }

```

## 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:

```

1339 \def\HyPsd@Warning#1{%
1340 \begingroup
1341 \def\space{ }%
1342 \Hy@Warning{#1}%
1343 \endgroup
1344 }

```

### 6.6.2 Protecting spaces

```

1345 \RequirePackage{etexcmds}[2007/09/09]
1346 \ifetex@unexpanded
1347 \expandafter\@secondoftwo
1348 \else
1349 \expandafter\@firstoftwo
1350 \fi

```

1351 {%

\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.

```
1352 \def\HyPsd@ProtectSpaces#1{%
1353   \iftrue
1354     \expandafter\HyPsd@@ProtectSpacesFi
1355     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1356   \fi
1357 }%
```

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

```
1358 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1359   \fi
1360   \ifx\scrollmode#2\scrollmode
1361     \HyPsd@RemoveMask#1\HyPsd@End#3%
1362   \else
1363     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1364     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1365   \fi
1366 }%
```

### 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.

```
1367 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1368   \toks@{\expandafter{#1}}%
1369   \xdef#2{\the\toks@}%
1370 }%

1371 }{%
1372   \let\HyPsd@fi\fi
1373   \def\HyPsd@ProtectSpaces#1{%
1374     \xdef#1{%
1375       \iftrue
1376         \expandafter\HyPsd@@ProtectSpacesFi
1377         \expandafter|\expandafter\@empty#1| %
1378       \HyPsd@fi
1379     }%
1380     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1381   }%
1382   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1383     \fi
1384     \etex@unexpanded{#1}%
1385     \ifx\scrollmode#2\scrollmode
1386     \else
1387       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1388     \HyPsd@fi
1389   }%
1390   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1391     \xdef#2{\etex@unexpanded\expandafter{#1}}%
1392   }%
1393 }
```

### 6.6.3 Remove grouping braces

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

```

1394 \def\HyPsd@RemoveBraces#1{%
1395   \ifx\scrollmode#1\scrollmode
1396   \else
1397     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1398   \fi
1399 }
```

`\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`.

```

1400 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1401   \fi
1402   \def\Hy@temp@A{#1#2}%
1403   \def\Hy@temp@B{#3}%
1404   \ifx\Hy@temp@A\Hy@temp@B
1405     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1406       \HyPsd@String#1%
1407     }%
1408     \ifx\scrollmode#2\scrollmode
1409     \else
1410       \Hy@ReturnAfterFiFiEnd{%
1411         \HyPsd@RemoveBraces{#2}%
1412       }%
1413     \fi
1414   \else
1415     \def\Hy@temp@A{#1}%
1416     \HyPsd@AppendItalcorr\HyPsd@String
1417     \ifx\Hy@temp@A\@empty
1418       \Hy@ReturnAfterElseFiFiEnd{%
1419         \HyPsd@RemoveBraces{#2}%
1420       }%
1421     \else
1422       \HyPsd@ProtectSpaces\Hy@temp@A
1423       \HyPsd@AppendItalcorr\Hy@temp@A
1424       \Hy@ReturnAfterFiFiEnd{%
1425         \expandafter\HyPsd@RemoveBraces\expandafter
1426         {\Hy@temp@A#2}%
1427       }%
1428     \fi
1429   \fi
1430   \Hy@ReturnEnd
1431 }
```

`\HyPsd@AppendItalcorr` The string can contain commands yet, so it is better to use `\def` instead of a shorter `\edef`.

`\HyPsd@@AppendItalcorr` The two help macros limit the count of `\expandafter`.

```

1432 \def\HyPsd@AppendItalcorr#1{%
1433   \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1%
```

```

1434 }
1435 \def\HyPsd@@AppendItalcrr#1#2{%
1436   \expandafter\def\expandafter#2\expandafter{#2#1}%
1437 }

```

#### 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`).

```

1438 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1439   \global\let\HyPsd@Rest\relax
1440   \ifcat\relax\noexpand#1\relax
1441     \ifx#1\protect
1442       \else
1443         \ifx#1\penalty
1444           \setbox\z@=\hbox{%
1445             \afterassignment\HyPsd@AfterCountRemove
1446             \count@=#2\HyPsd@End
1447           }%
1448         \else
1449           \ifx#1\kern
1450             \setbox\z@=\hbox{%
1451               \afterassignment\HyPsd@AfterDimenRemove
1452               \dimen@=#2\HyPsd@End
1453             }%
1454           \else
1455             \ifx#1\hskip
1456               \setbox\z@=\hbox{%
1457                 \afterassignment\HyPsd@AfterSkipRemove
1458                 \skip@=#2\HyPsd@End
1459               }%
1460             \else
1461               \HyPsd@CatcodeWarning{#1}%
1462             \fi
1463           \fi
1464         \fi
1465       \fi
1466     \else
1467       \ifcat#1A% letter
1468         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1469           \HyPsd@String#1%
1470         }%
1471       \else
1472         \ifcat#1 % SPACE
1473           \expandafter\def\expandafter\HyPsd@String\expandafter{%
1474             \HyPsd@String\HyPsd@SPACEOPTI
1475           }%
1476         \else

```

```

1477 \ifcat$#1%
1478 \HyPsd@CatcodeWarning{math shift}%
1479 \else
1480 \ifcat&#1%
1481 \HyPsd@CatcodeWarning{alignment tab}%
1482 \else
1483 \ifcat^#1%
1484 \HyPsd@CatcodeWarning{superscript}%
1485 \else
1486 \ifcat_#1%
1487 \HyPsd@CatcodeWarning{subscript}%
1488 \else
1489 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1490 \HyPsd@String#1%
1491 }%
1492 \fi
1493 \fi
1494 \fi
1495 \fi
1496 \fi
1497 \fi
1498 \fi
1499 \ifx\HyPsd@Rest\relax
1500 \ifx\scrollmode#2\scrollmode
1501 \else
1502 \Hy@ReturnAfterFiFiEnd{%
1503 \HyPsd@CheckCatcodes#2\HyPsd@End
1504 }%
1505 \fi
1506 \else
1507 \ifx\HyPsd@Rest\@empty
1508 \else
1509 \Hy@ReturnAfterFiFiEnd{%
1510 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1511 }%
1512 \fi
1513 \fi
1514 \Hy@ReturnEnd
1515 }

```

### Remove counts, dimens, skips.

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

```

1516 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1517 \gdef\HyPsd@Rest{#1}%
1518 }

```

`\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.

```

1519 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1520 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@\fi>1ex %
1521 \HyPsd@ReplaceSpaceWarning{string\kern\space\the\dimen@}%
1522 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1523 \else
1524 \ifdim\dimen@=\z@

```



```

1525 \else
1526 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1527 \fi
1528 \gdef\HyPsd@Rest{#1}%
1529 \fi
1530 }

```

`\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).

```

1531 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1532 \ifdim\ifx\HyPsd@String\@empty\z@ \else \skip@ \fi > 1ex %
1533 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1534 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1535 \else
1536 \ifdim\skip@ = \z@
1537 \else
1538 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1539 \fi
1540 \gdef\HyPsd@Rest{#1}%
1541 \fi
1542 }

```

### Catcode warnings.

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

```

1543 \def\HyPsd@CatcodeWarning#1{%
1544 \HyPsd@Warning{%
1545 Token not allowed in a PDF string (%
1546 \ifHy@unicode
1547 Unicode%
1548 \else
1549 PDFDocEncoding%
1550 \fi
1551 ):%
1552 \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1553 }%
1554 }
1555 \begingroup
1556 \catcode'\|=0 %
1557 \catcode'\|=12 %
1558 \gdef\HyPsd@RemoveCmdPrefix#1{%
1559 |expandafter\HyPsd@@RemoveCmdPrefix
1560 |string#1|\@empty\<-|\@empty|\@empty
1561 }%
1562 \gdef\HyPsd@@RemoveCmdPrefix#1\<-#2|\@empty#3|\@empty{#1#2}%
1563 |endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

1564 \def\HyPsd@RemoveSpaceWarning#1{%
1565 \HyPsd@Warning{%
1566 Token not allowed in a PDF string (%
1567 \ifHy@unicode
1568 Unicode%
1569 \else
1570 PDFDocEncoding%
1571 \fi
1572 ):%

```

```

1573 \MessageBreak #1\MessageBreak
1574 removed%
1575 }%
1576 }

```

\HyPsd@ReplaceSpaceWarning

```

1577 \def\HyPsd@ReplaceSpaceWarning#1{%
1578 \HyPsd@Warning{%
1579 Token not allowed in a PDF string (%
1580 \ifHy@unicode
1581 Unicode%
1582 \else
1583 PDFDocEncoding%
1584 \fi
1585 }:%
1586 \MessageBreak #1\MessageBreak
1587 replaced by space%
1588 }%
1589 }

```

### 6.6.5 Check for wrong glyphs

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

```

1590 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1591 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1592 \HyPsd@String#1%
1593 }%
1594 \ifx\#2\%
1595 \else
1596 \Hy@ReturnAfterFi{%
1597 \HyPsd@GlyphProcessWarning#2\@empty
1598 }%
1599 \fi
1600 }
1601 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1602 \HyPsd@@@GlyphProcessWarning#1++>%
1603 \HyPsd@GlyphProcess#2\@empty
1604 }
1605 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
1606 \ifx\#2\%
1607 \HyPsd@Warning{%
1608 Glyph not defined in %
1609 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1610 removing '@backslashchar#1'%
1611 }%
1612 \else
1613 \HyPsd@Warning{%
1614 Composite letter '@backslashchar#1+#2'\MessageBreak
1615 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1616 \MessageBreak
1617 removing '@backslashchar#1'%
1618 }%
1619 \fi
1620 }

```

## 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`.

```
1621 \def\HyPsd@spaceopti#1{ % first space
1622   \ifx\HyPsd@spaceopti#1%
1623     \040%
1624   \else
1625     #1%
1626   \fi
1627 }%
```

### 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.

```
1628 \def\HyPsd@Subst#1#2#3{%
1629   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1630     \fi
1631     ##1%
1632     \ifx\scrollmode##2\scrollmode
1633     \else
1634       #2%
1635     \HyPsd@@ReplaceFi##2\END
1636     \fi
1637   }%
1638   \xdef#3{%
1639     \iftrue
1640       \expandafter\HyPsd@@ReplaceFi#3#1\END
1641     \fi
1642   }%
1643 }
```

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

```
1644 \def\HyPsd@StringSubst#1{%
1645   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1646 }
```

### 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.

```
1647 \def\HyPsd@doxspace#1{%
1648   \ifx#1\relax\else
1649   \ifx#1.\else
1650   \ifx#1:\else
1651   \ifx#1,\else
1652   \ifx#1;\else
1653   \ifx#1!\else
```

```

1654     \ifx#1?\else
1655     \ifx#1/\else
1656     \ifx#1-\else
1657     \ifx#1'\else
1658     \HyPsd@SPACEOPTI
1659     \fi
1660     \fi
1661     \fi
1662     \fi
1663     \fi
1664     \fi
1665     \fi
1666     \fi
1667     \fi
1668     \fi
1669     #1%
1670 }%

```

### 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.

```

1671 \begingroup
1672 \catcode'\|=0 %
1673 \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

1674 |gdef|HyPsd@ConvertToUnicode#1{%
1675 |xdef#1{%
1676 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1677 }%
1678 |ifx#1|@empty
1679 |else
1680 |xdef#1{%
1681 \376\377%
1682 #1%
1683 }%
1684 |fi
1685 }%

```

\HyPsd@DoConvert

```

1686 |gdef|HyPsd@DoConvert#1{%
1687 |ifx#1|@empty
1688 |else
1689 |Hy@ReturnAfterFi{%
1690 |ifx#1\%%
1691 \%%
1692 |expandafter|HyPsd@DoEscape
1693 |else
1694 |HyPsd@Char{#1}%
1695 |expandafter|HyPsd@DoConvert
1696 |fi
1697 }%
1698 |fi
1699 }%

```

\HyPsd@DoEscape

```

1700 |gdef|HyPsd@DoEscape#1{%
1701 |ifx#19%
1702 |expandafter|HyPsd@GetTwoBytes
1703 |else
1704 |Hy@ReturnAfterFi{%
1705 |ifx#18%
1706 00%
1707 |expandafter|HyPsd@GetTwoBytes
1708 |else
1709 #1%
1710 |expandafter|HyPsd@GetOneByte
1711 |fi
1712 }%
1713 |fi
1714 }%

```

\HyPsd@GetTwoBytes

```

1715 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1716 #1\#2#3#4%
1717 |HyPsd@DoConvert
1718 }%

```

\HyPsd@GetOneByte

```

1719 |gdef|HyPsd@GetOneByte#1#2{%
1720 #1#2%
1721 |HyPsd@DoConvert
1722 }%
1723 |endgroup

```

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

```

1724 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1725 \xdef#4{#4#1#2}%
1726 \HyPsd@@ConvertToUnicode#3\END#4%
1727 }

```

\HyPsd@Char

```

1728 \RequirePackage{intcalc}[2007/09/27]
1729 \begingroup
1730 \catcode0=9 %
1731 \catcode'\^=7 %
1732 \catcode'\^^=12 %
1733 \def\x{~~~~0000}%
1734 \expandafter\endgroup
1735 \ifx\x\@empty
1736 \def\HyPsd@Char#1{%
1737 \ifnum'#1<128 %
1738 \@backslashchar 000#1%
1739 \else
1740 \ifnum'#1<65536 %
1741 \expandafter\HyPsd@CharTwoByte\number'#1!%
1742 \else
1743 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
1744 \intcalcSub{#1}{65536}!%
1745 \fi
1746 \fi

```

```

1747 }%
1748 \def\HyPsd@CharTwoByte#1!{%
1749 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1750 \IntCalcDiv#1!256!!%
1751 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1752 \IntCalcMod#1!256!!%
1753 }%
1754 \def\HyPsd@CharOctByte#1!{%
1755 \@backslashchar
1756 \IntCalcDiv#1!64!%
1757 \intcalcDiv{\IntCalcMod#1!64!}{8}%
1758 \IntCalcMod#1!8!%
1759 }%
1760 \def\HyPsd@CharSurrogate#1!{%
1761 \@backslashchar 33%
1762 \IntCalcDiv#1!262144!%
1763 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1764 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1765 \@backslashchar 33%
1766 \expandafter\expandafter\expandafter\IntCalcAdd
1767 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1768 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1769 \IntCalcMod#1!256!!%
1770 }%
1771 \else
1772 \def\HyPsd@Char#1{%
1773 \@backslashchar 000#1%
1774 }%
1775 \fi

```

### 6.6.9 Support for UTF-8 input encoding

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

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

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

```

1776 \begingroup\expandafter\expandafter\expandafter\endgroup
1777 \expandafter\ifx\csname numexpr\endcsname\relax
1778 \let\HyPsd@UTFviii\relax
1779 \else
1780 \begingroup
1781 \lccode'\~='^f4\relax
1782 \lowercase{\endgroup
1783 \def\HyPsd@UTFviii{%
1784 \let\UTFviii@two@octets\HyPsd@UTFviii@two
1785 \let\UTFviii@three@octets\HyPsd@UTFviii@three
1786 \let\UTFviii@four@octets\HyPsd@UTFviii@four
1787 \ifx~\HyPsd@UTFviii@ccxliv@undef
1788 \let~\HyPsd@UTFviii@ccxliv@def
1789 \fi

```

```

1790 \let\unichar\HyPsd@unichar
1791 }%
1792 }%
1793 \def\HyPsd@UTFviii@ccxliv@undef{\@inpencc@undefined@{utf8}}%
1794 \edef\HyPsd@UTFviii@ccxliv@def{%
1795 \noexpand\UTFviii@four@octets\string ^^f4%
1796 }%

```

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.

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

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

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

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

$$(5)$$

```

1797 \def\HyPsd@UTFviii@two#1#2{%
1798 \expandafter\HyPsd@UTFviii@@two
1799 \number\dimexpr'.25\dimexpr'#1sp\expandafter\relax\expandafter| %
1800 \number'#1\expandafter| %
1801 \number\dimexpr'.125\dimexpr'#2sp\expandafter\relax\expandafter| %
1802 \number'#2 \@nil
1803 }%
1804 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1805 \expandafter\8%
1806 \number\numexpr #1-48\expandafter\relax
1807 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1808 \number\numexpr #3-8*%
1809 \number\dimexpr'.125\dimexpr'#3sp\relax\relax\expandafter\relax
1810 \number\numexpr #4-8*#3\relax
1811 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1812 \def\HyPsd@UTFviii@three#1#2#3{%
1813 \expandafter\HyPsd@UTFviii@@three
1814 \number\dimexpr'.25\dimexpr'#1sp\expandafter\relax\expandafter| %
1815 \number'#1\expandafter| %
1816 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
1817 \number\dimexpr'.25\dimexpr'#2sp\expandafter\relax\expandafter| %
1818 \number'#2\expandafter| %
1819 \number\dimexpr'.125\dimexpr'#3sp\expandafter\relax\expandafter| %
1820 \number'#3 \@nil
1821 }%

```

```

1822 \def\HyPsd@UTFviii@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1823   \expandafter\9%
1824   \number\numexpr #1-56\expandafter\relax
1825   \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1826   \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1827   \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1828   \number\numexpr #6-16\expandafter\relax
1829   \number\numexpr #7-8*#6\relax
1830 }%

```

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

```

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

```

```

1831 \def\HyPsd@UTFviii@four#1#2{%
1832   \expandafter\HyPsd@@UTFviii@four\number
1833   \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1834   \expandafter|\number
1835   \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
1836 }%
1837 \def\HyPsd@@UTFviii@four#1|#2|#3{%
1838   \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1839   \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1840   \ifodd#2 %
1841     \number\numexpr(#2-1)/2\relax
1842   \else
1843     \number\numexpr#2/2\relax
1844   \fi
1845   \number\numexpr\ifodd#2 4+\fi
1846     \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1847   \933%
1848   \expandafter\HyPsd@@@UTFviii@four\number
1849   \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
1850 }%
1851 \def\HyPsd@@@UTFviii@four#1|#2{%
1852   \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1853   \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1854   \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1855   \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1856 }%

```

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

```

1857 \def\HyPsd@unichar#1{%
1858   \ifHy@unicode
1859     \ifnum#1>"10FFFF %
1860     \HyPsd@UnicodeReplacementCharacter % illegal
1861   \else
1862     \ifnum#1>"FFFF %

```

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

```

1863   \expandafter\HyPsd@unichar\expandafter{%
1864     \number\numexpr 55296+%
1865     \dimexpr.0009765625\dimexpr\number#1sp-\p@
1866     \relax\relax\relax
1867   }%

```



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

```

1868     \expandafter\HyPsd@unichar\expandafter{%
1869     \number\numexpr#1-9216%
1870     -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1871     \relax\relax\relax
1872 }%
1873 \else
1874 \ifnum#1>"7FF %
1875 \9%
1876 \expandafter\HyPsd@unichar@first@byte\expandafter{%
1877 \number
1878 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1879 }%
1880 \else
1881 \8%
1882 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1883 \fi
1884 \expandafter\HyPsd@unichar@second@byte\expandafter{%
1885 \number
1886 \numexpr#1-256*\number
1887 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1888 }%
1889 \fi
1890 \fi
1891 \else
1892 .% unsupported (Unicode -> PDF Doc Encoding)
1893 \fi
1894 }%
1895 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1896 \def\HyPsd@unichar@first@byte#1{%
1897 \number\dimexpr.015625\dimexpr#1sp\relax\relax
1898 \expandafter\HyPsd@unichar@octtwo\expandafter{%
1899 \number
1900 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1901 \relax\relax\relax
1902 }%
1903 }%
1904 \def\HyPsd@unichar@second@byte#1{%
1905 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1906 \expandafter\HyPsd@unichar@octtwo\expandafter{%
1907 \number
1908 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1909 \relax\relax\relax
1910 }%
1911 }%
1912 \def\HyPsd@unichar@octtwo#1{%
1913 \number\dimexpr.125\dimexpr#1sp\relax\relax
1914 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1915 \relax\relax\relax
1916 }%
1917 \fi

```

## 7 Support of other packages

### 7.1 Class memoir

```

1918 \@ifclassloaded{memoir}{%
1919 \AtEndOfPackage{\RequirePackage{memhfixc}}}%
1920 }{}

```

## 7.2 Package subfigure

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

```

1921 \@ifpackageloaded{subfigure}{%
1922 \ifundefined{sub@label}{%
1923 \Hy@hypertextnamesfalse
1924 }{%
1925 \renewcommand*{\sub@label}[1]{%
1926 \@bsphack
1927 \subfig@oldlabel{#1}%
1928 \if@filesw
1929 \begingroup
1930 \edef\@currentlabstr{%
1931 \expandafter\strip@prefix\meaning\@currentlabelname
1932 }%
1933 \protected@write\@auxout{}{%
1934 \string\newlabel{sub@#1}{%
1935 {\@nameuse{@@thesub\@capytype}}%
1936 {\thepage}%
1937 {%
1938 \expandafter\strip@period\@currentlabstr
1939 \relax.\relax\@@@%
1940 }%
1941 {\@currentHref}%
1942 }}%
1943 }%
1944 }%
1945 \endgroup
1946 \fi
1947 \@esphack
1948 }%
1949 \@ifpackagelater{subfigure}{2002/03/26}{}{}%
1950 \providecommand*\toclevel@subfigure{1}%
1951 \providecommand*\toclevel@subtable{1}%
1952 }%
1953 }%
1954 }{}

```

## 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:

```

1955 \ifundefined{XR@addURL}{%
1956 }{}

```

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.

```

1957 \def\XR@addURL#1{\XR@@dURL#1{}{}{}\\}%
1958 \def\XR@@dURL#1#2#3#4#5\\{%
1959 {#1}{#2}%
1960 \if!#4!%
1961 \else
1962 {#3}{#4}{\XR@URL}%

```

```

1963   \fi
1964   }%
1965 }

1966 \def\Hy@true{true}
1967 \def\Hy@false{false}

    Providing dummy definitions.

1968 \let\literalps@out\@gobble
1969 \newcommand\pdfbookmark[3][]{\}
1970 \def\Acrobatmenu#1#2{\leavevmode#2}
1971 \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

```

1972 \let\HyperRaiseLinkHook\@empty
1973 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

1974 \def\Hy@raisedlink#1{%
1975   \ifvmode
1976     #1%
1977   \else
1978     \penalty\@M
1979     \smash{%
1980       \begingroup
1981         \let\HyperRaiseLinkLength\@tempdima
1982         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1983         \HyperRaiseLinkHook
1984       \expandafter\endgroup
1985       \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
1986     }%
1987   \fi
1988 }

```

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

```

1989 \def\Hy@SaveLastskip{%
1990   \let\Hy@RestoreLastskip\relax
1991   \ifvmode
1992     \ifdim\lastskip=\z@
1993       \let\Hy@RestoreLastskip\nobreak
1994     \else
1995       \begingroup
1996         \skip@=-\lastskip
1997       \edef\x{%

```

```

1998     \endgroup
1999     \def\noexpand\Hy@RestoreLastskip{%
2000         \noexpand\ifvmode
2001             \noexpand\nobreak
2002             \vskip\the\skip@
2003             \vskip\the\lastskip\relax
2004         \noexpand\fi
2005     }%
2006 }%
2007 \x
2008 \fi
2009 \else
2010     \ifhmode
2011         \ifdim\lastskip=\z@
2012             \let\Hy@RestoreLastskip\nobreak
2013         \else
2014             \begingroup
2015             \skip@=-\lastskip
2016             \edef\x{%
2017                 \endgroup
2018                 \def\noexpand\Hy@RestoreLastskip{%
2019                     \noexpand\ifhmode
2020                     \noexpand\nobreak
2021                     \hskip\the\skip@
2022                     \hskip\the\lastskip\relax
2023                 \noexpand\fi
2024             }%
2025             }%
2026         \x
2027     \fi
2028 \fi
2029 \fi
2030 }%

```

## 9 Options

### 9.1 Help macros

\Hy@boolkey

```

2031 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
2032 \def\Hy@@boolkey[#1]#2#3{%
2033     \edef\Hy@tempa{#3}%
2034     \lowercase\expandafter{%
2035         \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2036     }%
2037     \ifx\Hy@tempa\@empty
2038         \let\Hy@tempa\Hy@true
2039     \fi
2040     \ifx\Hy@tempa\Hy@true
2041     \else
2042         \ifx\Hy@tempa\Hy@false
2043         \else
2044             \let\Hy@tempa\relax
2045         \fi
2046     \fi
2047     \ifx\Hy@tempa\relax

```

```

2048 \Hy@WarnOptionValue{#3}{#1}{'true' or 'false'}%
2049 \else
2050 \Hy@Info{Option '#1' set '\Hy@tempa'}%
2051 \csname Hy@#2\Hy@tempa\endcsname
2052 \fi
2053 }

```

\Hy@WarnOptionValue

```

2054 \def\Hy@WarnOptionValue#1#2#3{%
2055 \Hy@Warning{%
2056 Unexpected value '#1'\MessageBreak
2057 of option '#2' instead of\MessageBreak
2058 #3%
2059 }%
2060 }

```

\Hy@DisableOption

```

2061 \def\Hy@DisableOption#1{%
2062 \@ifundefined{KV@Hyp@#1@default}{%
2063 \define@key{Hyp}{#1}%
2064 }{%
2065 \define@key{Hyp}{#1}[]%
2066 }%
2067 {\Hy@WarnOptionDisabled{#1}}%
2068 }

```

\Hy@WarnOptionDisabled

```

2069 \def\Hy@WarnOptionDisabled#1{%
2070 \Hy@Warning{%
2071 Option '#1' has already been used,\MessageBreak
2072 setting the option has no effect%
2073 }%
2074 }

```

\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.

```

2075 \def\Hy@CheckOptionValue#1#2#3{%
2076 \begingroup
2077 \edef\x{#1}%
2078 \@onelevel@sanitize\x
2079 \let\y=y%
2080 \def\do##1#2{%
2081 \def\z{##1}%
2082 \@onelevel@sanitize\z
2083 \ifx\x\z
2084 \let\y=n%
2085 \let\do\@gobbletwo
2086 \fi
2087 }%
2088 #3%
2089 \ifx\y y%
2090 \def\do##1#2{%
2091 *'##1'%
2092 \ifx\\##2\\\else\space(##2)\fi
2093 \MessageBreak
2094 }%
2095 \Hy@Warning{%

```

```

2096      Values of option '#2':\MessageBreak
2097      #3%
2098      * An empty value disables the option.\MessageBreak
2099      Unknown value '\x'%
2100    }%
2101    \fi
2102  \endgroup
2103 }

```

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

```

2104 \def\Hy@DefNameKey#1{%
2105   \expandafter\Hy@@@DefNameKey\csname @#1\endcsname{#1}%
2106 }

```

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

```

2107 \def\Hy@@@DefNameKey#1#2#3{%
2108   \define@key{Hyp}{#2}{%
2109     \edef#1{##1}%
2110     \ifx#1\@empty
2111     \else
2112       \Hy@CheckOptionValue{##1}{#2}{#3}%
2113     \fi
2114   }%
2115   \let#1\@empty
2116 }

```

`\Hy@UseNameKey`

```

2117 \def\Hy@UseNameKey#1#2{%
2118   \ifx#2\@empty
2119   \else
2120     /#1/#2%
2121   \fi
2122 }

```

## 9.2 Defining the options

```

2123 \define@key{Hyp}{implicit}[true]{%
2124   \Hy@boolkey{implicit}{#1}%
2125 }
2126 \define@key{Hyp}{draft}[true]{%
2127   \Hy@boolkey{draft}{#1}%
2128 }
2129 \define@key{Hyp}{final}[true]{%
2130   \Hy@boolkey{final}{#1}%
2131 }
2132 \let\KV@Hyp@nolinks\KV@Hyp@draft
2133 \def\Hy@ObsoletePaperOption#1{%
2134   \Hy@WarningNoLine{%
2135     Option '#1' is no longer used%
2136   }%
2137   \define@key{Hyp}{#1}[true]{}%
2138 }

```

```

2139 \def\Hy@temp#1{%
2140   \define@key{Hyp}{#1}[true]{%
2141     \Hy@ObsoletePaperOption{#1}%
2142   }%
2143 }
2144 \Hy@temp{a4paper}
2145 \Hy@temp{a5paper}
2146 \Hy@temp{b5paper}
2147 \Hy@temp{letterpaper}
2148 \Hy@temp{legalpaper}
2149 \Hy@temp{executivepaper}
2150 \define@key{Hyp}{setpagesize}[true]{%
2151   \Hy@boolkey{setpagesize}{#1}%
2152 }
2153 \define@key{Hyp}{debug}[true]{%
2154   \Hy@boolkey{debug}{verbose}{#1}%
2155 }
2156 \define@key{Hyp}{linktocpage}[true]{%
2157   \Hy@boolkey{linktocpage}{#1}%
2158   \ifHy@linktocpage
2159     \let\Hy@linktoc\Hy@linktoc@page
2160   \else
2161     \let\Hy@linktoc\Hy@linktoc@section
2162   \fi
2163 }
2164 \chardef\Hy@linktoc@none=0 %
2165 \chardef\Hy@linktoc@section=1 %
2166 \chardef\Hy@linktoc@page=2 %
2167 \chardef\Hy@linktoc@all=3 %
2168 \ifHy@linktocpage
2169   \let\Hy@linktoc\Hy@linktoc@page
2170 \else
2171   \let\Hy@linktoc\Hy@linktoc@section
2172 \fi
2173 \define@key{Hyp}{linktoc}{%
2174   \@ifundefined{Hy@linktoc@#1}{%
2175     \Hy@Warning{%
2176       Unexpected value ‘#1’ of\MessageBreak
2177       option ‘linktoc’ instead of ‘none’,\MessageBreak
2178       ‘section’, ‘page’ or ‘all’%
2179     }%
2180   }{%
2181     \expandafter\let\expandafter\Hy@linktoc
2182     \csname Hy@linktoc@#1\endcsname
2183   }%
2184 }
2185 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2186 \let\XR@ext\relax
2187 \define@key{Hyp}{verbose}[true]{%
2188   \Hy@boolkey{verbose}{#1}%
2189 }
2190 \define@key{Hyp}{typexml}[true]{%
2191   \Hy@boolkey{typexml}{#1}%
2192 }

```

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.

```
2193 \define@key{Hyp}{raiselinks}[true]{%
2194   \Hy@boolkey{raiselinks}{#1}%
2195 }
```

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

```
2196 \def\Hy@setbreaklinks#1{%
2197   \csname breaklinks#1\endcsname
2198 }

2199 \def\Hy@breaklinks@unsupported{%
2200   \ifx\Hy@setbreaklinks\@gobble
2201     \ifHy@breaklinks
2202       \Hy@WarningNoLine{%
2203         You have enabled option ‘breaklinks’.\MessageBreak
2204         But driver ‘\Hy@driver.def’ does not support this.\MessageBreak
2205         Expect trouble with the link areas of broken links%
2206       }%
2207     \fi
2208   \fi
2209 }

2210 \define@key{Hyp}{breaklinks}[true]{%
2211   \Hy@boolkey{breaklinks}{#1}%
2212   \let\Hy@setbreaklinks\@gobble
2213 }
```

Determines whether an automatic anchor is put on each page

```
2214 \define@key{Hyp}{pageanchor}[true]{%
2215   \Hy@boolkey{pageanchor}{#1}%
2216 }
```

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.

```
2217 \define@key{Hyp}{plainpages}[true]{%
2218   \Hy@boolkey{plainpages}{#1}%
2219 }
```

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

```
2220 \define@key{Hyp}{naturalnames}[true]{%
2221   \Hy@boolkey{naturalnames}{#1}%
2222 }
```

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

```
2223 \define@key{Hyp}{hypertexnames}[true]{%
2224   \Hy@boolkey{hypertexnames}{#1}%
2225 }
```

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

```
2226 \define@key{Hyp}{nesting}[true]{%
2227   \Hy@boolkey{nesting}{#1}%
2228 }

2229 \define@key{Hyp}{unicode}[true]{%
2230   \Hy@boolkey{unicode}{#1}%
2231   \ifHy@unicode
2232     \def\HyPsd@pdfencoding{unicode}%
2233     \HyPsd@LoadUnicode
2234   \else
2235     \def\HyPsd@pdfencoding{pdfdoc}%
2236   \fi
```



```

2237 }
2238 \def\HyPsd@LoadUnicode{%
2239   \@ifundefined{T@PU}{%
2240     \input{puenc.def}%
2241     \HyLinguex@Restore
2242   }{}%
2243   \DeclareFontFamily{PU}{pdf}{}%
2244   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
2245   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2246   \global\let\HyPsd@LoadUnicode\relax
2247 }
2248 \AtBeginDocument{%
2249   \ifx\HyPsd@LoadUnicode\relax
2250     \else
2251       \def\HyPsd@LoadUnicode{%
2252         \PackageError{hyperref}{%
2253           Unicode support for bookmarks is not available.\MessageBreak
2254           Activate unicode support by using one of the options\MessageBreak
2255           'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2256           in the preamble%
2257         }\@ehc
2258         \global\let\HyPsd@LoadUnicode\relax
2259         \global\Hy@unicodedefalse
2260         \global\let\Hy@unicodetrue\Hy@unicodedefalse
2261       }%
2262     \fi
2263 }
2264 \define@key{Hyp}{pdfencoding}{%
2265   \edef\HyPsd@temp{#1}%
2266   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2267     \let\HyPsd@pdfencoding\HyPsd@temp
2268     \Hy@unicodedefalse
2269   \else
2270     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2271       \z@
2272     \else
2273       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2274         \z@
2275       \else
2276         \@ne
2277       \fi
2278     \fi
2279     \let\HyPsd@pdfencoding\HyPsd@temp
2280     \hypersetup{unicode}%
2281     \ifHy@unicode
2282       \def\HyPsd@pdfencoding{#1}%
2283       \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2284         \HyPsd@LoadStringEnc
2285       \fi
2286     \else
2287       \Hy@Warning{Cannot switch to unicode bookmarks}%
2288       \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2289     \fi
2290   \else
2291     \@onelevel@sanitize\HyPsd@temp
2292     \Hy@Warning{%
2293       Values of option 'pdfencoding':\MessageBreak

```

```

2294     'pdfdoc', 'unicode', 'auto'.\MessageBreak
2295     Ignoring unknown value '\HyPsd@temp'%
2296   }%
2297 \fi
2298 \fi
2299 }
2300 \def\HyPsd@pdfencoding@auto{auto}
2301 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2302 \def\HyPsd@pdfencoding@unicode{unicode}
2303 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2304 \def\HyPsd@LoadStringEnc{%
2305   \RequirePackage{stringenc}[2009/12/15]%
2306   \let\HyPsd@LoadStringEnc\relax
2307 }
2308 \AtBeginDocument{%
2309   \ifpackageloaded{stringenc}{%
2310     \let\HyPsd@LoadStringEnc\relax
2311   }{%
2312     \def\HyPsd@LoadStringEnc{%
2313       \Hy@WarningNoLine{%
2314         Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2315         in the preamble or load the package there%
2316       }%
2317     }%
2318   }%
2319 }
2320 \newif\ifHy@setpdfversion
2321 \define@key{Hyp}{pdfversion}{%
2322   \ifundefined{Hy@pdfversion@#1}{%
2323     \PackageWarning{hyperref}{%
2324       Unsupported PDF version '#1'.\MessageBreak
2325       Valid values: 1.2 until 1.9%
2326     }%
2327   }{%
2328     \Hy@setpdfversiontrue
2329     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2330   }%
2331 }
2332 \@namedef{Hy@pdfversion@1.2}{2}%
2333 \@namedef{Hy@pdfversion@1.3}{3}%
2334 \@namedef{Hy@pdfversion@1.4}{4}%
2335 \@namedef{Hy@pdfversion@1.5}{5}%
2336 \@namedef{Hy@pdfversion@1.6}{6}%
2337 \@namedef{Hy@pdfversion@1.7}{7}%
2338 \@namedef{Hy@pdfversion@1.8}{8}%
2339 \@namedef{Hy@pdfversion@1.9}{9}%
2340 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

2341 \define@key{Hyp}{hyperref}[true]{}
2342 \define@key{Hyp}{tex4ht}[true]{%
2343   \Hy@texhttrue
2344   \setkeys{Hyp}{colorlinks=true}%
2345   \def\BeforeTeXIVht{\usepackage{color}}}%
2346 \def\Hy@driver{htex4ht}%
2347 \def\MaybeStopEarly{%

```

```

2348 \typeout{Hyperref stopped early}%
2349 \AfterBeginDocument{%
2350 \PDF@FinishDoc
2351 \gdef\PDF@FinishDoc{%
2352 }%
2353 \endinput
2354 }%
2355 }
2356 \define@key{Hyp}{pdfetex}[true]{%
2357 \def\Hy@driver{hpdfetex}%
2358 }
2359 \define@key{Hyp}{nativepdf}[true]{%
2360 \def\Hy@driver{hdvips}%
2361 }
2362 \define@key{Hyp}{dvipdfm}[true]{%
2363 \def\Hy@driver{hdvipdfm}%
2364 }
2365 \define@key{Hyp}{dvipdfmx}[true]{%
2366 \def\Hy@driver{hdvipdfm}%
2367 }
2368 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2369 \expandafter\ifx\csname if#1\expandafter\endcsname
2370 \csname iftrue\endcsname
2371 \chardef\SpecialDvipdfmxOutlineOpen\@ne
2372 \else
2373 \chardef\SpecialDvipdfmxOutlineOpen\z@
2374 \fi
2375 }
2376 \define@key{Hyp}{xetex}[true]{%
2377 \def\Hy@driver{hxetex}%
2378 }
2379 \define@key{Hyp}{pdfmark}[true]{%
2380 \def\Hy@driver{hdvips}%
2381 }
2382 \define@key{Hyp}{dvips}[true]{%
2383 \def\Hy@driver{hdvips}%
2384 }
2385 \define@key{Hyp}{hypertex}[true]{%
2386 \def\Hy@driver{hypertex}%
2387 }
2388 \let\Hy@MaybeStopNow\relax
2389 \define@key{Hyp}{vtex}[true]{%
2390 \begingroup\expandafter\expandafter\expandafter\endgroup
2391 \expandafter\ifx\csname OpMode\endcsname\relax
2392 \@latex@error{Non-VTeX processor}{}%
2393 \global\let\Hy@MaybeStopNow\endinput
2394 \endinput
2395 \else
2396 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2397 \def\Hy@driver{hvtex}%
2398 \else
2399 \ifnum\OpMode=10\relax
2400 \def\Hy@driver{hvtexhtm}%
2401 \def\MaybeStopEarly{%
2402 \typeout{Hyperref stopped early}%
2403 \AfterBeginDocument{%
2404 \PDF@FinishDoc

```

```

2405         \gdef\PDF@FinishDoc{}%
2406     }%
2407     \endinput
2408 }%
2409 \else
2410     \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2411     \global\let\Hy@MaybeStopNow\endinput
2412     \endinput
2413 \fi
2414 \fi
2415 \fi
2416 }
2417 \define@key{Hyp}{vtexpdfmark}[true]{%
2418     \begingroup\expandafter\expandafter\expandafter\endgroup
2419     \expandafter\ifx\csname OpMode\endcsname\relax
2420         \@latex@error{Non-VTeX processor}{}%
2421         \let\Hy@MaybeStopNow\endinput
2422         \endinput
2423     \else
2424         \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2425         \def\Hy@driver{hvtexmrk}%
2426     \else
2427         \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2428         \let\Hy@MaybeStopNow\endinput
2429         \endinput
2430     \fi
2431 \fi
2432 }
2433 \define@key{Hyp}{dviwindo}[true]{%
2434     \def\Hy@driver{hdviwind}%
2435     \setkeys{Hyp}{colorlinks}%
2436     \ifpdf
2437     \else
2438         \ifxetex
2439         \else
2440             \PassOptionsToPackage{dviwindo}{color}%
2441         \fi
2442     \fi
2443 }
2444 \define@key{Hyp}{dvipsone}[true]{%
2445     \def\Hy@driver{hdvipson}%
2446 }
2447 \define@key{Hyp}{textures}[true]{%
2448     \def\Hy@driver{htexture}%
2449 }
2450 \define@key{Hyp}{latex2html}[true]{%
2451     \AtBeginDocument{\@@latextohtmlX}%
2452 }

```

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

```

2453 \define@key{Hyp}{ps2pdf}[true]{%
2454     \def\Hy@driver{hdvips}%
2455     \providecommand*\@pdfborder{0 0 1}%
2456 }

```

## 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.

```
2457 \define@key{Hyp}{hyperfigures}[true]{%
2458   \Hy@boolkey[hyperfigures]{figures}{#1}%
2459 }
```

The automatic footnote linking can be disabled by option hyperfootnotes.

```
2460 \define@key{Hyp}{hyperfootnotes}[true]{%
2461   \Hy@boolkey[hyperfootnotes]{#1}%
2462 }
```

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

```
2463 \def\back@none{none}
2464 \def\back@section{section}
2465 \def\back@page{page}
2466 \def\back@slide{slide}
2467 \define@key{Hyp}{backref}[section]{%
2468   \lowercase{\def\Hy@tempa{#1}}%
2469   \ifx\Hy@tempa\@empty
2470     \let\Hy@tempa\back@section
2471   \fi
2472   \ifx\Hy@tempa\Hy@false
2473     \let\Hy@tempa\back@none
2474   \fi
2475   \ifx\Hy@tempa\back@slide
2476     \let\Hy@tempa\back@section
2477   \fi
2478   \ifx\Hy@tempa\back@page
2479     \PassOptionsToPackage{hyperpageref}{backref}%
2480     \Hy@backreftrue
2481   \else
2482     \ifx\Hy@tempa\back@section
2483       \PassOptionsToPackage{hyperref}{backref}%
2484       \Hy@backreftrue
2485     \else
2486       \ifx\Hy@tempa\back@none
2487         \Hy@backreffalse
2488       \else
2489         \Hy@WarnOptionValue{#1}{backref}{%
2490           'section', 'slide', 'page', 'none',\MessageBreak
2491           or 'false'}%
2492       \fi
2493     \fi
2494   \fi
2495 }
2496 \define@key{Hyp}{pagebackref}[true]{%
2497   \edef\Hy@tempa{#1}%
2498   \lowercase\expandafter{%
2499     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2500   }%
2501   \ifx\Hy@tempa\@empty
2502     \let\Hy@tempa\Hy@true
2503   \fi
2504   \ifx\Hy@tempa\Hy@true
2505     \PassOptionsToPackage{hyperpageref}{backref}%
2506     \Hy@backreftrue
```

```

2507 \else
2508 \ifx\Hy@tempa\Hy>false
2509 \Hy@backreffalse
2510 \else
2511 \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
2512 \fi
2513 \fi
2514 }

```

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

```

2515 \define@key{Hyp}{hyperindex}[true]{%
2516 \Hy@boolkey{hyperindex}{#1}%
2517 }

```

Configuration of encap char.

```

2518 \define@key{Hyp}{encap}[|]{%
2519 \def\HyInd@EncapChar{#1}%
2520 }

```

## 12 Language options

The \autoref feature depends on the language.

```

2521 \def\HyLang@afrikaans{%
2522 \def\equationautorefname{Vergelyking}%
2523 \def\footnoteautorefname{Voetnota}%
2524 \def\itemautorefname{Item}%
2525 \def\figureautorefname{Figuur}%
2526 \def\tableautorefname{Tabel}%
2527 \def\partautorefname{Deel}%
2528 \def\appendixautorefname{Bylae}%
2529 \def\chapterautorefname{Hoofstuk}%
2530 \def\sectionautorefname{Afdeling}%
2531 \def\subsectionautorefname{Subafdeling}%
2532 \def\subsubsectionautorefname{Subsubafdeling}%
2533 \def\paragraphautorefname{Paragraaf}%
2534 \def\subparagraphautorefname{Subparagraaf}%
2535 \def\FancyVerbLineautorefname{Lyn}%
2536 \def\theoremautorefname{Teorema}%
2537 \def\pageautorefname{Bladsy}%
2538 }
2539 \def\HyLang@english{%
2540 \def\equationautorefname{Equation}%
2541 \def\footnoteautorefname{footnote}%
2542 \def\itemautorefname{item}%
2543 \def\figureautorefname{Figure}%
2544 \def\tableautorefname{Table}%
2545 \def\partautorefname{Part}%
2546 \def\appendixautorefname{Appendix}%
2547 \def\chapterautorefname{chapter}%
2548 \def\sectionautorefname{section}%
2549 \def\subsectionautorefname{subsection}%
2550 \def\subsubsectionautorefname{subsubsection}%
2551 \def\paragraphautorefname{paragraph}%
2552 \def\subparagraphautorefname{subparagraph}%
2553 \def\FancyVerbLineautorefname{line}%
2554 \def\theoremautorefname{Theorem}%

```

```

2555 \def\pageautorefname{page}%
2556 }
2557 \def\HyLang@french{%
2558 \def\equationautorefname{'Equation}%
2559 \def\footnoteautorefname{note}%
2560 \def\itemautorefname{item}%
2561 \def\figureautorefname{Figure}%
2562 \def\tableautorefname{Tableau}%
2563 \def\partautorefname{Partie}%
2564 \def\appendixautorefname{Appendice}%
2565 \def\chapterautorefname{chapitre}%
2566 \def\sectionautorefname{section}%
2567 \def\subsectionautorefname{sous-section}%
2568 \def\subsubsectionautorefname{sous-sous-section}%
2569 \def\paragraphautorefname{paragraphe}%
2570 \def\subparagraphautorefname{sous-paragraphe}%
2571 \def\FancyVerbLineautorefname{ligne}%
2572 \def\theoremautorefname{Th\'eor\`eme}%
2573 \def\pageautorefname{page}%
2574 }
2575 \def\HyLang@german{%
2576 \def\equationautorefname{Gleichung}%
2577 \def\footnoteautorefname{Fu\ss note}%
2578 \def\itemautorefname{Punkt}%
2579 \def\figureautorefname{Abbildung}%
2580 \def\tableautorefname{Tabelle}%
2581 \def\partautorefname{Teil}%
2582 \def\appendixautorefname{Anhang}%
2583 \def\chapterautorefname{Kapitel}%
2584 \def\sectionautorefname{Abschnitt}%
2585 \def\subsectionautorefname{Unterabschnitt}%
2586 \def\subsubsectionautorefname{Unterunterabschnitt}%
2587 \def\paragraphautorefname{Absatz}%
2588 \def\subparagraphautorefname{Unterabsatz}%
2589 \def\FancyVerbLineautorefname{Zeile}%
2590 \def\theoremautorefname{Theorem}%
2591 \def\pageautorefname{Seite}%
2592 }
2593 \def\HyLang@italian{%
2594 \def\equationautorefname{Equazione}%
2595 \def\footnoteautorefname{nota}%
2596 \def\itemautorefname{punto}%
2597 \def\figureautorefname{Figura}%
2598 \def\tableautorefname{Tabella}%
2599 \def\partautorefname{Parte}%
2600 \def\appendixautorefname{Appendice}%
2601 \def\chapterautorefname{Capitolo}%
2602 \def\sectionautorefname{sezione}%
2603 \def\subsectionautorefname{sottosezione}%
2604 \def\subsubsectionautorefname{sottosottosezione}%
2605 \def\paragraphautorefname{paragrafo}%
2606 \def\subparagraphautorefname{sottoparagrafo}%
2607 \def\FancyVerbLineautorefname{linea}%
2608 \def\theoremautorefname{Teorema}%
2609 \def\pageautorefname{Pag.\@}%
2610 }
2611 \def\HyLang@magyar{%

```

```

2612 \def\equationautorefname{Egyenlet}%
2613 \def\footnoteautorefname{l\'abjegyzet}%
2614 \def\itemautorefname{Elem}%
2615 \def\figureautorefname{\'Abra}%
2616 \def\tableautorefname{T\'abl\'azat}%
2617 \def\partautorefname{R\'esz}%
2618 \def\appendixautorefname{F\'uggel\'ek}%
2619 \def\chapterautorefname{fejezet}%
2620 \def\sectionautorefname{szakasz}%
2621 \def\subsectionautorefname{alszakasz}%
2622 \def\subsubsectionautorefname{alalszakasz}%
2623 \def\paragraphautorefname{bekezd\'es}%
2624 \def\subparagraphautorefname{albekezd\'es}%
2625 \def\FancyVerbLineautorefname{sor}%
2626 \def\theoremautorefname{T\'etel}%
2627 \def\pageautorefname{oldal}%
2628 }
2629 \def\HyLang@portuges{%
2630 \def\equationautorefname{Equa\c c\~ao}%
2631 \def\footnoteautorefname{Nota de rodap\'e}%
2632 \def\itemautorefname{Item}%
2633 \def\figureautorefname{Figura}%
2634 \def\tableautorefname{Tabela}%
2635 \def\partautorefname{Parte}%
2636 \def\appendixautorefname{Ap\~endice}%
2637 \def\chapterautorefname{Cap\'itulo}%
2638 \def\sectionautorefname{Se\c c\~ao}%
2639 \def\subsectionautorefname{Subse\c c\~ao}%
2640 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2641 \def\paragraphautorefname{par\'agrafo}%
2642 \def\subparagraphautorefname{subpar\'agrafo}%
2643 \def\FancyVerbLineautorefname{linha}%
2644 \def\theoremautorefname{Teorema}%
2645 \def\pageautorefname{P\'agina}%
2646 }

```

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`.

```

2647 \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`?

```

2648 \def\equationautorefname{\cyr\cyrv\cyrery\cyrr.}%

```

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

```

2649 % \def\equationautorefname{%
2650 % \cyr\cyrv\cyrery\cyrr\cyra\cyrzh\cyre\cyrn\cyri\cyre
2651 % }%

```



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

```
2652 \def\footnoteautorefname{%
2653   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
2654 }%
```

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}”

```
2655 % \def\footnoteautorefname{%
2656 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
2657 %   \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
2658 % }%
```

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

```
2659 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
2660 % \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.

```
2661 \def\itemautorefname{\cyr\cyrp.}%
2662 % \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.

```
2663 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
2664 \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.

```
2665 \def\partautorefname{\cyr\cyrch.}%
2666 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
2667 \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.

```
2668 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
2669 % \def\appendixautorefname{%
2670 %   \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre
2671 % }%
```

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.

```
2672 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2673 \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.

```
2674 \def\paragraphautorefname{\cyr\cyrp.}%
2675 \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.

```
2676 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2677 % \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.

```
2678 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
2679 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
```

```
2680 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
2681 % \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 ...

```
2682 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2683 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
```

```
2684 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2685 \def\pageautorefname{\cyr\cyrs.}%
```

```
2686 }
```

```
2687 \def\HyLang@spanish{%
```

```
2688 \def\equationautorefname{Ecuaci'on}%
```

```
2689 \def\footnoteautorefname{Nota a pie de p'agina}%
```

```
2690 \def\itemautorefname{Elemento}%
```

```
2691 \def\figureautorefname{Figura}%
```

```
2692 \def\tableautorefname{Tabla}%
```

```
2693 \def\partautorefname{Parte}%
```

```
2694 \def\appendixautorefname{Ap'endice}%
```

```
2695 \def\chapterautorefname{Cap'itulo}%
```

```
2696 \def\sectionautorefname{Secci'on}%
```

```
2697 \def\subsectionautorefname{Subsecci'on}%
```

```
2698 \def\subsubsectionautorefname{Subsubsecci'on}%
```

```
2699 \def\paragraphautorefname{P'arrafo}%
```

```
2700 \def\subparagraphautorefname{Subp'arrafo}%
```

```
2701 \def\FancyVerbLineautorefname{L'inea}%
```

```
2702 \def\theoremautorefname{Teorema}%
```

```
2703 \def\pageautorefname{P'agina}%
```

```
2704 }
```

```
2705 \def\HyLang@vietnamese{%
```

```
2706 \def\equationautorefname{Ph\uhorn{}ohorn{}ng tr\inh}%
```

```
2707 \def\footnoteautorefname{Ch'u th'ich}%
```

```
2708 \def\itemautorefname{m\du{c}%
```

```
2709 \def\figureautorefname{H\inh}%
```

```
2710 \def\tableautorefname{B\h{a}ng}%
```

```
2711 \def\partautorefname{Ph'\acircumflex{}n}%
```

```
2712 \def\appendixautorefname{Ph\du{ }l\du{c}%
```

```
2713 \def\chapterautorefname{ch\uhorn{}ohorn{}ng}%
```

```
2714 \def\sectionautorefname{m\du{c}%
```

```
2715 \def\subsectionautorefname{m\du{c}%
```

```
2716 \def\subsubsectionautorefname{m\du{c}%
```

```
2717 \def\paragraphautorefname{\dj{ }o\da{n}%
```

```

2718 \def\subparagraphautorefname{\dj{}o\da{n}%
2719 \def\FancyVerbLineautorefname{d\ong}%
2720 \def\theoremautorefname{\DJ{}d{i}nh 1'y}%
2721 \def\pageautorefname{Trang}%
2722 }

```

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

```

2723 \def\HyLang@addto#1#2{%
2724   #2%
2725   \@temptokena{#2}%
2726   \ifx#1\relax
2727     \let#1\@empty
2728   \fi
2729   \ifx#1\undefined
2730     \edef#1{\the\@temptokena}%
2731   \else
2732     \toks@\expandafter{#1}%
2733     \edef#1{\the\toks@\the\@temptokena}%
2734   \fi
2735   \@temptokena{}\toks@\@temptokena
2736 }

2737 \def\HyLang@DeclareLang#1#2#3{%
2738   \begingroup
2739   \edef\x##1##2{%
2740     \noexpand\ifx##2\relax
2741       \errmessage{No definitions for language #2' found!}%
2742     \noexpand\fi
2743   \endgroup
2744   \noexpand\define@key{Hyp}{#1}[]{%
2745     \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2746     #3%
2747   }%
2748   }%
2749   \expandafter\x\csname extras#1\expandafter\endcsname
2750     \csname HyLang@#2\endcsname
2751 }

2752 \HyLang@DeclareLang{english}{english}{}
2753 \HyLang@DeclareLang{UKenglish}{english}{}
2754 \HyLang@DeclareLang{british}{english}{}
2755 \HyLang@DeclareLang{USenglish}{english}{}
2756 \HyLang@DeclareLang{american}{english}{}
2757 \HyLang@DeclareLang{german}{german}{}
2758 \HyLang@DeclareLang{austrian}{german}{}
2759 \HyLang@DeclareLang{ngerman}{german}{}
2760 \HyLang@DeclareLang{naustrian}{german}{}
2761 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
2762 \HyLang@DeclareLang{brazil}{portuges}{}
2763 \HyLang@DeclareLang{brazilian}{portuges}{}
2764 \HyLang@DeclareLang{portuguese}{portuges}{}
2765 \HyLang@DeclareLang{spanish}{spanish}{}
2766 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
2767 \HyLang@DeclareLang{french}{french}{}
2768 \HyLang@DeclareLang{frenchb}{french}{}
2769 \HyLang@DeclareLang{français}{french}{}
2770 \HyLang@DeclareLang{acadian}{french}{}
2771 \HyLang@DeclareLang{canadien}{french}{}

```

```

2772 \HyLang@DeclareLang{italian}{italian}{}
2773 \HyLang@DeclareLang{magyar}{magyar}{}
2774 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

2775 \define@key{Hyp}{vietnamese}[]{}%
2776 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2777 \AtEndOfPackage{%
2778   \ifundefined{T@PU}{}{}%
2779   \input{puvnenc.def}%
2780 }%
2781 }%
2782 }
2783 \define@key{Hyp}{vietnam}[]{}%
2784 \HyLang@addto\extravietnam\HyLang@vietnamese
2785 \AtEndOfPackage{%
2786   \ifundefined{T@PU}{}{}%
2787   \input{puvnenc.def}%
2788 }%
2789 }%
2790 }

```

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

```

2791 \define@key{Hyp}{arabic}[]{}%
2792 \AtEndOfPackage{%
2793   \ifundefined{T@PU}{}{}%
2794   \input{puarenc.def}%
2795 }%
2796 }%
2797 }

```

## 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.

```

2798 \define@key{Hyp}{colorlinks}[true]{}%
2799 \Hy@boolkey{colorlinks}{#1}%
2800 }
2801 \define@key{Hyp}{ocgcolorlinks}[true]{}%
2802 \Hy@boolkey{ocgcolorlinks}{#1}%
2803 }
2804 \AtBeginDocument{%
2805   \begingroup
2806     \ifundefined{OBJ@OCG@view}{}%
2807     \ifHy@ocgcolorlinks
2808       \Hy@Warning{%
2809         Driver does not support ‘ocgcolorlinks’,\MessageBreak
2810         using ‘colorlinks’ instead%
2811       }%
2812     \fi
2813   }{}%
2814 \endgroup
2815 }
2816 \define@key{Hyp}{frenchlinks}[true]{}%
2817 \Hy@boolkey{frenchlinks}{#1}%
2818 }

```

## 14 Bookmarking

```

2819 \begingroup\expandafter\expandafter\expandafter\endgroup
2820 \expandafter\ifx\csname chapter\endcsname\relax
2821   \def\toclevel@part{0}%
2822 \else
2823   \def\toclevel@part{-1}%
2824 \fi
2825 \def\toclevel@chapter{0}
2826 \def\toclevel@section{1}
2827 \def\toclevel@subsection{2}
2828 \def\toclevel@subsubsection{3}
2829 \def\toclevel@paragraph{4}
2830 \def\toclevel@subparagraph{5}
2831 \def\toclevel@figure{0}
2832 \def\toclevel@table{0}
2833 \ifpackageloaded{listings}{%
2834   \providecommand*\theHlstlisting{\thelstlisting}%
2835   \providecommand*\toclevel@lstlisting{0}%
2836 }{}
2837 \ifpackageloaded{listing}{%
2838   \providecommand*\theHlisting{\thelisting}%
2839   \providecommand*\toclevel@listing{0}%
2840 }{}
2841 \define@key{Hyp}{bookmarks}[true]{%
2842   \Hy@boolkey{bookmarks}{#1}%
2843 }
2844 \define@key{Hyp}{bookmarksopen}[true]{%
2845   \Hy@boolkey{bookmarksopen}{#1}%
2846 }

```

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.

```

2847 \let\Hy@bookmarksdepth\c@tocdepth
2848 \define@key{Hyp}{bookmarksdepth}[]{}%
2849 \begingroup
2850   \edef\x{#1}%
2851   \ifx\x\empty
2852     \global\let\Hy@bookmarksdepth\c@tocdepth
2853   \else
2854     \ifundefined{toclevel@\x}{%
2855       \@onelevel@sanitize\x
2856       \edef\y{\expandafter\@car\x\@nil}%
2857       \ifcase 0\expandafter\ifx\y-1\fi
2858         \expandafter\ifnum\expandafter\y>47 %
2859         \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
2860       \Hy@Warning{Unknown document division name (\x)}%
2861     \else
2862       \setbox\z@=\hbox{%

```

```

2863         \count@=\x
2864         \xdef\Hy@bookmarksdepth{\the\count@}%
2865     }%
2866     \fi
2867 }{%
2868     \setbox\z@=\hbox{%
2869         \count@=\csname toplevel@\x\endcsname
2870         \xdef\Hy@bookmarksdepth{\the\count@}%
2871     }%
2872 }%
2873 \fi
2874 \endgroup
2875 }

```

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

```

2876 \define@key{Hyp}{bookmarksopenlevel}{%
2877   \def\@bookmarksopenlevel{#1}%
2878 }
2879 \def\@bookmarksopenlevel{\maxdimen}
2880 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
2881 \define@key{Hyp}{bookmarkstype}{%
2882   \def\Hy@bookmarkstype{#1}%
2883 }
2884 \def\Hy@bookmarkstype{toc}

```

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

```

2885 \define@key{Hyp}{bookmarksnumbered}[true]{%
2886   \Hy@boolkey{bookmarksnumbered}{#1}%
2887 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

2888 \define@key{Hyp}{CJKbookmarks}[true]{%
2889   \Hy@boolkey{CJKbookmarks}{#1}%
2890 }

2891 \def\Hy@temp#1{%
2892   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2893 }
2894 \def\Hy@@temp#1#2#3{%
2895   \define@key{Hyp}{#2color}{%
2896     \HyColor@HyperrefColor{##1}{#1}%
2897   }%
2898   \def#1{#3}%
2899 }

2900 \Hy@temp{link}{red}
2901 \Hy@temp{anchor}{black}
2902 \Hy@temp{cite}{green}
2903 \Hy@temp{file}{cyan}
2904 \Hy@temp{url}{magenta}
2905 \Hy@temp{menu}{red}
2906 \Hy@temp{run}{\@filecolor}
2907 \define@key{Hyp}{pagecolor}{%
2908   \Hy@WarningPageColor
2909 }
2910 \def\Hy@WarningPageColor{%
2911   \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
2912   \global\let\Hy@WarningPageColor\relax
2913 }

```

```

2914 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2915 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2916 \let\@baseurl\@empty
2917 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2918 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2919 \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.

```

2920 \let\@pdfpagetransition\relax
2921 \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.

```

2922 \let\@pdfpageduration\relax
2923 \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.

```

2924 \newif\ifHy@useHidKey
2925 \Hy@useHidKeyfalse
2926 \define@key{Hyp}{pdfpagehidden}[true]{%
2927   \Hy@boolkey{pdfpagehidden}{#1}%
2928   \ifHy@pdfpagehidden
2929     \global\Hy@useHidKeytrue
2930   \fi
2931 }

```

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).

```

2932 \def\Hy@ColorList{cite,file,link,menu,run,url}
2933 \@for\Hy@temp:=\Hy@ColorList\do{%
2934   \edef\Hy@temp{%
2935     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2936       \noexpand\HyColor@HyperrefBorderColor
2937         {##1}%
2938       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2939       {hyperref}%
2940       {\Hy@temp bordercolor}%
2941     }%
2942   }%
2943   \Hy@temp
2944 }
2945 \define@key{Hyp}{pagebordercolor}{%
2946   \Hy@WarningPageBorderColor

```

```

2947 }
2948 \def\Hy@WarningPageBorderColor{%
2949 \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2950 \global\let\Hy@WarningPageBorderColor\relax
2951 }

2952 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
2953 \Hy@DefNameKey{pdfhighlight}{%
2954 \do{/I}{Invert}%
2955 \do{/N}{None}%
2956 \do{/O}{Outline}%
2957 \do{/P}{Push}%
2958 }

2959 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
2960 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
2961 \def\Hy@setpdfborder{%
2962 \ifx\@pdfborder\@empty
2963 \else
2964 /Border[\@pdfborder]%
2965 \fi
2966 \ifx\@pdfborderstyle\@empty
2967 \else
2968 /BS<<\@pdfborderstyle>>%
2969 \fi
2970 }

2971 \Hy@DefNameKey{pdfpagemode}{%
2972 \do{UseNone}{}%
2973 \do{UseOutlines}{}%
2974 \do{UseThumbs}{}%
2975 \do{FullScreen}{}%
2976 \do{UseOC}{PDF 1.5}%
2977 \do{UseAttachments}{PDF 1.6}%
2978 }

2979 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2980 \do{UseNone}{}%
2981 \do{UseOutlines}{}%
2982 \do{UseThumbs}{}%
2983 \do{FullScreen}{}%
2984 \do{UseOC}{PDF 1.5}%
2985 \do{UseAttachments}{PDF 1.6}%
2986 }

2987 \Hy@DefNameKey{pdfdirection}{%
2988 \do{L2R}{Left to right}%
2989 \do{R2L}{Right to left}%
2990 }

2991 \Hy@DefNameKey{pdfviewarea}{%
2992 \do{MediaBox}{}%
2993 \do{CropBox}{}%
2994 \do{BleedBox}{}%
2995 \do{TrimBox}{}%
2996 \do{ArtBox}{}%
2997 }

2998 \Hy@DefNameKey{pdfviewclip}{%
2999 \do{MediaBox}{}%
3000 \do{CropBox}{}%
3001 \do{BleedBox}{}%
3002 \do{TrimBox}{}%
3003 \do{ArtBox}{}%

```



```

3004 }
3005 \Hy@DefNameKey{pdfprintarea}{%
3006   \do{MediaBox}{}%
3007   \do{CropBox}{}%
3008   \do{BleedBox}{}%
3009   \do{TrimBox}{}%
3010   \do{ArtBox}{}%
3011 }
3012 \Hy@DefNameKey{pdfprintclip}{%
3013   \do{MediaBox}{}%
3014   \do{CropBox}{}%
3015   \do{BleedBox}{}%
3016   \do{TrimBox}{}%
3017   \do{ArtBox}{}%
3018 }
3019 \Hy@DefNameKey{pdfprintscaling}{%
3020   \do{AppDefault}{}%
3021   \do{None}{}%
3022 }
3023 \Hy@DefNameKey{pdfduplex}{%
3024   \do{Simplex}{}%
3025   \do{DuplexFlipShortEdge}{}%
3026   \do{DuplexFlipLongEdge}{}%
3027 }
3028 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3029   \do{true}{}%
3030   \do{false}{}%
3031 }
3032 \define@key{Hyp}{pdfprintpagerange}{%
3033   \def\@pdfprintpagerange{#1}%
3034 }
3035 \Hy@DefNameKey{pdfnumcopies}{%
3036   \do{2}{two copies}%
3037   \do{3}{three copies}%
3038   \do{4}{four copies}%
3039   \do{5}{five copies}%
3040 }
3041 \define@key{Hyp}{pdfusetitle}[true]{%
3042   \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3043 }
3044 \def\HyXeTeX@CheckUnicode{%
3045   \ifxetex
3046     \ifHy@unicode
3047     \else
3048       \Hy@WarningNoLine{%
3049         XeTeX driver only supports unicode.\MessageBreak
3050         Enabling option 'unicode'%
3051       }%
3052       \setkeys{Hyp}{unicode}%
3053     \fi
3054   \else
3055     \let\HyXeTeX@CheckUnicode\relax
3056   \fi
3057 }
3058 \define@key{Hyp}{pdftitle}{%
3059   \HyXeTeX@CheckUnicode
3060   \HyPsd@XeTeXBigCharstrue

```

```

3061 \pdfstringdef\@pdftitle{#1}%
3062 }
3063 \define@key{Hyp}{pdfauthor}{%
3064 \HyXeTeX@CheckUnicode
3065 \HyPsd@XeTeXBigCharstrue
3066 \pdfstringdef\@pdfauthor{#1}%
3067 }
3068 \define@key{Hyp}{pdfproducer}{%
3069 \HyXeTeX@CheckUnicode
3070 \HyPsd@XeTeXBigCharstrue
3071 \pdfstringdef\@pdfproducer{#1}%
3072 }
3073 \define@key{Hyp}{pdfcreator}{%
3074 \HyXeTeX@CheckUnicode
3075 \HyPsd@XeTeXBigCharstrue
3076 \pdfstringdef\@pdfcreator{#1}%
3077 }
3078 \define@key{Hyp}{pdfcreationdate}{%
3079 \begingroup
3080 \Hy@unicodedefalse
3081 \pdfstringdef\@pdfcreationdate{#1}%
3082 \endgroup
3083 }
3084 \define@key{Hyp}{pdfmoddate}{%
3085 \begingroup
3086 \Hy@unicodedefalse
3087 \pdfstringdef\@pdfmoddate{#1}%
3088 \endgroup
3089 }
3090 \define@key{Hyp}{pdfsubject}{%
3091 \HyXeTeX@CheckUnicode
3092 \HyPsd@XeTeXBigCharstrue
3093 \pdfstringdef\@pdfsubject{#1}%
3094 }
3095 \define@key{Hyp}{pdfkeywords}{%
3096 \HyXeTeX@CheckUnicode
3097 \HyPsd@XeTeXBigCharstrue
3098 \pdfstringdef\@pdfkeywords{#1}%
3099 }
3100 \define@key{Hyp}{pdftrapped}{%
3101 \lowercase{\edef\Hy@temp{#1}}%
3102 \ifx\Hy@temp\HyInfo@trapped@true
3103 \def\@pdftrapped{True}%
3104 \else
3105 \ifx\Hy@temp\HyInfo@trapped@false
3106 \def\@pdftrapped{False}%
3107 \else
3108 \ifx\Hy@temp\HyInfo@trapped@unknown
3109 \def\@pdftrapped{Unknown}%
3110 \else
3111 \ifx\Hy@temp\@empty
3112 \else
3113 \Hy@Warning{%
3114 Unsupported value '#1'\MessageBreak
3115 for option 'pdftrapped'%
3116 }%
3117 \fi

```

```

3118     \def\@pdftrapped{}%
3119     \fi
3120     \fi
3121     \fi
3122 }
3123 \def\HyInfo@trapped@true{true}
3124 \def\HyInfo@trapped@false{false}
3125 \def\HyInfo@trapped@unknown{unknown}
3126 \def\HyInfo@TrappedUnsupported{%
3127   \ifx\@pdftrapped\@empty
3128   \else
3129     \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3130   \gdef\HyInfo@TrappedUnsupported{}%
3131   \fi
3132 }
3133 \define@key{Hyp}{pdfinfo}{%
3134   \kvsetkeys{pdfinfo}{#1}%
3135 }
3136 \def\Hy@temp#1{%
3137   \lowercase{\Hy@temp@A{#1}}{#1}%
3138 }
3139 \def\Hy@temp@A#1#2{%
3140   \define@key{pdfinfo}{#2}{%
3141     \hypersetup{pdf#1={##1}}}%
3142   }%
3143 }
3144 \Hy@temp{Title}
3145 \Hy@temp{Author}
3146 \Hy@temp{Keywords}
3147 \Hy@temp{Subject}
3148 \Hy@temp{Creator}
3149 \Hy@temp{Producer}
3150 \Hy@temp{CreationDate}
3151 \Hy@temp{ModDate}
3152 \Hy@temp{Trapped}
3153 \newif\ifHyInfo@AddonUnsupported
3154 \kv@set@family@handler{pdfinfo}{%
3155   \HyInfo@AddonHandler{#1}{#2}%
3156 }
3157 \let\HyInfo@do\relax
3158 \def\HyInfo@AddonHandler#1#2{%
3159   \ifx\kv@value\relax
3160     \Hy@Warning{%
3161       Option 'pdfinfo': ignoring key '\kv@key' without value%
3162     }%
3163   \else
3164     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3165     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3166     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3167       \ifHyInfo@AddonUnsupported
3168         \Hy@Warning{%
3169           This driver does not support additional\MessageBreak
3170           information entries, therefore\MessageBreak
3171           '\kv@key' is ignored%
3172         }%
3173       \else
3174         \define@key{pdfinfo}{\HyInfo@Key}{%

```

```

3175 \HyXeTeX@CheckUnicode
3176 \HyPsd@XeTeXBigCharstrue
3177 \pdfstringdef\HyInfo@Value{##1}%
3178 \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
3179 \HyInfo@Value
3180 }%
3181 \edef\HyInfo@AddonList{%
3182 \HyInfo@AddonList
3183 \HyInfo@do{\HyInfo@Key}%
3184 }%
3185 \kv@parse@normalized{%
3186 \HyInfo@Key={#2}%
3187 }{%
3188 \kv@processor@default{pdfinfo}%
3189 }%
3190 \fi
3191 \else
3192 \kv@parse@normalized{%
3193 \HyInfo@Key={#2}%
3194 }{%
3195 \kv@processor@default{pdfinfo}%
3196 }%
3197 \fi
3198 \fi
3199 }
3200 \def\HyInfo@GenerateAddons{%
3201 \ifHyInfo@AddonUnsupported
3202 \def\HyInfo@Addons{}%
3203 \else
3204 \begingroup
3205 \toks@{}%
3206 \def\HyInfo@do##1{%
3207 \EdefEscapeName\HyInfo@Key{##1}%
3208 \edef\x{%
3209 \toks@{%
3210 \the\toks@
3211 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3212 }%
3213 }%
3214 \x
3215 }%
3216 \HyInfo@AddonList
3217 \edef\x{\endgroup
3218 \def\noexpand\HyInfo@Addons{\the\toks@}%
3219 }%
3220 \x
3221 \fi
3222 }
3223 \def\HyInfo@AddonList{}
3224 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3225 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3226 \let\setpdfinkmargin\@gobble
3227 \def\calculate@pdfview#1 #2\{%
3228 \def\@pdfview{#1}%
3229 \ifx\@#2\%
3230 \def\@pdfviewparams{-32768}%
3231 \else

```

```

3232 \def\@pdfviewparams{ #2}%
3233 \fi
3234 }
3235 \begingroup\expandafter\expandafter\expandafter\endgroup
3236 \expandafter\ifx\csname numexpr\endcsname\relax
3237 \def\Hy@number#1{%
3238 \expandafter\@firstofone\expandafter{\number#1}%
3239 }%
3240 \else
3241 \def\Hy@number#1{%
3242 \the\numexpr#1\relax
3243 }%
3244 \fi
3245 \define@key{Hyp}{pdfstartpage}{%
3246 \ifx\#1\%
3247 \def\@pdfstartpage{%
3248 \else
3249 \edef\@pdfstartpage{\Hy@number{#1}}%
3250 \fi
3251 }%
3252 \define@key{Hyp}{pdfstartview}{%
3253 \ifx\#1\%
3254 \def\@pdfstartview{%
3255 \else
3256 \hypercalcbpdef\@pdfstartview{ /#1 }%
3257 \fi
3258 }
3259 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3260 \define@key{Hyp}{pdftoolbar}[true]{%
3261 \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3262 }
3263 \define@key{Hyp}{pdfmenubar}[true]{%
3264 \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3265 }
3266 \define@key{Hyp}{pdfwindowui}[true]{%
3267 \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3268 }
3269 \define@key{Hyp}{pdffitwindow}[true]{%
3270 \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3271 }
3272 \define@key{Hyp}{pdfcenterwindow}[true]{%
3273 \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3274 }
3275 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3276 \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3277 }
3278 \define@key{Hyp}{pdfa}[true]{%
3279 \Hy@boolkey{pdfa}{#1}%
3280 }
3281 \define@key{Hyp}{pdfnewwindow}[true]{%
3282 \def\Hy@temp{#1}%
3283 \ifx\Hy@temp\@empty
3284 \Hy@newwindowsetfalse
3285 \else
3286 \Hy@newwindowsettrue
3287 \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3288 \fi

```

```

3289 }
3290 \def\Hy@SetNewWindow{%
3291   \ifHy@newwindowset
3292     /NewWindow %
3293     \ifHy@newwindow true\else false\fi
3294   \fi
3295 }
3296 \Hy@DefNameKey{pdfpagelayout}{%
3297   \do{SinglePage}{}%
3298   \do{OneColumn}{}%
3299   \do{TwoColumnLeft}{}%
3300   \do{TwoColumnRight}{}%
3301   \do{TwoPageLeft}{PDF 1.5}%
3302   \do{TwoPageRight}{PDF 1.5}%
3303 }
3304 \define@key{Hyp}{pdflang}{%
3305   \def\@pdflang{#1}%
3306 }
3307 \define@key{Hyp}{pdfpagelabels}[true]{%
3308   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
3309 }
3310 \define@key{Hyp}{pdfescapeform}[true]{%
3311   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
3312 }

```

Default values:

```

3313 \def\@linkbordercolor{1 0 0}
3314 \def\@urlbordercolor{0 1 1}
3315 \def\@menubordercolor{1 0 0}
3316 \def\@filebordercolor{0 .5 .5}
3317 \def\@runbordercolor{0 .7 .7}
3318 \def\@citebordercolor{0 1 0}
3319 \def\@pdfhighlight{/I}
3320 \def\@pdftitle{}
3321 \def\@pdfauthor{}
3322 \let\@pdfproducer\relax
3323 \def\@pdfcreator{LaTeX with hyperref package}
3324 \def\@pdfcreationdate{}
3325 \def\@pdfmoddate{}
3326 \def\@pdfsubject{}
3327 \def\@pdfkeywords{}
3328 \def\@pdftrapped{}
3329 \def\@pdfpagescrop{}
3330 \def\@pdfstartview{/Fit }
3331 \def\@pdfstartpage{1}
3332 \def\@pdfprintpagerange{}
3333 \def\@pdflang{}
3334 \let\PDF@SetupDoc\@empty
3335 \let\PDF@FinishDoc\@empty
3336 \let\phantomsection\@empty
3337 \let\special@paper\@empty
3338 \def\HyperDestNameFilter#1{#1}
3339 \AtBeginDocument{%
3340   \begingroup
3341     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
3342     \dimen@=\x\relax
3343     \ifdim\dimen@>\z@
3344       \else

```

```

3345 \dimen@=11in\relax
3346 \Hy@WarningNoLine{%
3347   Height of page (\expandafter\string\x) %
3348   is invalid (\the\x),\MessageBreak
3349   using 11in%
3350 }%
3351 \fi
3352 \dimen@=0.99626401\dimen@
3353 \xdef\Hy@pageheight{\strip@pt\dimen@}%
3354 \endgroup
3355 }
3356 \def\HyInd@EncapChar{\|}
3357 \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.

```

3358 \let\hyper@normalise\ExecuteOptions
3359 \let\ExecuteOptions\hypersetup
3360 \Hy@RestoreCatcodes
3361 \InputIfFileExists{hyperref.cfg}{-}{-}
3362 \Hy@SetCatcodes
3363 \let\ExecuteOptions\hyper@normalise
3364 \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`.

```

3365 \RequirePackage{kvoptions}[2009/07/21]
3366 \SetupKeyvalOptions{family=Hyp}
3367 \DeclareLocalOptions{%
3368   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
3369 }

```

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

```

3370 \ifpackageloaded{tex4ht}{-%
3371   \ifpackagewith{hyperref}{tex4ht}{-}{-%
3372     \PassOptionsToPackage{tex4ht}{hyperref}%
3373   }%
3374 }{-}
3375 \let\ReadBookmarks\relax
3376 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

3377 \AtBeginDocument{%
3378   \ifHy@draft
3379     \let\hyper@@anchor\@gobble
3380     \gdef\hyper@link#1#2#3{#3}%
3381     \let\hyper@anchorstart\@gobble
3382     \let\hyper@anchorend\@empty
3383     \let\hyper@linkstart\@gobbletwo
3384     \let\hyper@linkend\@empty
3385     \def\hyper@linkurl#1#2{#1}%
3386     \def\hyper@linkfile#1#2#3{#1}%
3387     \def\hyper@link@{#1}#2#3{}%
3388     \def\Acrobatmenu#1#2{\leavevmode#2}%

```

```

3389 \let\PDF@SetupDoc\@empty
3390 \let\PDF@FinishDoc\@empty
3391 \let\@fifthoffive\@secondoftwo
3392 \let\@secondoffive\@secondoftwo
3393 \let\ReadBookmarks\relax
3394 \let\WriteBookmarks\relax
3395 \Hy@WarningNoLine{ draft mode on}%
3396 \fi
3397 \Hy@DisableOption{draft}%
3398 \Hy@DisableOption{nolinks}%
3399 \Hy@DisableOption{final}%
3400 }

```

## 15.1 PDF/A

```

3401 \Hy@DisableOption{pdfa}
3402 \ifHy@pdfa
3403 \setkeys{Hyp}{pdfversion=1.4}%
3404 \def\Hy@Acrobatmenu#1#2{%
3405 \leavevmode
3406 \begingroup
3407 \edef\x{#1}%
3408 \@onelevel@sanitize\x
3409 \ifx\x\Hy@NextPage
3410 \let\y=Y%
3411 \else
3412 \ifx\x\Hy@PrevPage
3413 \let\y=Y%
3414 \else
3415 \ifx\x\Hy@FirstPage
3416 \let\y=Y%
3417 \else
3418 \ifx\x\Hy@LastPage
3419 \let\y=Y%
3420 \else
3421 \let\y=N%
3422 \fi
3423 \fi
3424 \fi
3425 \fi
3426 \expandafter\endgroup
3427 \ifx\y Y%
3428 \else
3429 \PackageError{hyperref}{%
3430 PDF/A: Named action ‘#1’ is not permitted%
3431 }\@ehc
3432 {#2}%
3433 \expandafter\@gobble
3434 \fi
3435 }%
3436 \def\Hy@temp#1{%
3437 \expandafter\def\csname Hy@#1\endcsname{#1}%
3438 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3439 }%
3440 \Hy@temp{NextPage}%
3441 \Hy@temp{PrevPage}%
3442 \Hy@temp{FirstPage}%

```



```

3443 \Hy@temp{LastPage}%
3444 \else
3445 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3446 \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.

```

3447 \Hy@nextfalse
3448 \ifundefined{spanish@sh@"@sel}{-}{\Hy@nexttrue}
3449 \ifundefined{galician@sh@"@sel}{-}{\Hy@nexttrue}
3450 \ifundefined{estonian@sh@"@sel}{-}{\Hy@nexttrue}
3451 \ifHy@next
3452 \let\texttilde\~%
3453 \fi

3454 \ifHy@figures
3455 \Hy@Info{Hyper figures ON}%
3456 \else
3457 \Hy@Info{Hyper figures OFF}%
3458 \fi

3459 \ifHy@nesting
3460 \Hy@Info{Link nesting ON}%
3461 \else
3462 \Hy@Info{Link nesting OFF}%
3463 \fi

3464 \ifHy@hyperindex
3465 \Hy@Info{Hyper index ON}%
3466 \else
3467 \Hy@Info{Hyper index OFF}%
3468 \fi

3469 \ifHy@plainpages
3470 \Hy@Info{Plain pages ON}%
3471 \else
3472 \Hy@Info{Plain pages OFF}%
3473 \fi

3474 \ifHy@backref
3475 \Hy@Info{Backreferencing ON}%
3476 \else
3477 \Hy@Info{Backreferencing OFF}%
3478 \fi

3479 \ifHy@typexml
3480 \AtEndOfPackage{%
3481 \RequirePackage{color}%
3482 \RequirePackage{nameref}%
3483 }%
3484 \fi

3485 \Hy@DisableOption{typexml}
3486 \ifHy@implicit
3487 \typeout{Implicit mode ON; LaTeX internals redefined}%
3488 \else
3489 \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3490 \def\MaybeStopEarly{%
3491 \typeout{Hyperref stopped early}%
3492 \AfterBeginDocument{%
3493 \PDF@FinishDoc
3494 \gdef\PDF@FinishDoc{}%

```

```

3495 }%
3496 \endinput
3497 }%
3498 \AtBeginDocument{%
3499   \let\autoref\ref
3500   \let\autopageref\pageref
3501   \ifx\@pdfpagemode\@empty
3502     \gdef\@pdfpagemode{UseNone}%
3503   \fi
3504   \global\Hy@backreffalse
3505 }%
3506 \AtEndOfPackage{%
3507   \global\let\ReadBookmarks\relax
3508   \global\let\WriteBookmarks\relax
3509 }%
3510 \fi
3511 \Hy@DisableOption{implicit}

```

### 15.2.1 Driver loading

```

3512 \AtEndOfPackage{%
3513   \@ifpackageloaded{tex4ht}{%
3514     \def\Hy@driver{htex4ht}%
3515     \Hy@texhttrue
3516   }{}%

```

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.

```

3517   \ifx\Hy@driver\@empty
3518     \else
3519     \def\Hy@temp{hpdfTeX}%
3520     \ifpdf
3521       \ifx\Hy@driver\Hy@temp
3522         \else
3523           \Hy@WarningNoLine{%
3524             Wrong driver ‘\Hy@driver.def’;\MessageBreak
3525             pdfTeX is running in PDF mode.\MessageBreak
3526             Forcing driver ‘\Hy@temp.def’%
3527           }%
3528           \let\Hy@driver\Hy@temp
3529         \fi
3530       \else
3531         \ifx\Hy@driver\Hy@temp
3532           \Hy@WarningNoLine{%
3533             Wrong driver ‘\Hy@driver.def’;\MessageBreak
3534             pdfTeX is not running in PDF mode.\MessageBreak
3535             Using default driver%
3536           }%
3537           \let\Hy@driver\@empty
3538         \fi
3539       \fi
3540     \fi
3541     \ifx\Hy@driver\@empty
3542     \else
3543     \def\Hy@temp{hxeTeX}%
3544     \ifxetex
3545       \ifx\Hy@driver\Hy@temp
3546         \else

```

```

3547 \Hy@WarningNoLine{%
3548   Wrong driver '\Hy@driver.def';\MessageBreak
3549   XeTeX is running.\MessageBreak
3550   Forcing driver '\Hy@temp.def' for XeTeX%
3551 }%
3552 \let\Hy@driver\Hy@temp
3553 \fi
3554 \fi
3555 \fi
3556 \ifx\Hy@driver\@empty
3557 \else
3558 \def\Hy@temp{hvtexhtm}%
3559 \ifvtexhtml
3560 \ifx\Hy@driver\Hy@temp
3561 \else
3562 \Hy@WarningNoLine{%
3563   Wrong driver '\Hy@driver.def';\MessageBreak
3564   VTeX is running in HTML mode.\MessageBreak
3565   Forcing driver '\Hy@temp.def'%
3566 }%
3567 \let\Hy@driver\Hy@temp
3568 \fi
3569 \else
3570 \ifx\Hy@driver\Hy@temp
3571 \Hy@WarningNoLine{%
3572   Wrong driver '\Hy@driver.def';\MessageBreak
3573   VTeX is not running in HTML mode.\MessageBreak
3574   Using default driver%
3575 }%
3576 \let\Hy@driver\@empty
3577 \fi
3578 \fi
3579 \fi

```

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

```

3580 \ifx\Hy@driver\@empty
3581 \providecommand*{\Hy@defaultdriver}{hypertex}%
3582 \ifpdf
3583 \def\Hy@driver{hpdfTeX}%
3584 \else
3585 \ifxetex
3586 \def\Hy@driver{hxetex}%
3587 \else
3588 \ifvtexhtml
3589 \def\Hy@driver{hvtexhtm}%
3590 \def\MaybeStopEarly{%
3591   \typeout{Hyperref stopped early}%
3592   \AfterBeginDocument{%
3593     \PDF@FinishDoc
3594     \gdef\PDF@FinishDoc{}%
3595   }%
3596   \endinput
3597 }%
3598 \else
3599 \ifvtexpdf
3600 \def\Hy@driver{hvtex}%
3601 \else
3602 \ifvtexps

```

```

3603         \def\Hy@driver{hvtex}%
3604     \else
3605         \let\Hy@driver\Hy@defaultdriver
3606     \fi
3607 \fi
3608 \fi
3609 \fi
3610 \fi
3611 \ifx\Hy@driver\Hy@defaultdriver
3612     \def\Hy@temp{hdvwind}%
3613 \ifx\Hy@temp\Hy@driver
3614     \setkeys{Hyp}{colorlinks}%
3615     \PassOptionsToPackage{dviwindo}{color}%
3616 \fi
3617 \fi
3618 \typeout{*hyperref using default driver \Hy@driver*}%
3619 \else
3620     \typeout{*hyperref using driver \Hy@driver*}%
3621 \fi
3622 \input{\Hy@driver.def}%
3623 \let\@unprocessedoptions\relax
3624 \Hy@RestoreCatcodes
3625 }

```

Support for open outlines is enabled for XeTeX >= 0.9995. I don't know, if older versions also support this. AFAIK older dvipdfmx versions will break, thus the switch cannot be turned on by default.

```

3626 \newif\ifHy@DvipdfmxOutlineOpen
3627 \ifxetex
3628     \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
3629     \else
3630         \Hy@DvipdfmxOutlineOpenttrue
3631     \fi
3632 \fi
3633 \begingroup\expandafter\expandafter\expandafter\endgroup
3634 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3635 \else
3636     \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3637         \Hy@DvipdfmxOutlineOpenttrue
3638     \fi
3639 \fi
3640 \Hy@DisableOption{tex4ht}
3641 \Hy@DisableOption{pdftex}
3642 \Hy@DisableOption{nativepdf}
3643 \Hy@DisableOption{dvipdfm}
3644 \Hy@DisableOption{dvipdfmx}
3645 \Hy@DisableOption{dvipdfmx-outline-open}
3646 \Hy@DisableOption{pdfmark}
3647 \Hy@DisableOption{dvips}
3648 \Hy@DisableOption{hypertex}
3649 \Hy@DisableOption{vtex}
3650 \Hy@DisableOption{vtexpdfmark}
3651 \Hy@DisableOption{dviwindo}
3652 \Hy@DisableOption{dvipsone}
3653 \Hy@DisableOption{textures}
3654 \Hy@DisableOption{latex2html}
3655 \Hy@DisableOption{ps2pdf}
3656 \Hy@DisableOption{xetex}

```

```

3657 \AtEndOfPackage{%
3658   \Hy@DisableOption{pdfversion}%
3659 }

```

## 15.2.2 Bookmarks

```

3660 \def\WriteBookmarks{0}
3661 \def\@bookmarkopenstatus#1{%
3662   \ifHy@bookmarksopen

```

The purpose of the \@firstofone-number-space-construct is that no \relax will be inserted by T<sub>E</sub>X before the \else:

```

3663   \ifnum#1<\expandafter\@firstofone\expandafter
3664     {\number\@bookmarksopenlevel} % explicit space
3665   \else
3666     -%
3667   \fi
3668 \else
3669   -%
3670 \fi
3671 }
3672 \ifHy@bookmarks
3673   \Hy@Info{Bookmarks ON}%
3674   \ifx\@pdfpagemode\@empty
3675     \def\@pdfpagemode{UseOutlines}%
3676   \fi
3677 \else
3678   \def\@bookmarkopenstatus#1{%
3679     \Hy@Info{Bookmarks OFF}%
3680     \AtEndOfPackage{%
3681       \global\let\ReadBookmarks\relax
3682       \global\let\WriteBookmarks\relax
3683     }%
3684     \ifx\@pdfpagemode\@empty
3685       \def\@pdfpagemode{UseNone}%
3686     \fi
3687   \fi
3688   \Hy@DisableOption{bookmarks}

```

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

```

3689 \def\Hy@CatcodeWrapper#1{%
3690   \def\Hy@EndWrap{}%
3691   \def\TMP@EnsureCode##1##2{%
3692     \edef\Hy@EndWrap{%
3693       \Hy@EndWrap
3694       \catcode##1 \the\catcode##1\relax
3695     }%
3696     \catcode##1 ##2\relax
3697   }%
3698   \TMP@EnsureCode{10}{12}% ^^J
3699   \TMP@EnsureCode{33}{12}% !
3700   \TMP@EnsureCode{34}{12}% "
3701   \TMP@EnsureCode{36}{3}% $ (math)
3702   \TMP@EnsureCode{38}{4}% & (alignment)
3703   \TMP@EnsureCode{39}{12}% '
3704   \TMP@EnsureCode{40}{12}% (
3705   \TMP@EnsureCode{41}{12}% )
3706   \TMP@EnsureCode{42}{12}% *
3707   \TMP@EnsureCode{43}{12}% +
3708   \TMP@EnsureCode{44}{12}% ,

```

```

3709 \TMP@EnsureCode{45}{12}% -
3710 \TMP@EnsureCode{46}{12}% .
3711 \TMP@EnsureCode{47}{12}% /
3712 \TMP@EnsureCode{58}{12}% :
3713 \TMP@EnsureCode{59}{12}% ;
3714 \TMP@EnsureCode{60}{12}% <
3715 \TMP@EnsureCode{61}{12}% =
3716 \TMP@EnsureCode{62}{12}% >
3717 \TMP@EnsureCode{63}{12}% ?
3718 \TMP@EnsureCode{91}{12}% [
3719 \TMP@EnsureCode{93}{12}% ]
3720 \TMP@EnsureCode{94}{7}% ^ (superscript)
3721 \TMP@EnsureCode{95}{8}% _ (subscript)
3722 \TMP@EnsureCode{96}{12}% '
3723 \TMP@EnsureCode{124}{12}% |
3724 \TMP@EnsureCode{126}{13}% ~ (active)
3725 #1\relax
3726 \Hy@endWrap
3727 }

```

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

```

3728 \AtBeginDocument{%
3729   \ifHy@ocgcolorlinks
3730     \setkeys{Hyp}{colorlinks}%
3731     \ifHy@pdfa
3732       \Hy@Warning{%
3733         PDF/A: Optional Content Groups are prohibited,\MessageBreak
3734         using 'colorlinks' instead of 'ocgcolorlinks'%
3735       }%
3736       \Hy@ocgcolorlinksfalse
3737     \fi
3738   \fi
3739   \ifHy@ocgcolorlinks
3740   \else
3741     \Hy@DisableOption{ocgcolorlinks}%
3742   \fi
3743   \ifHy@colorlinks
3744     \def\@pdfborder{0 0 0}%
3745     \let\@pdfborderstyle\@empty
3746     \ifHy@typexml
3747     \else
3748       \Hy@CatcodeWrapper{%
3749         \RequirePackage{color}%
3750       }%
3751     \fi
3752     \def\Hy@colorlink#1{%
3753       \begingroup
3754       \HyColor@UseColor#1%
3755     }%
3756     \def\Hy@endcolorlink{\endgroup}%
3757     \Hy@Info{Link coloring ON}%
3758   \else
3759     \ifHy@frenchlinks
3760       \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3761       \def\Hy@endcolorlink{\endgroup}%
3762       \Hy@Info{French linking ON}%
3763     \else

```

for grouping consistency:

```

3764 \def\Hy@colorlink#1{\begingroup}%
3765 \def\Hy@endcolorlink{\endgroup}%
3766 \Hy@Info{Link coloring OFF}%
3767 \fi
3768 \fi
3769 \Hy@DisableOption{colorlinks}%
3770 \Hy@DisableOption{frenchlinks}%
3771 \ifHy@texht
3772 \long\def\@firstoffive#1#2#3#4#5{#1}%
3773 \long\def\@secondoffive#1#2#3#4#5{#2}%
3774 \long\def\@thirdoffive#1#2#3#4#5{#3}%
3775 \long\def\@fourthoffive#1#2#3#4#5{#4}%
3776 \long\def\@fifthoffive#1#2#3#4#5{#5}%
3777 \providecommand*\@safe@activestruet{}%
3778 \providecommand*\@safe@activesfalse{}%
3779 \def\T@ref#1{%
3780 \Hy@safe@activestruet
3781 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3782 \Hy@safe@activesfalse
3783 }%
3784 \def\T@pageref#1{%
3785 \Hy@safe@activestruet
3786 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3787 \Hy@safe@activesfalse
3788 }%
3789 \else
3790 \ifHy@typexml
3791 \else
3792 \Hy@CatcodeWrapper{%
3793 \RequirePackage{nameref}%
3794 }%
3795 \fi
3796 \fi
3797 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3798 \DeclareRobustCommand\pageref{%
3799 \@ifstar\@pagerefstar\T@pageref
3800 }%
3801 }
3802 \AfterBeginDocument{%
3803 \ifHy@texht
3804 \else
3805 \Hy@CatcodeWrapper{%
3806 \ReadBookmarks
3807 }%
3808 \fi
3809 }
3810 \ifHy@backref
3811 \RequirePackage{backref}%
3812 \else
3813 \let\Hy@backout\@gobble
3814 \fi
3815 \Hy@DisableOption{backref}
3816 \Hy@DisableOption{pagebackref}
3817 \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.

```

3818 \begingroup
3819 \endlinechar=-1 %
3820 \catcode'\^^A=14 %
3821 \catcode'\^^M\active
3822 \catcode'\%\active
3823 \catcode'\#\active
3824 \catcode'\_\active
3825 \catcode'\$\active
3826 \catcode'\&\active
3827 \gdef\hyper@normalise{^^A
3828   \begingroup
3829   \catcode'\^^M\active
3830   \def^^M{ }^^A
3831   \catcode'\%\active
3832   \let%\@percentchar
3833   \let%\@percentchar
3834   \catcode'\#\active
3835   \def#{\hyper@hash}^^A
3836   \def\#{\hyper@hash}^^A
3837   \@makeother\&^^A
3838   \edef&{\string&}^^A
3839   \edef\&{\string&}^^A
3840   \edef\textunderscore{\string_}^^A
3841   \let\_ \textunderscore
3842   \catcode'\_\active
3843   \let\_ \textunderscore
3844   \let~\hyper@tilde
3845   \let~\hyper@tilde
3846   \let\textasciitilde\hyper@tilde
3847   \let\\ \@backslashchar
3848   \edef$\string$^^A
3849   \Hy@safe@activetrue
3850   \hyper@n@rmalise
3851 }^^A
3852 \catcode'\#=6 ^^A
3853 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3854 \gdef\hyper@n@rmalise#1#2{^^A
3855   \def\Hy@tempa{#2}^^A
3856   \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3857     \Hy@ReturnAfterElseFi{^^A
3858       \hyper@@normalise{#1}^^A
3859     }^^A
3860   \else
3861     \Hy@ReturnAfterFi{^^A
3862       \hyper@@normalise{#1}{#2}^^A
3863     }^^A
3864   \fi
3865 }^^A
3866 \gdef\hyper@@normalise#1#2{^^A

```



```

3867 \edef\Hy@tempa{^^A
3868 \endgroup
3869 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
3870 }^^A
3871 \Hy@tempa
3872 }^^A
3873 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
3874 #1^^A
3875 \ifx\limits#2\limits
3876 \else
3877 \Hy@ReturnAfterFi{^^A
3878 \Hy@RemovePercentCr #2\@nil
3879 }^^A
3880 \fi
3881 }^^A
3882 \endgroup
3883 \providecommand*\hyper@chars{%
3884 \let\#\hyper@hash
3885 \let\%\@percentchar
3886 \Hy@safe@activetrue
3887 }

3888 \def\hyperlink#1#2{%
3889 \hyper@@link@{#1}{#2}%
3890 }

3891 \def\Hy@VerboseLinkStart#1#2{%
3892 \ifHy@verbose
3893 \begingroup
3894 \Hy@safe@activetrue
3895 \Hy@Info{Reference (#1) to '#2'}%
3896 \endgroup
3897 \fi
3898 }

3899 \def\Hy@VerboseAnchor#1{%
3900 \ifHy@verbose
3901 \begingroup
3902 \Hy@safe@activetrue
3903 \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
3904 \endgroup
3905 \fi
3906 }

3907 \def\Hy@AllowHyphens{%
3908 \relax
3909 \ifhmode
3910 \penalty\@M
3911 \hskip\z@skip
3912 \fi
3913 }

3914 \DeclareRobustCommand*\href{%
3915 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3916 }

3917 \def\Hy@href#1{%
3918 \hyper@normalise\href@
3919 }

3920 \begingroup
3921 \catcode'\$=6 %
3922 \catcode'\#=12 %

```

```

3923 \gdef\href@#1{\expandafter\href@split$1##\}%
3924 \gdef\href@split$1##$2##$3\{\%
3925   \hyper@@link{#1}{#2}%
3926 }%
3927 \endgroup

```

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

```

3928 \RequirePackage{url}
3929 \let\HyOrg@url\url
3930 \def\Hurl{\begingroup \Url}
3931 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
3932 \def\nolinkurl@#1{\Hurl{#1}}
3933 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3934 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
3935 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3936 \providecommand\hyper@image[2]{#2}
3937 \def\hypertarget#1#2{%
3938   \ifHy@nesting
3939     \hyper@@anchor{#1}{#2}%
3940   \else
3941     \hyper@@anchor{#1}{\relax}#2%
3942   \fi
3943 }

```

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

```

3944 \DeclareRobustCommand*\hyperref{%
3945   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3946 }
3947 \def\Hy@babelnormalise#1[#2]{%
3948   \begingroup
3949     \Hy@safe@activetrue
3950     \edef\Hy@tempa{%
3951       \endgroup
3952       \noexpand#1[#2]}%
3953   }%
3954   \Hy@tempa
3955 }
3956 \def\@hyperref{\hyper@normalise\@hyperref}
3957 \def\@hyperref#1#2#3{%
3958   \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
3959   \expandafter\tryhyper@link\ref@one\{#1}%
3960 }
3961 \def\tryhyper@link#1\#2{%
3962   \hyper@@link{#2}{#1}%
3963 }
3964 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}
3965 \def\@hyperdef#1#2#3{%, category, name, text
3966   \ifx\#1\%
3967     \def\Hy@AnchorName{#2}%
3968   \else
3969     \def\Hy@AnchorName{#1.#2}%

```

```

3970 \fi
3971 \ifHy@nesting
3972   \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
3973 \else
3974   \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
3975 \fi
3976 }

```

We also have a need to give a L<sup>A</sup>T<sub>E</sub>X *label* to a hyper reference, to ease the pain of referring to it later.

```

3977 \def\label@hyperref[#1]{%
3978   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
3979 }%
3980 \def\label@@hyperref#1#2#3{%
3981   \ifx#1\relax
3982     \protect\G@refundefinedtrue
3983     \@latex@warning{%
3984       Hyper reference ‘#2’ on page \thepage \space undefined%
3985     }%
3986     \hyper@@link{}{??}{#3}%
3987   \else
3988     \hyper@@link{\expandafter\@fifthoffive#1}%
3989     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3990   \fi
3991 }
3992 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3993                               % anchor text
3994   \@bsphack
3995   \ifx\#2\%
3996     \def\Hy@AnchorName{#3}%
3997   \else
3998     \def\Hy@AnchorName{#2.#3}%
3999   \fi
4000   \if@filesw
4001     \protected@write\@auxout{}{%
4002       \string\newlabel{#1}{#2}{#3}{\Hy@AnchorName}}%
4003   }%
4004   \fi
4005   \@esphack
4006   \ifHy@nesting
4007     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
4008   \else
4009     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
4010   \fi
4011 }

```

## 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, its an internal link, otherwise we need to open another file or a URL. A link start has a type, and a URL.

```

4012 \def\hyper@@link{\let\Hy@reserved@a\relax
4013   \@ifnextchar[{\hyper@link@}{\hyper@link@[link]}%
4014 }
4015 \def\hyper@link@[#1]#2#3#4{%

```

```

4016 \begingroup
4017 \protected@edef\Hy@tempa{#2}%
4018 \Hy@safe@activetrue
4019 \edef\x{#3}%
4020 \ifx\Hy@tempa\@empty
4021 \toks0{\hyper@link{#1}}%
4022 \else
4023 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
4024 \fi
4025 \toks2{%
4026 \Hy@safe@activesfalse
4027 #4%
4028 }%
4029 \edef\Hy@tempa{\the\toks2}%
4030 \edef\x{\endgroup
4031 \ifx\Hy@tempa\@empty
4032 \noexpand\Hy@Warning{Suppressing empty link}%
4033 \else
4034 \the\toks0 {\x}{\the\toks2}}%
4035 \fi
4036 }%
4037 \x
4038 }

```

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.

```

4039 \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.

```

4040 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
4041 }

```

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

```

4042 \def\@pdftempwordfile{file}%
4043 \def\@pdftempwordrun{run}%
4044 \def\@hyper@readexternallink#1#2#3#4:#5:#6\{#7{%

```

If there are no colons at all (#6 is blank), it's a local file; if the URL type (#4) is blank, it's probably a Mac filename, so treat it like a file: URL. The only flaw is if it's a relative Mac path, with several colon-separated elements — then we lose. Such names must be prefixed with an explicit dvi:

```

4045 \ifx\{#6\}%
4046 \expandafter\@hyper@linkfile file:#7\{#3}{#2}%
4047 \else

```

```

4048 \ifx\\#4\\%
4049 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
4050 \else

```

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

```

4051 \def\@pdftempa{#4}%
4052 \ifx\@pdftempa\@pdftempwordfile
4053 \expandafter\@hyper@linkfile#7\\{#3}{#2}%
4054 \else

```

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

```

4055 \ifx\@pdftempa\@pdftempwordrun
4056 \ifHy@pdfa
4057 \PackageError{hyperref}{%
4058 PDF/A: Launch action is prohibited%
4059 }\@ehc
4060 \begingroup
4061 \leavevmode
4062 #2%
4063 \endgroup
4064 \else
4065 \expandafter\@hyper@launch#7\\{#3}{#2}%
4066 \fi
4067 \else

```

otherwise its a URL

```

4068 \hyper@linkurl{#3}{#7\ifx\\#2\\% \else\hyper@hash#2\fi}%
4069 \fi
4070 \fi
4071 \fi
4072 \fi
4073 }

```

By default, turn run: into file:

```

4074 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
4075 \hyper@linkurl{#2}{%
4076 \Hy@linkfileprefix
4077 #1%
4078 \ifx\\#3\\%
4079 \else
4080 \hyper@hash
4081 #3%
4082 \fi
4083 }%
4084 }

```

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

```

4085 \def\@hyper@linkfile file:#1\\#2#3{%
4086 %file url,link string, name
4087 \filename@parse{#1}%
4088 \ifx\filename@ext\relax
4089 \edef\filename@ext{\XR@ext}%
4090 \fi
4091 \def\use@file{\filename@area\filename@base.\filename@ext}%
4092 \ifx\filename@ext\XR@ext
4093 \hyper@linkfile{#2}{\use@file}{#3}%
4094 \else
4095 \ifx\@baseurl\@empty

```

```

4096 \hyper@linkurl{#2}{%
4097 \Hy@linkfileprefix\use@file\ifx\\#3\\\else\hyper@hash#3\fi
4098 }%
4099 \else
4100 \hyper@linkurl{#2}{\use@file\ifx\\#3\\\else\hyper@hash#3\fi}%
4101 \fi
4102 \fi
4103 }

```

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.

```

4104 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
4105 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
4106 \ifx\\#1\\\%
4107 #2\Hy@WarningNoLine{empty link? #1: #2#3}%
4108 \else
4109 \def\anchor@spot{#2#3}%
4110 \let\put@me@back\@empty
4111 \ifx\relax#2\relax
4112 \else
4113 \ifHy@nesting
4114 \else
4115 \ifcat a\noexpand#2\relax
4116 \else
4117 \ifcat 0\noexpand#2 \relax
4118 \else
4119 % \typeout{Anchor start is not alphanumeric %
4120 % on input line\the\inputlineno%
4121 % }%
4122 \let\anchor@spot\@empty
4123 \def\put@me@back{#2#3}%
4124 \fi
4125 \fi
4126 \fi
4127 \fi
4128 \ifHy@activeanchor
4129 \anchor@spot
4130 \else
4131 \hyper@anchor{#1}%
4132 \fi
4133 \expandafter\put@me@back
4134 \fi
4135 \let\anchor@spot\@empty
4136 }

```

## 18 Compatibility with the *ETEX2html* 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.

```
4137 \let\htmladding\hyperimage
4138 \def\htmladdnormallink#1#2{\href{#2}{#1}}
4139 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
4140 \def\htmlref#1#2{% anchor text, label
4141   \label@hyperref[{#2}]{#1}%
4142 }
```

This is really too much. The `LATEX2html` package defines its own `\hyperref` command, with a different syntax. Was this always here? Its weird, anyway. We interpret it in the ‘printed’ way, since we are about fidelity to the page.

```
4143 \def\@latex2htmlX{%
4144   \let\hhyperref\hyperref
4145   \def\hyperref##1##2##3##4{% anchor text for HTML
4146     % text to print before label in print
4147     % label
4148     % post-label text in print
4149     ##2\ref{##4}##3%
4150   }%
4151 }
```

## 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.

```
4152 \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
4153 \def\HyField@NewFlag#1#2{%
4154   \lowercase{\HyField@NewOption{#2}}%
4155   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4156 }
```

`\HyField@NewFlagOnly`

```
4157 \def\HyField@NewFlagOnly#1#2{%
4158   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4159 }
```

`\HyField@NewOption` #1: option name

```
4160 \def\HyField@NewOption#1{%
```

```

4161 \expandafter\newif\csname ifFld@#1\endcsname
4162 \define@key{Field}{#1}[true]{%
4163   \lowercase{\Field@boolkey{##1}}{#1}%
4164 }%
4165 }

```

\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
4166 \def\HyField@NewBitsetFlag#1#2#3#4{%
4167   \begingroup
4168   \count@=#4\relax
4169   \advance\count@\m@ne
4170   \def\x##1{%
4171     \endgroup
4172     \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
4173     \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
4174       \expandafter\edef\csname HyField@#3@##1\endcsname{%
4175         (\number#4) #2%
4176       }%
4177     \else
4178       \expandafter\edef\csname HyField@#3@##1\endcsname{%
4179         \csname HyField@#3@##1\endcsname
4180         /#2%
4181       }%
4182     \fi
4183   }%
4184   \expandafter\x\expandafter{\the\count@}%
4185 }

```

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

```

4186 \def\HyField@UseFlag#1#2{%
4187   \lowercase{\HyField@@UseFlag{#2}}{#1}%
4188 }

```

\HyField@@UseFlag

```

4189 \def\HyField@@UseFlag#1#2{%
4190   \bitsetSetValue{HyField@#2}{%
4191     \csname HyField@#2@#1\endcsname
4192   }{%
4193     \csname ifFld@#1\endcsname 1\else 0\fi
4194   }%
4195 }

```

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

```

4196 \def\HyField@SetFlag#1#2{%
4197   \lowercase{\HyField@@SetFlag{#2}}{#1}%
4198 }

```

\HyField@@SetFlag

```

4199 \def\HyField@@SetFlag#1#2{%
4200   \bitsetSetValue{HyField@#2}{%
4201     \csname HyField@#2@#1\endcsname
4202   }{1}%
4203 }

```



\HyField@PrintFlags

```
4204 \def\HyField@PrintFlags#1#2{%
4205   \ifHy@verbose
4206     \begingroup
4207       \let\Hy@temp\@empty
4208       \let\MessageBreak\relax
4209       \expandafter\@for\expandafter\x\expandafter:\expandafter=%
4210       \bitsetGetSetBitList{HyField@#1}\do{%
4211         \edef\Hy@temp{%
4212           \Hy@temp
4213           \csname HyField@#1@\x\endcsname\MessageBreak
4214         }%
4215       }%
4216     \edef\x{\endgroup
4217       \noexpand\Hy@Info{%
4218         Field flags: %
4219         \expandafter\ifx\@car#1\@nil S\else/\fi
4220         #1 %
4221         \bitsetGetDec{HyField@#1} %
4222         (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
4223         \Hy@temp
4224         for #2%
4225       }%
4226     }\x
4227   \fi
4228 }
```

### 19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```
4229 \HyField@NewFlag{Ff}{ReadOnly}{1}
4230 \HyField@NewFlag{Ff}{Required}{2}
4231 \HyField@NewFlag{Ff}{NoExport}{3}
```

“Table 8.75 Field flags specific to button fields”

```
4232 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
4233 \HyField@NewFlag{Ff}{Radio}{16}
4234 \HyField@NewFlag{Ff}{Pushbutton}{17}
4235 \HyField@NewFlag{Ff}{RadiosInUnison}{26}
```

“Table 8.77 Field flags specific to text fields”

```
4236 \HyField@NewFlag{Ff}{Multiline}{13}
4237 \HyField@NewFlag{Ff}{Password}{14}
4238 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
4239 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4240 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
4241 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
4242 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5
```

“Table 8.79 field flags specific to choice fields”

```
4243 \HyField@NewFlag{Ff}{Combo}{18}
4244 \HyField@NewFlag{Ff}{Edit}{19}
4245 \HyField@NewFlag{Ff}{Sort}{20}
4246 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
4247 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4248 \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.

```
4249 \newif\ifFld@popdown
4250 \define@key{Field}{popdown}[true]{%
4251 \lowercase{\Field@boolkey{#1}}{popdown}%
4252 }
```

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.

```
4253 \HyField@NewFlag{F}{Invisible}{1}
4254 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
4255 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
4256 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
4257 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
4258 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
4259 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
4260 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
4261 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

4262 \ifHy@pdfa
4263 \def\HyField@PDFAFldWarning#1#2{%
4264 \Hy@Warning{%
4265 PDF/A: Annotation flag ‘#1’ must\MessageBreak
4266 be set to ‘#2’%
4267 }%
4268 }%
4269 \Fld@invisiblefalse
4270 \def\Fld@invisibletrue{%
4271 \HyField@PDFAFldWarning{invisible}{false}%
4272 }%
4273 \Fld@hiddenfalse
4274 \def\Fld@hiddentrue{%
4275 \HyField@PDFAFldWarning{hidden}{false}%
4276 }%
4277 \Fld@printtrue
4278 \def\Fld@printfalse{%
4279 \HyField@PDFAFldWarning{print}{true}%
4280 }%
4281 \Fld@nozoomtrue
4282 \def\Fld@nozoomfalse{%
4283 \HyField@PDFAFldWarning{nozoom}{true}%
4284 }%
4285 \Fld@norotatetrue
4286 \def\Fld@norotatefalse{%
4287 \HyField@PDFAFldWarning{norotate}{true}%
4288 }%
4289 \Fld@noviewfalse
4290 \def\Fld@noviewtrue{%
4291 \HyField@PDFAFldWarning{noview}{false}%
4292 }%
4293 \fi
```

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

```
4294 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
4295 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
```

```

4296 \HyField@NewFlag{Submit}{GetMethod}{4}
4297 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
4298 \HyField@NewFlagOnly{Submit}{XFDF}{6}
4299 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
4300 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
4301 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
4302 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
4303 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
4304 \HyField@NewFlag{Submit}{ExclFKey}{12}
4305 \HyField@NewFlag{Submit}{EmbedForm}{14}

4306 \define@key{Field}{export}{%
4307   \lowercase{\def\Hy@temp{#1}}%
4308   \@ifundefined{Fld@export@Hy@temp}{%
4309     \@onelevel@sanitize\Hy@temp
4310     \PackageError{hyperref}{%
4311       Unknown export format '\Hy@temp'.\MessageBreak
4312       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
4313     }\@ehc
4314   }{%
4315     \let\Fld@export\Hy@temp
4316   }%
4317 }
4318 \def\Fld@export{fdf}
4319 \@namedef{Fld@export@fdf}{0}%
4320 \@namedef{Fld@export@html}{1}%
4321 \@namedef{Fld@export@xfdf}{2}%
4322 \@namedef{Fld@export@pdf}{3}%

```

### 19.1.2 Set submit flags

\HyField@FlagsSubmit

```

4323 \def\HyField@FlagsSubmit{%
4324   \bitsetReset{HyField@Submit}%
4325   \ifcase\@nameuse{Fld@export@Fld@export} %
4326     % FDF
4327     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4328     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4329     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
4330     \HyField@UseFlag{Submit}{IncludeAnnotations}%
4331     \HyField@UseFlag{Submit}{CanonicalFormat}%
4332     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
4333     \HyField@UseFlag{Submit}{ExclFKey}%
4334     \HyField@UseFlag{Submit}{EmbedForm}%
4335   \or % HTML
4336     \HyField@SetFlag{Submit}{ExportFormat}%
4337     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4338     \HyField@UseFlag{Submit}{GetMethod}%
4339     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4340     \HyField@UseFlag{Submit}{CanonicalFormat}%
4341   \or % XFDF
4342     \HyField@SetFlag{Submit}{XFDF}%
4343     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4344     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4345     \HyField@UseFlag{Submit}{CanonicalFormat}%
4346   \or % PDF
4347     \HyField@SetFlag{Submit}{SubmitPDF}%
4348     \HyField@UseFlag{Submit}{GetMethod}%

```

```

4349 \fi
4350 \HyField@PrintFlags{Submit}{submit button field}%
4351 \bitsetIsEmpty{HyField@Submit}{%
4352   \def\Fld@submitflags{%
4353   }{%
4354   \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}}%
4355   }%
4356 }

```

### 19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

4357 \def\HyField@FlagsAnnot#1{%
4358   \bitsetReset{HyField@F}%
4359   \HyField@UseFlag{F}{Invisible}%
4360   \HyField@UseFlag{F}{Hidden}%
4361   \HyField@UseFlag{F}{Print}%
4362   \HyField@UseFlag{F}{NoZoom}%
4363   \HyField@UseFlag{F}{NoRotate}%
4364   \HyField@UseFlag{F}{NoView}%
4365   \HyField@UseFlag{F}{Locked}%
4366   \HyField@UseFlag{F}{ToggleNoView}%
4367   \HyField@UseFlag{F}{LockedContents}%
4368   \HyField@PrintFlags{F}{#1}%
4369   \bitsetIsEmpty{HyField@F}{%
4370     \def\Fld@annotflags{%
4371     }{%
4372     \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}}%
4373     }%
4374 }

```

### 19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

4375 \def\HyField@FlagsPushButton{%
4376   \HyField@FlagsAnnot{push button field}%
4377   \bitsetReset{HyField@Ff}%
4378   \HyField@UseFlag{Ff}{ReadOnly}%
4379   \HyField@UseFlag{Ff}{Required}%
4380   \HyField@UseFlag{Ff}{NoExport}%
4381   \HyField@SetFlag{Ff}{Pushbutton}%
4382   \HyField@PrintFlags{Ff}{push button field}%
4383   \bitsetIsEmpty{HyField@Ff}{%
4384     \def\Fld@flags{%
4385     }{%
4386     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4387     }%
4388 }

```

### 19.1.5 Check box field

\HyField@FlagsCheckBox

```

4389 \def\HyField@FlagsCheckBox{%
4390   \HyField@FlagsAnnot{check box field}%
4391   \bitsetReset{HyField@Ff}%
4392   \HyField@UseFlag{Ff}{ReadOnly}%

```

```

4393 \HyField@UseFlag{Ff}{Required}%
4394 \HyField@UseFlag{Ff}{NoExport}%
4395 \HyField@PrintFlags{Ff}{check box field}%
4396 \bitsetIsEmpty{HyField@Ff}{%
4397   \def\Fld@flags{%
4398   }{%
4399   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4400 }%
4401 }

```

### 19.1.6 Radio button field

\HyField@FlagsRadioButton

```

4402 \def\HyField@FlagsRadioButton{%
4403   \HyField@FlagsAnnot{radio button field}%
4404   \bitsetReset{HyField@Ff}%
4405   \HyField@UseFlag{Ff}{ReadOnly}%
4406   \HyField@UseFlag{Ff}{Required}%
4407   \HyField@UseFlag{Ff}{NoExport}%
4408   \HyField@UseFlag{Ff}{NoToggleToOff}%
4409   \HyField@SetFlag{Ff}{Radio}%
4410   \HyField@UseFlag{Ff}{RadiosInUnison}%
4411   \HyField@PrintFlags{Ff}{radio button field}%
4412   \bitsetIsEmpty{HyField@Ff}{%
4413     \def\Fld@flags{%
4414     }{%
4415     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4416   }%
4417 }

```

### 19.1.7 Text fields

\HyField@FlagsText

```

4418 \def\HyField@FlagsText{%
4419   \HyField@FlagsAnnot{text field}%
4420   \bitsetReset{HyField@Ff}%
4421   \HyField@UseFlag{Ff}{ReadOnly}%
4422   \HyField@UseFlag{Ff}{Required}%
4423   \HyField@UseFlag{Ff}{NoExport}%
4424   \HyField@UseFlag{Ff}{Multiline}%
4425   \HyField@UseFlag{Ff}{Password}%
4426   \HyField@UseFlag{Ff}{FileSelect}%
4427   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4428   \HyField@UseFlag{Ff}{DoNotScroll}%
4429   \ifFld@comb
4430     \ifcase0\ifFld@multiline
4431       \else\ifFld@password
4432       \else\ifFld@fileselect
4433       \else 1\fi\fi\fi\relax
4434     \PackageError{hyperref}{%
4435       Field option ‘comb’ cannot used together with\MessageBreak
4436       ‘multiline’, ‘password’, or ‘fileselect’%
4437     }\@ehc
4438   \else
4439     \HyField@UseFlag{Ff}{Comb}%
4440   \fi

```

```

4441 \fi
4442 \HyField@UseFlag{Ff}{RichText}%
4443 \HyField@PrintFlags{Ff}{text field}%
4444 \bitsetIsEmpty{HyField@Ff}{%
4445   \def\Fld@flags{%
4446   }{%
4447   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4448   }%
4449 }

```

### 19.1.8 Choice fields

\HyField@FlagsChoice

```

4450 \def\HyField@FlagsChoice{%
4451   \HyField@FlagsAnnot{choice field}%
4452   \bitsetReset{HyField@Ff}%
4453   \HyField@UseFlag{Ff}{ReadOnly}%
4454   \HyField@UseFlag{Ff}{Required}%
4455   \HyField@UseFlag{Ff}{NoExport}%
4456   \HyField@UseFlag{Ff}{Combo}%
4457   \ifFld@combo
4458     \HyField@UseFlag{Ff}{Edit}%
4459   \fi
4460   \HyField@UseFlag{Ff}{Sort}%
4461   \HyField@UseFlag{Ff}{MultiSelect}%
4462   \ifFld@combo
4463     \ifFld@edit
4464       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4465     \fi
4466   \fi
4467   \HyField@UseFlag{Ff}{CommitOnSelChange}%
4468   \HyField@PrintFlags{Ff}{choice field}%
4469   \bitsetIsEmpty{HyField@Ff}{%
4470     \def\Fld@flags{%
4471     }{%
4472     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4473     }%
4474 }

```

## 19.2 Choice field

\HyField@PDFChoices #1: list of choices in key value syntax, key = exported name, value = displayed text.

Input: \Fld@default, \Fld@value, \ifFld@multiselect

Result: \Fld@choices with entries: /Opt, /DV, /V, /I.

```

4475 \def\HyField@PDFChoices#1{%
4476   \begingroup
4477   \gdef\Fld@choices{%
4478   \def\HyTmp@optlist{%
4479     \let\HyTmp@optitem\relax
4480     \count@=0 %
4481     \kv@parse{#1}{%
4482       \Hy@pdfstringdef\kv@key\kv@key
4483       \ifx\kv@value\relax
4484         \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4485           \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4486         \else

```

```

4487     \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4488     \fi
4489   \else
4490     \Hy@pdfstringdef\kv@value\kv@value
4491     \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
4492   \fi
4493   \edef\HyTmp@optlist{%
4494     \HyTmp@optlist
4495     \HyTmp@optitem{\the\count@}{\kv@key}0%
4496   }%
4497   \advance\count@ by 1 %
4498   \@gobbletwo
4499 }%
4500 \xdef\Fld@choices{/Opt[\Fld@choices]}%
4501 \ifFld@multiselect
4502   \HyField@@PDFChoices{DV}\Fld@default
4503   \HyField@@PDFChoices{V}\Fld@value
4504 \else
4505   \ifx\Fld@default\relax
4506   \else
4507     \pdfstringdef\Hy@gtemp\Fld@default
4508     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4509   \fi
4510   \ifx\Fld@value\relax
4511   \else
4512     \pdfstringdef\Hy@gtemp\Fld@value
4513     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4514   \fi
4515 \fi
4516 \endgroup
4517 }

```

\HyField@@PDFChoices

```

4518 \def\HyField@@PDFChoices#1#2{%
4519   \ifx#2\relax
4520   \else
4521     \count@=0 %
4522     \def\HyTmp@optitem##1##2##3{%
4523       \def\HyTmp@key{##2}%
4524       \ifx\HyTmp@key\Hy@gtemp
4525         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4526           \HyTmp@optlist
4527           \HyTmp@optitem{##1}{##2}1%
4528         }%
4529         \let\HyTmp@found=Y%
4530       \else
4531         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4532           \HyTmp@optlist
4533           \HyTmp@optitem{##1}{##2}##3%
4534         }%
4535       \fi
4536     }%
4537     \expandafter\comma@parse\expandafter{#2}{%
4538       \pdfstringdef\Hy@gtemp\comma@entry
4539       \let\HyTmp@found=N %
4540       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4541       \HyTmp@optlist

```

```

4542 \ifx\HyTmp@found Y%
4543 \advance\count@ by 1 %
4544 \else
4545 \@onelevel@sanitize\comma@entry
4546 \PackageWarning{hyperref}{%
4547 \string\ChoiceBox: Ignoring value '\comma@entry',%
4548 \MessageBreak
4549 it cannot be found in the choices%
4550 }%
4551 \fi
4552 \@gobble
4553 }%
4554 \def\HyTmp@optitem##1##2##3{%
4555 \ifnum##3=1 %
4556 (##2)%
4557 \fi
4558 }%
4559 \ifcase\count@
4560 \or
4561 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4562 \else
4563 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4564 \ifx#1V%
4565 \def\HyTmp@optitem##1##2##3{%
4566 \ifnum##3=1 %
4567 \@firstofone{ ##1}%
4568 \fi
4569 }%
4570 \edef\HyTmp@optlist{\HyTmp@optlist}%
4571 \xdef\Fld@choices{%
4572 \Fld@choices
4573 /I[\expandafter\@firstofone\HyTmp@optlist]%
4574 }%
4575 \fi
4576 \fi
4577 \fi
4578 }

```

## 19.3 Forms

\HyField@SetKeys

```

4579 \def\HyField@SetKeys{%
4580 \setkeys{Field}%
4581 }

4582 \newif\ifFld@checked
4583 \newif\ifFld@disabled
4584 \Fld@checkedfalse
4585 \Fld@disabledfalse
4586 \newcount\Fld@menulength
4587 \newdimen\Fld@Width
4588 \newdimen\Fld@charsize
4589 \Fld@charsize=10\p@
4590 \def\Fld@maxlen{0}
4591 \def\Fld@align{0}
4592 \def\Fld@color{0 0 0 rg}
4593 \def\Fld@bcolor{1 1 1}

```



```

4594 \def\Fld@bordercolor{1 0 0}
4595 \def\Fld@bordersep{1\p@}
4596 \def\Fld@borderwidth{1}
4597 \def\Fld@borderstyle{S}
4598 \def\Fld@cbsymbol{4}
4599 \def\Fld@radiosymbol{H}
4600 \def\Fld@rotation{0}
4601 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4602 \def\endForm{\@endForm}
4603 \newif\ifForm@html
4604 \Form@htmlfalse
4605 \def\Form@boolkey#1#2{%
4606   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4607 }
4608 \define@key{Form}{action}{%
4609   \hyper@normalise\Hy@DefFormAction{#1}%
4610 }
4611 \def\Hy@DefFormAction{\def\Form@action}
4612 \def\enc@html{html}
4613 \define@key{Form}{encoding}{%
4614   \def\Hy@tempa{#1}%
4615   \ifx\Hy@tempa\enc@html
4616     \Form@htmltrue
4617     \def\Fld@export{html}%
4618   \else
4619     \typeout{hyperref: form 'encoding' key set to #1 %
4620       -- unknown type%
4621   }%
4622   \Form@htmlfalse
4623   \fi
4624 }
4625 \define@key{Form}{method}{%
4626   \lowercase{\def\Hy@temp{#1}}%
4627   \@ifundefined{Form@method@\Hy@temp}{%
4628     \@onelevel@sanitize\Hy@temp
4629     \PackageError{hyperref}{%
4630       Unknown method '\Hy@temp'.\MessageBreak
4631       Known values are 'post' and 'get'%
4632     }\@ehc
4633   }{%
4634     \let\Form@method\Hy@temp
4635     \ifcase\@nameuse{Form@method@\Hy@temp} %
4636       \Fld@getmethodfalse
4637     \else
4638       \Fld@getmethodtrue
4639     \fi
4640   }%
4641 }
4642 \def\Form@method{}
4643 \@namedef{Form@method@post}{0}
4644 \@namedef{Form@method@get}{1}
4645 \def\Field@boolkey#1#2{%
4646   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4647 }
4648 \newtoks\Field@toks
4649 \Field@toks={ }%
4650 \def\Field@addtoks#1#2{%

```

```

4651 \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
4652 \@processme
4653 }
4654 \def\Fld@checkequals#1=#2=#3\\{%
4655 \def\@currDisplay{#1}%
4656 \ifx\\#2\\%
4657 \def\@currValue{#1}%
4658 \else
4659 \def\@currValue{#2}%
4660 \fi
4661 }
4662 \define@key{Field}{loc}{%
4663 \def\Fld@loc{#1}%
4664 }
4665 \define@key{Field}{checked}[true]{%
4666 \lowercase{\Field@boolkey{#1}}{checked}%
4667 }
4668 \define@key{Field}{disabled}[true]{%
4669 \lowercase{\Field@boolkey{#1}}{disabled}%
4670 }
4671 \define@key{Field}{accesskey}{%
4672 \Field@addtoks{accesskey}{#1}%
4673 }
4674 \define@key{Field}{tabkey}{%
4675 \Field@addtoks{tabkey}{#1}%
4676 }
4677 \define@key{Field}{name}{%
4678 \def\Fld@name{#1}%
4679 }
4680 \define@key{Field}{width}{%
4681 \def\Fld@width{#1}%
4682 \Field@Width#1\setbox0=\hbox{m}%
4683 }
4684 \define@key{Field}{maxlen}{%
4685 \def\Fld@maxlen{#1}%
4686 }
4687 \define@key{Field}{menulength}{%
4688 \Fld@menulength=#1\relax
4689 }
4690 \define@key{Field}{height}{%
4691 \def\Fld@height{#1}%
4692 }
4693 \define@key{Field}{charsize}{%
4694 \Fld@charsize#1%
4695 }
4696 \define@key{Field}{borderwidth}{%
4697 \def\Fld@borderwidth{#1}%
4698 }
4699 \define@key{Field}{borderstyle}{%
4700 \def\Fld@borderstyle{#1}%
4701 }
4702 \define@key{Field}{bordersep}{%
4703 \def\Fld@bordersep{#1}%
4704 }
4705 \define@key{Field}{default}{%
4706 \def\Fld@default{#1}%
4707 }

```

```

4708 \define@key{Field}{align}{%
4709   \def\Fld@align{#1}%
4710 }
4711 \define@key{Field}{value}{%
4712   \def\Fld@value{#1}%
4713 }
4714 \define@key{Field}{checkboxsymbol}{%
4715   \Fld@DingDef\Fld@cbsymbol{#1}%
4716 }
4717 \define@key{Field}{radiosymbol}{%
4718   \Fld@DingDef\Fld@radiosymbol{#1}%
4719 }
4720 \def\Fld@DingDef#1#2{%
4721   \def\Fld@temp{}%
4722   \Fld@@DingDef#2\ding{}\@nil
4723   \let#1\Fld@temp
4724 }
4725 \def\Fld@@DingDef#1\ding#2#3\@nil{%
4726   \expandafter\def\expandafter\Fld@temp\expandafter{%
4727     \Fld@temp
4728     #1%
4729   }%
4730   \ifx\\#3\\%
4731     \expandafter\@gobble
4732   \else
4733     \begingroup
4734       \lccode'0=#2\relax
4735       \lowercase{\endgroup
4736         \expandafter\def\expandafter\Fld@temp\expandafter{%
4737           \Fld@temp
4738           0%
4739         }%
4740       }%
4741     \expandafter\@firstofone
4742   \fi
4743   {%
4744     \Fld@@DingDef#3\@nil
4745   }%
4746 }
4747 \define@key{Field}{rotation}{%
4748   \def\Fld@rotation{#1}%
4749 }
4750 \define@key{Field}{backgroundcolor}{%
4751   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4752 }
4753 \define@key{Field}{bordercolor}{%
4754   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4755 }
4756 \define@key{Field}{color}{%
4757   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4758 }
4759 \def\Fld@onclick@code{}
4760 \def\Fld@format@code{}
4761 \def\Fld@validate@code{}
4762 \def\Fld@calculate@code{}
4763 \def\Fld@keystroke@code{}

```

```

4764 \def\Fld@onfocus@code{}
4765 \def\Fld@onblur@code{}
4766 \def\Fld@onmousedown@code{}
4767 \def\Fld@onmouseup@code{}
4768 \def\Fld@onenter@code{}
4769 \def\Fld@onexit@code{}
4770 \def\Hy@temp#1{%
4771   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4772 }
4773 \def\Hy@@temp#1#2{%
4774   \ifHy@pdfa
4775     \define@key{Field}{#2}{%
4776       \PackageError{hyperref}{%
4777         PDF/A: Additional action ‘#2’ is prohibited%
4778       }\@ehc
4779     }%
4780   \else
4781     \define@key{Field}{#2}{%
4782       \def#1{##1}%
4783     }%
4784   \fi
4785 }
4786 \Hy@temp{keystroke}
4787 \Hy@temp{format}
4788 \Hy@temp{validate}
4789 \Hy@temp{calculate}
4790 \Hy@temp{onfocus}
4791 \Hy@temp{onblur}
4792 \Hy@temp{onenter}
4793 \Hy@temp{onexit}
4794 \def\Hy@temp#1{%
4795   \define@key{Field}{#1}{%
4796     \Field@addtoks{#1}{##1}%
4797   }%
4798 }
4799 \Hy@temp{onselect}
4800 \Hy@temp{onchange}
4801 \Hy@temp{ondblclick}
4802 \Hy@temp{onmousedown}
4803 \Hy@temp{onmouseup}
4804 \Hy@temp{onmouseover}
4805 \Hy@temp{onmousemove}
4806 \Hy@temp{onmouseout}
4807 \Hy@temp{onkeypress}
4808 \Hy@temp{onkeydown}
4809 \Hy@temp{onkeyup}
4810 \ifHy@pdfa
4811   \define@key{Field}{onclick}{%
4812     \PackageError{hyperref}{%
4813       PDF/A: Action ‘onclick’ is prohibited%
4814     }\@ehc
4815   }%
4816 \else
4817   \define@key{Field}{onclick}{%
4818     \def\Fld@onclick@code{#1}%
4819     \Field@addtoks{onclick}{#1}%
4820   }%

```

```

4821 \fi
4822 \DeclareRobustCommand\TextField{%
4823   \ifnextchar[{\@TextField}{\@TextField[]}%
4824 }
4825 \DeclareRobustCommand\ChoiceMenu{%
4826   \ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4827 }
4828 \DeclareRobustCommand\CheckBox{%
4829   \ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4830 }
4831 \DeclareRobustCommand\PushButton{%
4832   \ifnextchar[{\@PushButton}{\@PushButton[]}%
4833 }
4834 \DeclareRobustCommand\Gauge{%
4835   \ifnextchar[{\@Gauge}{\@Gauge[]}%
4836 }
4837 \DeclareRobustCommand\Submit{%
4838   \ifnextchar[{\@Submit}{\@Submit[]}%
4839 }
4840 \DeclareRobustCommand\Reset{%
4841   \ifnextchar[{\@Reset}{\@Reset[]}%
4842 }
4843 \def\LayoutTextField#1#2{% label, field
4844   #1 #2%
4845 }
4846 \def\LayoutChoiceField#1#2{% label, field
4847   #1 #2%
4848 }
4849 \def\LayoutCheckField#1#2{% label, field
4850   #1 #2%
4851 }
4852 \def\LayoutPushButtonField#1{% button
4853   #1%
4854 }
4855 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4856 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4857 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4858 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4859 \def\MakeButtonField#1{%
4860   \sbox0{%
4861     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4862   }%
4863   \@tempdima\ht0 %
4864   \advance\@tempdima by \Fld@borderwidth bp %
4865   \advance\@tempdima by \Fld@borderwidth bp %
4866   \ht0\@tempdima
4867   \@tempdima\dp0 %
4868   \advance\@tempdima by \Fld@borderwidth bp %
4869   \advance\@tempdima by \Fld@borderwidth bp %
4870   \dp0\@tempdima
4871   \box0\relax
4872 }
4873 \def\DefaultHeightofSubmit{14pt}
4874 \def\DefaultWidthofSubmit{2cm}
4875 \def\DefaultHeightofReset{14pt}
4876 \def\DefaultWidthofReset{2cm}
4877 \def\DefaultHeightofCheckBox{\baselineskip}

```

```

4878 \def\DefaultWidthofCheckBox{\baselineskip}
4879 \def\DefaultHeightofChoiceMenu{\baselineskip}
4880 \def\DefaultWidthofChoiceMenu{\baselineskip}
4881 \def\DefaultHeightofText{\baselineskip}
4882 \def\DefaultHeightofTextMultiline{4\baselineskip}
4883 \def\DefaultWidthofText{3cm}
4884 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4885 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4886 \def\DefaultOptionsofPushButton{print}
4887 \def\DefaultOptionsofCheckBox{print}
4888 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

4889 \def\DefaultOptionsofListBox{print}
4890 \def\DefaultOptionsofComboBox{print,edit,sort}
4891 \def\DefaultOptionsofPopdownBox{print}
4892 \def\DefaultOptionsofRadio{print,notoggletooft}

```

## 20 Setup

```

4893 \ifHy@figures
4894 \Hy@Info{Hyper figures ON}%
4895 \else
4896 \Hy@Info{Hyper figures OFF}%
4897 \fi
4898 \ifHy@nesting
4899 \Hy@Info{Link nesting ON}%
4900 \else
4901 \Hy@Info{Link nesting OFF}%
4902 \fi
4903 \ifHy@hyperindex
4904 \Hy@Info{Hyper index ON}%
4905 \else
4906 \Hy@Info{Hyper index OFF}%
4907 \fi
4908 \ifHy@backref
4909 \Hy@Info{backreferencing ON}%
4910 \else
4911 \Hy@Info{backreferencing OFF}%
4912 \fi
4913 \ifHy@colorlinks
4914 \Hy@Info{Link coloring ON}%
4915 \else
4916 \Hy@Info{Link coloring OFF}%
4917 \fi
4918 \ifHy@ocgcolorlinks
4919 \Hy@Info{Link coloring with OCG ON}%
4920 \else
4921 \Hy@Info{Link coloring with OCG OFF}%
4922 \fi
4923 \ifHy@pdfa
4924 \Hy@Info{PDF/A mode ON}%
4925 \else
4926 \Hy@Info{PDF/A mode OFF}%
4927 \fi

```

## 21 Low-level utility macros

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

```
4928 \edef\hyper@hash{\string#}
4929 \edef\hyper@tilde{\string~}
4930 \edef\hyper@quote{\string"}
4931 \let\@currentHref\@empty
4932 \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.

```
4933 \AfterBeginDocument{%
4934   \Hy@pdfstringtrue
4935   \PDF@SetupDoc
4936   \let\PDF@SetupDoc\@empty
4937   \Hy@DisableOption{pdfpagescrop}%
4938   \Hy@DisableOption{pdfpagemode}%
4939   \Hy@DisableOption{pdfnonfullscreenpagemode}%
4940   \Hy@DisableOption{pdfdirection}%
4941   \Hy@DisableOption{pdfviewarea}%
4942   \Hy@DisableOption{pdfviewclip}%
4943   \Hy@DisableOption{pdfprintarea}%
4944   \Hy@DisableOption{pdfprintclip}%
4945   \Hy@DisableOption{pdfprintscaling}%
4946   \Hy@DisableOption{pdfduplex}%
4947   \Hy@DisableOption{pdfpicktraybypdfsize}%
4948   \Hy@DisableOption{pdfprintpagerange}%
4949   \Hy@DisableOption{pdfnumcopies}%
4950   \Hy@DisableOption{pdfstartview}%
4951   \Hy@DisableOption{pdfstartpage}%
4952   \Hy@DisableOption{pdftoolbar}%
4953   \Hy@DisableOption{pdfmenubar}%
4954   \Hy@DisableOption{pdfwindowui}%
4955   \Hy@DisableOption{pdfitwindow}%
4956   \Hy@DisableOption{pdfcenterwindow}%
4957   \Hy@DisableOption{pdfdisplaydoctitle}%
4958   \Hy@DisableOption{pdfpagelayout}%
4959   \Hy@DisableOption{pdflang}%
4960   \Hy@DisableOption{baseurl}%
4961   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4962   \Hy@pdfstringfalse
4963 }
```

Ignore star from referencing macros:

```
4964 \LetLtxMacro\NoHy@OrgRef\ref
4965 \DeclareRobustCommand*\ref{%
4966   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
4967 }
4968 \LetLtxMacro\NoHy@OrgPageRef\pageref
4969 \DeclareRobustCommand*\pageref{%
4970   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
4971 }
```

## 22 Localized nullifying of package

Sometimes we just don't want the wretched package interfering with us. Define an environment we can put in manually, or include in a style file, which stops the hypertext func-

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

```

4972 \def\NoHyper{%
4973   \def\hyper@link@[##1]##2##3##4{##4}%
4974   \def\hyper@@anchor##1{%
4975     \global\let\hyper@livelink\hyper@link
4976     \gdef\hyper@link##1##2##3{##3}%
4977     \def\hyper@anchor##1{%
4978       \def\hyper@anchorstart##1{%
4979         \let\hyper@anchorend\@empty
4980         \def\hyper@linkstart##1##2{%
4981           \let\hyper@linkend\@empty
4982           \def\hyper@linkurl##1##2{##1}%
4983           \def\hyper@linkfile##1##2##3{##1}%
4984           \def\hyper@link@[##1]##2##3{%
4985             \let\Hy@backout\@gobble
4986           }
4987         \def\stop@hyper{%
4988           \def\hyper@link@[##1]##2##3##4{##4}%
4989           \let\Hy@backout\@gobble
4990           \def\hyper@@anchor##1{%
4991             \def\hyper@link##1##2##3{##3}%
4992             \def\hyper@anchor##1{%
4993               \def\hyper@anchorstart##1{%
4994                 \let\hyper@anchorend\@empty
4995                 \def\hyper@linkstart##1##2{%
4996                   \let\hyper@linkend\@empty
4997                   \def\hyper@linkurl##1##2{##1}%
4998                   \def\hyper@linkfile##1##2##3{##1}%
4999                   \def\hyper@link@[##1]##2##3{%
5000                 }
5001               \def\endNoHyper{%
5002                 \global\let\hyper@link\hyper@livelink
5003               }
5004             }

```

## 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:

```

5005 \*nohyperref
5006 \RequirePackage{letltxmacro}[2008/06/13]
5007 \let\hyper@@anchor\@gobble
5008 \def\hyper@link##1##2##3{##3}%
5009 \let\hyper@anchorstart\@gobble
5010 \let\hyper@anchorend\@empty
5011 \let\hyper@linkstart\@gobbletwo
5012 \let\hyper@linkend\@empty
5013 \def\hyper@linkurl##1##2{##1}%
5014 \def\hyper@linkfile##1##2##3{##1}%
5015 \def\hyper@link@[##1]##2##3{%

```



```

5016 \let\PDF@SetupDoc\@empty
5017 \let\PDF@FinishDoc\@empty
5018 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

5019 \def\Acrobatmenu#1#2{\leavevmode#2}
5020 \let\pdfstringdefDisableCommands\@gobbletwo
5021 \let\texorpdfstring\@firstoftwo
5022 \let\pdfbookmark\@undefined
5023 \newcommand\pdfbookmark[3]{}{}
5024 \let\phantomsection\@empty
5025 \let\hypersetup\@gobble
5026 \let\hyperbaseurl\@gobble
5027 \let\href\@gobble
5028 \let\hyperdef\@gobbletwo
5029 \let\hyperlink\@gobble
5030 \let\hypertarget\@gobble
5031 \def\hyperref{%
5032   \ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
5033 }
5034 \long\def\@gobbleopt[#1]{%
5035 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

5036 \LetLtxMacro\NoHy@OrgRef\ref
5037 \DeclareRobustCommand*\ref{%
5038   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
5039 }
5040 \LetLtxMacro\NoHy@OrgPageRef\pageref
5041 \DeclareRobustCommand*\pageref{%
5042   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5043 }
5044 \let\nohyperref\@empty

```

## 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}

```

5045 \*package
5046 \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.

```

5047 \if@filesw
5048   \ifHy@typexml
5049     \immediate\closeout\@mainaux
5050     \immediate\openout\@mainaux\jobname.aux\relax
5051     \immediate\write\@auxout{<relaxxml>\relax}%
5052   \fi
5053   \immediate\write\@auxout{%
5054     \string\ifx\string\hyper@anchor\string\@undefined^^J%
5055     \global\let\string\oldcontentsline\string\contentsline^^J%
5056     \gdef\string\contentsline%
5057     \string#1\string#2\string#3\string#4{%

```

```

5058     \string\oldcontentsline%
5059     {\string#1}{\string#2}{\string#3}}^^J%
5060 \global\let\string\oldnewlabel\string\newlabel^^J%
5061 \gdef\string\newlabel\string#1\string#2{%
5062     \string\newlabelxx{\string#1}\string#2}}^^J%
5063 \gdef\string\newlabelxx%
5064     \string#1\string#2\string#3\string#4\string#5\string#6{%
5065     \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.

```

5066     \string\AtEndDocument{%
5067     \let\string\contentsline\string\oldcontentsline^^J%
5068     \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.

```

5069     \string\else^^J%
5070     \global\let\string\hyper@last\relax^^J%
5071     \string\fi^^J%
5072 }%
5073 \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.

```

5074 \ifx\hyper@last\@undefined
5075 \def\@starttoc#1{%
5076     \begingroup
5077     \makeatletter
5078     \IfFileExists{\jobname.#1}{%
5079         \Hy@WarningNoLine{%
5080             old #1 file detected, not used; run LaTeX again%
5081         }%
5082     }{}%
5083     \if@filesw
5084         \expandafter\newwrite\csname tf@#1\endcsname
5085         \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
5086     \fi
5087     \@nobreakfalse
5088     \endgroup
5089 }%
5090 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
5091 \fi
5092 }

```

## 25 Title strings

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

```

5093 \ifHy@usetitle
5094 \let\HyOrg@title\title
5095 \let\HyOrg@author\author
5096 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%

```

```

5097 \def\Hy@scanopttitle[#1]{%
5098   \gdef\Hy@title{#1}%
5099   \HyOrg@title{#1}%
5100 }%
5101 \def\Hy@scantitle#1{%
5102   \gdef\Hy@title{#1}%
5103   \HyOrg@title{#1}%
5104 }%
5105 \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
5106 \def\Hy@scanoptauthor[#1]{%
5107   \gdef\Hy@author{#1}%
5108   \HyOrg@author{#1}%
5109 }%
5110 \def\Hy@scanauthor#1{%
5111   \gdef\Hy@author{#1}%
5112   \HyOrg@author{#1}%
5113 }%

```

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

```

5114 \begingroup
5115   \def\process@me#1\@nil#2{%
5116     \expandafter\let\expandafter\x\csname @#2\endcsname
5117     \edef\y{\expandafter\strip@prefix\meaning\x}%
5118     \def\c##1#1##2\@nil{%
5119       \ifx\\##1\\%
5120         \else
5121           \expandafter\gdef\csname Hy@#2\expandafter\endcsname
5122             \expandafter{\x}%
5123         \fi
5124       }%
5125       \expandafter\c\y\relax#1\@nil
5126     }%
5127     \expandafter\process@me\string\@latex@\@nil{title}%
5128     \expandafter\process@me\string\@latex@\@nil{author}%
5129 \endgroup
5130 \fi
5131 \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.

```

5132 \def\Hy@UseMaketitleString#1{%
5133   \@ifundefined{Hy@#1}{-}{%
5134     \begingroup
5135       \let\Hy@savdef\hook\pdfstringdefPreHook
5136       \pdfstringdefDisableCommands{%
5137         \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
5138         \let\newline\\%
5139       }%
5140       \expandafter\ifx\csname @pdf#1\endcsname \@empty

```

```

5141 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
5142 \csname Hy@#1\endcsname\@empty
5143 }%
5144 \fi
5145 \global\let\pdfstringdefPreHook\Hy@saved@hook
5146 \endgroup
5147 }%
5148 }
5149 \def\Hy@newline@title#1{ #1}
5150 \def\Hy@newline@author#1{, #1}
5151 \def\Hy@UseMaketitleInfos{%
5152 \Hy@UseMaketitleString{title}%
5153 \Hy@UseMaketitleString{author}%
5154 }

```

## 26 Page numbers

This stuff is done by Heiko Oberdiek.

## 27 Every page

```

5155 \RequirePackage{atbegshi}[2007/09/09]
5156 \def\Hy@EveryPageHook{}
5157 \def\Hy@EveryPageBoxHook{}
5158 \def\Hy@FirstPageHook{}
5159 \AtBeginShipout{%
5160 \Hy@EveryPageHook
5161 \ifx\Hy@EveryPageBoxHook\@empty
5162 \else
5163 \setbox\AtBeginShipoutBox=\vbox{%
5164 \offinterlineskip
5165 \Hy@EveryPageBoxHook
5166 \box\AtBeginShipoutBox
5167 }%
5168 \fi
5169 }
5170 \AtBeginShipoutFirst{%
5171 \Hy@FirstPageHook
5172 }
5173 \g@addto@macro\Hy@FirstPageHook{%
5174 \PDF@FinishDoc
5175 \gdef\PDF@FinishDoc{}}%
5176 }

```

### 27.1 PDF /PageLabels

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

```

5177 \ifHy@pagelabels
5178 \begingroup\expandafter\expandafter\expandafter\endgroup
5179 \expandafter\ifx\csname thepage\endcsname\relax
5180 \Hy@pagelabelsfalse
5181 \Hy@WarningNoLine{%
5182 Option 'pdfpagelabels' is turned off\MessageBreak
5183 because \string\thepage\space is undefined%
5184 }%
5185 \csname fi\endcsname

```

```

5186 \csname iffalse\expandafter\endcsname
5187 \fi

```

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

```

5188 \def\thispdfpagelabel#1{%
5189 \gdef\HyPL@thisLabel{#1}%
5190 }%
5191 \global\let\HyPL@thisLabel\relax

```

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

```

5192 \def\HyPL@Labels{}%

```

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

```

5193 \newcount\Hy@abspage
5194 \Hy@abspage=0 %

```

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

```

5195 \def\HyPL@LastType{init}%
5196 \def\HyPL@LastNumber{0}%
5197 \def\HyPL@LastPrefix{}%

```

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

```

5198 \def\HyPL@arabic{D}%
5199 \def\HyPL@Roman{R}%
5200 \def\HyPL@roman{r}%
5201 \def\HyPL@Alph{A}%
5202 \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.

```

5203 \def\HyPL@EveryPage{%
5204 \begingroup
5205 \ifx\HyPL@thisLabel\relax
5206 \let\HyPL@page\thepage
5207 \else
5208 \let\HyPL@page\HyPL@thisLabel
5209 \global\let\HyPL@thisLabel\relax
5210 \fi
5211 \let\HyPL@Type\relax
5212 \ifnum\the\c@page>0 %
5213 \expandafter\HyPL@CheckThePage\HyPL@page\@nil
5214 \fi
5215 \let\Hy@temp Y%
5216 \ifx\HyPL@Type\HyPL@LastType
5217 \else
5218 \let\Hy@temp N%
5219 \fi
5220 \ifx\HyPL@Type\relax
5221 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
5222 \else
5223 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
5224 \fi
5225 \ifx\HyPL@Prefix\HyPL@LastPrefix
5226 \else
5227 \let\Hy@temp N%
5228 \fi

```

```

5229 \if Y\Hy@temp
5230 \advance\c@page by -1 %
5231 \ifnum\HyPL@LastNumber=\the\c@page\relax
5232 \else
5233 \let\Hy@temp N%
5234 \fi
5235 \Hy@StepCount\c@page
5236 \fi
5237 \if N\Hy@temp
5238 \ifx\HyPL@Type\relax
5239 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
5240 \else
5241 \HyPL@StorePageLabel{%
5242 \ifx\HyPL@Prefix\@empty
5243 \else
5244 /P(\HyPL@Prefix)%
5245 \fi
5246 /S/\csname HyPL\HyPL@Type\endcsname
5247 \ifnum\the\c@page=1 %
5248 \else
5249 \space/St \the\c@page
5250 \fi
5251 }%
5252 \fi
5253 \fi
5254 \xdef\HyPL@LastNumber{\the\c@page}%
5255 \global\let\HyPL@LastType\HyPL@Type
5256 \global\let\HyPL@LastPrefix\HyPL@Prefix
5257 \endgroup
5258 \Hy@GlobalStepCount\Hy@abspage
5259 }%

```

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

```

5260 \def\HyPL@CheckThePage#1\@nil{%
5261 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
5262 }%

```

`\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 implementation the check fails, if there is another `\csname` before.

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

```

5263 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
5264 \def\Hy@tempa{#4}%
5265 \def\Hy@tempb{\csname\endcsname\c@page}%
5266 \ifx\Hy@tempa\Hy@tempb
5267 \expandafter\ifx\csname HyPL#3\endcsname\relax
5268 \else
5269 \def\HyPL@Type{#3}%
5270 \def\HyPL@Prefix{#2}%
5271 \fi
5272 \else
5273 \begingroup
5274 \let\Hy@next\endgroup
5275 \let\HyPL@found\@undefined
5276 \def\arabic{\HyPL@Format{arabic}}%
5277 \def\Roman{\HyPL@Format{Roman}}%

```

```

5278 \def\roman{\HyPL@Format{roman}}%
5279 \def\Alph{\HyPL@Format{Alph}}%
5280 \def\alph{\HyPL@Format{alph}}%
5281 \protected@edef\Hy@temp{#1}%
5282 \ifx\HyPL@found\relax
5283 \toks@ \expandafter{\Hy@temp}%
5284 \edef\Hy@next{\endgroup
5285 \noexpand\HyPL@@@CheckThePage\the\toks@
5286 \noexpand\HyPL@found\relax\noexpand\@nil
5287 }%
5288 \fi
5289 \Hy@next
5290 \fi
5291 }%

```

`\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`.

```

5292 \def\HyPL@Format#1#2{%
5293 \ifx\HyPL@found\@undefined
5294 \expandafter\ifx\csname c@#2\endcsname\c@page
5295 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
5296 \else
5297 \expandafter\noexpand\csname#1\endcsname{#2}%
5298 \fi
5299 \else
5300 \expandafter\noexpand\csname#1\endcsname{#2}%
5301 \fi
5302 }%

```

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

```

5303 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
5304 \def\Hy@tempa{#3}%
5305 \def\Hy@tempb{\HyPL@found\relax}%
5306 \ifx\Hy@tempa\Hy@tempb
5307 \def\HyPL@Type{#2}%
5308 \def\HyPL@Prefix{#1}%
5309 \fi
5310 }%

```

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

```

5311 \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`.

```

5312 \def\HyPL@Useless{0<</S/D>>}%
5313 \@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.

```

5314 \def\HyPL@SetPageLabels{%
5315 \@onelevel@sanitize\HyPL@Labels
5316 \ifx\HyPL@Labels\@empty
5317 \else
5318 \ifx\HyPL@Labels\HyPL@Useless

```

```

5319     \else
5320         \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
5321     \fi
5322 \fi
5323 }%

5324 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
5325 \fi

Option 'pdfpagelabels' has been used and is now disabled.
5326 \Hy@DisableOption{pdfpagelabels}
5327 </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`

```

5328 <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.

```

5329 <*vTeX>
5330 \providecommand*{\XR@ext}{pdf}
5331 \edef\Hy@VTeXversion{%
5332   \ifx\VTeXversion\@undefined
5333     \z@
5334   \else
5335     \ifx\VTeXversion\relax
5336       \z@
5337     \else
5338       \VTeXversion
5339     \fi
5340 \fi
5341 }
5342 \begingroup
5343   \ifnum\Hy@VTeXversion<660 %
5344     \gdef\Hy@PutCatalog#1{%
5345       \Hy@WarningNoLine{%
5346         VTeX 6.59g or above required for pdfpagelabels%
5347       }%
5348     }%
5349   \else
5350     \gdef\Hy@PutCatalog#1{%
5351       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
5352     }%
5353     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
5354       \ifx\#2\%
5355         \else
5356           \immediate\special{!pdfpagelabels #2}%
5357         \fi
5358       }%
5359     \fi
5360 \endgroup
5361 </vTeX>

```



5362  $\langle *pdf\text{tex} \mid vt\text{ex} \rangle$

$\backslash\text{HyPL@StorePageLabel}$  This macro adds the entry #1 to  $\backslash\text{HyPL@Labels}$ .

```
5363 \ifHy@pagelabels
5364   \def\HyPL@StorePageLabel#1{%
5365     \toks@{\expandafter{\HyPL@Labels}}%
5366     \xdef\HyPL@Labels{%
5367       \the\toks@
5368       \the\Hy@abspage<<#1>>%
5369     }%
5370   }
```

Package `atveryend` is used to get behind the final `\clearpage` and to avoid a `\clearpage` in `\AtEndDocument`. Then the PDF catalog entry for `\PageLabels` is set.

```
5371 \RequirePackage{atveryend}[2009/12/07]%
5372 \AtVeryEndDocument{%
5373   \HyPL@SetPageLabels
5374 }%

5375 \fi
5376  $\langle /pdf\text{tex} \mid vt\text{ex} \rangle$ 
```

### 27.1.2 xetex

```
5377  $\langle *x\text{etex} \rangle$ 
5378 \HyPsd@LoadUnicode
5379 \Hy@unicodetrue
5380 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
5381 \else
5382   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
5383 \fi
5384 \HyPsd@LoadStringEncoding
5385 \define@key{Hyp}{unicode}[true]{%
5386   \Hy@boolkey{unicode}{#1}%
5387   \ifHy@unicode
5388     \else
5389       \Hy@Warning{%
5390         XeTeX driver only supports ‘unicode=true’.\MessageBreak
5391         Ignoring option setting ‘unicode=false’%
5392       }%
5393     \Hy@unicodetrue
5394   \fi
5395 }
5396 \define@key{Hyp}{pdfencoding}{%
5397   \edef\HyPsd@temp{#1}%
5398   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
5399     \let\HyPsd@pdfencoding\HyPsd@temp
5400   \else
5401     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
5402       \let\HyPsd@pdfencoding\HyPsd@temp
5403     \else
5404       \HyWarning{%
5405         XeTeX driver only supports ‘pdfencoding=unicode|auto.’%
5406         \MessageBreak
5407         Ignoring option setting ‘pdfencoding=\HyPsd@temp’%
5408       }%
5409     }
```

```

5409 \fi
5410 \fi
5411 }
5412 \let\HyXeTeX@CheckUnicode\relax
5413 \</xetex>

```

### 27.1.3 pdfmarkbase, dvipdfm, xetex

```

5414 \<*pdfmarkbase>
5415 \beginngroup
5416 \<@ifundefined{headerps@out}{}{}%
5417 \toks@\expandafter{\Hy@FirstPageHook}%
5418 \xdef\Hy@FirstPageHook{%
5419 \noexpand\headerps@out{%
5420 systemdict /pdfmark known%
5421 {%
5422 userdict /?pdfmark systemdict /exec get put%
5423 }{%
5424 userdict /?pdfmark systemdict /pop get put %
5425 userdict /pdfmark systemdict /cleartomark get put%
5426 }%
5427 ifelse%
5428 }%
5429 \the\toks@
5430 }%
5431 }%
5432 \endgroup
5433 \</pdfmarkbase>

```

\Hy@PutCatalog

```

5434 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\<@pdfm@mark{docview << #1 >>}>
5435 \<*pdfmarkbase>
5436 \def\Hy@PutCatalog#1{%
5437 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
5438 }
5439 \</pdfmarkbase>

5440 \<*pdfmarkbase | dvipdfm | xetex>
5441 \ifHy@pagelabels

```

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

```

5442 \def\HyPL@StorePageLabel#1{%
5443 \if@files
5444 \beginngroup
5445 \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
5446 \immediate\write\@mainaux{%
5447 \string\HyPL@Entry{\Hy@tempa}%
5448 }%
5449 \endgroup
5450 \fi
5451 }%

```

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.

```

5452 \AfterBeginDocument{%
5453 \if@files
5454 \immediate\write\@mainaux{%
5455 \string\providecommand\string*\string\HyPL@Entry[1]{}%

```

```

5456 }%
5457 \fi
5458 \ifx\HyPL@Labels\@empty
5459 \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
5460 \else
5461 \HyPL@SetPageLabels
5462 \fi
5463 \let\HyPL@Entry\@gobble
5464 }%

```

\HyPL@Entry

```

5465 \def\HyPL@Entry#1{%
5466 \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
5467 \HyPL@Labels
5468 #1%
5469 }%
5470 }%

5471 \fi
5472 </pdfmarkbase | dvipdfm | xetex>

5473 <*package>

5474 \MaybeStopEarly

```

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

Anything which can be referenced advances some counter; we overload this to put in a hypertext starting point (with no visible anchor), and make a note of that for later use in \label. This will fail badly if \theH<name> does not expand to a sensible reference. This means that classes or package which introduce new elements need to define an equivalent \theH<name> for every \the<name>. We do make a trap to make \theH<name> be the same as \arabic{<name>}, if \theH<name> is not defined, but this is not necessarily a good idea. Alternatively, the ‘naturalnames’ option uses whatever L<sup>A</sup>T<sub>E</sub>X provides, which may be useable. But then it’s up to you to make sure these are legal PDF and HTML names. The ‘hypertextnames=false’ option just makes up arbitrary names.

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

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

Start with a fallback for equations

```

5475 \def\Hy@CounterExists#1{%
5476 \begingroup\expandafter\expandafter\expandafter\endgroup
5477 \expandafter\ifx\csname c@#1\endcsname\relax
5478 \expandafter\@gobble
5479 \else
5480 \begingroup\expandafter\expandafter\expandafter\endgroup
5481 \expandafter\ifx\csname the#1\endcsname\relax
5482 \expandafter\expandafter\expandafter\@gobble
5483 \else
5484 \expandafter\expandafter\expandafter\@firstofone
5485 \fi
5486 \fi
5487 }

```

```

5488 \Hy@CounterExists{section}{%
5489 \newcommand\theHequation{\theHsection.\arabic{equation}}}%
5490 }
5491 \Hy@CounterExists{part}{%
5492 \newcommand\theHpart{\arabic{part}}}%
5493 }
5494 \@ifundefined{thechapter}{%
5495 \newcommand\theHsection {\arabic{section}}}%
5496 \newcommand\theHfigure {\arabic{figure}}}%
5497 \newcommand\theHtable {\arabic{table}}}%
5498 }{%
5499 \newcommand\theHchapter {\arabic{chapter}}}%
5500 \newcommand\theHfigure {\theHchapter.\arabic{figure}}}%
5501 \newcommand\theHtable {\theHchapter.\arabic{table}}}%
5502 \newcommand\theHsection {\theHchapter.\arabic{section}}}%
5503 }
5504 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
5505 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5506 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
5507 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
5508 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
5509 \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.

```

5510 \let\H@item\item
5511 \newcounter{Item}
5512 \def\theHItem{\arabic{Item}}
5513 \def\item{%
5514 \@hyper@itemfalse
5515 \if@nmbrlist\@hyper@itemtrue\fi
5516 \H@item
5517 }
5518 \newcommand\theHenumi {\theHItem}
5519 \newcommand\theHenumii {\theHItem}
5520 \newcommand\theHenumiii {\theHItem}
5521 \newcommand\theHenumiv {\theHItem}
5522 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5523 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5524 \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.

```

5525 \let\H@refstepcounter\refstepcounter
5526 \edef\name@of@eq{equation}%
5527 \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.

```

5528 \newif\if@hyper@item
5529 \newif\if@skiphyperref
5530 \@hyper@itemfalse
5531 \@skiphyperreffalse
5532 \def\refstepcounter#1{%
5533 \ifHy@pdfstring

```

```

5534 \else
5535   \H@refstepcounter{#1}%
5536   \edef\This@name{#1}%
5537   \ifx\This@name\name@of@slide
5538   \else
5539     \if@skiphyperref
5540     \else
5541       \if@hyper@item
5542       \stepcounter{Item}%
5543       \hyper@refstepcounter{Item}%
5544       \@hyper@itemfalse
5545     \else
5546       \hyper@refstepcounter{#1}%
5547     \fi
5548   \fi
5549 \fi
5550 \fi
5551 }

```

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.

```

5552 \ifpackageloaded{amsmath}{-}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

5553 \def\hyper@refstepcounter#1{%
5554   \edef\This@name{#1}%
5555   \ifx\This@name\name@of@eq
5556   \@ifundefined{theHequation}{%
5557     \make@stripped@name{\theequation}%
5558     \let\theHequation\newname
5559   }{}%
5560 \fi
5561 \@ifundefined{theH#1}{%
5562   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5563 }{}%
5564 \hyper@makecurrent{#1}%
5565 \ifmeasuring@
5566 \else
5567   \Hy@raisedlink{%
5568     \hyper@anchorstart{\@currentHref}\hyper@anchorend
5569   }%
5570 \fi
5571 }

```

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`.

```

5572 \begingroup\expandafter\expandafter\expandafter\endgroup
5573 \expandafter\ifx\csname chapter\endcsname\relax
5574   \def\Hy@chapterstring{section}%
5575 \else
5576   \def\Hy@chapterstring{chapter}%
5577 \fi
5578 \def\Hy@appendixstring{appendix}

```

```

5579 \def\Hy@chapapp{\Hy@chapterstring}
5580 \let\HyOrg@appendix\appendix
5581 \def\appendix{%
5582   \@ifundefined{chapter}%
5583     {\gdef\theHsection{\Alph{section}}}%
5584     {\gdef\theHchapter{\Alph{chapter}}}%
5585   \xdef\Hy@chapapp{\Hy@appendixstring}%
5586   \HyOrg@appendix
5587 }

```

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

```

5588 \def\hyper@makecurrent#1{%
5589   \begingroup
5590   \edef\Hy@param{#1}%
5591   \ifx\Hy@param\Hy@chapterstring
5592     \let\Hy@param\Hy@chapapp
5593   \fi
5594   \ifHy@hypertextnames
5595     \let\@number\@firstofone
5596     \@ifundefined{latin@Alph}{-}{%
5597       \ifx\@Alph\greek@Alph
5598         \def\@Alph{Alph\@arabic}%
5599       \fi
5600     }%
5601     \ifx\@Alph\@Alph@bul
5602       \def\@Alph{Alph\@arabic}%
5603     \fi
5604     \ifx\@alph\@alph@bul
5605       \def\@alph{alph\@arabic}%
5606     \fi
5607     \ifHy@naturalnames
5608       \let\textlatin\@firstofone
5609       \xdef\@currentHlabel{\csname the#1\endcsname}%
5610     \else
5611       \xdef\@currentHlabel{%
5612         \csname
5613           the%
5614           \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
5615           #1%
5616         \endcsname
5617       }%
5618     \fi
5619     \xdef\@currentHref{%
5620       \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5621     }%
5622   \else
5623     \Hy@GlobalStepCount\Hy@linkcounter
5624     \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
5625   \fi
5626 \endgroup
5627 }

5628 \@ifpackageloaded{fancyvrb}{%
5629   \@ifpackagelater{fancyvrb}{1998/05/20}{-}{-}%
5630   \def\FV@StepLineNo{%
5631     \FV@SetLineNo
5632     \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%

```

```

5633 \FV@StepLineNo
5634 }%
5635 }%
5636 {}

```

## 29 Package lastpage support

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

`\lastpage@putlabel`

```

5637 \AtBeginDocument{%
5638 \ifclassloaded{revtex4}{%
5639 \@namedef{ver@lastpage.sty}{1994/06/25}%
5640 }{}%
5641 \ifpackageloaded{lastpage}{%
5642 \ifHy@pageanchor
5643 \else
5644 \Hy@WarningNoLine{%
5645 The \string\pageref{LastPage} link doesn't work\MessageBreak
5646 with disabled option 'pageanchor'%
5647 }%
5648 \fi
5649 \def\lastpage@putlabel{%
5650 \addtocounter{page}{-1}%
5651 \if@filesw
5652 \begingroup
5653 \let\@number\@firstofone
5654 \ifHy@pageanchor
5655 \ifHy@hypertextnames
5656 \ifHy@plainpages
5657 \def\Hy@temp{\arabic{page}}%
5658 \else
5659 \Hy@unicodefalse
5660 \pdfstringdef\Hy@temp{\thepage}%
5661 \fi
5662 \else
5663 \def\Hy@temp{\the\Hy@pagecounter}%
5664 \fi
5665 \fi
5666 \immediate\write\@auxout{%
5667 \string\newlabel
5668 {LastPage}{}{\thepage}{}{%
5669 \ifHy@pageanchor page.\Hy@temp\fi}{}%
5670 }%
5671 \endgroup
5672 \fi
5673 \addtocounter{page}{1}%
5674 }%
5675 \ifclassloaded{revtex4}{%
5676 \begingroup

```

```

5677 \toks@\expandafter{\lastpage@putlabel}%
5678 \edef\x{\endgroup
5679 \def\noexpand\lastpage@putlabel{%
5680 \noexpand\stepcounter{page}%
5681 \the\toks@
5682 \noexpand\addtocounter{page}\noexpand\m@ne
5683 }%
5684 }%
5685 \x
5686 }{}%
5687 }{}%
5688 }
5689 \end{package}
5690 \check
5691 \checkpackage{lastpage}[1994/06/25]
5692 \checkcommand\def\lastpage@putlabel{%
5693 \addtocounter{page}{-1}%
5694 \immediate\write\@auxout{%
5695 \string\newlabel{LastPage}{\the\thepage}}%
5696 }%
5697 \addtocounter{page}{1}%
5698 }
5699 \end{check}
5700 \end{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.

```

5701 \def\hypergetref#1{\getrefbykeydefault{#1}{-}{??}}
5702 \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:

```

5703 \ifpackageloaded{titlesec}{%
5704 \def\ttl@Hy@steplink#1{%
5705 \Hy@GlobalStepCount\Hy@linkcounter
5706 \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5707 \edef\ttl@Hy@saveanchor{%
5708 \noexpand\Hy@raisedlink{%
5709 \noexpand\hyper@anchorstart{\@currentHref}%
5710 \noexpand\hyper@anchorend
5711 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
5712 \noexpand\ttl@Hy@PatchSaveWrite
5713 }%
5714 }%
5715 }%
5716 \def\ttl@Hy@PatchSaveWrite{%
5717 \begingroup
5718 \toks@\expandafter{\ttl@savewrite}%
5719 \edef\x{\endgroup

```



```

5720 \def\noexpand\ttl@savewrite{%
5721 \let\noexpand\@currentHref
5722 \noexpand\ttl@Hy@SavedCurrentHref
5723 \the\toks@
5724 }%
5725 }%
5726 \x
5727 }%
5728 \def\ttl@Hy@refstepcounter#1{%
5729 \let\ttl@b\Hy@raisedlink
5730 \def\Hy@raisedlink##1{%
5731 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5732 }%
5733 \refstepcounter{#1}%
5734 \let\Hy@raisedlink\ttl@b
5735 }%
5736 }{}

```

Package titletoc support:

```

5737 \@ifpackageloaded{titletoc}{%
5738 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5739 }{}

```

## 32 Package varioref support

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

```

5740 \def\Hy@varioref@undefined{???}{??}{-}{-}
5741 \@ifpackageloaded{varioref}{%
5742 \def\vref@pagenum#1#2{%
5743 \@ifundefined{r@#2}{%
5744 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5745 }{}%
5746 \edef#1{\getpagerefnumber{#2}}%
5747 }%
5748 }{}

```

## 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

```

5749 \@ifpackageloaded{longtable}{%
5750 \begingroup
5751 \def\y{\LT@array}%
5752 \@ifundefined{scr@LT@array}{-}{\def\y{\scr@LT@array}}%
5753 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5754 \expandafter\endgroup
5755 \expandafter\def\y[##1]##2{%
5756 \H@refstepcounter{#1}%
5757 \hyper@makecurrent{table}%
5758 \let\Hy@LT@currentHlabel\@currentHlabel
5759 \let\Hy@LT@currentHref\@currentHref

```

```

5760      #2\@sharp#####4%
5761    }%
5762  }%
5763  \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil
Patch of \LT@start: add anchor before first line after \vskip\LTpre
5764  \begingroup
5765  \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5766    \endgroup
5767    \def\LT@start{%
5768      #1%
5769      \let\@currentHlabel\Hy@LT@currentHlabel
5770      \let\@currentHref\Hy@LT@currentHref
5771      \Hy@raisedlink{%
5772        \hyper@anchorstart{\@currentHref}\hyper@anchorend
5773      }%
5774      \ifvoid\LT@firsthead\copy
5775        #2%
5776      }%
5777    }%
5778  \expandafter\x\LT@start\@nil
5779 }{}

```

## 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.

```

5780 \let\new@refstepcounter\refstepcounter
5781 \let\H@equation\equation
5782 \let\H@endequation\endequation
5783 \@ifpackageloaded{amsmath}{%
5784   \long\def\Hy@temp{%
5785     \incr@eqnum
5786     \mathdisplay@push
5787     \st@rredfalse \global\@eqnswtrue
5788     \mathdisplay{equation}%
5789   }%
5790   \ifx\Hy@temp\equation
5791     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5792       \csname iftrue\endcsname
5793   \else
5794     \long\def\equation{%
5795       \mathdisplay@push
5796       \st@rredfalse \global\@eqnswtrue
5797       \mathdisplay{equation}%
5798       \incr@eqnum
5799     }%
5800   \fi
5801 \fi
5802 }{%
5803   \def\equation{%
5804     \let\refstepcounter\H@refstepcounter
5805     \H@equation

```

```

5806 \ifundefined{theHequation}{%
5807   \make@stripped@name{theequation}%
5808   \let\theHequation\newname
5809 }{}%
5810 \hyper@makecurrent{equation}%
5811 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5812 \let\refstepcounter\new@refstepcounter
5813 }%
5814 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5815 }

```

My goodness, why can't L<sup>A</sup>T<sub>E</sub>X be consistent? Why is `\eqnarray` set up differently from other objects?

People (you know who you are, Thomas Beuth) sometimes make an `eqnarray` where *all* the lines end with `\notag`, so there is no suitable anchor at all. In this case, pass by on the other side.

```

5816 \newif\if@eqnstar
5817 \@eqnstarfalse
5818 \let\H@eqnarray\eqnarray
5819 \let\H@endeqnarray\endeqnarray
5820 \def\eqnarray{%
5821   \let\Hy@reserved@a\relax
5822   \def\@currentHref{}%
5823   \H@eqnarray
5824   \if@eqnstar
5825   \else
5826     \ifx\\ \@currentHref\\%
5827     \else
5828       \ifundefined{theHequation}{%
5829         \make@stripped@name{theequation}%
5830         \let\theHequation\newname
5831       }{}%
5832       \hyper@makecurrent{equation}%
5833       \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5834       \fi
5835       \fi
5836 }
5837 \def\endeqnarray{%
5838   \H@endeqnarray
5839 }

```

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.

```

5840 \@namedef{eqnarray*}{%
5841   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
5842 }
5843 \@namedef{endeqnarray*}{%
5844   \nonumber\endeqnarray\@eqnstarfalse
5845 }

```

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

```

5846 \ifundefined{subeqnarray}{%
5847   \let\H@subeqnarray\subeqnarray
5848   \let\H@endsubeqnarray\endsubeqnarray
5849   \def\subeqnarray{%
5850     \let\Hy@reserved@a\relax
5851     \H@subeqnarray
5852     \ifundefined{theHequation}{%

```

```

5853 \make@stripped@name{\theequation}%
5854 \let\theHequation\newname
5855 }{}%
5856 \hyper@makecurrent{equation}%
5857 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5858 }%
5859 \def\endsubeqnarray{%
5860 \H@endsubeqnarray
5861 }%
5862 \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5863 }

```

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

```

5864 \def\make@stripped@name#1{%
5865 \begingroup
5866 \escapechar\m@ne
5867 \global\let\newname\@empty
5868 \protected@edef\Hy@tempa{#1}%
5869 \edef\@tempb{%
5870 \noexpand\@tfor\noexpand\Hy@tempa:=%
5871 \expandafter\strip@prefix\meaning\Hy@tempa
5872 }%
5873 \@tempb\do{%
5874 \if{\Hy@tempa\else
5875 \if}\Hy@tempa\else
5876 \xdef\newname{\newname\Hy@tempa}%
5877 \fi
5878 \fi
5879 }%
5880 \endgroup
5881 }

```

Support for amsmath's subequations:

```

5882 \begingroup\expandafter\expandafter\expandafter\endgroup
5883 \expandafter\ifx\csname subequations\endcsname\relax
5884 \else
5885 \let\HyOrg@subequations\subequations
5886 \def\subequations{%
5887 \stepcounter{equation}%
5888 \protected@edef\theHparentequation{%
5889 \@ifundefined{theHequation}\theequation\theHequation
5890 }%
5891 \addtocounter{equation}{-1}%
5892 \HyOrg@subequations
5893 \def\theHequation{\theHparentequation\alph{equation}}%
5894 \ignorespaces
5895 }%
5896 \fi

```

Support for package amsthm (Daniel Müllner):

```

5897 \ifpackageloaded{amsthm}{%
5898 \def\@thm#1#2#3{%
5899 \ifhmode
5900 \unskip\unskip\par
5901 \fi
5902 \normalfont
5903 \trivlist
5904 \let\thmheadn\relax

```

```

5905 \let\thm@swap\@gobble
5906 \thm@notefont{\fontseries\mddefault\upshape}%
5907 \thm@headpunct{.}% add period after heading
5908 \thm@headsep 5\p@ plus\p@ minus\p@\relax
5909 \thm@space@setup
5910 #1% style overrides
5911 \@topsep \thm@preskip % used by thm head
5912 \@topsepadd \thm@postskip % used by \endparent
5913 \def\dth@counter{#2}%
5914 \ifx\@empty\dth@counter
5915 \def\@tempa{%
5916 \oparg{\@begintheorem{#3}{}}[]%
5917 }%
5918 \else
5919 \H@refstepcounter{#2}%
5920 \hyper@makecurrent{#2}%
5921 \def\@tempa{%
5922 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
5923 }%
5924 \fi
5925 \@tempa
5926 }%
5927 \dth@everypar={%
5928 \@minipagefalse
5929 \global\@newlistfalse
5930 \noparitemfalse
5931 \if@inlabel
5932 \global\@inlabelfalse
5933 \begingroup
5934 \setbox\z@\lastbox
5935 \ifvoid\z@
5936 \kern-\itemindent
5937 \fi
5938 \endgroup
5939 \ifx\@empty\dth@counter
5940 \else
5941 \Hy@raisedlink{%
5942 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5943 }%
5944 \fi
5945 \unhbox\@labels
5946 \fi
5947 \if@nobreak
5948 \@nobreakfalse \clubpenalty\@M
5949 \else
5950 \clubpenalty\@clubpenalty \everypar{}%
5951 \fi
5952 }%
5953 }{}

```

## 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.

```

5954 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5955 \ifHy@hyperfootnotes
5956   \newcounter{Hfootnote}%
5957   \let\H@@footnotetext\@footnotetext
5958   \let\H@@footnotemark\@footnotemark
5959   \def\@xfootnotenext[#1]{%
5960     \begingroup
5961       \csname c@\@mpfn\endcsname #1\relax
5962       \unrestored@protected@xdef\@thefnmark{\thempfn}%
5963     \endgroup
5964     \ifx\@footnotetext\@mpfootnotetext
5965       \expandafter\H@@mpfootnotetext
5966     \else
5967       \expandafter\H@@footnotetext
5968     \fi
5969   }%
5970   \def\@xfootnotemark[#1]{%
5971     \begingroup
5972       \c@footnote #1\relax
5973       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5974     \endgroup
5975     \H@@@footnotemark
5976   }%
5977   \let\H@@mpfootnotetext\@mpfootnotetext
5978   \long\def\@mpfootnotetext#1{%
5979     \H@@mpfootnotetext{%
5980       \ifHy@nesting
5981         \expandafter\hyper@@anchor\expandafter{%
5982           \Hy@footnote@currentHref
5983         }{#1}%
5984       \else
5985         \Hy@raisedlink{%
5986           \expandafter\hyper@@anchor\expandafter{%
5987             \Hy@footnote@currentHref
5988           }{\relax}%
5989         }#1%
5990       \fi
5991     }%
5992   }%
5993   \long\def\@footnotetext#1{%
5994     \H@@@footnotetext{%
5995       \ifHy@nesting
5996         \expandafter\hyper@@anchor\expandafter{%
5997           \Hy@footnote@currentHref
5998         }{#1}%
5999       \else
6000         \Hy@raisedlink{%
6001           \expandafter\hyper@@anchor\expandafter{%
6002             \Hy@footnote@currentHref
6003           }{\relax}%
6004         }%
6005         \let\@currentHlabel\Hy@footnote@currentHlabel
6006         \let\@currentHref\Hy@footnote@currentHref
6007         \let\@currentlabelname\@empty
6008         #1%
6009       \fi

```

```

6010 }%
6011 }%

```

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.

```

6012 \def\@footnotemark{%
6013   \leavevmode
6014   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
6015   \stepcounter{Hfootnote}%
6016   \global\let\Hy@saved@currentHlabel\@currentHlabel
6017   \global\let\Hy@saved@currentHref\@currentHref
6018   \hyper@makecurrent{Hfootnote}%
6019   \global\let\Hy@footnote@currentHlabel\@currentHlabel
6020   \global\let\Hy@footnote@currentHref\@currentHref
6021   \global\let\@currentHlabel\Hy@saved@currentHlabel
6022   \global\let\@currentHref\Hy@saved@currentHref
6023   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
6024   \@makefnmark
6025   \hyper@linkend
6026   \ifhmode\spacefactor\x@sf\fi
6027   \relax
6028 }%

```

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

```

6029 \ifpackageloaded{longtable}{%
6030   \CheckCommand*{\LT@p@ftntext}[1]{%
6031     \edef\@tempa{%
6032       \the\LT@p@ftn
6033       \noexpand\footnotetext[\the\c@footnote]%
6034     }%
6035     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
6036   }%
6037   \long\def\LT@p@ftntext#1{%
6038     \edef\@tempa{%
6039       \the\LT@p@ftn
6040       \begingroup
6041         \noexpand\c@footnote=\the\c@footnote\relax
6042         \noexpand\protected@xdef
6043           \noexpand\@thefnmark{\noexpand\thempfn}%
6044         \noexpand\protected@xdef\noexpand\@thefnmark{%
6045           \noexpand\thempfn
6046         }%
6047         \expandafter\expandafter\expandafter\noexpand
6048           \expandafter\expandafter\expandafter\Hy@LT@footnotetext
6049           \expandafter\expandafter\expandafter{%
6050             \expandafter\Hy@footnote@currentHref\expandafter
6051             }\expandafter{\Hy@footnote@currentHlabel}%
6052       }%
6053     \global\LT@p@ftn\expandafter{%
6054       \@tempa{#1}%
6055     }\endgroup
6056   }%
6057 }%

```

```

6058 \long\def\Hy@LT@footnotetext#1#2#3{%
6059 \H@@@footnotetext{%
6060 \ifHy@nesting
6061 \hyper@@@anchor{#1}{#3}%
6062 \else
6063 \Hy@raisedlink{%
6064 \hyper@@@anchor{#1}{\relax}%
6065 }%
6066 \def\@currentHlabel{#2}%
6067 \def\@currentHref{#1}%
6068 \let\@currentlabelname\@empty
6069 #3%
6070 \fi
6071 }%
6072 }%
6073 }{}%

```

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

```

6074 \@ifpackageloaded{fancyvrb}{%
6075 \def\V@@@footnotetext{%
6076 \insert\footins\bgroup
6077 \csname reset@font\endcsname
6078 \footnotesize
6079 \interlinepenalty\interfootnotelinepenalty
6080 \splittopskip\footnotesep
6081 \splitmaxdepth\dp\strutbox
6082 \floatingpenalty \@MM
6083 \hsize\columnwidth
6084 \@parboxrestore
6085 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
6086 \@makefnmark{}%
6087 \rule{\z@}{\footnotesep}%
6088 \bgroup
6089 \aftergroup\V@@@footnotetext
6090 \Hy@raisedlink{%
6091 \expandafter\hyper@@@anchor\expandafter{%
6092 \Hy@footnote@currentHref
6093 }{\relax}%
6094 }%
6095 \let\@currentHlabel\Hy@footnote@currentHlabel
6096 \let\@currentHref\Hy@footnote@currentHref
6097 \let\@currentlabelname\@empty
6098 \ignorespaces
6099 }%
6100 }{}%

```

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

```

6101 \def\Hy@temp#1{%
6102 \begingroup
6103 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
6104 \endgroup
6105 \@footnotemark
6106 }%
6107 \ifx\Hy@temp\footref
6108 \def\footref#1{%
6109 \begingroup
6110 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%

```



```

6111 \endgroup
6112 \H@@footnotemark
6113 }%
6114 \fi

```

But the special footnotes in `\maketitle` are much too hard to deal with properly. Let them revert to plain behaviour. The koma classes add an optional argument.

```

6115 \let\HyOrg@maketitle\maketitle
6116 \def\maketitle{%
6117   \let\Hy@saved@footnotemark\@footnotemark
6118   \let\Hy@saved@footnotetext\@footnotetext
6119   \let\@footnotemark\H@@footnotemark
6120   \let\@footnotetext\H@@footnotetext
6121   \@ifnextchar[\Hy@maketitle@optarg{% ]
6122     \HyOrg@maketitle
6123     \Hy@maketitle@end
6124   }%
6125 }%
6126 \def\Hy@maketitle@optarg[#1]{%
6127   \HyOrg@maketitle[#{#1}]%
6128   \Hy@maketitle@end
6129 }%
6130 \def\Hy@maketitle@end{%
6131   \ifx\@footnotemark\H@@footnotemark
6132     \let\@footnotemark\Hy@saved@footnotemark
6133   \fi
6134   \ifx\@footnotetext\H@@footnotetext
6135     \let\@footnotetext\Hy@saved@footnotetext
6136   \fi
6137 }%

```

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

```

6138 \def\realfootnote{%
6139   \@ifnextchar[\@xfootnote{%
6140     \stepcounter{\@mpfn}%
6141     \protected@xdef\@thefnmark{\thempfn}%
6142     \H@@footnotemark\H@@footnotetext
6143   }%
6144 }%

6145 \fi
6146 \Hy@DisableOption{hyperfootnotes}

6147 \</package>
6148 \<*check>
6149 \checklatex
6150 \checkcommand\def\@xfootnotenext[#1]{%
6151   \begingroup
6152     \csname c@\@mpfn\endcsname #1\relax
6153   \unrestored@protected@xdef\@thefnmark{\thempfn}%
6154   \endgroup
6155   \@footnotetext
6156 }
6157 \checkcommand\def\@xfootnotemark[#1]{%
6158   \begingroup
6159     \c@footnote #1\relax
6160   \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6161   \endgroup

```

```

6162 \@footnotemark
6163 }
6164 \checkcommand\def\@footnotemark{%
6165 \leavevmode
6166 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
6167 \@makefnmark
6168 \ifhmode\spacefactor\@x@sf\fi
6169 \relax
6170 }
6171 </check>
6172 <*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.

```

6173 \def\caption{%
6174 \ifx\@captive\@undefined
6175 \@latex@error{\noexpand\caption outside float}\@ehd
6176 \expandafter\@gobble
6177 \else
6178 \H@refstepcounter\@captive
6179 \let\Hy@tempa\@caption
6180 \ifundefined{float@caption}{%
6181 }{%
6182 \expandafter\ifx\csname @float@c@\@captive\endcsname
6183 \float@caption
6184 \let\Hy@tempa\Hy@float@caption
6185 \fi
6186 }%
6187 \expandafter\@firstofone
6188 \fi
6189 {\@dblarg{\Hy@tempa\@captive}}%
6190 }
6191 \long\def\@caption#1[#2]#3{%
6192 \expandafter\ifx\csname if@capstart\expandafter\endcsname
6193 \csname iftrue\endcsname
6194 \global\let\@currentHref\hc@currentHref
6195 \else
6196 \hyper@makecurrent{\@captive}%
6197 \fi
6198 \@ifundefined{NR@gettitle}{%
6199 \def\@currentlabelname{#2}%
6200 }{%
6201 \NR@gettitle{#2}%
6202 }%
6203 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
6204 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6205 }%
6206 \begingroup
6207 \@parboxrestore
6208 \if@minipage
6209 \@setminipage
6210 \fi
6211 \normalsize
6212 \expandafter\ifx\csname if@capstart\expandafter\endcsname

```

```

6213         \csname iftrue\endcsname
6214     \global\@capstartfalse
6215     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
6216 \else
6217     \@makecaption{\csname fnum@#1\endcsname}{%
6218         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

6219     \ifHy@nesting
6220         \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
6221     \else
6222         \Hy@raisedlink{%
6223             \expandafter\hyper@@anchor\expandafter{%
6224                 \@currentHref
6225             }\relax}%
6226         }%
6227         #3%
6228     \fi
6229 }%
6230 \fi
6231 \par
6232 \endgroup
6233 }

```

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.

```

6234 \let\Hy@float@caption\@caption
6235 \ifpackageloaded{float}{%
6236     \def\Hy@float@caption{%
6237         \ifx\Hy@float@currentHref\@undefined
6238             \hyper@makecurrent{\@capytype}%
6239             \global\let\Hy@float@currentHref\@currentHref
6240         \else
6241             \let\@currentHref\Hy@float@currentHref
6242         \fi
6243         \float@caption
6244     }%
6245     \let\HyOrg@float@makebox\float@makebox
6246     \renewcommand{\float@makebox}[1]{%
6247         \HyOrg@float@makebox{%
6248             #1\relax
6249             \ifx\Hy@float@currentHref\@undefined
6250             \else
6251                 \expandafter\hyper@@anchor\expandafter{%
6252                     \Hy@float@currentHref
6253                 }\relax}%
6254             \global\let\Hy@float@currentHref\@undefined
6255         \fi
6256     }%
6257 }%
6258 }{}

6259 \</package>
6260 \< *check>
6261 \checklatex[1999/06/01 - 2000/06/01]
6262 \checkcommand\def\caption{%
6263     \ifx\@capytype\@undefined
6264         \@latex@error{\noexpand\caption outside float}\@ehd
6265         \expandafter\@gobble

```

```

6266 \else
6267   \refstepcounter\@capttype
6268   \expandafter\@firstofone
6269 \fi
6270 {\@dblarg{\@caption\@capttype}}}%
6271 }
6272 \checkcommand\long\def\@caption#1[#2]#3{%
6273   \par
6274   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
6275     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6276   }%
6277   \begingroup
6278     \@parboxrestore
6279     \if@minipage
6280       \setminipage
6281     \fi
6282     \normalsize
6283     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
6284   \endgroup
6285 }
6286 \</check>
6287 \<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 *drftcite* may break.

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

```

6288 \def\hyper@natlinkstart#1{%
6289   \Hy@backout{#1}%
6290   \hyper@linkstart{cite}{cite.#1}%
6291   \def\hyper@nat@current{#1}%
6292 }
6293 \def\hyper@natlinkend{%
6294   \hyper@linkend
6295 }
6296 \def\hyper@natlinkbreak#1#2{%
6297   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
6298 }
6299 \def\hyper@natanchorstart#1{%
6300   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
6301 }
6302 \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.

```

6303 \ifundefined{NAT@parse}{%
6304   \providecommand*\@extra@binfo{}%
6305   \providecommand*\@extra@b@citeb{}%

```

```

6306 \def\bibcite#1#2{%
6307   \@newl@bel{b}{#1\@extra@binfo}{%
6308     \hyper@link[cite]{cite.#1\@extra@b@citeb}{#2}%
6309   }%
6310 }%
6311 \gdef\@extra@binfo{}%

```

Package babel redefines \bibcite with macro \bbl@cite@choice. It needs to be over-written to avoid the warning “Label(s) may have changed.”.

```

6312 \let\Hy@bibcite\bibcite
6313 \begingroup
6314 \ifundefined{bbl@cite@choice}{%
6315   \g@addto@macro\bbl@cite@choice{%
6316     \let\bibcite\Hy@bibcite
6317   }%
6318 }%
6319 \endgroup

```

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

```

6320 \providecommand*\@BIBLABEL{\@biblabel}%
6321 \def\@bibitem[#1]#2{%
6322   \@skiphyperreftrue
6323   \H@item[%
6324     \ifx\Hy@raisedlink\@empty
6325       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
6326       \@BIBLABEL{#1}%
6327       \hyper@anchorend
6328     \else
6329       \Hy@raisedlink{%
6330         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
6331       }%
6332       \@BIBLABEL{#1}%
6333     \fi
6334     \hfill
6335   ]%
6336   \@skiphyperreffalse
6337   \if@filesw
6338     \begingroup
6339     \let\protect\noexpand
6340     \immediate\write\@auxout{%
6341       \string\bibcite{#2}{#1}%
6342     }%
6343     \endgroup
6344   \fi
6345   \ignorespaces
6346 }%

```

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

```

6347 \def\@bibitem#1{%
6348   \@skiphyperreftrue\H@item\@skiphyperreffalse
6349   \Hy@raisedlink{%
6350     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
6351   }%
6352   \if@filesw
6353     \begingroup
6354     \let\protect\noexpand
6355     \immediate\write\@auxout{%
6356       \string\bibcite{#1}{\the\value{\@listctr}}%

```

```

6357     }%
6358     \endgroup
6359     \fi
6360     \ignorespaces
6361   }%
6362 }{}

6363 </package>
6364 <*check>
6365 \checklatex
6366 \checkcommand\def\@bibitem[#1]#2{%
6367   \item[\@biblabel{#1}\hfill]%
6368   \if@filesw
6369     {%
6370       \let\protect\noexpand
6371       \immediate\write\@auxout{%
6372         \string\bibcite{#2}{#1}%
6373       }%
6374     }%
6375   \fi
6376   \ignorespaces
6377 }
6378 \checkcommand\def\@bibitem#1{%
6379   \item
6380   \if@filesw
6381     \immediate\write\@auxout{%
6382       \string\bibcite{#1}{\the\value{\listctr}}}%
6383   }%
6384   \fi
6385   \ignorespaces
6386 }
6387 </check>
6388 <*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.

```

6389 \ifclassloaded{revtex}{%
6390   \Hy@Info{*** compatibility with revtex **** }%
6391   \def\revtex@checking#1#2{%
6392     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
6393     \expandafter\def\csname b@#1\endcsname{#2}%
6394     \@SetMaxRnhefLabel{#1}%
6395     \expandafter\let\csname b@#1\endcsname\T@temp
6396   }%

```

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

```

6397   \ifundefined{@CITE}{\def\@CITE{\@cite}}{}%
6398   \providecommand*\@extra@b@citeb{}%
6399   \def\@CITEX[#1]#2{%
6400     \let\@citea\@empty
6401     \leavevmode
6402     \unskip
6403     $\sim$%
6404     \scriptstyle
6405     \@CITE{%
6406       \@for\@citeb:=#2\do{%

```

```

6407 \citea
6408 \def\citea{\penalty\@m\}%
6409 \edef\citeb{\expandafter\firstofone\citeb}%
6410 \if@filesw
6411 \immediate\write\@auxout{\string\citation{\citeb}}%
6412 \fi
6413 \ifundefined{b@\citeb\extra@b@cibeb}{%
6414 \mbox{\reset@font\bfseries ?}%
6415 \G@refundefinedtrue
6416 \@latex@warning{%
6417 Citation '\citeb' on page \thepage \space undefined%
6418 }%
6419 }{%
6420 {\csname b@\citeb\extra@b@cibeb\endcsname}%
6421 }%
6422 }%
6423 }{#1}%
6424 }$%
6425 }%

```

No, life is too short. I am not going to understand the Revtex \@collapse macro, I shall just restore the original behaviour of \cite; sigh. This is SO vile.

```

6426 \def\citex[#1]#2{%
6427 \let\citea\@empty
6428 \cite{%
6429 \for\citeb:=#2\do{%
6430 \citea
6431 \def\citea{\penalty\@m\}%
6432 \edef\citeb{\expandafter\firstofone\citeb}%
6433 \if@filesw
6434 \immediate\write\@auxout{\string\citation{\citeb}}%
6435 \fi
6436 \ifundefined{b@\citeb\extra@b@cibeb}{%
6437 \mbox{\reset@font\bfseries ?}%
6438 \G@refundefinedtrue
6439 \@latex@warning{%
6440 Citation '\citeb' on page \thepage \space undefined%
6441 }%
6442 }{%
6443 \hbox{\csname b@\citeb\extra@b@cibeb\endcsname}%
6444 }%
6445 }%
6446 }{#1}%
6447 }%
6448 }{}

```

### 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.

```

6449 \ifpackageloaded{harvard}{%
6450 \AtBeginDocument{%
6451 \Hy@Info{*** compatibility with harvard **** }%

```

```

6452 \Hy@raiselinksfalse
6453 \def\harvardcite#1#2#3#4{%
6454   \global\@namedef{HAR@fn@#1}\hyper@@link[cite]{\cite.#1}{#2}}%
6455   \global\@namedef{HAR@an@#1}\hyper@@link[cite]{\cite.#1}{#3}}%
6456   \global\@namedef{HAR@yr@#1}\hyper@@link[cite]{\cite.#1}{#4}}%
6457   \global\@namedef{HAR@df@#1}\csname HAR@fn@#1\endcsname}%
6458 }%
6459 \def\HAR@citetoaux#1{%
6460   \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
6461   \ifHy@backref
6462     \ifx\@empty\@currentlabel
6463     \else
6464       \@bsphack
6465       \if@filesw
6466         \protected@write\@auxout{}\string\@writefile{brf}{%
6467           \string\backcite{#1}{%
6468             {\thepage}{\@currentlabel}{\@currentHref}}%
6469         }%
6470       }%
6471     }%
6472   }%
6473   \fi
6474   \@esphack
6475   \fi
6476 }%
6477 \def\harvarditem{%
6478   \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
6479 }%
6480 \def\@harvarditem[#1]#2#3#4#5\par{%
6481   \item[]%
6482   \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
6483   \if@filesw
6484     \begingroup
6485     \def\protect##1{\string ##1\space}%
6486     \ifthenelse{\equal{#1}{\null}}{%
6487       {\def\next{{#4}{#2}{#3}}}%
6488       {\def\next{{#4}{#2}{#1}{#3}}}%
6489     }%
6490     \immediate\write\@auxout{\string\harvardcite\codeof\next}%
6491   \endgroup
6492   \fi
6493   \protect\hspace*{-\labelwidth}%
6494   \protect\hspace*{-\labelsep}%
6495   \ignorespaces
6496   #5%
6497   \ifHy@backref
6498     \newblock
6499     \backref{\csname br@#4\endcsname}%
6500   \fi
6501   \par
6502 }%

```

\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:

```

6503 \long\def\HAR@checkcitations#1#2#3#4{%
6504   \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%

```



```

6505 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
6506 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
6507 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
6508 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
6509 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
6510 \else
6511 \@tempswatrue
6512 \fi
6513 \else
6514 \@tempswatrue
6515 \fi
6516 \else
6517 \@tempswatrue
6518 \fi
6519 }%
6520 }%
6521 }{}

```

## 37.2 Package chicago

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

```

6522 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

6523 \def\citeN{%
6524 \def\@citesep{-1000}%
6525 \def\@cite##1##2{##1}%
6526 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}}%
6527 \@citedata@opt
6528 }%

```

`\shortciteN`

```

6529 \def\shortciteN{%
6530 \def\@citesep{-1000}%
6531 \def\@cite##1##2{##1}%
6532 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}}%
6533 \@citedata@opt
6534 }%

```

`\@citedata@opt`

```

6535 \def\@citedata@opt{%
6536 \let\@cite@opt\@empty
6537 \@ifnextchar [{%
6538 \@tempswatrue
6539 \@citedatax@opt
6540 }{%
6541 \@tempswafalse
6542 \@citedatax[]%
6543 }%
6544 }%

```

`\@citedatax@opt`

```

6545 \def\@citedatax@opt[#1]{%
6546 \def\@cite@opt{, #1}%
6547 \@citedatax[{#1}]%
6548 }%

```

6549 }{}

## 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.

```
6550 \def\Hy@EveryPageAnchor{%
6551   \Hy@DistillerDestFix
6552   \ifHy@pageanchor
6553     \ifHy@hypertextnames
6554       \ifHy@plainpages
6555         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
6556       \else
6557         \begingroup
6558           \let\@number\@firstofone
6559           \Hy@unicodetfalse
6560           \pdfstringdef\@the@H@page{\thepage}%
6561         \endgroup
6562         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
6563       \fi
6564     \else
6565       \Hy@GlobalStepCount\Hy@pagecounter
6566       \def\Hy@TempPageAnchor{%
6567         \hyper@@anchor{page.\the\Hy@pagecounter}%
6568       }%
6569     \fi
6570   \vbox to 0pt{%
6571     \kern\voffset
6572     \kern\topmargin
6573     \kern-1bp\relax
6574     \hbox to 0pt{%
6575       \kern\hoffset
6576       \kern\ifodd\value{page}%
6577         \oddsidemargin
6578       \else
6579         \evensidemargin
6580       \fi
6581       \kern-1bp\relax
6582       \Hy@TempPageAnchor
6583     \hss
6584   }%
6585   \vss
6586 }%
6587 \fi
6588 }
6589 \g@addto@macro\Hy@EveryPageBoxHook{%
6590   \Hy@EveryPageAnchor
6591 }
```

## 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.

```
6592 \def\addcontentsline#1#2#3{% toc extension, type, tag
6593   \begingroup
6594     \let\label\@gobble
6595     \ifx\@currentHref\@empty
6596       \Hy@Warning{%
6597         No destination for bookmark of \string\addcontentsline,%
6598         \MessageBreak destination is added%
6599       }%
6600     \phantomsection
6601   \fi
6602   \expandafter\ifx\csname toplevel@#2\endcsname\relax
6603     \begingroup
6604       \def\Hy@tempa{#1}%
6605       \ifx\Hy@tempa\Hy@bookmarkstype
6606         \Hy@WarningNoLine{%
6607           bookmark level for unknown #2 defaults to 0%
6608         }%
6609       \else
6610         \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6611       \fi
6612     \endgroup
6613     \expandafter\gdef\csname toplevel@#2\endcsname{0}%
6614   \fi
6615   \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
6616   \Hy@writebookmark{\csname the#2\endcsname}%
6617     {#3}%
6618     {\@currentHref}%
6619     {\Hy@toplevel}%
6620     {#1}%
6621   \ifHy@verbose
6622     \begingroup
6623       \def\Hy@tempa{#3}%
6624       \@onelevel@sanitize\Hy@tempa
6625       \let\temp@online\on@line
6626       \let\on@line\@empty
6627       \Hy@Info{%
6628         bookmark\temp@online:\MessageBreak
6629         thecounter {\csname the#2\endcsname}\MessageBreak
6630         text {\Hy@tempa}\MessageBreak
6631         reference {\@currentHref}\MessageBreak
6632         toplevel {\Hy@toplevel}\MessageBreak
6633         type {#1}%
6634       }%
6635     \endgroup
6636   \fi
6637   \addtocontents{#1}{%
6638     \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6639   }%
6640 \endgroup
6641 }
6642 \def\contentsline#1#2#3#4{%
6643   \ifx\\#4\\%
```

```

6644 \csname l@#1\endcsname{#2}{#3}%
6645 \else
6646 \ifcase\Hy@linktoc % none
6647 \csname l@#1\endcsname{#2}{#3}%
6648 \or % section
6649 \csname l@#1\endcsname{%
6650 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6651 }{#3}%
6652 \or % page
6653 \csname l@#1\endcsname{#2}{#3}%
6654 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6655 }%
6656 \else % all
6657 \csname l@#1\endcsname{%
6658 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6659 }{#3}%
6660 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6661 }%
6662 \fi
6663 \fi
6664 }

6665 </package>
6666 <*check>
6667 \checklatex
6668 \checkcommand\def\addcontentsline#1#2#3{%
6669 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
6670 }
6671 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6672 </check>
6673 <*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.

```

6674 \let\H@definecounter\@definecounter
6675 \def\@definecounter#1{%
6676 \H@definecounter{#1}%
6677 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6678 }

```

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.

```

6679 \let\H@newctr\@newctr
6680 \def\@newctr#1[#2]{%
6681 \H@newctr#1[{#2}]%
6682 \expandafter\def\csname theH#1\endcsname{%
6683 \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
6684 }%
6685 }

```

## 41 AMS $\text{\LaTeX}$ 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.

```

6686 \ifpackageloaded{amsmath}{%
6687   \def\Hy@make@anchor{%
6688     \Hy@GlobalStepCount\Hy@linkcounter
6689     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6690     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6691   }%
6692   \def\Hy@make@df@tag@@#1{%
6693     \gdef\df@tag{%
6694       \maketag@@@{\Hy@make@anchor#1}%
6695       \def\@currentlabel{#1}%
6696     }%
6697   }%
6698   \def\Hy@make@df@tag@@@#1{%
6699     \gdef\df@tag{%
6700       \tagform@{\Hy@make@anchor#1}%
6701       \toks@{\exp{\p@equation{#1}}}%
6702       \edef\@currentlabel{\the\toks@}%
6703     }%
6704   }%
6705   \let\HyOrg@make@df@tag@@\make@df@tag@@
6706   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
6707   \let\make@df@tag@@\Hy@make@df@tag@@
6708   \let\make@df@tag@@@\Hy@make@df@tag@@@
6709 }{}

```

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

```

6710 \ifpackagewith{hyperref}{pdfTeX}{%
6711   \let\H@seteqlabel\@seteqlabel
6712   \def\@seteqlabel#1{%
6713     \H@seteqlabel{#1}%
6714     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6715     \Hy@raisedlink{%
6716       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6717     }%
6718   }%
6719 }{}

```

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.

```

6720 \let\HyOrg@addtoreset\@addtoreset
6721 \def\@addtoreset#1#2{%
6722   \HyOrg@addtoreset{#1}{#2}%
6723   \expandafter\xdef\csname theH#1\endcsname{%
6724     \expandafter\noexpand
6725       \csname the\@ifundefined{theH#2}{H#2\endcsname
6726       .\noexpand\the\noexpand\value{#1}%
6727   }%
6728 }

```

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

```

6729 </package>
6730 <*check>
6731 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6732 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6733   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6734     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6735       \@addtoreset{#2}{#3}%
6736       \@xp\xdef\csname the#2\endcsname{%
6737         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6738       }%
6739     }%
6740   }%
6741 }%
6742 </check>
6743 <*package>
6744 \@ifpackageloaded{amsmath}{%
6745   \@ifpackagelater{amsmath}{1999/12/14}{%
6746     \renewcommand*\numberwithin[3][\arabic]{%
6747       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6748         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6749           \HyOrg@addtoreset{#2}{#3}%
6750           \@xp\xdef\csname the#2\endcsname{%
6751             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6752           }%
6753           \@xp\xdef\csname theH#2\endcsname{%
6754             \@xp\@nx
6755             \csname the\@ifundefined{theH#3}{H#3\endcsname
6756             .\@nx#1{#2}%
6757           }%
6758         }%
6759       }%
6760     }%
6761   }{%
6762     \Hy@WarningNoLine{%
6763       \string\numberwithin\space of package ‘amsmath’ %
6764       only fixed\MessageBreak
6765       for version 2000/06/06 v2.12 or newer%
6766     }%
6767   }%
6768 }{}

```

## 42 Included figures

Simply intercept the low level graphics package macro.

```

6769 \ifHy@figures
6770 \let\Hy@Gin@setfile\Gin@setfile
6771 \def\Gin@setfile#1#2#3{%
6772 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6773 }%
6774 \fi
6775 \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.

```

6776 \ifHy@hyperindex
6777 \def\HyInd@ParenLeft{()%
6778 \def\HyInd@ParenRight{)%}
6779 \def\hyperindexformat#1#2{%
6780 \let\HyOrg@hyperpage\hyperpage
6781 \let\hyperpage\@firstofone
6782 #1{\HyOrg@hyperpage{#2}}%
6783 \let\hyperpage\HyOrg@hyperpage
6784 }%
6785 \Hy@nextfalse
6786 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6787 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6788 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
6789 \begingroup
6790 \lccode'\|=\expandafter'\HyInd@EncapChar\relax
6791 \lccode'\|/'=\relax
6792 \lowercase{\endgroup
6793 \ifHy@next
6794 \let\HyInd@org@wrindex\@wrindex
6795 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
6796 \def\HyInd@@wrindex#1#2|#3|#4\{\%
6797 \ifx\|#3\%\%
6798 \HyInd@org@wrindex{#1}{#2|hyperpage}%
6799 \else
6800 \HyInd@@@wrindex{#1}{#2}#3\%\%
6801 \fi
6802 }%
6803 \def\HyInd@@@wrindex#1#2#3#4\{\%
6804 \def\Hy@temp@A{#3}%
6805 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6806 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6807 \relax
6808 \HyInd@org@wrindex{#1}{%
6809 #2|hyperindexformat{/#3#4}%
6810 }%
6811 \else

```

```

6812 \ifx\#4\%
6813 \ifx\Hy@temp@A\HyInd@ParenRight
6814 \HyInd@org@wrindex{#1}{#2|#3}%
6815 \else
6816 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6817 \fi
6818 \else
6819 \HyInd@org@wrindex{#1}{%
6820 #2|#3hyperindexformat{/#4}%
6821 }%
6822 \fi
6823 \fi
6824 }%
6825 \else
6826 \def\@wrindex#1{\@@wrindex#1||\}%
6827 \def\@@wrindex#1|#2|#3\{\%
6828 \if@filesw
6829 \ifx\#2\%
6830 \protected@write\@indexfile{}\{%
6831 \string\indexentry{#1|hyperpage}\thepage}%
6832 }%
6833 \else
6834 \HyInd@@@wrindex{#1}#2\%
6835 \fi
6836 \fi
6837 \endgroup
6838 \@esphack
6839 }%
6840 \def\HyInd@@@wrindex#1#2#3\{\%
6841 \def\Hy@temp@A{#2}%
6842 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6843 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6844 \relax
6845 \protected@write\@indexfile{}\{%
6846 \string\indexentry{%
6847 #1|hyperindexformat{/#2#3}%
6848 }\thepage}%
6849 }%
6850 \else
6851 \ifx\#3\%
6852 \ifx\Hy@temp@A\HyInd@ParenRight
6853 \protected@write\@indexfile{}\{%
6854 \string\indexentry{#1|#2}\thepage}%
6855 }%
6856 \else
6857 \protected@write\@indexfile{}\{%
6858 \string\indexentry{#1|#2hyperpage}\thepage}%
6859 }%
6860 \fi
6861 \else
6862 \protected@write\@indexfile{}\{%
6863 \string\indexentry{%
6864 #1|#2hyperindexformat{/#3}%
6865 }\thepage}%
6866 }%
6867 \fi
6868 \fi

```



```

6869 }%
6870 \fi
6871 }%
6872 \fi
6873 \Hy@DisableOption{hyperindex}
6874 \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.

```

6875 \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.

```

6876 \def\hyperpage#1{%
6877   \HyInd@hyperpage#1\nohyperpage{}\@nil
6878 }
6879 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
6880   \HyInd@@hyperpage{#1}%
6881   #2%
6882   \def\Hy@temp{#3}%
6883   \ifx\Hy@temp\@empty
6884   \else
6885     \Hy@ReturnAfterFi{%
6886       \HyInd@hyperpage#3\@nil
6887     }%
6888   \fi
6889 }
6890 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
6891 \def\@hyperpage#1--#2--#3\\\{%
6892   \ifx\#2\\\%
6893     \@commahyperpage{#1}%
6894   \else
6895     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6896   \fi
6897 }
6898 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6899 \def\@commahyperpage#1, #2,#3\\\{%
6900   \ifx\#2\\\%
6901     \HyInd@pagelink{#1}%
6902   \else
6903     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6904   \fi
6905 }

```

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

```

6906 \def\HyInd@pagelink#1{%
6907   \begingroup
6908   \toks@={}%
6909   \HyInd@removespaces#1 \@nil
6910   \endgroup
6911 }
6912 \def\HyInd@removespaces#1 #2\@nil{%
6913   \toks@=\expandafter{\the\toks@#1}%
6914   \ifx\#2\\\%
6915     \edef\x{\the\toks@}%
6916     \ifx\x\@empty

```

```

6917 \else
6918 \hyperlink{page.\the\toks@}{\the\toks@}%
6919 \fi
6920 \else
6921 \Hy@ReturnAfterFi{%
6922 \HyInd@removespaces#2\@nil
6923 }%
6924 \fi
6925 }

```

## 44 Compatibility with foiltex

```

6926 \@ifclassloaded{foils}{%
6927 \providecommand*\ext@table{lot}%
6928 \providecommand*\ext@figure{lof}%
6929 }{}

```

## 45 Compatibility with seminar slide package

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

```

6930 \@ifclassloaded{seminar}{%
6931 \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
6932 }{%
6933 \Hy@seminarslidesfalse
6934 }
6935 \@ifpackageloaded{slidesec}{%
6936 \newcommand\theHslidesection {\arabic{slidesection}}%
6937 \newcommand\theHslidesubsection{%
6938 \theHslidesection.\arabic{slidesubsection}}%
6939 }%
6940 \def\slide@heading[#1]#2{%
6941 \H@refstepcounter{slidesection}%
6942 \@addtoreset{slidesubsection}{slidesection}%
6943 \addtocontents{los}{%
6944 \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6945 {\@SCTR}{\slideheading.\theslidesection}}%
6946 }%
6947 \def\Hy@tempa{#2}%
6948 \ifx\Hy@tempa\@empty
6949 \else
6950 {%
6951 \edef\@currentlabel{%
6952 \csname p@slidesection\endcsname\theslidesection
6953 }%
6954 \makeslideheading{#2}%
6955 }%
6956 \fi
6957 \gdef\theslideheading{#1}%
6958 \gdef\theslidesubheading{}%
6959 \ifHy@bookmarksnumbered
6960 \def\Hy@slidetitle{\theslidesection\space #1}%
6961 \else
6962 \def\Hy@slidetitle{#1}%
6963 \fi
6964 \ifHy@hypertextnames

```

```

6965 \ifHy@naturalnames
6966 \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6967 \Hy@writebookmark
6968 {\theslidesection}%
6969 {\Hy@slidetitle}%
6970 {slideheading.\theslidesection}%
6971 {1}%
6972 {toc}%
6973 \else
6974 \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6975 \Hy@writebookmark
6976 {\theslidesection}%
6977 {\Hy@slidetitle}%
6978 {slideheading.\theHslidesection}%
6979 {1}%
6980 {toc}%
6981 \fi
6982 \else
6983 \Hy@GlobalStepCount\Hy@linkcounter
6984 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6985 \Hy@writebookmark
6986 {\theslidesection}%
6987 {\Hy@slidetitle}%
6988 {slideheading.\the\Hy@linkcounter}%
6989 {1}%
6990 {toc}%
6991 \fi
6992 }%
6993 \def\slide@subheading[#1]#2{%
6994 \H@refstepcounter{slidesubsection}%
6995 \addtocontents{los}{%
6996 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6997 {\@SCTR}{slideheading.\theslidesubsection}%
6998 }%
6999 \def\Hy@tempa{#2}%
7000 \ifx\Hy@tempa\@empty
7001 \else
7002 {%
7003 \edef\@currentlabel{%
7004 \csname p@slidesubsection\endcsname\theslidesubsection
7005 }%
7006 \makeslidesubheading{#2}%
7007 }%
7008 \fi
7009 \gdef\theslidesubheading{#1}%
7010 \ifHy@bookmarksnumbered
7011 \def\Hy@slidetitle{\theslidesubsection\space #1}%
7012 \else
7013 \def\Hy@slidetitle{#1}%
7014 \fi
7015 \ifHy@hypertextnames
7016 \ifHy@naturalnames
7017 \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
7018 \Hy@writebookmark
7019 {\theslidesubsection}%
7020 {\Hy@slidetitle}%
7021 {slideheading.\theslidesubsection}%

```

```

7022     {2}%
7023     {toc}%
7024     \else
7025     \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
7026     \Hy@writebookmark
7027     {\theslidesubsection}%
7028     {\Hy@slidetitle}%
7029     {slideheading.\theHslidesubsection}%
7030     {2}%
7031     {toc}%
7032     \fi
7033     \else
7034     \Hy@GlobalStepCount\Hy@linkcounter
7035     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7036     \Hy@writebookmark
7037     {\theslidesubsection}%
7038     {\Hy@slidetitle}%
7039     {slideheading.\the\Hy@linkcounter}%
7040     {1}%
7041     {toc}%
7042     \fi
7043 }%
7044 \providecommand*{\listslidenam}{List of Slides}%
7045 \def\listofslides{%
7046   \section*{%
7047     \listslidenam
7048     \@mkboth{%
7049       \expandafter\MakeUppercase\listslidenam
7050     }{%
7051       \expandafter\MakeUppercase\listslidenam
7052     }%
7053   }%
7054   \def\l@slide##1##2##3##4{%
7055     \slide@undottedcline{%
7056       \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
7057     }{%
7058   }%
7059   \let\l@subslide\l@slide
7060   \@startlos
7061 }%
7062 \def\slide@contents{%
7063   \def\l@slide##1##2##3##4{%
7064     \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
7065   }%
7066   \let\l@subslide\@gobblefour
7067   \@startlos
7068 }%
7069 \def\Slide@contents{%
7070   \def\l@slide##1##2##3##4{%
7071     \ifcase\lslide@flag
7072       \message{##1 ** \the\c@slidesection}%
7073       \ifnum##1>\c@slidesection
7074         \def\lslide@flag{1}%
7075       {%
7076         \large
7077         \slide@ccline{%
7078           \slidenumberline{$\rightarrow\bullet$}%

```

```

7079         {\hyperlink{###4}{##2}}%
7080     }{##3}%
7081 }%
7082 \else
7083 {%
7084     \large
7085     \slide@cline{%
7086         \slidenumberline{$\surd\;\bullet$}%
7087         {\hyperlink{###4}{##2}}%
7088     }{##3}%
7089 }%
7090 \fi
7091 \or
7092 \def\lslide@flag{2}%
7093 {%
7094     \large
7095     \slide@cline{%
7096         \slidenumberline{$\bullet$}%
7097         {\hyperlink{###4}{##2}}%
7098     }{##3}%
7099 }%
7100 \or
7101 {%
7102     \large
7103     \slide@cline{%
7104         \slidenumberline{$\bullet$}%
7105         {\hyperlink{###4}{##2}}%
7106     }{##3}%
7107 }%
7108 \fi
7109 }%
7110 \def\l@subslide##1##2##3##4{%
7111     \ifnum\lslide@flag=1 %
7112         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{###4}{##2}}}%
7113     \fi
7114 }%
7115 \def\lslide@flag{0}%
7116 \@startlos
7117 }%
7118 }{}

```

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.)

```

7119 \ifHy@texht
7120 \expandafter\endinput
7121 \fi
7122 \let\real@setref\@setref
7123 \def\@setref#1#2#3{% csname, extract group, refname
7124     \ifx#1\relax
7125         \protect\G@refundefinedtrue
7126         \nfss@text{\reset@font\bfseries ??}%
7127         \@latex@warning{%
7128             Reference ‘#3’ on page \thepage \space undefined%
7129         }%
7130     \else
7131         \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
7132     \fi

```

```

7133 }
\Hy@setref@link extracts the reference information entries, because \hyper@link
does not expand arguments for the automatic link type detection.
7134 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
7135   \begingroup
7136   \toks0={\hyper@link{#5}{#4}}%
7137   \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
7138   \edef\x{\endgroup
7139     \the\toks0 {\the\toks1 }%
7140   }%
7141   \x
7142 }
7143 \def\@pagesetref#1#2#3{% csname, extract macro, ref
7144   \ifx#1\relax
7145     \protect\G@refundefinedtrue
7146     \nfss@text{\reset@font\bfseries ??}%
7147     \@latex@warning{%
7148       Reference '#3' on page \thepage \space undefined%
7149     }%
7150   \else
7151     \protect\hyper@@link
7152     {\expandafter\@fifthoffive#1}%
7153     {page.\expandafter\@secondoffive#1}%
7154     {\expandafter\@secondoffive#1}%
7155   \fi
7156 }
7157 </package>
7158 <*check>
7159 \checklatex
7160 \checkcommand\def\@setref#1#2#3{%
7161   \ifx#1\relax
7162     \protect\G@refundefinedtrue
7163     \nfss@text{\reset@font\bfseries ??}%
7164     \@latex@warning{%
7165       Reference '#3' on page \thepage \space undefined%
7166     }%
7167   \else
7168     \expandafter#2#1\null
7169   \fi
7170 }
7171 </check>
7172 <*package>

```

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

```

7173 \def\HyRef@StarSetRef#1{%
7174   \begingroup
7175   \Hy@safe@activetrue
7176   \edef\x{#1}%
7177   \@onelevel@sanitize\x
7178   \edef\x{\endgroup
7179     \noexpand\HyRef@@StarSetRef
7180     \expandafter\noexpand\csname r@\x\endcsname{\x}%
7181   }%
7182   \x
7183 }
7184 \def\HyRef@@StarSetRef#1#2#3{%

```

```

7185 \ifx#1\@undefined
7186 \let#1\relax
7187 \fi
7188 \real@setref#1#3{#2}%
7189 }
7190 \def\@refstar#1{%
7191 \HyRef@StarSetRef{#1}\@firstoffive
7192 }
7193 \def\@pagerefstar#1{%
7194 \HyRef@StarSetRef{#1}\@secondoffive
7195 }
7196 \AtBeginDocument{%
7197 \ifpackageloaded{varioref}{%
7198 \def\@Refstar#1{%
7199 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
7200 }%
7201 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
7202 \MakeUppercase#1%
7203 }%
7204 \DeclareRobustCommand*\Ref}{\Ref}{%
7205 \@ifstar\@Refstar\HyRef@Ref
7206 }%
7207 \def\HyRef@Ref#1{%
7208 \hyperref[{#1}]{\Ref*{#1}}%
7209 }%
7210 \def\Vr@f#1{%
7211 \leavevmode\unskip\vref@space
7212 \hyperref[{#1}]{%
7213 \Ref*{#1}%
7214 \let\vref@space\nobreakspace
7215 \vpageref{\unskip}{#1}%
7216 }%
7217 }%
7218 \def\vr@f#1{%
7219 \leavevmode\unskip\vref@space
7220 \begingroup
7221 \let\T@pageref\@pagerefstar
7222 \hyperref[{#1}]{%
7223 \ref*{#1}%
7224 \vpageref{\unskip}{#1}%
7225 }%
7226 \endgroup
7227 }%
7228 }{}%
7229 }
7230 \DeclareRobustCommand*\autopageref}{%
7231 \@ifstar{%
7232 \HyRef@autopagerefname\pageref*%
7233 }\HyRef@autopageref
7234 }
7235 \def\HyRef@autopageref#1{%
7236 \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
7237 }
7238 \def\HyRef@autopagerefname{%
7239 \@ifundefined{pageautorefname}{%
7240 \@ifundefined{pagename}{%
7241 \Hy@Warning{No autoref name for 'page'}%

```

```

7242 }{%
7243   \pagename\nobreakspace
7244 }%
7245 }{%
7246   \pageautorefname\nobreakspace
7247 }%
7248 }
7249 \DeclareRobustCommand*{\autoref}{%
7250   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
7251 }
7252 \def\HyRef@autoref#1#2{%
7253   \begingroup
7254   \Hy@safe@activetrue
7255   \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
7256   \endgroup
7257 }
7258 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
7259   \HyRef@ShowKeysRef{#2}%
7260   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
7261   \edef\HyRef@thisref{%
7262     \expandafter\@fourthoffive#1\@empty\@empty\@empty
7263   }%
7264   \expandafter\HyRef@testreftype\HyRef@thisref.\.%
7265   \Hy@safe@activesfalse
7266   #3{%
7267     \expandafter\@fifthoffive#1\@empty\@empty\@empty
7268   }{%
7269     \expandafter\@fourthoffive#1\@empty\@empty\@empty
7270   }{%
7271     \HyRef@currentHtag
7272     \expandafter\@firstoffive#1\@empty\@empty\@empty
7273     \null
7274   }%
7275   \else
7276     \protect\G@refundefinedtrue
7277     \nfss@text{\reset@font\bfseries ??}%
7278     \@latex@warning{%
7279       Reference ‘#2’ on page \thepage\space undefined%
7280     }%
7281     \fi
7282 }
7283 \def\HyRef@testreftype#1.#2\{\%
7284   \@ifundefined{#1autorefname}{%
7285     \@ifundefined{#1name}{%
7286       \HyRef@StripStar#1\*\@nil{#1}%
7287     \@ifundefined{\HyRef@name autorefname}{%
7288       \@ifundefined{\HyRef@name name}{%
7289         \def\HyRef@currentHtag{}%
7290         \Hy@Warning{No autoref name for ‘#1’}%
7291       }{%
7292         \edef\HyRef@currentHtag{%
7293           \expandafter\noexpand\csname\HyRef@name name\endcsname
7294           \noexpand~%
7295         }%
7296       }%
7297     }{%
7298       \edef\HyRef@currentHtag{%

```



```

7299     \expandafter\noexpand
7300     \csname\HyRef@name autorefname\endcsname
7301     \noexpand~%
7302   }%
7303 }%
7304 }{%
7305   \edef\HyRef@currentHtag{%
7306     \expandafter\noexpand\csname#1name\endcsname
7307     \noexpand~%
7308   }%
7309 }%
7310 }{%
7311   \edef\HyRef@currentHtag{%
7312     \expandafter\noexpand\csname#1autorefname\endcsname
7313     \noexpand~%
7314   }%
7315 }%
7316 }
7317 \def\HyRef@StripStar#1*\#2\@nil#3{%
7318   \def\HyRef@name{#2}%
7319   \ifx\HyRef@name\HyRef@CaseStar
7320     \def\HyRef@name{#1}%
7321   \else
7322     \def\HyRef@name{#3}%
7323   \fi
7324 }
7325 \def\HyRef@CaseStar{*\\}
7326 \def\HyRef@currentHtag{

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

7327 \let\HyRef@ShowKeysRef@gobble
7328 \def\HyRef@ShowKeysInit{%
7329   \begingroup\expandafter\expandafter\expandafter\endgroup
7330   \expandafter\ifx\csname SK@@label\endcsname\relax
7331   \else
7332     \ifx\SK@ref\@empty
7333     \else
7334       \def\HyRef@ShowKeysRef{%
7335         \SK@\SK@@ref
7336       }%
7337     \fi
7338   \fi
7339 }
7340 \@ifpackageloaded{showkeys}{%
7341   \HyRef@ShowKeysInit
7342 }{%
7343   \AtBeginDocument{%
7344     \@ifpackageloaded{showkeys}{%
7345       \HyRef@ShowKeysInit
7346     }{}%
7347   }%
7348 }

```

Defaults for the names that \autoref uses.

```

7349 \providecommand*\AMSautorefname{\equationautorefname}
7350 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}

```

```

7351 \providecommand*\Itemautorefname{\itemautorefname}
7352 \providecommand*\itemautorefname{item}
7353 \providecommand*\equationautorefname{Equation}
7354 \providecommand*\footnoteautorefname{footnote}
7355 \providecommand*\itemautorefname{item}
7356 \providecommand*\figureautorefname{Figure}
7357 \providecommand*\tableautorefname{Table}
7358 \providecommand*\partautorefname{Part}
7359 \providecommand*\appendixautorefname{Appendix}
7360 \providecommand*\chapterautorefname{chapter}
7361 \providecommand*\sectionautorefname{section}
7362 \providecommand*\subsectionautorefname{subsection}
7363 \providecommand*\subsubsectionautorefname{subsubsection}
7364 \providecommand*\paragraphautorefname{paragraph}
7365 \providecommand*\subparagraphautorefname{subparagraph}
7366 \providecommand*\FancyVerbLineautorefname{line}
7367 \providecommand*\theoremautorefname{Theorem}
7368 \providecommand*\pageautorefname{page}
7369 </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 $\TeX$  offers `\pdfescapestring`.

```

7370 <*pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
7371 \RequirePackage{pdfTeXcmds}[2009/04/10]
7372 \begingroup\expandafter\expandafter\expandafter\endgroup
7373 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
7374 \begingroup
7375 \catcode'\=0 %
7376 \@makeother\%
7377 |@firstofone{|endgroup
7378 |def|Hy@pstringdef#1#2{%
7379 |begingroup
7380 |edef~{|string~}%
7381 |xdef|Hy@gtemp{#2}%
7382 |endgroup
7383 |let#1|Hy@gtemp
7384 |@onelevel@sanitize#1%
7385 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
7386 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
7387 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
7388 }%
7389 |def|Hy@ExchangeBackslash#1\#2|@nil{%
7390 #1%
7391 |ifx|\#2|\%%
7392 |else
7393 \\\%
7394 |Hy@ReturnAfterFi{%

```

```

7395      |Hy@ExchangeBackslash#2|@nil
7396      }%
7397      |fi
7398      }%
7399      }%
7400      \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
7401      #1%
7402      \ifx\#2\%
7403      \else
7404      \@backslashchar(%
7405      \Hy@ReturnAfterFi{%
7406      \Hy@ExchangeLeftParenthesis#2\@nil
7407      }%
7408      \fi
7409      }%
7410      \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
7411      #1%
7412      \ifx\#2\%
7413      \else
7414      \@backslashchar)%
7415      \Hy@ReturnAfterFi{%
7416      \Hy@ExchangeRightParenthesis#2\@nil
7417      }%
7418      \fi
7419      }%
7420      \else
7421      \def\Hy@pstringdef#1#2{%
7422      \begingroup
7423      \edef~{\string~}%
7424      \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
7425      \endgroup
7426      \let#1\Hy@gtemp
7427      }%
7428      \fi
7429      </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 46.2 pdfTeX

```

7430 < *pdfTeX >
7431 \providecommand*{\XR@ext}{pdf}
7432 \Hy@setbreaklinks{true}

```

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

Set PDF version if requested by option `pdfversion`.

- pdfT<sub>E</sub>X 1.10a, 2003-01-16: `\pdfoptionpdfminorversion`
- pdfT<sub>E</sub>X 1.30, 2005-08-081: `\pdfminorversion`

```

7433 \let\Hy@pdfminorversion\relax
7434 \begingroup\expandafter\expandafter\expandafter\endgroup
7435 \expandafter\ifx\cname pdfminorversion\endcname\relax
7436 \begingroup\expandafter\expandafter\expandafter\endgroup
7437 \expandafter\ifx\cname pdfoptionpdfminorversion\endcname\relax
7438 \else
7439 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
7440 \fi

```

```

7441 \else
7442   \def\Hy@pdfminorversion{\pdfminorversion}%
7443 \fi
7444 \@ifundefined{Hy@pdfminorversion}{%
7445   \PackageInfo{hyperref}{%
7446     PDF version is not set, because pdfTeX is too old (<1.10a)%
7447   }%
7448 }{%
7449   \ifHy@ocgcolorlinks
7450     \ifnum\Hy@pdfminorversion<5 %
7451       \setkeys{Hyp}{pdfversion=1.5}%
7452     \fi
7453   \fi
7454   \ifHy@setpdfversion
7455     \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
7456   \else
7457     \Hy@pdfminorversion=\Hy@pdfversion\relax
7458   \fi
7459   \PackageInfo{hyperref}{%
7460     \expandafter\string\Hy@pdfminorversion
7461     :=\number\Hy@pdfversion\space
7462   }%
7463 \fi
7464 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
7465 }
7466 \Hy@DisableOption{pdfversion}%

7467 \ifHy@ocgcolorlinks
7468   \immediate\pdfobj{%
7469     <<%
7470       /Type/OCG%
7471       /Name(View)%
7472       /Usage<<%
7473         /Print<<%
7474           /PrintState/OFF%
7475         >>%
7476       /View<<%
7477         /ViewState/ON%
7478       >>%
7479     >>%
7480   }%
7481 }%
7482 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
7483 \immediate\pdfobj{%
7484   <<%
7485     /Type/OCG%
7486     /Name(Print)%
7487     /Usage<<%
7488       /Print<<%
7489         /PrintState/ON%
7490       >>%
7491     /View<<%
7492       /ViewState/OFF%
7493     >>%
7494   >>%
7495 }%
7496 }%
7497 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%

```

```

7498 \immediate\pdfobj{%
7499   [%
7500     \OBJ@OCG@view\space\OBJ@OCG@print
7501   ]%
7502 }%
7503 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
7504 \pdfcatalog{%
7505   /OCProperties<<%
7506     /OCGs \OBJ@OCGs
7507   /D<<%
7508     /OFF[\OBJ@OCG@print]%
7509     /AS[%
7510       <<%
7511         /Event/View%
7512         /OCGs \OBJ@OCGs
7513         /Category[/View]%
7514       >>%
7515       <<%
7516         /Event/Print%
7517         /OCGs \OBJ@OCGs
7518         /Category[/Print]%
7519       >>%
7520       <<%
7521         /Event/Export%
7522         /OCGs \OBJ@OCGs
7523         /Category[/Print]%
7524       >>%
7525     ]%
7526   >>%
7527 >>%
7528 }%
7529 \begingroup
7530 \edef\x{\endgroup
7531   \pdfpageresources{%
7532     /Properties<<%
7533       /OCView \OBJ@OCG@view
7534       /OCPrint \OBJ@OCG@print
7535     >>%
7536   }%
7537 }%
7538 \x
7539 \AtBeginDocument{%
7540   \def\Hy@colorlink#1{%
7541     \begingroup
7542       \ifHy@ocgcolorlinks
7543         \def\Hy@ocgcolor{#1}%
7544         \setbox0=\color@hbox
7545       \else
7546         \HyColor@UseColor#1%
7547       \fi
7548     }%
7549   \def\Hy@endcolorlink{%
7550     \ifHy@ocgcolorlinks
7551       \color@endbox
7552     \mbox{%
7553       \pdfliteral page{/OC/OCPrint BDC}%
7554       \rlap{\copy0}%

```

```

7555 \pdfliteral page{EMC/OC/OCView BDC}%
7556 \beginpgroup
7557 \expandafter\HyColor@UseColor\Hy@ocgcolor
7558 \box0 %
7559 \endpgroup
7560 \pdfliteral page{EMC}%
7561 }%
7562 \fi
7563 \endgroup
7564 }%
7565 }%
7566 \else
7567 \Hy@DisableOption{ocgcolorlinks}%
7568 \fi

```

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

```

7569 \def\setpdfinkmargin#1{\pdfinkmargin#1}
7570 \ifx\pdfstartlink\@undefined% less than version 14
7571 \let\pdfstartlink\pdfannotlink
7572 \let\pdfinkmargin\@tempdima
7573 \let\pdfxform\pdfform
7574 \let\pdfastxform\pdfastform
7575 \let\pdfrefxform\pdfrefform
7576 \else
7577 \pdfinkmargin1pt %
7578 \fi

```

First set up the default linking

```
7579 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

7580 \def\new@pdfink#1{%
7581 \Hy@SaveLastskip
7582 \Hy@VerboseAnchor{#1}%
7583 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7584 \Hy@DestName\Hy@pstringDest\@pdfview
7585 \Hy@RestoreLastskip
7586 }
7587 \let\pdf@endanchor\@empty

```

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

```

7588 \def\Hy@DestName#1#2{%
7589 \pdfdest name{#1}#2\relax
7590 }

```

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.

```

7591 \providecommand*\@pdfborder{0 0 1}
7592 \providecommand*\@pdfborderstyle{}
7593 \def\Hy@undefinedname{UNDEFINED}
7594 \def\find@pdfink#1#2{%
7595 \leavevmode
7596 \protected@edef\Hy@testname{#2}%
7597 \ifx\Hy@testname\@empty
7598 \Hy@Warning{%

```

```

7599     Empty destination name,\MessageBreak
7600     using '\Hy@undefinedname'%
7601 }%
7602 \let\Hy@testname\Hy@undefinedname
7603 \else
7604 \Hy@pstringdef\Hy@testname{%
7605   \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7606 }%
7607 \fi
7608 \Hy@StartlinkName{%
7609   \ifHy@pdfa /F 4\fi
7610   \Hy@setpdfborder
7611   \ifx\@pdfhighlight\@empty
7612   \else
7613     /H\@pdfhighlight
7614   \fi
7615   \ifx\CurrentBorderColor\relax
7616   \else
7617     /C[\CurrentBorderColor]%
7618   \fi
7619 } \Hy@testname
7620 \expandafter\Hy@colorlink\csname @#1color\endcsname
7621 }
7622 \def\Hy@StartlinkName#1#2{%
7623   \pdfstartlink attr{#1}goto name{#2}\relax
7624 }
7625 \def\close@pdfink{%
7626   \Hy@endcolorlink
7627   \pdfendlink
7628 }
7629 \def\hyper@anchor#1{%
7630   \new@pdfink{#1}\anchor@spot\pdf@endanchor
7631 }
7632 \def\hyper@anchorstart#1{%
7633   \new@pdfink{#1}%
7634   \Hy@activeanchortrue
7635 }
7636 \def\hyper@anchorend{%
7637   \pdf@endanchor
7638   \Hy@activeanchorfalse
7639 }
7640 \def\hyper@linkstart#1#2{%
7641   \Hy@VerboseLinkStart{#1}{#2}%
7642   \@ifundefined{@#1bordercolor}{%
7643     \let\CurrentBorderColor\relax
7644   }{%
7645     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7646   }%
7647   \find@pdfink{#1}{#2}%
7648 }
7649 \def\hyper@linkend{\close@pdfink}
7650 \def\hyper@link#1#2#3{%
7651   \Hy@VerboseLinkStart{#1}{#2}%
7652   \@ifundefined{@#1bordercolor}{%
7653     \let\CurrentBorderColor\relax
7654   }{%
7655     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%

```

```

7656 }%
7657 \find@pdfink{#1}{#2}#3%
7658 \close@pdfink
7659 }
7660 \let\CurrentBorderColor\@linkbordercolor
7661 \def\hyper@linkurl#1#2{%
7662   \begingroup
7663     \Hy@pstringdef\Hy@pstringURI{#2}%
7664     \hyper@chars
7665     \leavevmode
7666     \pdfstartlink
7667     attr{%
7668       \Hy@setpdfborder
7669       \ifx\@pdfhighlight\@empty
7670       \else
7671         /H\@pdfhighlight
7672       \fi
7673       \ifx\@urlbordercolor\relax
7674       \else
7675         /C[\@urlbordercolor]%
7676       \fi
7677     }%
7678     user{%
7679       /Subtype/Link%
7680       \ifHy@pdfa /F 4\fi
7681       /A<<%
7682       /Type/Action%
7683       /S/URI%
7684       /URI(\Hy@pstringURI)%
7685     >>%
7686     }%
7687     \relax
7688     \Hy@colorlink\@urlcolor#1%
7689   \close@pdfink
7690 \endgroup
7691 }
7692 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7693   \begingroup
7694     \Hy@pstringdef\Hy@pstringF{#2}%
7695     \Hy@pstringdef\Hy@pstringD{#3}%
7696     \leavevmode
7697     \pdfstartlink
7698     attr{%
7699       \Hy@setpdfborder
7700       \ifx\@pdfhighlight\@empty
7701       \else
7702         /H\@pdfhighlight
7703       \fi
7704       \ifx\@filebordercolor\relax
7705       \else
7706         /C[\@filebordercolor]%
7707       \fi
7708     }%
7709     user {%
7710       /Subtype/Link%
7711       \ifHy@pdfa /F 4\fi
7712       /A<<%

```



```

7713      /F(\Hy@pstringF)%
7714      /S/GoToR%
7715      \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}

```

```

7716      \ifx\#3\%
7717      /D[0 \@pdfstartview]%
7718      \else
7719      /D(\Hy@pstringD)%
7720      \fi
7721      >>%
7722      }%
7723      \relax
7724      \Hy@colorlink\@filecolor#1%
7725      \close@pdfink
7726      \endgroup
7727      }
7728      \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
7729      \begingroup
7730      \Hy@pstringdef\Hy@pstringF{#1}%
7731      \Hy@pstringdef\Hy@pstringP{#3}%
7732      \leavevmode
7733      \pdfstartlink
7734      attr{%
7735      \Hy@setpdfborder
7736      \ifx\@pdfhighlight\@empty
7737      \else
7738      /H\@pdfhighlight
7739      \fi
7740      \ifx\@runbordercolor\relax
7741      \else
7742      /C[\@runbordercolor]%
7743      \fi
7744      }%
7745      user {%
7746      /Subtype/Link%
7747      \ifHy@pdfa /F 4\fi
7748      /A<<%
7749      /F(\Hy@pstringF)%
7750      /S/Launch%
7751      \Hy@SetNewWindow
7752      \ifx\#3\%
7753      \else
7754      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7755      \fi
7756      >>%
7757      }%
7758      \relax

```

```

7759 \Hy@colorlink\@runcolor#2%
7760 \close@pdflink
7761 \endgroup
7762 }

```

\@pdfproducer

```

7763 \ifx\@pdfproducer\relax
7764 \begingroup\expandafter\expandafter\expandafter\endgroup
7765 \expandafter\ifx\csname luatexversion\endcsname\relax
7766 \def\@pdfproducer{pdfTeX}%
7767 \ifx\eTeXversion\@undefined
7768 \else
7769 \ifx\eTeXversion\relax
7770 \else
7771 \ifnum\eTeXversion>0 %
7772 \def\@pdfproducer{pdfTeX}%
7773 \fi
7774 \fi
7775 \fi
7776 \ifx\pdfTeXversion\@undefined
7777 \else
7778 \ifnum\pdfTeXversion<100 %
7779 \edef\@pdfproducer{%
7780 \@pdfproducer
7781 \the\pdfTeXversion.\pdfTeXrevision
7782 }%
7783 \else
7784 \ifnum\pdfTeXversion<130 %
7785 \edef\@pdfproducer{%
7786 \@pdfproducer-%
7787 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7788 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
7789 \pdfTeXrevision
7790 }%
7791 \else
7792 \ifnum\pdfTeXversion<140 %
7793 \else
7794 \def\@pdfproducer{pdfTeX}%
7795 \fi
7796 \edef\@pdfproducer{%
7797 \@pdfproducer-%
7798 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7799 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7800 \pdfTeXrevision
7801 }%
7802 \fi
7803 \fi
7804 \fi
7805 \else
7806 \begingroup
7807 \count@=\luatexversion
7808 \divide\count@ by 100 %
7809 \edef\x{\the\count@}%
7810 \count@=-\x\relax
7811 \multiply\count@ by 100 %
7812 \advance\count@ by \luatexversion
7813 \edef\x{\endgroup

```

```

7814 \def\noexpand\@pdfproducer{%
7815   LuaTeX-\x.\the\count@.\luatexrevision
7816 }%
7817 }%
7818 \x
7819 \fi
7820 \fi

```

\PDF@SetupDox

```

7821 \def\PDF@SetupDoc{%
7822 \ifx\@pdfpagescrop\@empty
7823 \else
7824 \edef\process@me{%
7825 \pdfpagesattr={%
7826 /CropBox[\@pdfpagescrop]%
7827 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
7828 \else
7829 ~J\the\pdfpagesattr
7830 \fi
7831 }%
7832 }%
7833 \process@me
7834 \fi
7835 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7836 \pdfcatalog{%
7837 /PageMode/\@pdfpagemode
7838 \ifx\@baseurl\@empty
7839 \else
7840 /URI<</Base(\Hy@pstringB)>>%
7841 \fi
7842 }%
7843 \ifx\@pdfstartpage\@empty
7844 \else
7845 \ifx\@pdfstartview\@empty
7846 \else
7847 openaction goto page\@pdfstartpage{\@pdfstartview}%
7848 \fi
7849 \fi
7850 \edef\Hy@temp{%
7851 \ifHy@toolbar\else /HideToolbar true\fi
7852 \ifHy@menubar\else /HideMenubar true\fi
7853 \ifHy>windowui\else /HideWindowUI true\fi
7854 \ifHy@fitwindow /FitWindow true\fi
7855 \ifHy@centerwindow /CenterWindow true\fi
7856 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7857 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7858 \Hy@UseNameKey{Direction}\@pdfdirection
7859 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7860 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7861 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7862 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7863 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7864 \Hy@UseNameKey{Duplex}\@pdfduplex
7865 \ifx\@pdfpicktraybypdfsize\@empty
7866 \else
7867 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7868 \fi

```

```

7869 \ifx\@pdfprintpagerange\@empty
7870 \else
7871   /PrintPageRange[\@pdfprintpagerange]%
7872 \fi
7873 \ifx\@pdfnumcopies\@empty
7874 \else
7875   /NumCopies \@pdfnumcopies
7876 \fi
7877 }%
7878 \pdfcatalog{%
7879 \ifx\Hy@temp\@empty
7880 \else
7881   /ViewerPreferences<<\Hy@temp>>%
7882 \fi
7883 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7884 \ifx\@pdflang\@empty
7885 \else
7886   /Lang(\@pdflang)%
7887 \fi
7888 }%
7889 }

```

\PDF@FinishDoc

```

7890 \def\PDF@FinishDoc{%
7891 \Hy@UseMaketitleInfos
7892 \HyInfo@GenerateAddons
7893 \pdfinfo{%
7894   /Author(\@pdfauthor)%
7895   /Title(\@pdftitle)%
7896   /Subject(\@pdfsubject)%
7897   /Creator(\@pdfcreator)%
7898   \ifx\@pdfcreationdate\@empty
7899   \else
7900     /CreationDate(\@pdfcreationdate)%
7901   \fi
7902   \ifx\@pdfmoddate\@empty
7903   \else
7904     /ModDate(\@pdfmoddate)%
7905   \fi
7906   \ifx\@pdfproducer\relax
7907   \else
7908     /Producer(\@pdfproducer)%
7909   \fi
7910   /Keywords(\@pdfkeywords)%
7911   \ifx\@pdftrapped\@empty
7912   \else
7913     /Trapped/\@pdftrapped
7914   \fi
7915 \HyInfo@Addons
7916 }%
7917 \Hy@DisableOption{pdfauthor}%
7918 \Hy@DisableOption{pdftitle}%
7919 \Hy@DisableOption{pdfsubject}%
7920 \Hy@DisableOption{pdfcreator}%
7921 \Hy@DisableOption{pdfcreationdate}%
7922 \Hy@DisableOption{pdfmoddate}%
7923 \Hy@DisableOption{pdfproducer}%

```

```

7924 \Hy@DisableOption{pdfkeywords}%
7925 \Hy@DisableOption{pdftrapped}%
7926 \Hy@DisableOption{pdfinfo}%
7927 }

```

`\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`.

```

7928 \def\hyper@pagetransition{%
7929 \ifx\@pdfpagetransition\relax
7930 \else
7931 \expandafter\Hy@RemoveTransPageAttr
7932 \the\pdfpageattr^^J/Trans{>>\END
7933 \ifx\@pdfpagetransition\@empty
7934 \else
7935 \edef\@processme{%
7936 \global\pdfpageattr{%
7937 \the\pdfpageattr
7938 ^^J/Trans << /S /\@pdfpagetransition\space >>%
7939 }%
7940 }%
7941 \@processme
7942 \fi
7943 \fi
7944 }

```

`\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.

```

7945 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7946 \ifx\\#2\\%
7947 \global\pdfpageattr{#1}%
7948 \else
7949 \Hy@RemoveTransPageAttr#1#4\END
7950 \fi
7951 }

```

`\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`.

```

7952 \def\hyper@pageduration{%
7953 \ifx\@pdfpageduration\relax
7954 \else
7955 \expandafter
7956 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{ } \END
7957 \ifx\@pdfpageduration\@empty
7958 \else
7959 \edef\@processme{%
7960 \global\pdfpageattr{%
7961 \the\pdfpageattr
7962 ^^J/Dur \@pdfpageduration\space
7963 }%
7964 }%
7965 \@processme
7966 \fi
7967 \fi

```

7968 }

`\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.

```
7969 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7970   \ifx\#2\%
7971     \global\pdfpageattr{#1}%
7972   \else
7973     \Hy@RemoveDurPageAttr#1#4\END
7974   \fi
7975 }
```

`\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).

```
7976 \def\hyper@pagehidden{%
7977   \ifHy@useHidKey
7978     \expandafter
7979     \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{ } \END
7980   \ifHy@pdfpagehidden
7981     \edef\@processme{%
7982       \global\pdfpageattr{%
7983         \the\pdfpageattr
7984         ^^J/Hid true % SPACE
7985       }%
7986     }%
7987     \@processme
7988   \fi
7989 \fi
7990 }
```

`\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.

```
7991 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7992   \ifx\#2\%
7993     \global\pdfpageattr{#1}%
7994   \else
7995     \Hy@RemoveHidPageAttr#1#4\END
7996   \fi
7997 }
```

```
7998 \g@addto@macro\Hy@EveryPageHook{%
7999   \hyper@pagetransition
8000   \hyper@pageduration
8001   \hyper@pagehidden
8002 }
```

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

```
8003 </pdfTeX>
8004 <*pdfTeX | xetex>
8005 \AtBeginDocument{%
8006   \ifHy@setpagesize
```

```

8007 \expandafter\@firstofone
8008 \else
8009 \expandafter\@gobble
8010 \fi
8011 {%
8012 \@ifclassloaded{seminar}{%
8013 <*pdftex>
8014 \setlength{\pdfhorigin}{1truein}%
8015 \setlength{\pdfvorigin}{1truein}%
8016 </pdftex>
8017 \ifportrait
8018 \ifdim\paperwidth=\z@
8019 \else
8020 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
8021 \fi
8022 \ifdim\paperheight=\z@
8023 \else
8024 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
8025 \fi
8026 \else
8027 \ifdim\paperheight=\z@
8028 \else
8029 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
8030 \fi
8031 \ifdim\paperwidth=\z@
8032 \else
8033 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
8034 \fi
8035 \fi
8036 }{%
8037 \@ifundefined{stockwidth}{%
8038 \ifdim\paperwidth>\z@
8039 \setlength{\pdfpagewidth}{\paperwidth}%
8040 \fi
8041 \ifdim\paperheight>\z@
8042 \setlength{\pdfpageheight}{\paperheight}%
8043 \fi
8044 }{%
8045 \ifdim\stockwidth>\z@
8046 \setlength{\pdfpagewidth}{\stockwidth}%
8047 \fi
8048 \ifdim\stockheight>\z@
8049 \setlength{\pdfpageheight}{\stockheight}%
8050 \fi
8051 }%
8052 }%
8053 }%
8054 \Hy@DisableOption{setpagesize}%
8055 }
8056 </pdftex | xetex>
8057 <*pdftex>
8058 \def\Acrobatmenu#1#2{%
8059 \Hy@Acrobatmenu{#1}{#2}{%
8060 \pdfstartlink
8061 attr{%
8062 \Hy@setpdfborder
8063 \ifx\@pdfhighlight\@empty

```

```

8064      \else
8065        /H\@pdfhighlight
8066      \fi
8067      \ifx\@menubordercolor\relax
8068      \else
8069        /C[\@menubordercolor]%
8070      \fi
8071    }%
8072    user{%
8073      /Subtype/Link%
8074      \ifHy@pdfa /F 4\fi
8075      /A<<%
8076        /S/Named/N/#1%
8077      >>%
8078    }%
8079    \relax
8080    \Hy@colorlink\@menucolor#2%
8081    \close@pdflink
8082  }%
8083 }

```

#### 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`.

```

8084 \def\Hy@FixNotFirstPage{%
8085   \gdef\Hy@FixNotFirstPage{%
8086     \setbox\AtBeginShipoutBox=\hbox{%
8087       \copy\AtBeginShipoutBox
8088     }%
8089   }%
8090 }
8091 \AtBeginShipout{\Hy@FixNotFirstPage}
8092 </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 used to communicate to the *dvi* viewer the full (URL) location of the current document so that files specified by relative URL's may be retrieved correctly.

The `href` and `name` commands must be paired with an `end` command later in the T<sub>E</sub>X file — the T<sub>E</sub>X commands between the two ends of a pair form an *anchor* in the document. In the case of an `href` command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by `href_string`. The *anchor* associated with a `name` command represents a possible location to which other hypertext links may refer, either as local references (of the form `href="#name_string"` with the `name_string` identical to the one in the `name` command) or as part of a URL (of the form `URL#name_string`). Here `href_string` is a valid URL or local identifier, while `name_string` could be any string at all: the only caveat is that “” characters should be escaped with a backslash (\), and if it looks like a URL name it may cause problems.

```

8093 \*hypertext
8094 \providecommand*\XR@ext}{dvi}
8095 \def\PDF@FinishDoc{}
8096 \def\PDF@SetupDoc{%
8097   \ifx\@baseurl\@empty
8098     \else
8099       \special{html:<base href="\@baseurl">}%
8100     \fi
8101 }
8102 \def\hyper@anchor#1{%
8103   \Hy@SaveLastskip
8104   \Hy@VerboseAnchor{#1}%
8105   \begingroup
8106     \let\protect=\string
8107     \hyper@chars
8108     \special{html:<a name=%
8109       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8110   \endgroup
8111   \Hy@activeanchortrue
8112   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8113   \special{html:</a>}%
8114   \Hy@activeanchorfalse
8115   \Hy@RestoreLastskip
8116 }
8117 \def\hyper@anchorstart#1{%
8118   \Hy@SaveLastskip
8119   \Hy@VerboseAnchor{#1}%
8120   \begingroup
8121     \hyper@chars
8122     \special{html:<a name=%
8123       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8124   \endgroup
8125   \Hy@activeanchortrue
8126 }
8127 \def\hyper@anchorend{%
8128   \special{html:</a>}%
8129   \Hy@activeanchorfalse
8130   \Hy@RestoreLastskip
8131 }
8132 \def\@urltype{url}
8133 \def\hyper@linkstart#1#2{%

```

```

8134 \Hy@VerboseLinkStart{#1}{#2}%
8135 \expandafter\Hy@colorlink\csname @#1color\endcsname
8136 \def\Hy@tempa{#1}%
8137 \ifx\Hy@tempa \@uratype
8138   \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8139 \else
8140   \begingroup
8141     \hyper@chars
8142     \special{html:<a href=%
8143       \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
8144   \endgroup
8145 \fi
8146 }
8147 \def\hyper@linkend{%
8148   \special{html:</a>}%
8149   \Hy@endcolorlink
8150 }
8151 \def\hyper@linkfile#1#2#3{%
8152   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\#3\fi}%
8153 }
8154 \def\hyper@linkurl#1#2{%

```

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

```

8155 \leavevmode
8156 \ifHy@raiselinks
8157   \setbox\@tempboxa=\color@hbox #1\color@endbox
8158   \@linkdim\dp\@tempboxa
8159   \lower\@linkdim\hbox{%
8160     \hyper@chars
8161     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8162   }%
8163   \Hy@colorlink\@urcolor#1%
8164   \@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).

```

8165   \advance\@linkdim by -6.5\p@
8166   \raise\@linkdim\hbox{\special{html:</a>}}%
8167   \Hy@endcolorlink
8168 \else
8169   \begingroup
8170     \hyper@chars
8171     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8172     \Hy@colorlink\@urcolor#1%
8173     \special{html:</a>}%
8174     \Hy@endcolorlink
8175   \endgroup
8176 \fi
8177 }

```

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

```

8178 \def\hyper@link#1#2#3{%
8179   \Hy@VerboseLinkStart{#1}{#2}%
8180   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
8181 }
8182 \def\hyper@image#1#2{%

```

```

8183 \begingroup
8184 \hyper@chars
8185 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
8186 \endgroup
8187 }
8188 </hypertex>
8189 <*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.

```

8190 \providecommand*{\XR@ext}{dvi}
8191 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
8192 \def\hyper@anchor#1{%
8193   \Hy@SaveLastskip
8194   \Hy@VerboseAnchor{#1}%
8195   \begingroup
8196     \let\protect=\string
8197     \special{mark: #1}%
8198   \endgroup
8199   \Hy@activeanchortrue
8200   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8201   \Hy@activeanchorfalse
8202   \Hy@RestoreLastskip
8203 }
8204 \def\hyper@anchorstart#1{%
8205   \Hy@SaveLastskip
8206   \Hy@VerboseAnchor{#1}%
8207   \special{mark: #1}%
8208   \Hy@activeanchortrue
8209 }
8210 \def\hyper@anchorend{%
8211   \Hy@activeanchorfalse
8212   \Hy@RestoreLastskip
8213 }
8214 \def\hyper@linkstart#1#2{%
8215   \Hy@VerboseLinkStart{#1}{#2}%
8216   \expandafter\Hy@colorlink\csname @#1color\endcsname
8217   \special{button: %
8218     10000000 %
8219     \number\baselineskip\space
8220     #2%
8221   }%
8222 }
8223 \def\hyper@linkend{%
8224   \Hy@endcolorlink
8225 }

```

```

8226 \def\hyper@link#1#2#3{%
8227   \Hy@VerboseLinkStart{#1}{#2}%
8228   \setbox\@tempboxa=\color@hbox #3\color@endbox
8229   \leavevmode
8230   \ifHy@raiselinks
8231     \@linkdim\dp\@tempboxa
8232     \lower\@linkdim\hbox{%
8233       \special{button: %
8234         \number\wd\@tempboxa\space
8235         \number\ht\@tempboxa\space
8236         #2%
8237       }%
8238       \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8239       \Hy@endcolorlink
8240     }%
8241     \@linkdim\ht\@tempboxa
8242     \advance\@linkdim by -6.5\p@
8243     \raise\@linkdim\hbox{}%
8244   \else
8245     \special{button: %
8246       \number\wd\@tempboxa\space
8247       \number\ht\@tempboxa\space
8248       #2%
8249     }%
8250     \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8251     \Hy@endcolorlink
8252   \fi
8253 }
8254 \def\hyper@linkurl#1#2{%
8255   \begingroup
8256   \hyper@chars
8257   \leavevmode
8258   \setbox\@tempboxa=\color@hbox #1\color@endbox
8259   \ifHy@raiselinks
8260     \@linkdim\dp\@tempboxa
8261     \lower\@linkdim\hbox{%
8262       \special{button: %
8263         \number\wd\@tempboxa\space
8264         \number\ht\@tempboxa\space
8265         launch: \wwwbrowser\space
8266         #2%
8267       }%
8268       \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8269     }%
8270     \@linkdim\ht\@tempboxa
8271     \advance\@linkdim by -6.5\p@
8272     \raise\@linkdim\hbox{}%
8273   \else
8274     \special{button: %
8275       \number\wd\@tempboxa\space
8276       \number\ht\@tempboxa\space
8277       launch: \wwwbrowser\space
8278       #2%
8279     }%
8280     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8281   \fi
8282   \endgroup

```

```

8283 }
8284 \def\hyper@linkfile#1#2#3{%
8285   \begingroup
8286     \hyper@chars
8287     \leavevmode
8288     \setbox\@tempboxa=\color@hbox #1\color@endbox
8289     \ifHy@raiselinks
8290       \@linkdim\dp\@tempboxa
8291       \lower\@linkdim\hbox{%
8292         \special{button: %
8293           \number\wd\@tempboxa\space
8294           \number\ht\@tempboxa\space
8295           #3,%
8296           file: #2%
8297         }%
8298         \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8299       }%
8300       \@linkdim\ht\@tempboxa
8301       \advance\@linkdim by -6.5\p@
8302       \raise\@linkdim\hbox{%}%
8303     \else
8304       \special{button: %
8305         \number\wd\@tempboxa\space
8306         \number\ht\@tempboxa\space
8307         #3,%
8308         file: #2%
8309       }%
8310       \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8311     \fi
8312   \endgroup
8313 }
8314 \ifx\@pdfproducer\relax
8315   \def\@pdfproducer{dviwindo + Distiller}%
8316 \fi
8317 \HyInfo@AddonUnsupportedtrue
8318 \def\PDF@FinishDoc{%
8319   \Hy@UseMaketitleInfos
8320   \HyInfo@TrappedUnsupported
8321   \special{PDF: Keywords \@pdfkeywords}%
8322   \special{PDF: Title \@pdftitle}%
8323   \special{PDF: Creator \@pdfcreator}%
8324   \ifx\@pdfcreationdate\@empty
8325   \else
8326     \special{PDF: CreationDate \@pdfcreationdate}%
8327   \fi
8328   \ifx\@pdfmoddate\@empty
8329   \else
8330     \special{PDF: ModDate \@pdfmoddate}%
8331   \fi
8332   \special{PDF: Author \@pdfauthor}%
8333   \ifx\@pdfproducer\relax
8334   \else
8335     \special{PDF: Producer \@pdfproducer}%
8336   \fi
8337   \special{PDF: Subject \@pdfsubject}%
8338   \Hy@DisableOption{pdfauthor}%
8339   \Hy@DisableOption{pdftitle}%

```

```

8340 \Hy@DisableOption{pdfsubject}%
8341 \Hy@DisableOption{pdfcreator}%
8342 \Hy@DisableOption{pdfcreationdate}%
8343 \Hy@DisableOption{pdfmoddate}%
8344 \Hy@DisableOption{pdfproducer}%
8345 \Hy@DisableOption{pdfkeywords}%
8346 \Hy@DisableOption{pdftrapped}%
8347 \Hy@DisableOption{pdfinfo}%
8348 }
8349 \def\PDF@SetupDoc{%
8350 \ifx\@baseurl\@empty
8351 \else
8352 \special{PDF: Base \@baseurl}%
8353 \fi
8354 \ifx\@pdfpagescrop\@empty\else
8355 \special{PDF: BBox \@pdfpagescrop}%
8356 \fi
8357 \def\Hy@temp{%
8358 \ifx\@pdfstartpage\@empty
8359 \else
8360 \ifx\@pdfstartview\@empty
8361 \else
8362 \edef\Hy@temp{%
8363 ,Page=\@pdfstartpage
8364 ,View=\@pdfstartview
8365 }%
8366 \fi
8367 \fi
8368 \edef\Hy@temp{%
8369 \noexpand\pdfmark{%
8370 pdfmark=/DOCVIEW,%
8371 PageMode=/\@pdfpagemode
8372 \Hy@temp
8373 }%
8374 }%
8375 \Hy@temp
8376 \ifx\@pdfpagescrop\@empty
8377 \else
8378 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8379 \fi
8380 \edef\Hy@temp{%
8381 \ifHy@toolbar\else /HideToolbar true\fi
8382 \ifHy@menubar\else /HideMenubar true\fi
8383 \ifHy>windowui\else /HideWindowUI true\fi
8384 \ifHy@fitwindow /FitWindow true\fi
8385 \ifHy@centerwindow /CenterWindow true\fi
8386 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8387 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8388 \Hy@UseNameKey{Direction}\@pdfdirection
8389 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8390 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8391 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8392 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8393 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8394 \Hy@UseNameKey{Duplex}\@pdfduplex
8395 \ifx\@pdfpicktraybypdfsize\@empty
8396 \else

```

```

8397     /PickTrayByPDFSize \@pdfpicktraybypdfsize
8398     \fi
8399     \ifx\@pdfprintpagerange\@empty
8400     \else
8401     /PrintPageRange[\@pdfprintpagerange]%
8402     \fi
8403     \ifx\@pdfnumcopies\@empty
8404     \else
8405     /NumCopies \@pdfnumcopies
8406     \fi
8407 }%
8408 \pdfmark{pdfmark=/PUT,%
8409   Raw={%
8410     \string{Catalog\string}<<%
8411     \ifx\Hy@temp\@empty
8412     \else
8413     /ViewerPreferences<<\Hy@temp>>%
8414     \fi
8415     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8416     \ifx\@pdflang\@empty
8417     \else
8418     /Lang(\@pdflang)%
8419     \fi
8420     >>%
8421   }%
8422 }%
8423 }
8424 </dviwindo>
8425 <*dvipdfm | xetex>

```

## 46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

8426 \providecommand*{\XR@ext}{pdf}
8427 \Hy@setbreaklinks{true}
8428 \newsavebox{\pdfm@box}
8429 \def\@pdfm@mark#1{\special{pdf:#1}}
8430 \def\@pdfm@dest#1{%
8431   \Hy@SaveLastskip
8432   \Hy@VerboseAnchor{#1}%
8433   \begingroup
8434     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8435     \def\x{XYZ}%
8436     \ifx\x\@pdfview
8437       \def\x{XYZ @xpos @ypos null}%
8438     \else
8439       \def\x{FitH}%
8440       \ifx\x\@pdfview
8441         \def\x{FitH @ypos}%
8442       \else
8443         \def\x{FitBH}%
8444         \ifx\x\@pdfview
8445           \def\x{FitBH @ypos}%
8446         \else
8447           \def\x{FitV}%
8448           \ifx\x\@pdfview
8449             \def\x{FitV @xpos}%

```

```

8450     \else
8451     \def\x{FitBV}%
8452     \ifx\x\@pdfview
8453     \def\x{FitBV @xpos}%
8454     \else
8455     \def\x{Fit}%
8456     \ifx\x\@pdfview
8457     \let\x\@pdfview
8458     \else
8459     \def\x{FitB}%
8460     \ifx\x\@pdfview
8461     \let\x\@pdfview
8462     \else
8463     \def\x{FitR}%
8464     \ifx\x\@pdfview
8465     \Hy@Warning{'pdfview=FitR' is not supported}%
8466     \def\x{XYZ @xpos @ypos null}%
8467     \else
8468     \@onelevel@sanitize\@pdfview
8469     \Hy@Warning{%
8470       Unknown value '\@pdfview' for pdfview%
8471     }%
8472     \def\x{XYZ @xpos @ypos null}%
8473     \fi
8474     \fi
8475     \fi
8476     \fi
8477     \fi
8478     \fi
8479     \fi
8480     \fi
8481     \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
8482 \endgroup
8483 \Hy@RestoreLastskip
8484 }
8485 \providecommand*\@pdfview{XYZ}
8486 \providecommand*\@pdfborder{0 0 1}
8487 \providecommand*\@pdfborderstyle{}
8488 \def\hyper@anchor#1{%
8489   \@pdfm@dest{#1}%
8490 }
8491 \def\hyper@anchorstart#1{%
8492   \Hy@activeanchortrue
8493   \@pdfm@dest{#1}%
8494 }
8495 \def\hyper@anchorend{%
8496   \Hy@activeanchorfalse
8497 }
8498 \newcounter{Hy@AnnotLevel}
8499 \ifHy@ocgcolorlinks
8500 \def\OBJ@OCG@view{@OCG@view}%
8501 \@pdfm@mark{%
8502   obj \OBJ@OCG@view <<%
8503     /Type/OCG%
8504     /Name(View)%
8505     /Usage<<%
8506     /Print<<%

```



```

8507         /PrintState/OFF%
8508     >>%
8509     /View<<%
8510         /ViewState/ON%
8511     >>%
8512 >>%
8513 >>%
8514 }%
8515 \@pdfm@mark{close \OBJ@OCG@view}%
8516 \def\OBJ@OCG@print{@OCG@print}%
8517 \@pdfm@mark{%
8518     obj \OBJ@OCG@print <<%
8519         /Type/OCG%
8520         /Name(Print)%
8521         /Usage<<%
8522         /Print<<%
8523         /PrintState/ON%
8524     >>%
8525     /View<<%
8526         /ViewState/OFF%
8527     >>%
8528 >>%
8529 >>%
8530 }%
8531 \@pdfm@mark{close \OBJ@OCG@print}%
8532 \def\OBJ@OCGs{@OCGs}%
8533 \@pdfm@mark{%
8534     obj \OBJ@OCGs [%
8535         \OBJ@OCG@view\space\OBJ@OCG@print
8536     ]%
8537 }%
8538 \@pdfm@mark{close \OBJ@OCGs}%
8539 \@pdfm@mark{%
8540     put @catalog <<%
8541         /OCProperties<<%
8542         /OCGs \OBJ@OCGs
8543         /D<<%
8544         /OFF[\OBJ@OCG@print]%
8545         /AS[%
8546             <<%
8547                 /Event/View%
8548                 /OCGs \OBJ@OCGs
8549                 /Category[/View]%
8550             >>%
8551             <<%
8552                 /Event/Print%
8553                 /OCGs \OBJ@OCGs
8554                 /Category[/Print]%
8555             >>%
8556             <<%
8557                 /Event/Export%
8558                 /OCGs \OBJ@OCGs
8559                 /Category[/Print]%
8560             >>%
8561         ]%
8562     >>%
8563 >>%

```

```

8564 >>%
8565 }%
8566 \AtBeginShipout{%
8567 \setbox\AtBeginShipoutBox=\hbox{%
8568 \copy\AtBeginShipoutBox
8569 \@pdfm@mark{%
8570 put @resources <<%
8571 /Properties<<%
8572 /OCView \OBJ@OCG@view
8573 /OCPrint \OBJ@OCG@print
8574 >>%
8575 >>%
8576 }%
8577 }%
8578 }%
8579 \AtBeginDocument{%
8580 \def\Hy@colorlink#1{%
8581 \begingroup
8582 \ifHy@ocgcolorlinks
8583 \def\Hy@ocgcolor{#1}%
8584 \setbox0=\color@hbox
8585 \else
8586 \HyColor@UseColor#1%
8587 \fi
8588 }%
8589 \def\Hy@endcolorlink{%
8590 \ifHy@ocgcolorlinks
8591 \color@endbox
8592 \mbox{%
8593 \@pdfm@mark{content /OC/OCPrint BDC}%
8594 \rlap{\copy0}%
8595 \@pdfm@mark{content EMC/OC/OCView BDC}%
8596 \begingroup
8597 \expandafter\HyColor@UseColor\Hy@ocgcolor
8598 \box0 %
8599 \endgroup
8600 \@pdfm@mark{content EMC}%
8601 }%
8602 \fi
8603 \endgroup
8604 }%
8605 }%
8606 \else
8607 \Hy@DisableOption{ocgcolorlinks}%
8608 \fi
8609 \def\Hy@BeginAnnot#1{%
8610 \stepcounter{Hy@AnnotLevel}%
8611 \ifnum\value{Hy@AnnotLevel}=\@ne
8612 #1%
8613 \fi
8614 }
8615 \def\Hy@endAnnot{%
8616 \ifnum\value{Hy@AnnotLevel}=\@ne
8617 \Hy@endcolorlink
8618 \@pdfm@mark{eann}%
8619 \fi
8620 \addtocounter{Hy@AnnotLevel}\m@ne

```

```

8621 }
8622 \def\Hy@undefinedname{UNDEFINED}
8623 \def\hyper@linkstart#1#2{%
8624   \Hy@VerboseLinkStart{#1}{#2}%
8625   \Hy@BeginAnnot{%
8626     \protected@edef\Hy@testname{#2}%
8627     \ifx\Hy@testname\@empty
8628       \Hy@Warning{%
8629         Empty destination name,\MessageBreak
8630         using '\Hy@undefinedname'%
8631       }%
8632     \let\Hy@testname\Hy@undefinedname
8633   }else
8634     \Hy@pstringdef\Hy@testname{%
8635       \expandafter\HyperDestNameFilter\expandafter{%
8636         \Hy@testname
8637       }%
8638     }%
8639   \fi
8640   \@pdfm@mark{%
8641     bann<<%
8642     /Type/Annot%
8643     /Subtype/Link%
8644     \ifHy@pdfa /F 4\fi
8645     \Hy@setpdfborder
8646     \expandafter\ifx\csname @#1bordercolor\endcsname\relax
8647     \else
8648       /C[\csname @#1bordercolor\endcsname]%
8649     \fi
8650     /A<<%
8651     /S/GoTo%
8652     /D(\Hy@testname)%
8653     >>%
8654     >>%
8655   }%
8656   \expandafter\Hy@colorlink\csname @#1color\endcsname
8657 }%
8658 }
8659 \def\hyper@linkend{\Hy@EndAnnot}%
8660 \def\hyper@link#1#2#3{%
8661   \hyper@linkstart{#1}{#2}#3\hyper@linkend
8662 }
8663 \def\hyper@linkfile#1#2#3{%
8664   \leavevmode
8665   \Hy@BeginAnnot{%
8666     \Hy@pstringdef\Hy@pstringF{#2}%
8667     \Hy@pstringdef\Hy@pstringD{#3}%
8668     \@pdfm@mark{%
8669       bann<<%
8670       /Type/Annot%
8671       /Subtype/Link%
8672       \ifHy@pdfa /F 4\fi
8673       \Hy@setpdfborder
8674       \ifx\@filebordercolor\relax
8675       \else
8676         /C[\@filebordercolor]%
8677       \fi

```

```

8678      /A<<%
8679      /S/GoToR%
8680      /F(\Hy@pstringF)%
8681      /D\ifx\|#3\|[0 \@pdfstartview]\else(\Hy@pstringD)\fi
8682      \Hy@SetNewWindow
8683      >>%
8684      >>%
8685      }%
8686      \Hy@colorlink\@filecolor
8687      }%
8688      #1%
8689      \Hy@EndAnnot
8690      }
8691      \def\hyper@linkurl#1#2{%
8692      \leavevmode
8693      \Hy@BeginAnnot{%
8694      \Hy@pstringdef\Hy@pstringURI{#2}%
8695      \@pdfm@mark{%
8696      bann<<%
8697      /Type/Annot%
8698      /Subtype/Link%
8699      \ifHy@pdfa /F 4\fi
8700      \Hy@setpdfborder
8701      \ifx\@urlbordercolor\relax
8702      \else
8703      /C[\@urlbordercolor]%
8704      \fi
8705      /A<<%
8706      /S/URI%
8707      /URI(\Hy@pstringURI)%
8708      >>%
8709      >>%
8710      }%
8711      \Hy@colorlink\@urlcolor
8712      }%
8713      #1%
8714      \Hy@EndAnnot
8715      }
8716      \def\Acrobatmenu#1#2{%
8717      \Hy@Acrobatmenu{#1}{#2}{%
8718      \Hy@BeginAnnot{%
8719      \@pdfm@mark{%
8720      bann<<%
8721      /Type/Annot%
8722      /Subtype/Link%
8723      \ifHy@pdfa /F 4\fi
8724      /A<<%
8725      /S/Named%
8726      /N/#1%
8727      >>%
8728      \Hy@setpdfborder
8729      \ifx\@menubordercolor\relax
8730      \relax
8731      /C[\@menubordercolor]%
8732      \fi
8733      >>%
8734      }%

```

```

8735 \Hy@colorlink\@menucolor
8736 }%
8737 #2%
8738 \Hy@EndAnnot
8739 }%
8740 }
8741 \ifx\@pdfproducer\relax
8742 \def\@pdfproducer{dvipdfm}%

```

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

```

8743 \begingroup\expandafter\expandafter\expandafter\endgroup
8744 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8745 \else
8746 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8747 \fi
8748 \fi
8749 \def\PDF@FinishDoc{%
8750 \Hy@UseMaketitleInfos
8751 \HyInfo@GenerateAddons
8752 \@pdfm@mark{%
8753 docinfo<<%
8754 /Title(\@pdftitle)%
8755 /Subject(\@pdfsubject)%
8756 /Creator(\@pdfcreator)%
8757 \ifx\@pdfcreationdate\@empty
8758 \else
8759 /CreationDate(\@pdfcreationdate)%
8760 \fi
8761 \ifx\@pdfmoddate\@empty
8762 \else
8763 /ModDate(\@pdfmoddate)%
8764 \fi
8765 /Author(\@pdfauthor)%
8766 \ifx\@pdfproducer\relax
8767 \else
8768 /Producer(\@pdfproducer)%
8769 \fi
8770 /Keywords(\@pdfkeywords)%
8771 \ifx\@pdftrapped\@empty
8772 \else
8773 /Trapped/\@pdftrapped
8774 \fi
8775 \HyInfo@Addons
8776 >>%
8777 }%
8778 \Hy@DisableOption{pdfauthor}%
8779 \Hy@DisableOption{pdftitle}%
8780 \Hy@DisableOption{pdfsubject}%
8781 \Hy@DisableOption{pdfcreator}%
8782 \Hy@DisableOption{pdfcreationdate}%
8783 \Hy@DisableOption{pdfmoddate}%
8784 \Hy@DisableOption{pdfproducer}%
8785 \Hy@DisableOption{pdfkeywords}%
8786 \Hy@DisableOption{pdftrapped}%
8787 \Hy@DisableOption{pdfinfo}%
8788 }
8789 \def\PDF@SetupDoc{%

```

```

8790 \edef\Hy@temp{%
8791   \ifHy@toolbar\else /HideToolbar true\fi
8792   \ifHy@menubar\else /HideMenubar true\fi
8793   \ifHy>windowui\else /HideWindowUI true\fi
8794   \ifHy@fitwindow /FitWindow true\fi
8795   \ifHy@centerwindow /CenterWindow true\fi
8796   \ifHy@displaydoctitle /DisplayDocTitle true\fi
8797   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8798   \Hy@UseNameKey{Direction}\@pdfdirection
8799   \Hy@UseNameKey{ViewArea}\@pdfviewarea
8800   \Hy@UseNameKey{ViewClip}\@pdfviewclip
8801   \Hy@UseNameKey{PrintArea}\@pdfprintarea
8802   \Hy@UseNameKey{PrintClip}\@pdfprintclip
8803   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8804   \Hy@UseNameKey{Duplex}\@pdfduplex
8805   \ifx\@pdfpicktraybypdfsize\@empty
8806   \else
8807     /PickTrayByPDFSize \@pdfpicktraybypdfsize
8808   \fi
8809   \ifx\@pdfprintpagerange\@empty
8810   \else
8811     /PrintPageRange[\@pdfprintpagerange]%
8812   \fi
8813   \ifx\@pdfnumcopies\@empty
8814   \else
8815     /NumCopies \@pdfnumcopies
8816   \fi
8817 }%
8818 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8819 \@pdfm@mark{%
8820   docview<<%
8821     \ifx\@pdfstartpage\@empty
8822     \else
8823       \ifx\@pdfstartview\@empty
8824       \else
8825         /OpenAction[@page\@pdfstartpage\@pdfstartview]%
8826       \fi
8827     \fi
8828     \ifx\@baseurl\@empty
8829     \else
8830       /URI<</Base(\Hy@pstringB)>>%
8831     \fi
8832     /PageMode/\@pdfpagemode
8833     \ifx\Hy@temp\@empty
8834     \else
8835       /ViewerPreferences<<\Hy@temp>>%
8836     \fi
8837     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8838     \ifx\@pdflang\@empty
8839     \else
8840       /Lang(\@pdflang)%
8841     \fi
8842   >>%
8843 }%
8844 \ifx\@pdfpagescrop\@empty
8845 \else
8846   \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%

```

```

8847 \fi
8848 }
8849 </dvipdfm | xetex>

```

XeTeX uses pdfTeX's method `\pdfpagewidth` and `\pdfpageheight` for setting the paper size.

```

8850 <*dvipdfm>
8851 \AtBeginShipoutFirst{%
8852   \ifHy@setpagesize
8853     \begingroup
8854       \@ifundefined{stockwidth}{%
8855         \ifdim\paperwidth>\z@
8856           \ifdim\paperheight>\z@
8857             \special{papersize=\the\paperwidth,\the\paperheight}%
8858           \fi
8859         \fi
8860       }{%
8861         \ifdim\stockwidth>\z@
8862           \ifdim\stockheight>\z@
8863             \special{papersize=\the\stockwidth,\the\stockheight}%
8864           \fi
8865         \fi
8866       }%
8867     \endgroup
8868   \fi
8869   \Hy@DisableOption{setpagesize}%
8870 }
8871 </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.

```

8872 <*vtexhtml>
8873 \providecommand*{\XR@ext}{htm}
8874 \RequirePackage{vtexhtml}
8875 \newif\if@Localurl
8876 \def\PDF@FinishDoc{}
8877 \def\PDF@SetupDoc{%
8878   \ifx\@baseurl\@empty
8879     \else
8880       \special{!direct <base href="\@baseurl">}%
8881     \fi
8882 }
8883 \def\@urltype{url}
8884 \def\hyper@link#1#2#3{%
8885   \Hy@VerboseLinkStart{#1}{#2}%
8886   \leavevmode
8887   \special{!direct <a href=%
8888     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8889   #3%
8890   \special{!direct </a>}%
8891 }
8892 \def\hyper@linkurl#1#2{%
8893   \begingroup
8894     \hyper@chars
8895   \leavevmode

```

```

8896 \MathBSuppress=1\relax
8897 \special{!direct <a href=%
8898 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8899 #1%
8900 \MathBSuppress=0\relax
8901 \special{!direct </a>}%
8902 \endgroup
8903 }
8904 \def\hyper@linkfile#1#2#3{%
8905 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
8906 }
8907 \def\hyper@linkstart#1#2{%
8908 \Hy@VerboseLinkStart{#1}{#2}%
8909 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlltype
8910 \@Localurltrue
8911 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8912 \else
8913 \@Localurlfalse
8914 \begingroup
8915 \hyper@chars
8916 \special{!aref \HyperDestNameFilter{#2}}%
8917 \endgroup
8918 \fi
8919 }
8920 \def\hyper@linkend{%
8921 \if@Localurl
8922 \special{!endaref}%
8923 \else
8924 \special{!direct </a>}%
8925 \fi
8926 }
8927 \def\hyper@anchorstart#1{%
8928 \Hy@SaveLastskip
8929 \Hy@VerboseAnchor{#1}%
8930 \begingroup
8931 \hyper@chars
8932 \special{!aname #1}%
8933 \special{!direct <a name=%
8934 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8935 \endgroup
8936 \Hy@Activeanchortrue
8937 }
8938 \def\hyper@anchorend{%
8939 \special{!direct </a>}%
8940 \Hy@Activeanchorfalse
8941 \Hy@RestoreLastskip
8942 }
8943 \def\hyper@anchor#1{%
8944 \Hy@SaveLastskip
8945 \Hy@VerboseAnchor{#1}%
8946 \begingroup
8947 \let\protect=\string
8948 \hyper@chars
8949 \leavevmode
8950 \special{!aname #1}%
8951 \special{!direct <a name=%
8952 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%

```



```

8953 \endgroup
8954 \Hy@activeanchortrue
8955 \bgroup\anchor@spot\egroup
8956 \special{!direct </a>}%
8957 \Hy@activeanchorfalse
8958 \Hy@RestoreLastskip
8959 }
8960 \def\@Form[#1]{%
8961 \typeout{Sorry, TeXpider does not yet support FORMs}%
8962 }
8963 \def\@endForm{}
8964 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8965 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8966 }
8967 \def\@TextField[#1]#2{% parameters, label
8968 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8969 }
8970 \def\@CheckBox[#1]#2{% parameters, label
8971 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8972 }
8973 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8974 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8975 }
8976 \def\@PushButton[#1]#2{% parameters, label
8977 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8978 }
8979 \def\@Reset[#1]#2{%
8980 \typeout{Sorry, TeXpider does not yet support FORMs}%
8981 }
8982 \def\@Submit[#1]#2{%
8983 \typeout{Sorry, TeXpider does not yet support FORMs}%
8984 }
8985 \</vtexhtml>
8986 \<*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.

```

8987 \ifx\mediaheight\@undefined
8988 \else
8989 \ifx\mediaheight\relax
8990 \else
8991 \ifHy@setpagesize
8992 \providecommand*\VTeXInitMediaSize{%
8993 \@ifundefined{stockwidth}{%
8994 \ifdim\paperheight>0pt %
8995 \setlength\mediaheight\paperheight
8996 \fi
8997 \ifdim\paperheight>0pt %
8998 \setlength\mediawidth\paperwidth
8999 \fi
9000 }{%
9001 \ifdim\stockheight>0pt %
9002 \setlength\mediaheight\stockheight
9003 \fi
9004 \ifdim\stockwidth>0pt %
9005 \setlength\mediawidth\stockwidth

```

```

9006      \fi
9007      }%
9008      }%
9009      \AtBeginDocument{\VTeXInitMediaSize}%
9010      \fi
9011      \Hy@DisableOption{setpagesize}%
9012      \fi
9013      \fi

```

Older versions of VTeX require xyz in lower case.

```

9014 \providecommand*\@pdfview{xyz}
9015 \providecommand*\@pdfborder{0 0 1}
9016 \providecommand*\@pdfborderstyle{}
9017 \let\CurrentBorderColor\@linkbordercolor
9018 \def\hyper@anchor#1{%
9019   \Hy@SaveLastskip
9020   \Hy@VerboseAnchor{#1}%
9021   \begingroup
9022     \let\protect=\string
9023     \hyper@chars
9024     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9025   \endgroup
9026   \Hy@activeanchortrue
9027   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9028   \Hy@activeanchorfalse
9029   \Hy@RestoreLastskip
9030 }
9031 \def\hyper@anchorstart#1{%
9032   \Hy@SaveLastskip
9033   \Hy@VerboseAnchor{#1}%
9034   \begingroup
9035     \hyper@chars
9036     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9037   \endgroup
9038   \Hy@activeanchortrue
9039 }
9040 \def\hyper@anchorend{%
9041   \Hy@activeanchorfalse
9042   \Hy@RestoreLastskip
9043 }
9044 \def\@urlltype{url}
9045 \def\Hy@undefinedname{UNDEFINED}
9046 \def\hyper@linkstart#1#2{%
9047   \Hy@VerboseLinkStart{#1}{#2}%
9048   \Hy@pstringdef\Hy@pstringURI{#2}%
9049   \expandafter\Hy@colorlink\csname @#1color\endcsname
9050   \@ifundefined{@#1bordercolor}{%
9051     \let\CurrentBorderColor\relax
9052   }{%
9053     \edef\CurrentBorderColor{%
9054       \csname @#1bordercolor\endcsname
9055     }%
9056   }%
9057   \def\Hy@tempa{#1}%
9058   \ifx\Hy@tempa\@urlltype
9059     \special{!%
9060       aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
9061       a=<%

```

```

9062 \ifHy@pdfa /F 4\fi
9063 \Hy@setpdfborder
9064 \ifx\CurrentBorderColor\relax
9065 \else
9066 /C [\CurrentBorderColor]%
9067 \fi
9068 >%
9069 }%
9070 \else
9071 \protected@edef\Hy@testname{#2}%
9072 \ifx\Hy@testname\@empty
9073 \Hy@Warning{%
9074 Empty destination name,\MessageBreak
9075 using '\Hy@undefinedname'%
9076 }%
9077 \let\Hy@testname\Hy@undefinedname
9078 \fi
9079 \special{!%
9080 aref \expandafter\HyperDestNameFilter
9081 \expandafter{\Hy@testname};%
9082 a=<%
9083 \ifHy@pdfa /F 4\fi
9084 \Hy@setpdfborder
9085 \ifx\CurrentBorderColor\relax
9086 \else
9087 /C [\CurrentBorderColor]%
9088 \fi
9089 >%
9090 }%
9091 \fi
9092 }
9093 \def\hyper@linkend{%
9094 \special{!endaref}%
9095 \Hy@endcolorlink
9096 }
9097 \def\hyper@linkfile#1#2#3{%
9098 \leavevmode
9099 \special{!%
9100 aref <%
9101 \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi
9102 f=#2>#3;%
9103 a=<%
9104 \ifHy@pdfa /F 4\fi
9105 \Hy@setpdfborder
9106 \ifx\@filebordercolor\relax
9107 \else
9108 /C [\@filebordercolor]%
9109 \fi
9110 >%
9111 }%
9112 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
9113 \special{!endaref}%
9114 }
9115 \def\hyper@linkurl#1#2{%
9116 \begingroup
9117 \Hy@pstringdef\Hy@pstringURI{#2}%
9118 \hyper@chars

```

```

9119 \leavevmode
9120 \special{!%
9121   aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
9122   a=<%
9123     \ifHy@pdfa /F 4\fi
9124     \Hy@setpdfborder
9125     \ifx\@urlbordercolor\relax
9126     \else
9127       /C [\@urlbordercolor]%
9128     \fi
9129   >%
9130 }%
9131 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9132 \special{!endaref}%
9133 \endgroup
9134 }
9135 \def\hyper@link#1#2#3{%
9136 \Hy@VerboseLinkStart{#1}{#2}%
9137 \@ifundefined{@#1bordercolor}{%
9138   \let\CurrentBorderColor\relax
9139 }{%
9140   \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9141 }%
9142 \leavevmode
9143 \protected@edef\Hy@testname{#2}%
9144 \ifx\Hy@testname\@empty
9145   \Hy@Warning{%
9146     Empty destination name,\MessageBreak
9147     using '\Hy@undefinedname'%
9148   }%
9149   \let\Hy@testname\Hy@undefinedname
9150 \fi
9151 \special{!%
9152   aref \expandafter\HyperDestNameFilter
9153     \expandafter{\Hy@testname};%
9154   a=<%
9155     \ifHy@pdfa /F 4\fi
9156     \Hy@setpdfborder
9157     \ifx\CurrentBorderColor\relax
9158     \else
9159       /C [\CurrentBorderColor]%
9160     \fi
9161   >%
9162 }%
9163 \expandafter
9164 \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
9165 \special{!endaref}%
9166 }
9167 \def\hyper@image#1#2{%
9168 \hyper@linkurl{#2}{#1}%
9169 }
9170 \def\@hyper@launch run:#1\#2#3{%
9171 \Hy@pstringdef\Hy@pstringF{#1}%
9172 \Hy@pstringdef\Hy@pstringP{#3}%
9173 \leavevmode
9174 \special{!aref %
9175   <u=%

```

```

9176 /Type/Action%
9177 /S/Launch%
9178 /F(\Hy@pstringF)%
9179 \Hy@SetNewWindow
9180 \ifx\#3\%
9181 \else
9182 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
9183 \fi%
9184 >%
9185 a=<%
9186 \ifHy@pdfa /F 4\fi
9187 \Hy@setpdfborder
9188 \ifx\@runbordercolor\relax
9189 \else
9190 /C[\@runbordercolor]%
9191 \fi
9192 >%
9193 }%
9194 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
9195 \special{!endaref}%
9196 }
9197 \def\Acrobatmenu#1#2{%
9198 \Hy@Acrobatmenu{#1}{#2}{%
9199 \special{!%
9200   aref <u=/S /Named /N /#1>;%
9201   a=<%
9202     \ifHy@pdfa /F 4\fi
9203     \Hy@setpdfborder
9204     \ifx\@menubordercolor\relax
9205     \else
9206     /C[\@menubordercolor]%
9207     \fi
9208     >%
9209     }%
9210     \Hy@colorlink\@menucolor#2\Hy@endcolorlink
9211     \special{!endaref}%
9212     }%
9213 }

```

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

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

Please never use  $\text{\texttt{\@ifundefined{VTeXversion}\{..\}\{..\}}}$  globally.

```

9214 \ifnum\Hy@VTeXversion<702 %
9215 \else
9216 \def\hyper@pagetransition{%
9217 \ifx\@pdfpagetransition\relax
9218 \else
9219 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

9220 \else
9221 \hvtex@parse@trans\@pdfpagetransition
9222 \fi
9223 \fi
9224 }%

```

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

Syntax of  $\text{\texttt{VT\TeX}} \text{\texttt{\backslashspecial{!trans <transition\_effect>}}}$ :

```

<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:

```

9225 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
9226 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
9227 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
9228 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
9229 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
9230 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
9231 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

9232 \def\hvtex@param@dimension{/Dm}%
9233 \def\hvtex@param@direction{/Di}%
9234 \def\hvtex@param@duration{/D}%
9235 \def\hvtex@param@motion{/M}%

```

Tokenizer:

```

9236 \def\hvtex@gettoken{%
9237   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
9238 }%

```

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

```

9239 \def\hvtex@gettoken@#1 #2\@nil{%
9240   \edef\hvtex@token{#1}%
9241   \edef\hvtex@buffer{#2}%
9242 }%
9243 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

9244 \let\hvtex@trans@code\@empty
9245 \let\hvtex@param@dimension\@empty
9246 \let\hvtex@param@direction\@empty
9247 \let\hvtex@param@duration\@empty
9248 \let\hvtex@param@motion\@empty
9249 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

9250 \hvtex@gettoken
9251 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

9252   \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```
9253   \else
9254   \hvtex@gettoken
9255   \fi
9256 \fi
9257 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
9258   \hvtex@trans@params
9259 }%
```

Reentrant macro to parse optional parameters.

```
9260 \def\hvtex@trans@params{%
9261   \ifx\hvtex@buffer\@empty
9262   \else
9263     \hvtex@gettoken
9264     \let\hvtex@trans@par\hvtex@token
9265     \ifx\hvtex@buffer\@empty
9266     \else
9267       \hvtex@gettoken
9268       \ifx\hvtex@trans@par\hvtex@par@duration
```

/D is the effect duration in seconds.  $\text{\TeX}$  special takes it in milliseconds.

```
9269       \let\hvtex@param@duration\hvtex@token
9270     \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
9271       \expandafter\edef\expandafter\hvtex@param@motion
9272       \expandafter{\expandafter\@gobble\hvtex@token}%
9273     \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
9274       \expandafter\edef\expandafter\hvtex@param@dimension
9275       \expandafter{\expandafter\@gobble\hvtex@token}%
9276     \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).

```
9277       \let\hvtex@param@direction\hvtex@token
9278       \fi\fi\fi
9279   \fi
9280 \fi
9281 \ifx\hvtex@buffer\@empty
9282   \let\next\hvtex@produce@trans
9283 \else
9284   \let\next\hvtex@trans@params
9285 \fi
9286 \next
9287 }%
```

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

```
9288 \def\hvtex@produce@trans{%
9289   \let\vtex@trans@special\@empty
9290   \if S\hvtex@trans@code
9291     \edef\vtex@trans@special{\hvtex@trans@code
9292       \hvtex@param@dimension\hvtex@param@motion}%
9293   \else\if B\hvtex@trans@code
9294     \edef\vtex@trans@special{%
9295       \hvtex@trans@code\hvtex@param@dimension
```

```

9296 }%
9297 \else\if X\hvtex@trans@code
9298 \edef\vtex@trans@special{%
9299 \hvtex@trans@code\hvtex@param@motion
9300 }%
9301 \else\if W\hvtex@trans@code
9302 \edef\vtex@trans@special{%
9303 \hvtex@trans@code\hvtex@param@direction
9304 }%
9305 \else\if D\hvtex@trans@code
9306 \let\vtex@trans@special\hvtex@trans@code
9307 \else\if R\hvtex@trans@code
9308 \let\vtex@trans@special\hvtex@trans@code
9309 \else\if G\hvtex@trans@code
9310 \edef\vtex@trans@special{%
9311 \hvtex@trans@code\hvtex@param@direction
9312 }%
9313 \fi\fi\fi\fi\fi\fi
9314 \ifx\vtex@trans@special\@empty
9315 \else
9316 \ifx\hvtex@param@duration\@empty
9317 \else
9318 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

9319 \multiply\dimen@\@m
9320 \edef\vtex@trans@special{%
9321 \vtex@trans@special,\strip@pt\dimen@
9322 }%
9323 \fi

```

And all the mess is just for this.

```

9324 \special{!trans \vtex@trans@special}%
9325 \fi
9326 }%
9327 \def\hyper@pageduration{%
9328 \ifx\@pdfpageduration\relax
9329 \else
9330 \ifx\@pdfpageduration\@empty
9331 \special{!duration-}%
9332 \else
9333 \special{!duration \@pdfpageduration}%
9334 \fi
9335 \fi
9336 }%
9337 \def\hyper@pagehidden{%
9338 \ifHy@useHidKey
9339 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
9340 \fi
9341 }%
9342 \g@addto@macro\Hy@EveryPageBoxHook{%
9343 \hyper@pagetransition
9344 \hyper@pageduration
9345 \hyper@pagehidden
9346 }%
9347 \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

```

9348 \ifx\@pdfproducer\relax
9349 \def\@pdfproducer{VTeX}%
9350 \ifnum\Hy@VTeXversion>\z@
9351 \count@\VTeXversion
9352 \divide\count@ 100 %
9353 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
9354 \multiply\count@ -100 %
9355 \advance\count@\VTeXversion
9356 \edef\@pdfproducer{%
9357 \@pdfproducer
9358 .\ifnum\count@<10 0\fi\the\count@
9359 \ifx\VTeXOS\@undefined\else
9360 \ifnum\VTeXOS>0 %
9361 \ifnum\VTeXOS<6 %
9362 \space(%
9363 \ifcase\VTeXOS
9364 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
9365 \fi
9366 )%
9367 \fi
9368 \fi
9369 \fi
9370 ,\space
9371 \ifnum\OpMode=\@one PDF\else PS\fi
9372 \space backend%
9373 \ifx\gexmode\@undefined\else
9374 \ifnum\gexmode>\z@\space with GeX\fi
9375 \fi
9376 }%
9377 \fi
9378 \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).

```

9379 \def\PDF@SetupDoc{%
9380 \ifx\@pdfpagescrop\@empty
9381 \else

```

```

9382 \special{!pdinfo b=<\@pdfpagescrop>}%
9383 \fi
9384 \ifx\@pdfstartpage\@empty
9385 \else
9386 \ifx\@pdfstartview\@empty
9387 \else
9388 \special{!onopen Page\@pdfstartpage}%
9389 \fi
9390 \fi
9391 \special{!pdinfo p=</\@pdfpagemode>}%
9392 \ifx\@baseurl\@empty
9393 \else
9394 \special{!pdinfo u=<<</Base (\@baseurl)>>>}%
9395 \fi
9396 \special{!pdinfo v=<<<%
9397 \ifHy@toolbar\else /HideToolbar true\fi
9398 \ifHy@menubar\else /HideMenubar true\fi
9399 \ifHy>windowui\else /HideWindowUI true\fi
9400 \ifHy@fitwindow /FitWindow true\fi
9401 \ifHy@centerwindow /CenterWindow true\fi
9402 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9403 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9404 \Hy@UseNameKey{Direction}\@pdfdirection
9405 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9406 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9407 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9408 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9409 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9410 \Hy@UseNameKey{Duplex}\@pdfduplex
9411 \ifx\@pdfpicktraybypdfsize\@empty
9412 \else
9413 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9414 \fi
9415 \ifx\@pdfprintpagerange\@empty
9416 \else
9417 /PrintPageRange[\@pdfprintpagerange]%
9418 \fi
9419 \ifx\@pdfnumcopies\@empty
9420 \else
9421 /NumCopies \@pdfnumcopies
9422 \fi
9423 >>>}%
9424 \ifx\@pdfpagelayout\@empty
9425 \else
9426 \special{!pdinfo l=</\@pdfpagelayout\space>}%
9427 \fi
9428 }%
9429 \HyInfo@AddonUnsupportedtrue
9430 \def\PDF@FinishDoc{%
9431 \Hy@UseMaketitleInfos
9432 \HyInfo@TrappedUnsupported
9433 \special{!pdinfo a=<\@pdfauthor>}%
9434 \special{!pdinfo t=<\@pdftitle>}%
9435 \special{!pdinfo s=<\@pdfsubject>}%
9436 \special{!pdinfo c=<\@pdfcreator>}%
9437 \ifx\@pdfproducer\relax
9438 \else

```

```

9439 \special{!pdfinfo r=<\@pdfproducer>}%
9440 \fi
9441 \special{!pdfinfo k=<\@pdfkeywords>}%
9442 \Hy@DisableOption{pdfauthor}%
9443 \Hy@DisableOption{pdftitle}%
9444 \Hy@DisableOption{pdfsubject}%
9445 \Hy@DisableOption{pdfcreator}%
9446 \Hy@DisableOption{pdfcreationdate}%
9447 \Hy@DisableOption{pdfmoddate}%
9448 \Hy@DisableOption{pdfproducer}%
9449 \Hy@DisableOption{pdfkeywords}%
9450 \Hy@DisableOption{pdftrapped}%
9451 \Hy@DisableOption{pdfinfo}%
9452 }
9453 </vtex>

```

## 46.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:

```

/showpage {
  //showpage
  clippath stroke erasepage
} bind def

```

But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

```

9454 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
9455 <package>\providecommand*{\Hy@DistillerDestFix}{%
9456 <*pdfmark | dviwindo>
9457 \def\Hy@DistillerDestFix{%
9458 \begingroup
9459 \let\x\literalps@out

```

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

```

9460 \ifnum \@ifundefined{OpMode}{0}{%
9461 \ifundefined{gexmode}{0}{%
9462 \ifnum\gexmode>0 \OpMode\else 0\fi
9463 }>1 %
9464 \def\x##1{%
9465 \immediate\special{!##1}%
9466 }%
9467 \fi
9468 \x{%
9469 /product where{%
9470 pop %
9471 product(Distiller)search{%
9472 pop pop pop %
9473 version(.)search{%
9474 exch pop exch pop%
9475 (3011)eq{%
9476 gsave %
9477 newpath 0 0 moveto closepath clip%
9478 /Courier findfont 10 scalefont setfont %
9479 72 72 moveto(.)show %
9480 grestore%

```

```

9481         }if%
9482         }{pop}ifelse%
9483         }{pop}ifelse%
9484     }if%
9485 }%
9486 \endgroup
9487 }
9488 </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

```

```

9489 <*pdfmark>
9490 \Hy@breaklinks@unsupported
9491 \def\hyper@anchor#1{%
9492   \Hy@SaveLastskip
9493   \Hy@VerboseAnchor{#1}%
9494   \begingroup
9495   \pdfmark[\anchor@spot]{%
9496     pdfmark=/DEST,%
9497     linktype=anchor,%
9498     View=/\@pdfview \@pdfviewparams,%
9499     DestAnchor={#1}%
9500   }%
9501   \endgroup
9502   \Hy@RestoreLastskip
9503 }
9504 \ifundefined{hyper@anchorstart}{\endinput}
9505 \def\hyper@anchorstart#1{%
9506   \Hy@SaveLastskip
9507   \Hy@VerboseAnchor{#1}%
9508   \literalps@out{H.S}%
9509   \Hy@AllowHyphens
9510   \xdef\hyper@currentanchor{#1}%
9511   \Hy@activeanchortrue
9512 }
9513 \def\hyper@anchorend{%
9514   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
9515   \pdfmark{%
9516     pdfmark=/DEST,%
9517     linktype=anchor,%
9518     View=/\@pdfview \@pdfviewparams,%
9519     DestAnchor=\hyper@currentanchor,%
9520   }%
9521   \Hy@activeanchorfalse

```

```

9522 \Hy@RestoreLastskip
9523 }
9524 \def\hyper@linkstart#1#2{%
9525 \Hy@VerboseLinkStart{#1}{#2}%
9526 \ifHy@breaklinks
9527 \else
9528 \leavevmode\hbox\bgroup
9529 \fi
9530 \expandafter\Hy@colorlink\csname @#1color\endcsname
9531 \literalps@out{H.S}%
9532 \Hy@AllowHyphens
9533 \xdef\hyper@currentanchor{#2}%
9534 \gdef\hyper@currentlinktype{#1}%
9535 }
9536 \def\hyper@linkend{%
9537 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
9538 \@ifundefined{@\hyper@currentlinktype bordercolor}{%
9539 \let\Hy@tempcolor\relax
9540 }{%
9541 \edef\Hy@tempcolor{%
9542 \csname @\hyper@currentlinktype bordercolor\endcsname
9543 }%
9544 }%
9545 \pdfmark{%
9546 pdfmark=/ANN,%
9547 linktype=link,%
9548 Subtype=/Link,%
9549 PDFAFlags=4,%
9550 Dest=\hyper@currentanchor,%
9551 AcroHighlight=\@pdfhighlight,%
9552 Border=\@pdfborder,%
9553 BorderStyle=\@pdfborderstyle,%
9554 Color=\Hy@tempcolor,%
9555 Raw=H.B%
9556 }%
9557 \Hy@endcolorlink
9558 \ifHy@breaklinks
9559 \else
9560 \egroup
9561 \fi
9562 }

```

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.

```

9563 \begingroup
9564 \catcode'P=12 %
9565 \catcode'T=12 %
9566 \lowercase{\endgroup
9567 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>z@.#2\fi}%
9568 }
9569 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

9570 \def\hyper@pagetransition{%
9571 \ifx\@pdfpagetransition\relax
9572 \else

```

```

9573 \ifx\@pdfpagetransition\@empty
9574 % 1. Does an old entry have to be deleted?
9575 % 2. If 1=yes, how to delete?
9576 \else
9577 \pdfmark{%
9578 pdfmark=/PUT,%
9579 Raw={%
9580 \string{ThisPage\string}%
9581 <</Trans << /S /\@pdfpagetransition\space >> >>%
9582 }%
9583 }%
9584 \fi
9585 \fi
9586 }

```

\hyper@pageduration

```

9587 \def\hyper@pageduration{%
9588 \ifx\@pdfpageduration\relax
9589 \else
9590 \ifx\@pdfpageduration\@empty
9591 % 1. Does an old entry have to be deleted?
9592 % 2. If 1=yes, how to delete?
9593 \else
9594 \pdfmark{%
9595 pdfmark=/PUT,%
9596 Raw={%
9597 \string{ThisPage\string}%
9598 <</Dur \@pdfpageduration>>%
9599 }%
9600 }%
9601 \fi
9602 \fi
9603 }

```

\hyper@pagehidden

```

9604 \def\hyper@pagehidden{%
9605 \ifHy@useHidKey
9606 \pdfmark{%
9607 pdfmark=/PUT,%
9608 Raw={%
9609 \string{ThisPage\string}%
9610 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
9611 }%
9612 }%
9613 \fi
9614 }

9615 \g@addto@macro\Hy@EveryPageBoxHook{%
9616 \hyper@pagetransition
9617 \hyper@pageduration
9618 \hyper@pagehidden
9619 }

9620 \def\hyper@image#1#2{%
9621 \hyper@linkurl{#2}{#1}%
9622 }
9623 \def\Hy@undefinedname{UNDEFINED}
9624 \def\hyper@link#1#2#3{%

```

```

9625 \Hy@VerboseLinkStart{#1}{#2}%
9626 \@ifundefined{@#1bordercolor}{%
9627   \let\Hy@tempcolor\relax
9628 }{%
9629   \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
9630 }%
9631 \begingroup
9632   \protected@edef\Hy@testname{#2}%
9633   \ifx\Hy@testname\@empty
9634     \Hy@Warning{%
9635       Empty destination name,\MessageBreak
9636       using '\Hy@undefinedname'%
9637     }%
9638     \let\Hy@testname\Hy@undefinedname
9639   \fi
9640   \pdfmark[{#3}]{%
9641     Color=\Hy@tempcolor,%
9642     linktype={#1},%
9643     AcroHighlight=\@pdfhighlight,%
9644     Border=\@pdfborder,%
9645     BorderStyle=\@pdfborderstyle,%
9646     pdfmark=/ANN,%
9647     Subtype=/Link,%
9648     PDFAFlags=4,%
9649     Dest=\Hy@testname
9650   }%
9651 \endgroup
9652 }
9653 \newtoks\pdf@docset
9654 \def\PDF@FinishDoc{%
9655   \Hy@UseMaketitleInfos
9656   \Hy@Info@GenerateAddons
9657   \let\Hy@temp\@empty
9658   \ifx\@pdfcreationdate\@empty
9659   \else
9660     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
9661   \fi
9662   \ifx\@pdfmoddate\@empty
9663   \else
9664     \expandafter\def\expandafter\Hy@temp\expandafter{%
9665       \Hy@temp
9666       ModDate=\@pdfmoddate,%
9667     }%
9668   \fi
9669   \ifx\@pdfproducer\relax
9670   \else
9671     \expandafter\def\expandafter\Hy@temp\expandafter{%
9672       \Hy@temp
9673       Producer=\@pdfproducer,%
9674     }%
9675   \fi
9676   \expandafter
9677   \pdfmark\expandafter{%
9678     \Hy@temp
9679     pdfmark=/DOCINFO,%
9680     Title=\@pdftitle,%
9681     Subject=\@pdfsubject,%

```

```

9682   Creator=\@pdfcreator,%
9683   Author=\@pdfauthor,%
9684   Keywords=\@pdfkeywords,%
9685   Trapped=\@pdftrapped
9686 }%
9687 \ifx\HyInfo@Addons\@empty
9688 \else
9689   \pdfmark{%
9690     pdfmark=/DOCINFO,%
9691     Raw={\HyInfo@Addons}%
9692   }%
9693 \fi
9694 \Hy@DisableOption{pdfauthor}%
9695 \Hy@DisableOption{pdftitle}%
9696 \Hy@DisableOption{pdfsubject}%
9697 \Hy@DisableOption{pdfcreator}%
9698 \Hy@DisableOption{pdfcreationdate}%
9699 \Hy@DisableOption{pdfmoddate}%
9700 \Hy@DisableOption{pdfproducer}%
9701 \Hy@DisableOption{pdfkeywords}%
9702 \Hy@DisableOption{pdftrapped}%
9703 \Hy@DisableOption{pdfinfo}%
9704 }
9705 \def\PDF@SetupDoc{%
9706   \def\Hy@temp{%
9707     \ifx\@pdfstartpage\@empty
9708     \else
9709       \ifx\@pdfstartview\@empty
9710       \else
9711         \edef\Hy@temp{%
9712           ,Page=\@pdfstartpage
9713           ,View=\@pdfstartview
9714         }%
9715       \fi
9716     \fi
9717     \edef\Hy@temp{%
9718       \noexpand\pdfmark{%
9719         pdfmark=/DOCVIEW,%
9720         PageMode=/\@pdfpagemode
9721       }\Hy@temp
9722     }%
9723   }%
9724   \Hy@temp
9725   \ifx\@pdfpagescrop\@empty
9726   \else
9727     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9728   \fi
9729   \edef\Hy@temp{%
9730     \ifHy@toolbar\else /HideToolbar true\fi
9731     \ifHy@menubar\else /HideMenubar true\fi
9732     \ifHy>windowui\else /HideWindowUI true\fi
9733     \ifHy@fitwindow /FitWindow true\fi
9734     \ifHy@centerwindow /CenterWindow true\fi
9735     \ifHy@displaydoctitle /DisplayDocTitle true\fi
9736     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9737     \Hy@UseNameKey{Direction}\@pdfdirection
9738     \Hy@UseNameKey{ViewArea}\@pdfviewarea

```



```

9739 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9740 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9741 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9742 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9743 \Hy@UseNameKey{Duplex}\@pdfduplex
9744 \ifx\@pdfpicktraybypdfsize\@empty
9745 \else
9746 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9747 \fi
9748 \ifx\@pdfprintpagerange\@empty
9749 \else
9750 /PrintPageRange\@pdfprintpagerange]%
9751 \fi
9752 \ifx\@pdfnumcopies\@empty
9753 \else
9754 /NumCopies \@pdfnumcopies
9755 \fi
9756 }%
9757 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9758 \pdfmark{%
9759 pdfmark=/PUT,%
9760 Raw={%
9761 \string{Catalog\string}<<%
9762 \ifx\Hy@temp\@empty
9763 \else
9764 /ViewerPreferences<<\Hy@temp>>%
9765 \fi
9766 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9767 \ifx\@pdflang\@empty
9768 \else
9769 /Lang(\@pdflang)%
9770 \fi
9771 \ifx\@baseurl\@empty
9772 \else
9773 /URI<</Base(\Hy@pstringB)>>%
9774 \fi
9775 >>%
9776 }%
9777 }%
9778 }
9779 \pdfmark
9780 \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.

```

9781 \newif\ifHy@pdfmarkerror
9782 \def\pdfmark{\@ifnextchar[\pdfmark@]{\pdfmark@[]}}
9783 \def\pdfmark@[#1]#2{%
9784 \Hy@pdfmarkerrorfalse
9785 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9786 \@processme
9787 \let\pdf@type\relax
9788 \setkeys{PDF}{#2}%
9789 \ifHy@pdfmarkerror

```

```

9790 \else
9791 \ifx\pdf@type\relax
9792 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9793 \ifx\#1\%
9794 \else
9795 \pdf@rect{#1}%
9796 \fi
9797 \else
9798 \ifx\#1\%
9799 \literalps@out{%
9800 [\the\pdf@toks\space\pdf@type\space pdfmark%
9801 ]%
9802 \else
9803 \@ifundefined{@\pdf@linktype color}{%
9804 \Hy@colorlink\@linkcolor
9805 }{%
9806 \expandafter\Hy@colorlink
9807 \csname @\pdf@linktype color\endcsname
9808 }%
9809 \pdf@rect{#1}%
9810 \literalps@out{%
9811 [\the\pdf@toks\space\pdf@type\space pdfmark%
9812 ]%
9813 \Hy@endcolorlink
9814 \fi
9815 \fi
9816 \fi
9817 }

```

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

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

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

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

```

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

```

```

9818 \newsavebox{\pdf@box}
9819 \providecommand*{\Hy@setouterhbox}{\sbox}
9820 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
9821 \def\Hy@DEST{/DEST}
9822 \def\pdf@rect#1{%
9823 \leavevmode
9824 \ifHy@breaklinks
9825 \Hy@setouterhbox\pdf@box{\Hy@AllowHyphens#1}%
9826 \else
9827 \sbox\pdf@box{#1}%
9828 \fi
9829 \dimen@ht\pdf@box
9830 \ifdim\dp\pdf@box=\z@
9831 \literalps@out{H.S}%
9832 \else
9833 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9834 \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...).

```

9835 \ifHy@breaklinks
9836 \expandafter\Hy@breaklinksunhbox
9837 \else
9838 \expandafter\box
9839 \fi
9840 \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

9841 \ifdim\dimen@=\z@
9842 \literalps@out{H.R.}%
9843 \else
9844 \raise\dimen@\hbox{\literalps@out{H.R.}}%
9845 \fi
9846 \ifx\pdf@type\Hy@DEST
9847 \else
9848 \pdf@addtoksx{H.B}%
9849 \fi
9850 }

```

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.

```

9851 \newtoks\pdf@toks
9852 \newtoks\pdf@defaulttoks
9853 \pdf@defaulttoks={}%
9854 \def\pdf@addtoks#1#2{%
9855 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9856 \@processme
9857 }
9858 \def\pdf@addtoksx#1{%
9859 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9860 \@processme
9861 }
9862 \def\PDFdefaults#1{%
9863 \pdf@defaulttoks={#1}%
9864 }

```

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

```

9865 % what is the type of pdfmark?
9866 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9867 % what is the link type?
9868 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
9869 \def\pdf@linktype{link}
9870 % parameter is a stream of PDF
9871 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
9872 % parameter is a name
9873 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9874 % parameter is a array
9875 \define@key{PDF}{Border}{}%
9876 \edef\Hy@temp{#1}%
9877 \ifx\Hy@temp\empty
9878 \else
9879 \pdf@addtoks{#1}\Hy@BorderArrayPatch{Border}% hash-ok

```

```

9880 \fi
9881 }
9882 \let\Hy@BorderArrayPatch\@empty
9883 % parameter is a dictionary
9884 \define@key{PDF}{BorderStyle}{%
9885   \edef\Hy@temp{#1}%
9886   \ifx\Hy@temp\@empty
9887     \else
9888       \pdf@addtoks{<<#1>>}{BS}%
9889   \fi
9890 }
9891 % parameter is a array
9892 \define@key{PDF}{Color}{%
9893   \ifx\relax#1\relax
9894     \else
9895       \pdf@addtoks{[#1]}{Color}% hash-ok
9896   \fi
9897 }
9898 % parameter is a string
9899 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9900 % parameter is a integer
9901 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9902 % parameter is a array
9903 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9904 % parameter is a string
9905 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9906 % parameter is a string or file
9907 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9908 % parameter is a destination
9909 \define@key{PDF}{Dest}{%
9910   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9911   \ifx\Hy@pstringDest\@empty
9912     \Hy@pdfmarkerrortrue
9913     \Hy@Warning{Destination with empty name ignored}%
9914   \else
9915     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9916   \fi
9917 }
9918 \define@key{PDF}{DestAnchor}{%
9919   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9920   \ifx\Hy@pstringDest\@empty
9921     \Hy@pdfmarkerrortrue
9922     \Hy@Warning{Destination with empty name ignored}%
9923   \else
9924     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9925   \fi
9926 }
9927 % parameter is a string
9928 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9929 % parameter is a string
9930 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9931 % parameter is a int
9932 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9933 \define@key{PDF}{PDFAFlags}{%
9934   \ifHy@pdfa
9935     \pdf@addtoks{#1}{F}%
9936   \fi

```

```

9937 }
9938 % parameter is a name
9939 \define@key{PDF}{AcroHighlight}{%
9940   \begingroup
9941     \edef\x{#1}%
9942     \expandafter\endgroup\ifx\x\@empty
9943       \else
9944         \pdf@addtoks{#1}{H}%
9945       \fi
9946 }
9947 % parameter is a string
9948 \define@key{PDF}{ID}{\pdf@addtoks{#1}{ID}}% hash-ok
9949 % parameter is a string
9950 \define@key{PDF}{MacFile}{\pdf@addtoks{#1}{MacFile}}
9951 % parameter is a string
9952 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
9953 % parameter is a string
9954 \define@key{PDF}{Op}{\pdf@addtoks{#1}{Op}}
9955 % parameter is a Boolean
9956 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9957 % parameter is a integer or name
9958 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9959 % parameter is a name
9960 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9961 % parameter is a string
9962 \define@key{PDF}{Params}{\pdf@addtoks{#1}{Params}}
9963 % parameter is a array
9964 \define@key{PDF}{Rect}{\pdf@addtoks{#1}{Rect}}% hash-ok
9965 % parameter is a integer
9966 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9967 % parameter is a name
9968 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9969 % parameter is a string
9970 \define@key{PDF}{Title}{\pdf@addtoks{#1}{Title}}
9971 % parameter is a string
9972 \define@key{PDF}{Unix}{\pdf@addtoks{#1}{Unix}}
9973 % parameter is a string
9974 \define@key{PDF}{UnixFile}{\pdf@addtoks{#1}{UnixFile}}
9975 % parameter is an array
9976 \define@key{PDF}{View}{\pdf@addtoks{#1}{View}}% hash-ok
9977 % parameter is a string
9978 \define@key{PDF}{WinFile}{\pdf@addtoks{#1}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9979 \define@key{PDF}{Author}{\pdf@addtoks{#1}{Author}}
9980 \define@key{PDF}{Creator}{\pdf@addtoks{#1}{Creator}}
9981 \define@key{PDF}{CreationDate}{\pdf@addtoks{#1}{CreationDate}}
9982 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
9983 \define@key{PDF}{Producer}{\pdf@addtoks{#1}{Producer}}
9984 \define@key{PDF}{Subject}{\pdf@addtoks{#1}{Subject}}
9985 \define@key{PDF}{Keywords}{\pdf@addtoks{#1}{Keywords}}
9986 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
9987 \define@key{PDF}{Base}{\pdf@addtoks{#1}{Base}}
9988 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
9989 \define@key{PDF}{Trapped}{%
9990   \edef\Hy@temp{#1}%
9991   \ifx\Hy@temp\@empty
9992     \else

```

```

9993 \pdf@addtoks{/#1}{Trapped}%
9994 \fi
9995 }
9996
9997 </pdfmarkbase>
9998 <*pdfmark>
9999 \def\Acrobatmenu#1#2{%
10000 \Hy@Acrobatmenu{#1}{#2}{%
10001 \pdfmark[{#2}]{%
10002 linktype=menu,%
10003 pdfmark=/ANN,%
10004 AcroHighlight=\pdfhighlight,%
10005 Border=\pdfborder,%
10006 BorderStyle=\pdfborderstyle,%
10007 Action={<< /Subtype /Named /N /#1 >>},%
10008 Subtype=/Link,%
10009 PDFAFlags=4%
10010 }%
10011 }%
10012 }

```

And now for some useful examples:

```

10013 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
10014 \def\PDFNextPage@[#1]#2{%
10015 \pdfmark[{#2}]{%
10016 #1,%
10017 Border=\pdfborder,%
10018 BorderStyle=\pdfborderstyle,%
10019 Color=.2 .1 .5,%
10020 pdfmark=/ANN,%
10021 Subtype=/Link,%
10022 PDFAFlags=4,%
10023 Page=/Next%
10024 }%
10025 }
10026 \def\PDFPreviousPage{%
10027 \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
10028 }
10029 \def\PDFPreviousPage@[#1]#2{%
10030 \pdfmark[{#2}]{%
10031 #1,%
10032 Border=\pdfborder,%
10033 BorderStyle=\pdfborderstyle,%
10034 Color=.4 .4 .1,%
10035 pdfmark=/ANN,%
10036 Subtype=/Link,%
10037 PDFAFlags=4,%
10038 Page=/Prev%
10039 }%
10040 }
10041 \def\PDFOpen#1{%
10042 \pdfmark{#1,pdfmark=/DOCVIEW}%
10043 }

```

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

```

10044 \def\hyper@linkurl#1#2{%
10045 \begingroup
10046 \Hy@pstringdef\Hy@pstringURI{#2}%

```

```

10047 \hyper@chars
10048 \leavevmode
10049 \pdfmark[{#1}]{%
10050 pdfmark=/ANN,%
10051 linktype=url,%
10052 AcroHighlight=\@pdfhighlight,%
10053 Border=\@pdfborder,%
10054 BorderStyle=\@pdfborderstyle,%
10055 Color=\@urlbordercolor,%
10056 Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
10057 Subtype=/Link,%
10058 PDFAFlags=4%
10059 }%
10060 \endgroup
10061 }
10062 \def\hyper@linkfile#1#2#3{%
10063 \begingroup
10064 \Hy@pstringdef\Hy@pstringF{#2}%
10065 \Hy@pstringdef\Hy@pstringD{#3}%
10066 \leavevmode
10067 \pdfmark[{#1}]{%
10068 pdfmark=/ANN,%
10069 Subtype=/Link,%
10070 PDFAFlags=4,%
10071 AcroHighlight=\@pdfhighlight,%
10072 Border=\@pdfborder,%
10073 BorderStyle=\@pdfborderstyle,%
10074 linktype=file,%
10075 Color=\@filebordercolor,%
10076 Action={%
10077 <<%
10078 /S/GoToR%
10079 \Hy@SetNewWindow
10080 /F(\Hy@pstringF)%
10081 /D\ifx\#3\@pdfstartview\else(\Hy@pstringD)cvn\fi
10082 >>%
10083 }%
10084 }%
10085 \endgroup
10086 }
10087 \def\@hyper@launch run:#1\#2#3{%
10088 \begingroup
10089 \Hy@pstringdef\Hy@pstringF{#1}%
10090 \Hy@pstringdef\Hy@pstringP{#3}%
10091 \leavevmode
10092 \pdfmark[{#2}]{%
10093 pdfmark=/ANN,%
10094 Subtype=/Link,%
10095 PDFAFlags=4,%
10096 AcroHighlight=\@pdfhighlight,%
10097 Border=\@pdfborder,%
10098 BorderStyle=\@pdfborderstyle,%
10099 linktype=run,%
10100 Color=\@runbordercolor,%
10101 Action={%
10102 <<%
10103 /S/Launch%

```

```

10104      \Hy@SetNewWindow
10105      /F(\Hy@pstringF)%
10106      \ifx\#3\%
10107      \else
10108      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10109      \fi
10110      >>%
10111      }%
10112      }%
10113      \endgroup
10114      }
10115      </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.

```

10116 <*dvips>
10117 \providecommand*\XR@ext}{pdf}
10118 \def\Hy@raisedlink{}
10119 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
10120 \def\headerps@out#1{\special{! #1}}%
10121 \input{pdfmark.def}%
10122 \ifx\@pdfproducer\relax
10123 \def\@pdfproducer{dvips + Distiller}%
10124 \fi
10125 \providecommand*\@pdfborder{0 0 1}
10126 \providecommand*\@pdfborderstyle{}
10127 \providecommand*\@pdfview{XYZ}
10128 \providecommand*\@pdfviewparams{ H.V}
10129 \def\Hy@BorderArrayPatch{BorderArrayPatch}
10130 \g@addto@macro\Hy@FirstPageHook{%
10131 \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.

```

10132 /DvipsToPDF{72.27 mul Resolution div} def%
10133 /PDFToDvips{72.27 div Resolution mul} def%
10134 /BPTToDvips{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.



```

10135 /BorderArrayPatch{%
10136   [exch{%
10137     dup dup type/integertype eq exch type/realtype eq or%
10138     {BPToDvips}if%
10139   }forall]%
10140 }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.

```

10141 /HyperBorder {1 PDFToDvips} def%
10142 /H.V {pdf@hoff pdf@voff null} def%
10143 /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

```

10144 /H.S {%
10145   currentpoint %
10146   HyperBorder add /pdf@lly exch def %
10147   dup DvipsToPDF 72 add /pdf@hoff exch def %
10148   HyperBorder sub /pdf@llx exch def%
10149 } 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`

```

10150 /H.L {%
10151   2 sub dup%
10152   /HyperBasePt exch def %
10153   PDFToDvips /HyperBaseDvips exch def %
10154   currentpoint %
10155   HyperBaseDvips sub /pdf@ury exch def%
10156   /pdf@urx exch def%
10157 } def%
10158 /H.A {%
10159   H.L %
10160 % |pdf@voff| = the distance from the top of the page to a point
10161 % |\baselineskip| above the current point in PDF coordinates
10162   currentpoint exch pop %
10163   vsize 72 sub exch DvipsToPDF %
10164   HyperBasePt sub % baseline skip
10165   sub /pdf@voff exch def%
10166 } def%
10167 /H.R {%
10168   currentpoint %
10169   HyperBorder sub /pdf@ury exch def %
10170   HyperBorder add /pdf@urx exch def %
10171 % |pdf@voff| = the distance from the top of the page to the current point, in
10172 % PDF coordinates
10173   currentpoint exch pop vsize 72 sub %
10174   exch DvipsToPDF sub /pdf@voff exch def%
10175 } def%
10176 }%
10177 }
10178 \AtBeginShipoutFirst{%

```

```

10179 \ifHy@setpagesize
10180 \begingroup
10181 \ifundefined{stockwidth}{%
10182 \ifdim\paperwidth>\z@
10183 \ifdim\paperheight>\z@
10184 \special{papersize=\the\paperwidth,\the\paperheight}%
10185 \fi
10186 \fi
10187 }{%
10188 \ifdim\stockwidth>\z@
10189 \ifdim\stockheight>\z@
10190 \special{papersize=\the\stockwidth,\the\stockheight}%
10191 \fi
10192 \fi
10193 }%
10194 \endgroup
10195 \fi
10196 \Hy@DisableOption{setpagesize}%
10197 }
10198 </dvips>

```

## 46.10 VTeX's vtexpdfmark driver

This part is derived from the dvips (many names reflect this).

The origin seems to be the same as TeX's origin, 1 in from the left and 1 in downwards from the top. The direction of the  $y$  axis is downwards, the opposite of the dvips case. Units seems to be pt or bp.

```

10199 <*vtexpdfmark>
10200 \providecommand*{\XR@ext}{pdf}
10201 \def\Hy@raisedlink{}
10202 \def\literalps@out#1{\special{pS:#1}}%
10203 \def\headerps@out#1{\immediate\special{pS:#1}}%
10204 \input{pdfmark.def}%
10205 \ifx\@pdfproducer\relax
10206 \ifnum\OpMode=\@ne
10207 \def\@pdfproducer{VTeX}%
10208 \else
10209 \def\@pdfproducer{VTeX + Distiller}%
10210 \fi
10211 \fi
10212 \providecommand*\@pdfborder{0 0 1}
10213 \providecommand*\@pdfborderstyle{}
10214 \providecommand*\@pdfview{XYZ}
10215 \providecommand*\@pdfviewparams{ H.V}
10216 \g@addto@macro\Hy@FirstPageHook{%
10217 \headerps@out{%
10218 /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.

```

10219 /HyperBorder {1} def%
10220 /H.V {pdf@hoff pdf@voff null} def%
10221 /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

10222 /H.S {%
10223   currentpoint %
10224   HyperBorder sub%
10225   /pdf@lly exch def %
10226   dup 72 add /pdf@hoff exch def %
10227   HyperBorder sub%
10228   /pdf@llx exch def%
10229 } def%

```

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

```

10230 /H.L {%
10231   2 sub%
10232   /HyperBasePt exch def %
10233   currentpoint %
10234   HyperBasePt add HyperBorder add%
10235   /pdf@ury exch def %
10236   HyperBorder add%
10237   /pdf@urx exch def%
10238 } def%
10239 /H.A {%
10240   H.L %
10241   currentpoint exch pop %
10242   vsize 72 sub exch %
10243   HyperBasePt add add%
10244   /pdf@voff exch def%
10245 } def%

```

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

```

10246 /H.R {%
10247   currentpoint %
10248   HyperBorder add%
10249   /pdf@ury exch def %
10250   HyperBorder add%
10251   /pdf@urx exch def %
10252   currentpoint exch pop vsize 72 sub add%
10253   /pdf@voff exch def%
10254 } def%
10255 }%
10256 }
10257 </vtxpdfmark>

```

## 46.11 Textures

```

10258 <*textures>
10259 \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.

```

10260 \begingroup
10261 \obeylines %

```

```

10262 \gdef\Hy@ps@CR{\noexpand
10263 }%
10264 \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`.

```

10265 \def\literalps@out#1{%
10266 \special{postscript 0 0 transform}%
10267 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
10268 }%
10269 %

```

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.

```

10270 \def\headerps@out#1{%
10271 \special{%
10272 prepostscript TeXdict begin\Hy@ps@CR
10273 #1\Hy@ps@CR
10274 end%
10275 }%
10276 }%
10277 %

```

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.

```

10278 \g@addto@macro\Hy@FirstPageHook{%
10279 \headerps@out{%
10280 /betterpdfmark {%
10281 systemdict begin %
10282 dup /BP eq%
10283 {cleartomark gsave nulldevice []%
10284 {dup /EP eq%
10285 {cleartomark cleartomark grestore}%
10286 {cleartomark}%
10287 ifelse%
10288 }ifelse %
10289 end%
10290 }def\Hy@ps@CR
10291 ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
10292 }% end of \headerps@out
10293 }% end of \AtBeginShipoutFirst
10294 %
10295 \input{pdfmark.def}%
10296 %
10297 \ifx\@pdfproducer\relax
10298 \def\@pdfproducer{Textures + Distiller}%
10299 \fi
10300 \providecommand*\@pdfborder{0 0 1}

```

```

10301 \providecommand*\@pdfborderstyle{}
10302 \providecommand*\@pdfview{XYZ}
10303 \providecommand*\@pdfviewparams{ H.V}
10304 %

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. The Rect pair are called at the LL and UR corners of a box known to  $\TeX$ .

```

10305 \AfterBeginDocument{%
10306   \headerps@out{%

```

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

```

10307   /vsize {\Hy@pageheight} def%
10308   /DvipsToPDF {} def%
10309   /PDFToDvips {} def%
10310   /BPToDvips {} def%
10311   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
10312   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
10313   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
10314   /H.S {%
10315     currentpoint %
10316     HyperBorder add /pdf@lly exch def %
10317     dup DvipsToPDF 72 add /pdf@hoff exch def %
10318     HyperBorder sub /pdf@llx exch def%
10319   } def\Hy@ps@CR
10320   /H.L {%
10321     2 sub %
10322     PDFToDvips /HyperBase exch def %
10323     currentpoint %
10324     HyperBase sub /pdf@ury exch def%
10325     /pdf@urx exch def%
10326   } def\Hy@ps@CR
10327   /H.A {%
10328     H.L %
10329     currentpoint exch pop %
10330     vsize 72 sub exch DvipsToPDF %
10331     HyperBase sub % baseline skip
10332     sub /pdf@voff exch def%
10333   } def\Hy@ps@CR
10334   /H.R {%
10335     currentpoint %
10336     HyperBorder sub /pdf@ury exch def %
10337     HyperBorder add /pdf@urx exch def %
10338     currentpoint exch pop vsize 72 sub %
10339     exch DvipsToPDF sub /pdf@voff exch def%
10340   } def\Hy@ps@CR
10341   }%
10342 }

10343 \AfterBeginDocument{%
10344   \ifHy@colorlinks
10345     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
10346   \fi
10347 }

```

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.

```

10348 \expandafter\let\expandafter\keepPDF@SetupDoc
10349 \csname PDF@SetupDoc\endcsname
10350 \def\PDF@SetupDoc{%
10351 \ifx\@baseurl\@empty
10352 \else
10353 \special{html:<base href="\@baseurl">}%
10354 \fi
10355 \keepPDF@SetupDoc
10356 }
10357 \def\hyper@anchor#1{%
10358 \Hy@SaveLastskip
10359 \Hy@VerboseAnchor{#1}%
10360 \begingroup
10361 \let\protect=\string
10362 \special{html:<a name=%
10363 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10364 \endgroup
10365 \Hy@activeanchortrue
10366 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10367 \special{html:</a>}%
10368 \Hy@activeanchorfalse
10369 \Hy@RestoreLastskip
10370 }
10371 \def\hyper@anchorstart#1{%
10372 \Hy@SaveLastskip
10373 \Hy@VerboseAnchor{#1}%
10374 \begingroup
10375 \hyper@chars
10376 \special{html:<a name=%
10377 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10378 \endgroup
10379 \Hy@activeanchortrue
10380 }
10381 \def\hyper@anchorend{%
10382 \special{html:</a>}%
10383 \Hy@activeanchorfalse
10384 \Hy@RestoreLastskip
10385 }
10386 \def\@urltype{url}
10387 \def\hyper@linkstart#1#2{%
10388 \Hy@VerboseLinkStart{#1}{#2}%
10389 \expandafter\Hy@colorlink\csname @#1color\endcsname
10390 \def\Hy@tempa{#1}%
10391 \ifx\Hy@tempa\@urltype
10392 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10393 \else
10394 \begingroup
10395 \hyper@chars
10396 \special{%
10397 html:<a href=%
10398 \hyper@quote\#1\HyperDestNameFilter{#2}\hyper@quote>%
10399 }%
10400 \endgroup
10401 \fi
10402 }
10403 \def\hyper@linkend{%
10404 \special{html:</a>}%

```

```

10405 \Hy@endcolorlink
10406 }
10407 \def\hyper@linkfile#1#2#3{%
10408 \hyper@linkurl{#1}{%
10409 \Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi
10410 }%
10411 }
10412 \def\hyper@linkurl#1#2{%
10413 \leavevmode
10414 \ifHy@raiselinks
10415 \setbox\@tempboxa=\color@hbox #1\color@endbox
10416 \@linkdim\dp\@tempboxa
10417 \lower\@linkdim\hbox{%
10418 \hyper@chars
10419 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10420 }%
10421 \Hy@colorlink\@urlcolor#1%
10422 \@linkdim\ht\@tempboxa
10423 \advance\@linkdim by -6.5\p@
10424 \raise\@linkdim\hbox{\special{html:</a>}}}%
10425 \Hy@endcolorlink
10426 \else
10427 \begingroup
10428 \hyper@chars
10429 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10430 \Hy@colorlink\@urlcolor#1%
10431 \special{html:</a>}%
10432 \Hy@endcolorlink
10433 \endgroup
10434 \fi
10435 }

```

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

```

10436 \def\hyper@link#1#2#3{%
10437 \Hy@VerboseLinkStart{#1}{#2}%
10438 \hyper@linkurl{#3}{\# \Hy@DestNameFilter{#2}}%
10439 }
10440 \def\hyper@image#1#2{%
10441 \begingroup
10442 \hyper@chars
10443 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
10444 \endgroup
10445 }
10446 </textures>

```

## 46.12 dvipsone

```

10447 % \subsection{dvipsone driver}
10448 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
10449 % |\special| commands.
10450 (*dvipsone)
10451 \providecommand*\XR@ext}{pdf}
10452 \def\Hy@raisedlink{}
10453 \providecommand*\@pdfborder{0 0 1}
10454 \providecommand*\@pdfborderstyle{}
10455 \def\literalps@out#1{\special{ps:#1}}%
10456 \def\headerps@out#1{\special{headertext=#1}}%
10457 \input{pdfmark.def}%

```

```

10458 \ifx\@pdfproducer\relax
10459 \def\@pdfproducer{dvipsone + Distiller}%
10460 \fi
10461 \HyInfo@AddonUnsupportedtrue
10462 \def\PDF@FinishDoc{%
10463 \Hy@UseMaketitleInfos
10464 \HyInfo@TrappedUnsupported
10465 \special{PDF: Keywords \@pdfkeywords}%
10466 \special{PDF: Title \@pdftitle}%
10467 \special{PDF: Creator \@pdfcreator}%
10468 \ifx\@pdfcreationdate\@empty
10469 \else
10470 \special{PDF: CreationDate \@pdfcreationdate}%
10471 \fi
10472 \ifx\@pdfmoddate\@empty
10473 \else
10474 \special{PDF: ModDate \@pdfmoddate}%
10475 \fi
10476 \special{PDF: Author \@pdfauthor}%
10477 \ifx\@pdfproducer\relax
10478 \else
10479 \special{PDF: Producer \@pdfproducer}%
10480 \fi
10481 \special{PDF: Subject \@pdfsubject}%
10482 \Hy@DisableOption{pdfauthor}%
10483 \Hy@DisableOption{pdftitle}%
10484 \Hy@DisableOption{pdfsubject}%
10485 \Hy@DisableOption{pdfcreator}%
10486 \Hy@DisableOption{pdfcreationdate}%
10487 \Hy@DisableOption{pdfmoddate}%
10488 \Hy@DisableOption{pdfproducer}%
10489 \Hy@DisableOption{pdfkeywords}%
10490 \Hy@DisableOption{pdftrapped}%
10491 \Hy@DisableOption{pdfinfo}%
10492 }
10493 \def\PDF@SetupDoc{%
10494 \def\Hy@temp{}%
10495 \ifx\@pdfstartpage\@empty
10496 \else
10497 \ifx\@pdfstartview\@empty
10498 \else
10499 \edef\Hy@temp{%
10500 ,Page=\@pdfstartpage
10501 ,View=\@pdfstartview
10502 }%
10503 \fi
10504 \fi
10505 \edef\Hy@temp{%
10506 \noexpand\pdfmark{%
10507 pdfmark=/DOCVIEW,%
10508 PageMode=/\@pdfpagemode
10509 \Hy@temp
10510 }%
10511 }%
10512 \Hy@temp
10513 \ifx\@pdfpagescrop\@empty
10514 \else

```



```

10515 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10516 \fi
10517 \edef\Hy@temp{%
10518 \ifHy@toolbar\else /HideToolbar true\fi
10519 \ifHy@menubar\else /HideMenubar true\fi
10520 \ifHy>windowui\else /HideWindowUI true\fi
10521 \ifHy@fitwindow /FitWindow true\fi
10522 \ifHy@centerwindow /CenterWindow true\fi
10523 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10524 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10525 \Hy@UseNameKey{Direction}\@pdfdirection
10526 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10527 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10528 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10529 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10530 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10531 \Hy@UseNameKey{Duplex}\@pdfduplex
10532 \ifx\@pdfpicktraybypdfsize\@empty
10533 \else
10534 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10535 \fi
10536 \ifx\@pdfprintpagerange\@empty
10537 \else
10538 /PrintPageRange\@pdfprintpagerange}%
10539 \fi
10540 \ifx\@pdfnumcopies\@empty
10541 \else
10542 /NumCopies \@pdfnumcopies
10543 \fi
10544 }%
10545 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10546 \pdfmark{%
10547 pdfmark=/PUT,%
10548 Raw={%
10549 \string{Catalog\string}<<%
10550 \ifx\Hy@temp\@empty
10551 \else
10552 /ViewerPreferences<<\Hy@temp>>%
10553 \fi
10554 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10555 \ifx\@pdflang\@empty
10556 \else
10557 /Lang(\@pdflang)%
10558 \fi
10559 \ifx\@baseurl\@empty
10560 \else
10561 /URI<</Base(\Hy@pstringB)>>%
10562 \fi
10563 >>%
10564 }%
10565 }%
10566 }
10567 \providecommand*\@pdfview{XYZ}
10568 \providecommand*\@pdfviewparams{ %
10569 gsave revscl currentpoint grestore %
10570 72 add exch pop null exch null%
10571 }

```

```
10572 \def\Hy@BorderArrayPatch{BorderArrayPatch}
```

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

```
10573 \g@addto@macro\Hy@FirstPageHook{%
```

```
10574 \headerps@out{%
```

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

```
10575 /DvipsToPDF { 65781 div } def%
```

```
10576 /PDFToDvips { 65781 mul } def%
```

```
10577 /BPToDvips{65781 mul}def%
```

```
10578 /HyperBorder { 1 PDFToDvips } def%
```

```
10579 /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.

```
10580 /BorderArrayPatch{%
```

```
10581 [exch{%
```

```
10582 dup dup type/integertype eq exch type/realtype eq or%
```

```
10583 {BPToDvips}if%
```

```
10584 }forall]%
```

```
10585 }def%
```

```
10586 /H.S {%
```

```
10587 currentpoint %
```

```
10588 HyperBorder add /pdf@lly exch def %
```

```
10589 dup DvipsToPDF 72 add /pdf@hoff exch def %
```

```
10590 HyperBorder sub /pdf@llx exch def%
```

```
10591 } def%
```

```
10592 /H.L {%
```

```
10593 2 sub %
```

```
10594 PDFToDvips /HyperBase exch def %
```

```
10595 currentpoint %
```

```
10596 HyperBase sub /pdf@ury exch def%
```

```
10597 /pdf@urx exch def%
```

```
10598 } def%
```

```
10599 /H.A {%
```

```
10600 H.L %
```

```
10601 currentpoint exch pop %
```

```
10602 HyperBase sub % baseline skip
```

```
10603 DvipsToPDF /pdf@voff exch def%
```

```
10604 } def%
```

```
10605 /H.R {%
```

```
10606 currentpoint %
```

```
10607 HyperBorder sub /pdf@ury exch def %
```

```
10608 HyperBorder add /pdf@urx exch def %
```

```
10609 currentpoint exch pop DvipsToPDF /pdf@voff exch def%
```

```
10610 } def%
```

```
10611 }%
```

```
10612 }
```

```
10613 </dvipsone>
```

## 46.13 TeX4ht

```
10614 < *tex4ht>
```

```
10615 \providecommand*{\XR@ext}{html}
```

```

10616 \def\Hy@raisedlink{}
10617 \@ifpackageloaded{tex4ht}{%
10618   \typeout{hyperref tex4ht: tex4ht already loaded}%
10619 }{%
10620   \RequirePackage[htex4ht]{tex4ht}%
10621 }
10622 \hyperlinkfileprefix{}
10623 \def\PDF@FinishDoc{}
10624 \def\PDF@SetupDoc{%
10625   \ifx\@baseurl\@empty
10626   \else
10627     \special{t4ht=<base href="\@baseurl">}%
10628   \fi
10629 }
10630 \def\hyper@anchor#1{%
10631   \Hy@SaveLastskip
10632   \Hy@VerboseAnchor{#1}%
10633   \begingroup
10634     \let\protect=\string
10635     \special{t4ht=<a name=%
10636       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10637   \endgroup
10638   \Hy@activeanchortrue
10639   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10640   \special{t4ht=</a>}%
10641   \Hy@activeanchorfalse
10642   \Hy@RestoreLastskip
10643 }
10644 \def\hyper@anchorstart#1{%
10645   \Hy@SaveLastskip
10646   \Hy@VerboseAnchor{#1}%
10647   \begingroup
10648     \hyper@chars\special{t4ht=<a name=%
10649       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10650   \endgroup
10651   \Hy@activeanchortrue
10652 }
10653 \def\hyper@anchorend{%
10654   \special{t4ht=</a>}%
10655   \Hy@activeanchorfalse
10656   \Hy@RestoreLastskip
10657 }
10658 \def\@urltype{url}
10659 \def\hyper@linkstart#1#2{%
10660   \Hy@VerboseLinkStart{#1}{#2}%
10661   \expandafter\Hy@colorlink\csname @#1color\endcsname
10662   \def\Hy@tempa{#1}%
10663   \ifx\Hy@tempa\@urltype
10664     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10665   \else
10666     \begingroup
10667       \hyper@chars
10668       \special{t4ht=<a href=%
10669         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
10670     \endgroup
10671   \fi
10672 }

```

```

10673 \def\hyper@linkend{%
10674   \special{t4ht=</a>}%
10675   \Hy@endcolorlink
10676 }
10677 \def\hyper@linkfile#1#2#3{%
10678   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
10679 }
10680 \def\hyper@linkurl#1#2{%
10681   \leavevmode
10682   \ifHy@raiselinks
10683     \setbox\@tempboxa=\color@hbox #1\color@endbox
10684     \@linkdim\dp\@tempboxa
10685     \lower\@linkdim\hbox{%
10686       \begingroup
10687         \hyper@chars
10688         \special{%
10689           t4ht=<a href=\hyper@quote#2\hyper@quote>%
10690         }%
10691       \endgroup
10692     }%
10693     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10694     \@linkdim\ht\@tempboxa
10695     \advance\@linkdim by -6.5\p@
10696     \raise\@linkdim\hbox{\special{t4ht=</a>}}%
10697   \else
10698     \begingroup
10699     \hyper@chars
10700     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10701     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10702     \special{t4ht=</a>}%
10703   \endgroup
10704   \fi
10705 }

```

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

```

10706 \def\hyper@link#1#2#3{%
10707   \Hy@VerboseLinkStart{#1}{#2}%
10708   \hyper@linkurl{#3}{\# \Hy@HyperDestNameFilter{#2}}%
10709 }
10710 \def\hyper@image#1#2{%
10711   \begingroup
10712   \hyper@chars
10713   \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
10714   \endgroup
10715 }
10716 \let\autoref\ref
10717 \ifx \rEfLiNK \UnDef
10718   \def\rEfLiNK #1#2{#2}%
10719 \fi
10720 \def\backref#1{}
10721 </tex4ht>
10722 <*tex4htcfg>
10723 \IfFileExists{\jobname.cfg}{\endinput}{}
10724 \Preamble{html}
10725   \begin{document}%
10726 \EndPreamble
10727 \def\TeX{TeX}
10728 \def\OMEGA{\Omega}

```

```

10729 \def\LaTeX{\La\TeX}
10730 \def\LaTeXe{\LaTeX2e}
10731 \def\TeX{\TeX}
10732 \def\MF{Metafont}
10733 \def\MP{MetaPost}
10734 </tex4htcfg>

```

## 47 Driver-specific form support

### 47.1 pdfmarks

```

10735 <*pdfmark>
10736 \long\def\@Form[#1]{%
10737 \g@addto@macro\Hy@FirstPageHook{%
10738 \headerps@out{%
10739 [%
10740 /_objdef{pdfDocEncoding}%
10741 /type/dict%
10742 /OBJ pdfmark%
10743 [%
10744 {pdfDocEncoding}%
10745 <<%
10746 /Type/Encoding%
10747 /Differences[%
10748 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
10749 /tilde %
10750 39/quotesingle %
10751 96/grave %
10752 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10753 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10754 /quotedblbase/quotedblleft/quotedblright/quoteleft%
10755 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
10756 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10757 164/currency %
10758 166/brokenbar %
10759 168/dieresis/copyright/ordfeminine %
10760 172/logicalnot/.notdef/registered/macron/degree/plusminus%
10761 /twosuperior/threesuperior/acute/mu %
10762 183/periodcentered/cedilla/onesuperior/ordmasculine %
10763 188/onequarter/onehalf/threequarters %
10764 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10765 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10766 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10767 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10768 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10769 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10770 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10771 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
10772 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
10773 /ucircumflex/udieresis/yacute/thorn/ydieresis%
10774 ]%
10775 >>%
10776 /PUT pdfmark%
10777 [%
10778 /_objdef{ZaDb}%
10779 /type/dict%
10780 /OBJ pdfmark%
10781 [%

```

```

10782 {ZaDb}%
10783 <<%
10784 /Type/Font%
10785 /Subtype/Type1%
10786 /Name/ZaDb%
10787 /BaseFont/ZapfDingbats%
10788 >>%
10789 /PUT pdfmark%
10790 [%
10791 /__objdef{Helv}%
10792 /type/dict%
10793 /OBJ pdfmark%
10794 [%
10795 {Helv}%
10796 <<%
10797 /Type/Font%
10798 /Subtype/Type1%
10799 /Name/Helv%
10800 /BaseFont/Helvetica%
10801 /Encoding{pdfDocEncoding}%
10802 >>%
10803 /PUT pdfmark%
10804 [%
10805 /__objdef{aform}%
10806 /type/dict%
10807 /OBJ pdfmark%
10808 [%
10809 /__objdef{afields}%
10810 /type/array%
10811 /OBJ pdfmark%
10812 {%
10813 [%
10814 /BBox[0 0 100 100]%
10815 /__objdef{Check}%
10816 /BP pdfmark %
10817 1 0 0 setrgbcolor%
10818 /ZapfDingbats 80 selectfont %
10819 20 20 moveto%
10820 (4)show%
10821 [/EP pdfmark%
10822 [%
10823 /BBox[0 0 100 100]%
10824 /__objdef{Cross}%
10825 /BP pdfmark %
10826 1 0 0 setrgbcolor%
10827 /ZapfDingbats 80 selectfont %
10828 20 20 moveto%
10829 (8)show%
10830 [/EP pdfmark%
10831 [%
10832 /BBox[0 0 250 100]%
10833 /__objdef{Submit}%
10834 /BP pdfmark %
10835 0.6 setgray %
10836 0 0 250 100 rectfill %
10837 1 setgray %
10838 2 2 moveto %

```

```

10839 2 98 lineto %
10840 248 98 lineto %
10841 246 96 lineto %
10842 4 96 lineto %
10843 4 4 lineto %
10844 fill %
10845 0.34 setgray %
10846 248 98 moveto %
10847 248 2 lineto %
10848 2 2 lineto %
10849 4 4 lineto %
10850 246 4 lineto %
10851 246 96 lineto %
10852 fill%
10853 /Helvetica 76 selectfont %
10854 0 setgray %
10855 8 22.5 moveto%
10856 (Submit)show%
10857 [/EP pdfmark%
10858 [%
10859 /BBox[0 0 250 100]%
10860 /_objdef{SubmitP}%
10861 /BP pdfmark %
10862 0.6 setgray %
10863 0 0 250 100 rectfill %
10864 0.34 setgray %
10865 2 2 moveto %
10866 2 98 lineto %
10867 248 98 lineto %
10868 246 96 lineto %
10869 4 96 lineto %
10870 4 4 lineto %
10871 fill %
10872 1 setgray %
10873 248 98 moveto %
10874 248 2 lineto %
10875 2 2 lineto %
10876 4 4 lineto %
10877 246 4 lineto %
10878 246 96 lineto %
10879 fill%
10880 /Helvetica 76 selectfont %
10881 0 setgray %
10882 10 20.5 moveto%
10883 (Submit)show%
10884 [/EP pdfmark%
10885 } ?pdfmark%
10886 [%
10887 {aform}%
10888 <<%
10889 /Fields{afields}%
10890 /DR<<%
10891 /Font<<%
10892 /ZaDb{ZaDb}%
10893 /Helv{Helv}%
10894 >>%
10895 >>%

```

```

10896 /DA(/Helv 10 Tf 0 g)%
10897 /CO{corder}%
10898 \ifHy@pdfa
10899 \else
10900 /NeedAppearances true%
10901 \fi
10902 >>%
10903 /PUT pdfmark%
10904 [%
10905 {Catalog}%
10906 <<%
10907 /AcroForm{aform}%
10908 >>%
10909 /PUT pdfmark%
10910 [%
10911 /__objdef{corder}%
10912 /type/array%
10913 /OBJ pdfmark% dps
10914 }}%
10915 \setkeys{Form}{#1}%
10916 }
10917 \def\@endForm{}
10918 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10919 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10920 }
10921 \def\@TextField[#1]#2{% parameters, label
10922 \def\Fld@name{#2}%
10923 \def\Fld@default{}%
10924 \let\Fld@value\@empty
10925 \def\Fld@width{\DefaultWidthofText}%
10926 \def\Fld@height{%
10927 \ifFld@multiline
10928 \DefaultHeightofTextMultiline
10929 \else
10930 \DefaultHeightofText
10931 \fi
10932 }%
10933 \begingroup
10934 \Field@toks={ }%
10935 \expandafter\HyField@SetKeys\expandafter{%
10936 \DefaultOptionsofText,#1%
10937 }%
10938 \HyField@FlagsText
10939 \ifFld@hidden\def\Fld@width{1sp}\fi
10940 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10941 \LayoutTextField{#2}{%
10942 \Hy@escapeform\PDFForm@Text
10943 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10944 pdfmark=/ANN,Raw={\PDFForm@Text}%
10945 }%
10946 }%
10947 \endgroup
10948 }
10949 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10950 \def\Fld@name{#2}%
10951 \let\Fld@default\relax
10952 \let\Fld@value\relax

```



```

10953 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10954 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10955 \begingroup
10956 \Fld@menulength=0 %
10957 \@tempdima\z@
10958 \@for\@curropt:=#3\do{%
10959 \expandafter\Fld@checkequals\@curropt==\%
10960 \Hy@StepCount\Fld@menulength
10961 \settowidth{\@tempdimb}{\@currDisplay}%
10962 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10963 }%
10964 \advance\@tempdima by 15\p@
10965 \Field@toks={ }%
10966 \begingroup
10967 \HyField@SetKeys{#1}%
10968 \edef\x{\endgroup
10969 \noexpand\expandafter
10970 \noexpand\HyField@SetKeys
10971 \noexpand\expandafter{%
10972 \expandafter\noexpand\csname DefaultOptionsof%
10973 \ifFld@radio
10974 Radio%
10975 \else
10976 \ifFld@combo
10977 \ifFld@popdown
10978 PopdownBox%
10979 \else
10980 ComboBox%
10981 \fi
10982 \else
10983 ListBox%
10984 \fi
10985 \fi
10986 \endcsname
10987 }%
10988 }\x
10989 \HyField@SetKeys{#1}%
10990 \ifFld@hidden\def\Fld@width{1sp}\fi
10991 \ifx\Fld@value\relax
10992 \let\Fld@value\Fld@default
10993 \fi
10994 \LayoutChoiceField{#2}{%
10995 \ifFld@radio
10996 \HyField@FlagsRadioButton
10997 \@@Radio{#3}%
10998 \else
10999 \begingroup
11000 \HyField@FlagsChoice
11001 \ifdim\Fld@width<\@tempdima
11002 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11003 \edef\Fld@width{\the\@tempdima}%
11004 \fi
11005 \ifFld@combo
11006 \else
11007 \@tempdima=\the\Fld@menulength\Fld@charsize
11008 \advance\@tempdima by \Fld@borderwidth bp %
11009 \advance\@tempdima by \Fld@borderwidth bp %

```

```

11010         \edef\Fld@height{\the\@tempdima}%
11011         \fi
11012         \@@Listbox{#3}%
11013     \endgroup
11014 \fi
11015 }%
11016 \endgroup
11017 }
11018 \def\@@Radio#1{%
11019 \Fld@listcount=0 %
11020 \@for\@curropt:=#1\do{%
11021 \expandafter\Fld@checkequals\@curropt==\%
11022 \Hy@StepCount\Fld@listcount
11023 \@currDisplay\space
11024 \Hy@escapeform\PDFForm@Radio
11025 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
11026 pdfmark=/ANN,%
11027 Raw={%
11028 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
11029 }%
11030 } % deliberate space between radio buttons
11031 }%
11032 }
11033 \newcount\Fld@listcount
11034 \def\@@Listbox#1{%
11035 \HyField@PDFChoices{#1}%
11036 \Hy@escapeform\PDFForm@List
11037 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
11038 pdfmark=/ANN,Raw={\PDFForm@List}%
11039 }%
11040 }
11041 \def\@PushButton[#1]#2{% parameters, label
11042 \def\Fld@name{#2}%
11043 \begingroup
11044 \Field@toks={}%
11045 \expandafter\HyField@SetKeys\expandafter{%
11046 \DefaultOptionsofPushButton,#1%
11047 }%
11048 \ifHy@pdfa
11049 \PackageError{hyperref}{%
11050 PDF/A: Push button with JavaScript is prohibited%
11051 }\@ehc
11052 \LayoutPushButtonField{%
11053 \leavevmode
11054 \MakeButtonField{#2}%
11055 }%
11056 \else
11057 \HyField@FlagsPushButton
11058 \ifFld@hidden\def\Fld@width{1sp}\fi
11059 \LayoutPushButtonField{%
11060 \leavevmode
11061 \Hy@escapeform\PDFForm@Push
11062 \pdfmark[\MakeButtonField{#2}]{%
11063 pdfmark=/ANN,Raw={\PDFForm@Push}%
11064 }%
11065 }%
11066 \fi

```

```

11067 \endgroup
11068 }
11069 \def\@Submit[#1]#2{%
11070 \Field@toks={ }%
11071 \def\Fld@width{\DefaultWidthofSubmit}%
11072 \def\Fld@height{\DefaultHeightofSubmit}%
11073 \begingroup
11074 \expandafter\HyField@SetKeys\expandafter{%
11075 \DefaultOptionsofSubmit,#1%
11076 }%
11077 \HyField@FlagsPushButton
11078 \HyField@FlagsSubmit
11079 \ifFld@hidden\def\Fld@width{1sp}\fi
11080 \Hy@escapeform\PDFForm@Submit
11081 \pdfmark[\MakeButtonField{#2}]{%
11082 pdfmark=/ANN,%
11083 Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
11084 }%
11085 \endgroup
11086 }
11087 \def\@Reset[#1]#2{%
11088 \Field@toks={ }%
11089 \def\Fld@width{\DefaultWidthofReset}%
11090 \def\Fld@height{\DefaultHeightofReset}%
11091 \begingroup
11092 \expandafter\HyField@SetKeys\expandafter{%
11093 \DefaultOptionsofReset,#1%
11094 }%
11095 \leavevmode
11096 \ifHy@pdfa
11097 \PackageError{hyperref}{%
11098 PDF/A: Reset action is prohibited%
11099 }\@ehc
11100 \MakeButtonField{#2}%
11101 \else
11102 \HyField@FlagsPushButton
11103 \ifFld@hidden\def\Fld@width{1sp}\fi
11104 \Hy@escapeform\PDFForm@Reset
11105 \pdfmark[\MakeButtonField{#2}]{%
11106 pdfmark=/ANN,Raw={\PDFForm@Reset}%
11107 }%
11108 \fi
11109 \endgroup
11110 }%
11111 \def\@CheckBox[#1]#2{% parameters, label
11112 \def\Fld@name{#2}%
11113 \def\Fld@default{0}%
11114 \begingroup
11115 \def\Fld@width{\DefaultWidthofCheckBox}%
11116 \def\Fld@height{\DefaultHeightofCheckBox}%
11117 \Field@toks={ }%
11118 \expandafter\HyField@SetKeys\expandafter{%
11119 \DefaultOptionsofCheckBox,#1%
11120 }%
11121 \HyField@FlagsCheckBox
11122 \ifFld@hidden\def\Fld@width{1sp}\fi
11123 \LayoutCheckField{#2}{%

```

```

11124 \Hy@escapeform\PDFForm@Check
11125 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
11126 pdfmark=/ANN,Raw={\PDFForm@Check}%
11127 }%
11128 }%
11129 \endgroup
11130 }
11131 \pdfmark

```

## 47.2 HyperTeX

```

11132 \hypertex
11133 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
11134 \def\@endForm{}
11135 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11136 \typeout{Sorry, HyperTeX does not support FORM gauges}%
11137 }
11138 \def\@TextField[#1]#2{% parameters, label
11139 \typeout{Sorry, HyperTeX does not support FORM text fields}%
11140 }
11141 \def\@CheckBox[#1]#2{% parameters, label
11142 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
11143 }
11144 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11145 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
11146 }
11147 \def\@PushButton[#1]#2{% parameters, label
11148 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
11149 }
11150 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
11151 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
11152 \hypertex

```

## 47.3 TeX4ht

```

11153 \tex4ht
11154 \def\@Form[#1]{%
11155 \setkeys{Form}{#1}%
11156 \HCode{<form action="\Form@action" method="\Form@method">}%
11157 }
11158 \def\@endForm{\HCode{</form>}}
11159 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11160 \typeout{Sorry, TeX4ht does not support gauges}%
11161 }
11162 \def\@TextField[#1]#2{% parameters, label
11163 \let\Hy@reserved@a\@empty
11164 \def\Fld@name{#2}%
11165 \def\Fld@default{}%
11166 \bgroup
11167 \Field@toks={ }%
11168 \setkeys{Field}{#1}%
11169 \HCode{<label for="\Fld@name">#2</label>}%
11170 \ifFld@password
11171 \@@PasswordField
11172 \else
11173 \@@TextField
11174 \fi
11175 \egroup
11176 }

```

```

11177 \def\@@PasswordField{%
11178   \HCode{%
11179     <input type="password" %
11180       id="\Fld@name" %
11181       name="\Fld@name" %
11182       \ifFld@hidden type="hidden" \fi
11183       value="\Fld@default" %
11184       \the\Field@toks
11185     >%
11186   }%
11187 }
11188 \def\@@TextField{%
11189   \ifFld@multiline
11190     \HCode{<textarea %
11191       \ifFld@readonly readonly \fi
11192       id="\Fld@name" %
11193       name="\Fld@name" %
11194       \ifFld@hidden type="hidden" \fi
11195       \the\Field@toks>%
11196   }%
11197   \Fld@default
11198   \HCode{</textarea>}%
11199   \else
11200     \HCode{<input type="text" %
11201       \ifFld@readonly readonly \fi
11202       id="\Fld@name" %
11203       name="\Fld@name" %
11204       \ifFld@hidden type="hidden" \fi
11205       value="\Fld@default" %
11206       \the\Field@toks>%
11207   }%
11208   \fi
11209 }
11210 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11211   \def\Fld@name{#2}%
11212   \def\Fld@default{#3}%
11213   \let\Hy@reserved@a\relax
11214   \begingroup
11215     \expandafter\Fld@findlength#3\\%
11216     \Field@toks={ }%
11217     \setkeys{Field}{#1}%
11218     #2%
11219     \ifFld@radio
11220       \expandafter\@@Radio#3\\%
11221     \else
11222       \expandafter\@@Menu#3\\%
11223     \fi
11224   \endgroup
11225 }
11226 \def\Fld@findlength#1\\{%
11227   \Fld@menulength=0 %
11228   \@for\@currupt:=#1\do{\Hy@StepCount\Fld@menulength}%
11229 }
11230 \def\@@Menu#1\\{%
11231   \HCode{<select size="\the\Fld@menulength" %
11232     name="\Fld@name" %
11233     \the\Field@toks>%

```

```

11234 }%
11235 \@for\@curropt:=#1\do{%
11236   \expandafter\Fld@checkequals\@curropt==\\%
11237   \HCode{<option %
11238     \ifx\@curropt\Fld@default selected \fi
11239     value="\@currValue">\@currDisplay</option>%
11240   }%
11241 }%
11242 \HCode{</select>}%
11243 }
11244 \def\@@Radio#1\\{%
11245   \@for\@curropt:=#1\do{%
11246     \expandafter\Fld@checkequals\@curropt==\\%
11247     \HCode{<input type="radio" %
11248       \ifx\@curropt\Fld@default checked \fi
11249       name="\Fld@name" %
11250       value="\@currValue" %
11251       \the\Fld@toks>%
11252     }%
11253     \@currDisplay
11254   }%
11255 }
11256 \def\@PushButton[#1]#2{% parameters, label
11257   \def\Fld@name{#2}%
11258   \bgroup
11259   \Fld@toks={ }%
11260   \setkeys{Field}{#1}%
11261   \HCode{<input type="button" %
11262     name="\Fld@name" %
11263     value="#2" %
11264     \the\Fld@toks>%
11265   }%
11266   \HCode{</button>}%
11267   \egroup
11268 }
11269 \def\@Submit[#1]#2{%
11270   \HCode{<button type="submit">#2</button>}%
11271 }
11272 \def\@Reset[#1]#2{%
11273   \HCode{<button type="reset">#2</button>}%
11274 }
11275 \def\@CheckBox[#1]#2{% parameters, label
11276   \let\Hy@reserved@a\@empty
11277   \def\Fld@name{#2}%
11278   \def\Fld@default{0}%
11279   \bgroup
11280   \Fld@toks={ }%
11281   \setkeys{Field}{#1}%
11282   \HCode{<input type="checkbox" %
11283     \ifFld@checked checked \fi
11284     \ifFld@disabled disabled \fi
11285     \ifFld@readonly readonly \fi
11286     name="\Fld@name" %
11287     \ifFld@hidden type="hidden" \fi
11288     value="\Fld@default" %
11289     \the\Fld@toks>%
11290   #2%

```

```

11291 }%
11292 \egroup
11293 }
11294 </tex4ht>

```

## 47.4 pdfTeX

```

11295 <*pdfTeX>
11296 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11297 \typeout{Sorry, pdfTeX does not support FORM gauges}%
11298 }
11299 \def\MakeFieldObject#1#2{\sbox0{#1}%
11300 \immediate\pdfxform0 %
11301 \expandafter\edef\csname #2Object\endcsname{%
11302 \the\pdfastxform\space 0 R%
11303 }%
11304 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}%
11305 }%
11306 \def\HyField@afields{}
11307 \begingroup\expandafter\expandafter\expandafter\endgroup
11308 \expandafter\ifx\csname pdfastlink\endcsname\relax
11309 \let\HyField@AddToFields\relax
11310 \PackageInfo{hyperref}{%
11311 You need pdfTeX 1.40.0 for setting the /Fields entry.%
11312 \MessageBreak
11313 Adobe Reader/Acrobat accepts an empty /Field array,%
11314 \MessageBreak
11315 but other PDF viewers might complain%
11316 }%
11317 \else
11318 \def\HyField@AuxAddToFields#1{}%
11319 \def\HyField@AfterAuxOpen{\AtBeginDocument}%
11320 \AtBeginDocument{%
11321 \if@filesw
11322 \immediate\write\@mainaux{%
11323 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
11324 }%
11325 \fi
11326 \let\HyField@AfterAuxOpen\@firstofone
11327 \def\HyField@AuxAddToFields#1{%
11328 \xdef\HyField@afields{%
11329 \ifx\HyField@afields\@empty
11330 \else
11331 \HyField@afields
11332 \space
11333 \fi
11334 #1 0 R%
11335 }%
11336 }%
11337 }%
11338 \def\HyField@AddToFields{%
11339 \expandafter\HyField@@AddToFields\expandafter{%
11340 \the\pdfastlink
11341 }%
11342 }%
11343 \def\HyField@@AddToFields#1{%
11344 \HyField@AfterAuxOpen{%
11345 \if@filesw

```

```

11346     \write\@mainaux{%
11347         \string\HyField@AuxAddToFields{#1}%
11348     }%
11349     \fi
11350 }%
11351 }%
11352 \fi
11353 \def\@Form[#1]{%
11354     \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
11355     \setkeys{Form}{#1}%
11356     \Hy@FormObjects
11357     \ifnum\pdfTeXversion>13 %
11358         \pdfrefobj\OBJ@pdfdocencoding
11359         \pdfrefobj\OBJ@ZaDb
11360         \pdfrefobj\OBJ@Helv
11361     \fi
11362     \AtVeryEndDocument{%
11363         \immediate\pdfobj{%
11364             <<%
11365             /Fields[\HyField@afields]%
11366             /DR<<%
11367             /Font<<%
11368             /ZaDb \OBJ@ZaDb\space 0 R%
11369             /Helv \OBJ@Helv\space 0 R%
11370             >>%
11371             >>%
11372             /DA(/Helv 10 Tf 0 g)%
11373             \ifHy@pdfa
11374             \else
11375             /NeedAppearances true%
11376             \fi
11377             >>%
11378         }%
11379         \edef\OBJ@acroform{\the\pdfastobj}%
11380         \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
11381     }%
11382     \MakeFieldObject{%
Same as \ding{123} of package pifont.
11383     \begingroup
11384     \fontfamily{pzd}%
11385     \fontencoding{U}%
11386     \fontseries{m}%
11387     \fontshape{n}%
11388     \selectfont
11389     \char123 %
11390     \endgroup
11391 }{Ding}%
11392 \MakeFieldObject{%
11393     \fbox{\textcolor{yellow}{\textsf{Submit}}}%
11394 }{Submit}%
11395 \MakeFieldObject{%
11396     \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
11397 }{SubmitP}%
11398 }
11399 \def\@endForm{}
11400 \def\@TextField[#1]#2{% parameters, label
11401     \def\Fld@name{#2}%

```



```

11402 \def\Fld@default{ }%
11403 \let\Fld@value\@empty
11404 \def\Fld@width{\DefaultWidthofText}%
11405 \def\Fld@height{%
11406   \ifFld@multiline
11407     \DefaultHeightofTextMultiline
11408   \else
11409     \DefaultHeightofText
11410   \fi
11411 }%
11412 \begingroup
11413   \Field@toks={ }%
11414   \expandafter\HyField@SetKeys\expandafter{%
11415     \DefaultOptionsofText,#1%
11416   }%
11417   \PDFForm@Name
11418   \HyField@FlagsText
11419   \ifFld@hidden\def\Fld@width{1sp}\fi
11420   \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11421   \LayoutTextField{#2}{%
11422     \Hy@escapeform\PDFForm@Text
11423     \pdfstartlink user { \PDFForm@Text } \relax
11424     \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
11425     \HyField@AddToFields
11426   }%
11427 \endgroup
11428 }
11429 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11430   \def\Fld@name{#2}%
11431   \let\Fld@default\relax
11432   \let\Fld@value\relax
11433   \def\Fld@width{\DefaultWidthofChoiceMenu}%
11434   \def\Fld@height{\DefaultHeightofChoiceMenu}%
11435   \begingroup
11436     \Fld@menulength=0 %
11437     \@tempdima\z@
11438     \@for\@curropt:=#3\do{%
11439       \expandafter\Fld@checkequals\@curropt==\%
11440       \Hy@StepCount\Fld@menulength
11441       \settowidth{\@tempdimb}{\@currDisplay}%
11442       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11443     }%
11444     \advance\@tempdima by 15\p@
11445     \Field@toks={ }%
11446     \begingroup
11447       \HyField@SetKeys{#1}%
11448     \edef\x{\endgroup
11449       \noexpand\expandafter
11450       \noexpand\HyField@SetKeys
11451       \noexpand\expandafter{%
11452         \expandafter\noexpand\csname DefaultOptionsof%
11453           \ifFld@radio
11454             Radio%
11455           \else
11456             \ifFld@combo
11457               \ifFld@popdown
11458                 PopdownBox%

```

```

11459         \else
11460             ComboBox%
11461         \fi
11462     \else
11463         ListBox%
11464     \fi
11465 \fi
11466 \endcsname
11467 }%
11468 }\x
11469 \HyField@SetKeys{#1}%
11470 \PDFForm@Name
11471 \ifFld@hidden\def\Fld@width{1sp}\fi
11472 \ifx\Fld@value\relax
11473     \let\Fld@value\Fld@default
11474 \fi
11475 \LayoutChoiceField{#2}{%
11476     \ifFld@radio
11477         \HyField@FlagsRadioButton
11478         \@@Radio{#3}%
11479     \else
11480         \begingroup
11481         \HyField@FlagsChoice
11482         \ifdim\Fld@width<\@tempdima
11483             \ifdim\@tempdima<1cm\@tempdima1cm\fi
11484             \edef\Fld@width{\the\@tempdima}%
11485         \fi
11486         \ifFld@combo
11487         \else
11488             \@tempdima=\the\Fld@menulength\Fld@charsize
11489             \advance\@tempdima by \Fld@borderwidth bp %
11490             \advance\@tempdima by \Fld@borderwidth bp %
11491             \edef\Fld@height{\the\@tempdima}%
11492         \fi
11493         \@@ListBox{#3}%
11494     \endgroup
11495 \fi
11496 }%
11497 \endgroup
11498 }
11499 \def\@@Radio#1{%
11500     \Fld@listcount=0 %
11501     \@for\@curropt:=#1\do{%
11502         \expandafter\Fld@checkequals\@curropt==\%
11503         \Hy@StepCount\Fld@listcount
11504         \@currDisplay\space
11505         \leavevmode
11506         \Hy@escapeform\PDFForm@Radio
11507         \pdfstartlink user {%
11508             \PDFForm@Radio
11509         /AP<<%
11510         /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.

```

11511         /\@currValue\space \DingObject
11512     >>%

```

```

11513    >>%
11514  }%
11515  \relax
11516  \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
11517  \ifnum\Fld@listcount=1 %
11518    \HyField@AddToFields
11519  \fi
11520  \space % deliberate space between radio buttons
11521  }%
11522 }
11523 \newcount\Fld@listcount
11524 \def\@@ListBox#1{%
11525   \HyField@PDFChoices{#1}%
11526   \leavevmode
11527   \Hy@escapeform\PDFForm@List
11528   \pdfstartlink user {\PDFForm@List}\relax
11529   \MakeChoiceField{\Fld@width}{\Fld@height}%
11530   \pdfendlink
11531   \HyField@AddToFields
11532 }
11533 \def\@PushButton[#1]#2{% parameters, label
11534   \def\Fld@name{#2}%
11535   \begingroup
11536     \Field@toks={ }%
11537     \expandafter\HyField@SetKeys\expandafter{%
11538       \DefaultOptionsofPushButton,#1%
11539     }%
11540     \PDFForm@Name
11541     \ifHy@pdfa
11542       \PackageError{hyperref}{%
11543         PDF/A: Push button with JavaScript is prohibited%
11544       }\@ehc
11545       \LayoutPushButtonField{%
11546         \leavevmode
11547         \MakeButtonField{#2}%
11548       }%
11549     \else
11550       \HyField@FlagsPushButton
11551       \ifFld@hidden\def\Fld@width{1sp}\fi
11552       \LayoutPushButtonField{%
11553         \leavevmode
11554         \Hy@escapeform\PDFForm@Push
11555         \pdfstartlink user {\PDFForm@Push}\relax
11556         \MakeButtonField{#2}%
11557         \pdfendlink
11558         \HyField@AddToFields
11559       }%
11560     \fi
11561   \endgroup
11562 }
11563 \def\@Submit[#1]#2{%
11564   \Field@toks={ }%
11565   \def\Fld@width{\DefaultWidthofSubmit}%
11566   \def\Fld@height{\DefaultHeightofSubmit}%
11567   \begingroup
11568     \expandafter\HyField@SetKeys\expandafter{%
11569       \DefaultOptionsofSubmit,#1%

```

```

11570 }%
11571 \HyField@FlagsPushButton
11572 \HyField@FlagsSubmit
11573 \ifFld@hidden\def\Fld@width{1sp}\fi
11574 \leavevmode
11575 \Hy@escapeform\PDFForm@Submit
11576 \pdfstartlink user {%
11577   \PDFForm@Submit
11578   /AP<</N \SubmitObject/D \SubmitPObject>>%
11579 }%
11580 \relax
11581 \MakeButtonField{#2}%
11582 \pdfendlink
11583 \HyField@AddToFields
11584 \endgroup
11585 }
11586 \def\@Reset[#1]#2{%
11587   \Field@toks={ }%
11588   \def\Fld@width{\DefaultWidthofReset}%
11589   \def\Fld@height{\DefaultHeightofReset}%
11590   \begingroup
11591     \expandafter\HyField@SetKeys\expandafter{%
11592       \DefaultOptionsofReset,#1%
11593     }%
11594     \leavevmode
11595     \ifHy@pdfa
11596       \PackageError{hyperref}{%
11597         PDF/A: Reset action is prohibited%
11598       }\@ehc
11599       \MakeButtonField{#2}%
11600     \else
11601       \HyField@FlagsPushButton
11602       \ifFld@hidden\def\Fld@width{1sp}\fi
11603       \Hy@escapeform\PDFForm@Reset
11604       \pdfstartlink user {\PDFForm@Reset}\relax
11605       \MakeButtonField{#2}%
11606       \pdfendlink
11607       \HyField@AddToFields
11608     \fi
11609   \endgroup
11610 }
11611 \def\@CheckBox[#1]#2{% parameters, label
11612   \def\Fld@name{#2}%
11613   \def\Fld@default{0}%
11614   \begingroup
11615     \def\Fld@width{\DefaultWidthofCheckBox}%
11616     \def\Fld@height{\DefaultHeightofCheckBox}%
11617     \Field@toks={ }%
11618     \expandafter\HyField@SetKeys\expandafter{%
11619       \DefaultOptionsofCheckBox,#1%
11620     }%
11621     \PDFForm@Name
11622     \HyField@FlagsCheckBox
11623     \ifFld@hidden\def\Fld@width{1sp}\fi
11624     \LayoutCheckField{#2}%
11625     \Hy@escapeform\PDFForm@Check
11626     \pdfstartlink user {\PDFForm@Check}\relax

```

```

11627 \MakeCheckField{\Fld@width}{\Fld@height}%
11628 \pdfendlink
11629 \HyField@AddToFields
11630 }%
11631 \endgroup
11632 }
11633 \def\Hy@FormObjects{%
11634 \pdfobj {%
11635 <<%
11636 /Type/Encoding%
11637 /Differences[%
11638 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
11639 /ring/tilde %
11640 39/quotesingle %
11641 96/grave %
11642 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11643 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11644 /quotedblbase/quotedblleft/quotedblright/quoteleft%
11645 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
11646 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11647 164/currency %
11648 166/brokenbar %
11649 168/dieresis/copyright/ordfeminine %
11650 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11651 /twosuperior/threesuperior/acute/mu %
11652 183/periodcentered/cedilla/onesuperior/ordmasculine %
11653 188/onequarter/onehalf/threequarters %
11654 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11655 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11656 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11657 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11658 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11659 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11660 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11661 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
11662 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
11663 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
11664 ]%
11665 >>%
11666 }%
11667 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
11668 \pdfobj{%
11669 <<%
11670 /Type/Font%
11671 /Subtype/Type1%
11672 /Name/ZaDb%
11673 /BaseFont/ZapfDingbats%
11674 >>%
11675 }%
11676 \xdef\OBJ@ZaDb{\the\pdflastobj}%
11677 \pdfobj{%
11678 <<%
11679 /Type/Font%
11680 /Subtype/Type1%
11681 /Name/Helv%
11682 /BaseFont/Helvetica%
11683 /Encoding \OBJ@pdfdocencoding\space 0 R%

```

```

11684 >>%
11685 }%
11686 \xdef\OBJ@Helv{\the\pdfastobj}%
11687 \global\let\Hy@FormObjects\relax
11688 }
11689 </pdfTeX>

```

## 47.5 dvipdfm, xetex

D. P. Story adapted the pdfTeX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

11690 < *dvipdfm | xetex>

```

\@Gauge

```

11691 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11692 \typeout{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
11693 }

```

\@Form

```

11694 \def\@Form[#1]{%
11695 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
11696 \setkeys{Form}{#1}%
11697 \Hy@FormObjects
11698 \@pdfm@mark{obj @afields []}%
11699 \@pdfm@mark{obj @corder []}%
11700 \@pdfm@mark{%
11701 obj @aform <<%
11702 /Fields @afields%
11703 /DR<<%
11704 /Font<<%
11705 /ZaDb @OBJZaDb%
11706 /Helv @OBJHelv%
11707 >>%
11708 >>%
11709 /DA(/Helv 10 Tf 0 g)%
11710 /CO @corder%
11711 \ifHy@pdfa
11712 \else
11713 /NeedAppearances true%
11714 \fi
11715 >>%
11716 }%
11717 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
11718 }

```

\@endForm

```

11719 \def\@endForm{}

```

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

```

11720 \def\dvipdfm@setdim{%
11721 height \the\ht\pdfm@box\space
11722 width \the\wd\pdfm@box\space
11723 depth \the\dp\pdfm@box\space
11724 }

```

\HyField@AnnotCount

```

11725 \newcount\HyField@AnnotCount
11726 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```
11727 \def\HyField@AdvanceAnnotCount{%
11728   \global\advance\HyField@AnnotCount\@ne
11729 }
```

\HyField@TheAnnotCount

```
11730 \def\HyField@TheAnnotCount{%
11731   \the\HyField@AnnotCount
11732 }
```

\@TextField

```
11733 \def\@TextField[#1]#2{% parameters, label
11734   \def\Fld@name{#2}%
11735   \def\Fld@default{}%
11736   \let\Fld@value\@empty
11737   \def\Fld@width{\DefaultWidthofText}%
11738   \def\Fld@height{%
11739     \ifFld@multiline
11740       \DefaultHeightofTextMultiline
11741     \else
11742       \DefaultHeightofText
11743     \fi
11744   }%
11745   \begingroup
11746     \Field@toks={ }%
11747     \expandafter\HyField@SetKeys\expandafter{%
11748       \DefaultOptionsofText,#1%
11749     }%
11750     \PDFForm@Name
11751     \HyField@FlagsText
11752     \ifFld@hidden\def\Fld@width{1sp}\fi
11753     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11754     \setbox\pdfm@box=\hbox{%
11755       \MakeTextField{\Fld@width}{\Fld@height}%
11756     }%
11757     \HyField@AdvanceAnnotCount
11758     \LayoutTextField{#2}{%
11759       \Hy@escapeform\PDFForm@Text
11760       \@pdfm@mark{%
11761         ann @text\HyField@TheAnnotCount\space
11762         \dvipdfm@setdim << \PDFForm@Text >>%
11763       }%
11764     }%
11765     \unhbox\pdfm@box
11766     \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
11767     % record in @afields array
11768   \endgroup
11769 }
```

\@ChoiceMenu

```
11770 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11771   \def\Fld@name{#2}%
11772   \let\Fld@default\relax
11773   \let\Fld@value\relax
11774   \def\Fld@width{\DefaultWidthofChoiceMenu}%
11775   \def\Fld@height{\DefaultHeightofChoiceMenu}%

```

```

11776 \begingroup
11777 \Fld@menulength=0 %
11778 \@tempdima\z@
11779 \@for\@curropt:=#3\do{%
11780 \expandafter\Fld@checkequals\@curropt==\\%
11781 \Hy@StepCount\Fld@menulength
11782 \settowidth{\@tempdimb}{\@currDisplay}%
11783 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11784 }%
11785 \advance\@tempdima by 15\p@
11786 \Field@toks={ }%
11787 \begingroup
11788 \HyField@SetKeys{#1}%
11789 \edef\x{\endgroup
11790 \noexpand\expandafter
11791 \noexpand\HyField@SetKeys
11792 \noexpand\expandafter{%
11793 \expandafter\noexpand\csname DefaultOptionsof%
11794 \ifFld@radio
11795 Radio%
11796 \else
11797 \ifFld@combo
11798 \ifFld@popdown
11799 PopdownBox%
11800 \else
11801 ComboBox%
11802 \fi
11803 \else
11804 ListBox%
11805 \fi
11806 \fi
11807 \endcsname
11808 }%
11809 }\x
11810 \HyField@SetKeys{#1}%
11811 \PDFForm@Name
11812 \ifFld@hidden\def\Fld@width{1sp}\fi
11813 \ifx\Fld@value\relax
11814 \let\Fld@value\Fld@default
11815 \fi
11816 \LayoutChoiceField{#2}{%
11817 \ifFld@radio
11818 \HyField@FlagsRadioButton
11819 \@Radio{#3}%
11820 \else
11821 \begingroup
11822 \HyField@FlagsChoice
11823 \ifdim\Fld@width<\@tempdima
11824 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11825 \edef\Fld@width{\the\@tempdima}%
11826 \fi
11827 \ifFld@combo
11828 \else
11829 \@tempdima=\the\Fld@menulength\Fld@charsize
11830 \advance\@tempdima by \Fld@borderwidth bp %
11831 \advance\@tempdima by \Fld@borderwidth bp %
11832 \edef\Fld@height{\the\@tempdima}%

```



```

11833     \fi
11834     \@@ListBox{#3}%
11835     \endgroup
11836     \fi
11837 }%
11838 \endgroup
11839 }

```

\@@Radio

```

11840 \def\@@Radio#1{%
11841   \Fld@listcount=0 %
11842   \setbox\pdfm@box=\hbox{%
11843     \MakeRadioField{\Fld@width}{\Fld@height}%
11844   }%
11845   \@for\@curropt:=#1\do{%
11846     \expandafter\Fld@checkequals\@curropt==\%
11847     \Hy@StepCount\Fld@listcount
11848     \@currDisplay\space
11849     \leavevmode
11850     \Hy@escapeform\PDFForm@Radio
11851     \ifnum\Fld@listcount=1 %
11852       \HyField@AdvanceAnnotCount
11853     \fi
11854     \@pdfm@mark{%
11855       ann %
11856       \ifnum\Fld@listcount=1 %
11857         @radio\HyField@TheAnnotCount%
11858       \space
11859     \fi
11860     \dvi pdfm@setdim
11861     <<%
11862     \PDFForm@Radio
11863     /AP<</N<</\@currValue /null>>>>%
11864     >>%
11865   }%
11866   \unhcopy\pdfm@box\space% deliberate space between radio buttons
11867   \ifnum\Fld@listcount=1 %
11868     \@pdfm@mark{%
11869       put @afields @radio\HyField@TheAnnotCount
11870     }%
11871   \fi
11872 }%
11873 }

```

\Fld@listcount

```

11874 \newcount\Fld@listcount

```

\@@ListBox

```

11875 \def\@@ListBox#1{%
11876   \HyField@PDFChoices{#1}%
11877   \setbox\pdfm@box=\hbox{%
11878     \MakeChoiceField{\Fld@width}{\Fld@height}%
11879   }%
11880   \leavevmode
11881   \Hy@escapeform\PDFForm@List
11882   \HyField@AdvanceAnnotCount
11883   \@pdfm@mark{%

```

```

11884 ann @list\HyField@TheAnnotCount\space
11885 \dvipdfm@setdim
11886 <<\PDFForm@List>>%
11887 }%
11888 \unhbox\pdfm@box
11889 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
11890 }

```

#### \@PushButton

```

11891 \def\@PushButton[#1]#2{% parameters, label
11892 \def\Fld@name{#2}%
11893 \begingroup
11894 \Field@toks={ }%
11895 \expandafter\HyField@SetKeys\expandafter{%
11896 \DefaultOptionsofPushButton,#1%
11897 }%
11898 \PDFForm@Name
11899 \ifHy@pdfa
11900 \PackageError{hyperref}{%
11901 PDF/A: Push button with JavaScript is prohibited%
11902 } \@ehc
11903 \LayoutPushButtonField{%
11904 \leavevmode
11905 \MakeButtonField{#2}%
11906 }%
11907 \else
11908 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11909 \HyField@FlagsPushButton
11910 \ifFld@hidden\def\Fld@width{1sp}\fi
11911 \HyField@AdvanceAnnotCount
11912 \LayoutPushButtonField{%
11913 \leavevmode
11914 \Hy@escapeform\PDFForm@Push
11915 \@pdfm@mark{%
11916 ann @push\HyField@TheAnnotCount\space
11917 \dvipdfm@setdim
11918 <<\PDFForm@Push>>%
11919 }%
11920 }%
11921 \unhbox\pdfm@box
11922 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
11923 \fi
11924 \endgroup
11925 }

```

#### \@Submit

```

11926 \def\@Submit[#1]#2{%
11927 \Field@toks={ }%
11928 \def\Fld@width{\DefaultWidthofSubmit}%
11929 \def\Fld@height{\DefaultHeightofSubmit}%
11930 \begingroup
11931 \expandafter\HyField@SetKeys\expandafter{%
11932 \DefaultOptionsofSubmit,#1%
11933 }%
11934 \HyField@FlagsPushButton
11935 \HyField@FlagsSubmit
11936 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

11937 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11938 \leavevmode
11939 \Hy@escapeform\PDFForm@Submit
11940 \HyField@AdvanceAnnotCount
11941 \@pdfm@mark{%
11942   ann @submit\HyField@TheAnnotCount\space
11943   \dvipdfm@setdim
11944   <<\PDFForm@Submit>>%
11945 }%
11946 \unhbox\pdfm@box%
11947 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
11948 \endgroup
11949 }

```

\@Reset

```

11950 \def\@Reset[#1]#2{%
11951   \Field@toks={ }%
11952   \def\Fld@width{\DefaultWidthofReset}%
11953   \def\Fld@height{\DefaultHeightofReset}%
11954   \begingroup
11955     \expandafter\HyField@SetKeys\expandafter{%
11956       \DefaultOptionsofReset,#1%
11957     }%
11958     \leavevmode
11959     \ifHy@pdfa
11960       \PackageError{hyperref}{%
11961         PDF/A: Reset action is prohibited%
11962       }\@ehc
11963       \MakeButtonField{#2}%
11964     \else
11965       \HyField@FlagsPushButton
11966       \ifFld@hidden\def\Fld@width{1sp}\fi
11967       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11968       \Hy@escapeform\PDFForm@Reset
11969       \HyField@AdvanceAnnotCount
11970       \@pdfm@mark{%
11971         ann @reset\HyField@TheAnnotCount\space
11972         \dvipdfm@setdim
11973         <<\PDFForm@Reset>>%
11974       }%
11975       \unhbox\pdfm@box
11976       \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11977     \fi
11978   \endgroup
11979 }

```

\@CheckBox

```

11980 \def\@CheckBox[#1]#2{% parameters, label
11981   \def\Fld@name{#2}%
11982   \def\Fld@default{0}%
11983   \begingroup
11984     \def\Fld@width{\DefaultWidthofCheckBox}%
11985     \def\Fld@height{\DefaultHeightofCheckBox}%
11986     \Field@toks={ }%
11987     \expandafter\HyField@SetKeys\expandafter{%
11988       \DefaultOptionsofCheckBox,#1%
11989     }%

```

```

11990 \PDFForm@Name
11991 \HyField@FlagsCheckBox
11992 \ifFld@hidden\def\Fld@width{1sp}\fi
11993 \setbox\pdfm@box=\hbox{%
11994   \MakeCheckField{\Fld@width}{\Fld@height}%
11995 }%
11996 \HyField@AdvanceAnnotCount
11997 \LayoutCheckField{#2}{%
11998   \Hy@escapeform\PDFForm@Check
11999   \@pdfm@mark{%
12000     ann @check\HyField@TheAnnotCount\space
12001     \dvipdfm@setdim
12002     <<\PDFForm@Check>>%
12003   }%
12004   \unhbox\pdfm@box
12005   \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
12006 }%
12007 \endgroup
12008 }

12009 \def\Hy@FormObjects{%
12010   \@pdfm@mark{obj @OBJpdfdocencoding%
12011     <<%
12012       /Type/Encoding%
12013       /Differences[%
12014         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
12015         39/quotesingle %
12016         96/grave %
12017         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12018         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12019         /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
12020         /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
12021         /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12022         164/currency %
12023         166/brokenbar %
12024         168/dieresis/copyright/ordfeminine %
12025         172/logicalnot/.notdef/registered/macron/degree/plusminus%
12026         /twosuperior/threesuperior/acute/mu %
12027         183/periodcentered/cedilla/onesuperior/ordmasculine %
12028         188/onequarter/onehalf/threequarters %
12029         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12030         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
12031         /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
12032         /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
12033         /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
12034         /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
12035         /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
12036         /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
12037         /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
12038         /thorn/ydieresis%
12039       ]%
12040     >>%
12041   }%
12042   \@pdfm@mark{obj @OBJZaDb%
12043     <<%
12044       /Type/Font%
12045       /Subtype/Type1%
12046       /Name/ZaDb%

```

```

12047 /BaseFont/ZapfDingbats%
12048 >>%
12049 }%
12050 \@pdfm@mark{obj @OBJHelv%
12051 <<%
12052 /Type/Font%
12053 /Subtype/Type1%
12054 /Name/Helv%
12055 /BaseFont/Helvetica%
12056 /Encoding @OBJpdfdocencoding%
12057 >>%
12058 }%
12059 \global\let\Hy@FormObjects\relax
12060 }
12061 </dvipdfm | xetex>

```

## 47.6 Common forms part

```

12062 <*pdfform>

```

\Hy@escapestring

```

12063 \begingroup\expandafter\expandafter\expandafter\endgroup
12064 \expandafter\ifx\csname pdfescapestring\endcsname\relax
12065 \let\Hy@escapestring\@firstofone
12066 \def\Hy@escapeform#1{%
12067 \ifHy@escapeform
12068 \def\Hy@escapestring##1{%
12069 \noexpand\Hy@escapestring{\noexpand##1}%
12070 }%
12071 \edef\Hy@temp{#1}%
12072 \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
12073 \def\Hy@escapestring##1{%
12074 \@ifundefined{Hy@esc@\string##1}{%
12075 ##1%
12076 \ThisShouldNotHappen
12077 }{%
12078 \csname Hy@esc@\string##1\endcsname
12079 }%
12080 }%
12081 \else
12082 \let\Hy@escapestring\@firstofone
12083 \fi
12084 }%
12085 \def\Hy@@@escapeform#1\Hy@escapestring#2#3\@nil{%
12086 \ifx\#3\%
12087 \else
12088 \expandafter
12089 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
12090 \Hy@ReturnAfterFi{%
12091 \Hy@@@escapeform#3\@nil
12092 }%
12093 \fi
12094 }%
12095 \else
12096 \def\Hy@escapeform#1{%
12097 \ifHy@escapeform
12098 \let\Hy@escapestring\pdfescapestring

```

```

12099   \else
12100     \let\Hy@escapestring\@firstofone
12101   \fi
12102 }%
12103 \Hy@escapeform{}}%
12104 \fi

```

#### \PDFForm@Name

```

12105 \def\PDFForm@Name{%
12106   \begingroup
12107   \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
12108     \ifHy@unicode
12109       \Hy@unicodedefalse
12110     \fi
12111   \fi
12112   \HyPsd@XeTeXBigCharstrue
12113   \pdfstringdef\Hy@gtemp\Fld@name
12114 \endgroup
12115 \let\Fld@name\Hy@gtemp
12116 }

```

#### \PDFForm@Check

```

12117 \def\PDFForm@Check{%
12118   /Subtype/Widget%
12119   \Fld@annotflags
12120   /T(\Fld@name)%
12121   /FT/Btn%
12122   \Fld@flags
12123   /Q \Fld@align
12124   /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
12125   /MK<<%
12126     \ifnum\Fld@rotation=\z@
12127     \else
12128       /R \Fld@rotation
12129     \fi
12130     \ifx\Fld@bordercolor\relax
12131     \else
12132       /BC[\Fld@bordercolor]%
12133     \fi
12134     \ifx\Fld@bcolor\relax
12135     \else
12136       /BG[\Fld@bcolor]%
12137     \fi
12138     /CA(\Hy@escapestring{\Fld@cbsymbol}})%
12139   >>%
12140   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
12141     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12142   /H/P%
12143   \ifFld@checked /V/Yes\else /V/Off\fi
12144 }

```

#### \PDFForm@Push

```

12145 \ifHy@pdfa
12146 \else
12147   \def\PDFForm@Push{%
12148     /Subtype/Widget%
12149     \Fld@annotflags

```

```

12150 /T(\Fld@name)%
12151 /FT/Btn%
12152 \Fld@flags
12153 /H/P%
12154 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12155 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12156 \ifx\Fld@bordercolor\relax\else 1\fi
12157 \space
12158 \else
12159 /MK<<%
12160 \ifnum\Fld@rotation=\z@
12161 \else
12162 /R \Fld@rotation
12163 \fi
12164 \ifx\Fld@bordercolor\relax
12165 \else
12166 /BC[\Fld@bordercolor]%
12167 \fi
12168 >>%
12169 \fi
12170 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
12171 }%
12172 \fi

```

\Fld@additionalactions

```

12173 \def\Fld@@additionalactions{%
K input (keystroke) format
12174 \ifx\Fld@keystroke@code\@empty
12175 \else
12176 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
12177 \fi
F display format
12178 \ifx\Fld@format@code\@empty
12179 \else
12180 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
12181 \fi
V validation
12182 \ifx\Fld@validate@code\@empty
12183 \else
12184 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
12185 \fi
C calculation
12186 \ifx\Fld@calculate@code\@empty
12187 \else
12188 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
12189 \fi
Fo receiving the input focus
12190 \ifx\Fld@onfocus@code\@empty
12191 \else
12192 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
12193 \fi
Bl loosing the input focus (blurred)
12194 \ifx\Fld@onblur@code\@empty
12195 \else

```

```

12196    /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
12197    \fi
D pressing the mouse button (down)
12198    \ifx\Fld@onmousedown@code\@empty
12199    \else
12200    /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
12201    \fi
U releasing the mouse button (up)
12202    \ifx\Fld@onmouseup@code\@empty
12203    \else
12204    /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
12205    \fi
E cursor enters the annotation's active area.
12206    \ifx\Fld@onenter@code\@empty
12207    \else
12208    /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
12209    \fi
X cursor exits the annotation's active area.
12210    \ifx\Fld@onexit@code\@empty
12211    \else
12212    /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
12213    \fi
12214 }
12215 \def\Fld@additionalactions{%
12216 \if\Fld@@additionalactions-%
12217 \else
12218 \ifHy@pdfa
12219 \else
12220 /AA<<\Fld@@additionalactions>>%
12221 \fi
12222 \fi
12223 }

```

\PDFForm@List

```

12224 \def\PDFForm@List{%
12225 /Subtype/Widget%
12226 \Fld@annotflags
12227 /T(\Fld@name)%
12228 /FT/Ch%
12229 \Fld@flags
12230 /Q \Fld@align
12231 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12232 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12233     \ifx\Fld@bordercolor\relax\else 1\fi
12234     \ifx\Fld@bcolor\relax \else 1\fi
12235     \space
12236 \else
12237 /MK<<%
12238     \ifnum\Fld@rotation=\z@
12239     \else
12240     /R \Fld@rotation
12241     \fi
12242     \ifx\Fld@bordercolor\relax
12243     \else
12244     /BC[\Fld@bordercolor]%

```



```

12245     \fi
12246     \ifx\Fld@bcolor\relax
12247     \else
12248         /BG[\Fld@bcolor]%
12249     \fi
12250     >>%
12251 \fi
12252 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12253     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12254 \Fld@choices
12255 \Fld@additionalactions
12256 }

```

#### \PDFForm@Radio

```

12257 \def\PDFForm@Radio{%
12258     /Subtype/Widget%
12259     \Fld@annotflags
12260     /T(\Fld@name)%
12261     /FT/Btn%
12262     \Fld@flags
12263     /H/P%
12264     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12265     /MK<<%
12266         \ifnum\Fld@rotation=\z@
12267         \else
12268             /R \Fld@rotation
12269         \fi
12270         \ifx\Fld@bordercolor\relax
12271         \else
12272             /BC[\Fld@bordercolor]%
12273         \fi
12274         \ifx\Fld@bcolor\relax
12275         \else
12276             /BG[\Fld@bcolor]%
12277         \fi
12278         /CA(\Fld@radiosymbol)%
12279     >>%
12280     /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
12281         \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12282     \ifx\@currValue\Fld@default
12283         /V/\Fld@default
12284     \else
12285         /V/Off%
12286     \fi
12287     \Fld@additionalactions
12288 }

```

#### \PDFForm@Text

```

12289 \def\PDFForm@Text{%
12290     /Subtype/Widget%
12291     \Fld@annotflags
12292     /T(\Fld@name)%
12293     /FT/Tx%
12294     \Fld@flags
12295     /Q \Fld@align
12296     /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
12297     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi

```

```

12298     \ifx\Fld@bordercolor\relax\else 1\fi
12299     \ifx\Fld@bcolor\relax    \else 1\fi
12300     \space
12301 \else
12302 /MK<<%
12303   \ifnum\Fld@rotation=\z@
12304   \else
12305     /R \Fld@rotation
12306   \fi
12307   \ifx\Fld@bordercolor\relax
12308   \else
12309     /BC[\Fld@bordercolor]%
12310   \fi
12311   \ifx\Fld@bcolor\relax
12312   \else
12313     /BG[\Fld@bcolor]%
12314   \fi
12315 >>%
12316 \fi
12317 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12318   \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12319 /DV(\Hy@escapestring{\Fld@default})%
12320 /V(\Hy@escapestring{\Fld@value})%
12321 \Fld@additionalactions
12322 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
12323 }

```

\PDFForm@Submit

```

12324 \def\PDFForm@Submit{%
12325 /Subtype/Widget%
12326 \Fld@annotflags
12327 /T(\Fld@name)%
12328 /FT/Btn%
12329 \Fld@flags
12330 /H/P%
12331 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12332 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12333   \ifx\Fld@bordercolor\relax\else 1\fi
12334   \space
12335 \else
12336 /MK<<%
12337   \ifnum\Fld@rotation=\z@
12338   \else
12339     /R \Fld@rotation
12340   \fi
12341   \ifx\Fld@bordercolor\relax
12342   \else
12343     /BC[\Fld@bordercolor]%
12344   \fi
12345 >>%
12346 \fi
12347 /A<<%
12348 /S/SubmitForm%
12349 /F<<%
12350 /FS/URL%
12351 /F(\Hy@escapestring{\Form@action})%
12352 >>%

```

```

12353 \Fld@submitflags
12354 >>%
12355 }

```

\PDFForm@Reset

```

12356 \ifHy@pdfa
12357 \else
12358 \def\PDFForm@Reset{%
12359 /Subtype/Widget%
12360 \Fld@annotflags
12361 /T(\Fld@name)%
12362 /FT/Btn%
12363 \Fld@flags
12364 /H/P%
12365 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
12366 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12367 \ifx\Fld@bordercolor\relax\else 1\fi
12368 \space
12369 \else
12370 /MK<<%
12371 \ifnum\Fld@rotation=\z@
12372 \else
12373 /R \Fld@rotation
12374 \fi
12375 \ifx\Fld@bordercolor\relax
12376 \else
12377 /BC[\Fld@bordercolor]%
12378 \fi
12379 % /CA (Clear)
12380 % /AC (Done)
12381 >>%
12382 \fi
12383 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12384 /A<</S/ResetForm>>%
12385 }%
12386 \fi

12387 </pdfform>
12388 <*package>

```

## 48 Bookmarks in the PDF file

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

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```

12389 \def\phantomsection{%
12390 \Hy@GlobalStepCount\Hy@linkcounter
12391 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12392 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
12393 }
12394 </package>

```

## 48.1 Bookmarks

12395  $\langle$ \*outlines $\rangle$

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

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

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

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

```
12396 \def\Hy@writebookmark#1#2#3#4#5{%
12397   % section number, text, label, level, file
12398   \ifx\WriteBookmarks\relax%
12399   \else
12400     \ifnum#4>\Hy@bookmarksdepth\relax
12401     \else
12402       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
12403     \fi
12404   \fi
12405 }
12406 \def\Hy@currentbookmarklevel{0}
12407 \def\Hy@numberline#1{#1 }
12408 \def\@@writetorep#1#2#3#4#5{%
12409   \begingroup
12410     \edef\Hy@tempa{#5}%
12411     \ifx\Hy@tempa\Hy@bookmarkstype
12412       \edef\Hy@level{#4}%
12413       \ifx\Hy@levelcheck Y%
12414         \@tempcnta\Hy@level\relax
12415         \advance\@tempcnta by -1 %
12416         \ifnum\Hy@currentbookmarklevel<\@tempcnta
12417           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
12418           \advance\@tempcnta by 1 %
12419           \Hy@Warning{%
12420             Difference (\the\@tempcnta) between bookmark levels is %
12421             greater \MessageBreak than one, level fixed%
12422           }%
12423           \@tempcnta\Hy@currentbookmarklevel
12424           \advance\@tempcnta by 1 %
12425           \edef\Hy@level{\the\@tempcnta}%
12426         \fi
12427       \else
12428         \global\let\Hy@levelcheck Y%
12429       \fi
12430       \global\let\Hy@currentbookmarklevel\Hy@level
12431       \@tempcnta\Hy@level\relax
12432       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
12433       \advance\@tempcnta by -1 %
12434       \edef\Hy@tempa{#3}%
```

```

12435 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
12436 \ifx\Hy@tempa\Hy@tempb
12437 \Hy@Warning{%
12438   The anchor of a bookmark and its parent's must not%
12439   \MessageBreak be the same. Added a new anchor%
12440 }%
12441 \phantomsection
12442 \fi
12443 \ifHy@bookmarksnumbered
12444 \let\numberline\Hy@numberline
12445 \let\partnumberline\Hy@numberline
12446 \let\chapternumberline\Hy@numberline
12447 \else
12448 \let\numberline\@gobble
12449 \let\partnumberline\@gobble
12450 \let\chapternumberline\@gobble
12451 \fi
12452 \HyPsd@XeTeXBigCharstrue
12453 \pdfstringdef\Hy@tempa{#2}%
12454 \if@filesw
12455 \stepcounter{bookmark@seq@number}%
12456 \ifundefined{@outlinefile}{%
12457 }{%
12458 \protected@write{@outlinefile}{%
12459 \protect\BOOKMARK
12460 [\Hy@level][@bookmarkopenstatus{\Hy@level}]{#3}%
12461 {\Hy@tempa}{\Hy@tempb}%
12462 \@percentchar\space\thebookmark@seq@number
12463 }%
12464 }%
12465 \fi
12466 \fi
12467 \endgroup
12468 }
12469 \newcounter{bookmark@seq@number}

```

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

```

12470 \newcommand{\currentpdfbookmark}{%
12471 \pdfbookmark[\Hy@currentbookmarklevel]%
12472 }
12473 \newcommand{\subpdfbookmark}{%
12474 \@tempcnta\Hy@currentbookmarklevel
12475 \Hy@StepCount\@tempcnta
12476 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
12477 }
12478 \newcommand{\belowpdfbookmark}[2]{%
12479 \@tempcnta\Hy@currentbookmarklevel
12480 \Hy@StepCount\@tempcnta
12481 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
12482 \advance\@tempcnta by -1 %
12483 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
12484 }

```

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.

```

12485 \renewcommand\pdfbookmark[3][0]{%

```

```

12486 \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
12487 \hyper@anchorstart{#3.#1}\hyper@anchorend
12488 }
12489 \def\BOOKMARK{%
12490 \ifnextchar{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
12491 }
12492 \def\@BOOKMARK[#1]{%
12493 \ifnextchar{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
12494 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the texinfo<sub>pdf</sub> macros.

#### 48.1.1 Rerun warning

\Hy@OutlineRerunCheck

```

12495 \RequirePackage{rerunfilecheck}[2009/12/10]
12496 \def\Hy@OutlineRerunCheck{%
12497 \RerunFileCheck{\jobname.out}{%
12498 \immediate\closeout\@outlinefile
12499 }{%
12500 Rerun to get outlines right\MessageBreak
12501 or use package 'bookmark'%
12502 }%
12503 }

```

#### 48.1.2 Driver stuff

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

```

12504 <*vtex>
12505 \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.

```

12506 \begingroup
12507 \catcode'\'=12 %
12508 \ifnum\Hy@VTeXversion<650 %
12509 \catcode'\ "=12 %
12510 \gdef\hv@pdf@char#1#2#3{%
12511 \char
12512 \ifcase'#1#2#3 %
12513 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
12514 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
12515 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
12516 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
12517 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
12518 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
12519 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
12520 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
12521 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
12522 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
12523 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
12524 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%

```

```

12525 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
12526 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
12527 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
12528 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
12529 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
12530 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
12531 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
12532 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
12533 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
12534 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
12535 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
12536 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
12537 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
12538 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
12539 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
12540 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
12541 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
12542 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
12543 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
12544 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
12545 \fi
12546 }%
12547 \else
12548 \gdef\hv@pdf@char{\char'}%
12549 \fi
12550 \endgroup

```

\@@BOOKMARK

```

12551 \def\@@BOOKMARK[#1][#2]#3#4#5{%
12552 \expandafter\edef\csname @count@#3\endcsname{%
12553 \the\@serial@counter
12554 }%
12555 \edef\@mycount{\the\@serial@counter}%
12556 \Hy@StepCount\@serial@counter
12557 \edef\@parcount{%
12558 \expandafter\ifx\csname @count@#5\endcsname\relax
12559 0%
12560 \else
12561 \csname @count@#5\endcsname
12562 \fi
12563 }%
12564 \immediate\special{%
12565 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
12566 s=\ifx#2-c\else o\fi,t=#4%
12567 }%
12568 }%

```

\ReadBookmarks

```

12569 \def\ReadBookmarks{%
12570 \begingroup
12571 \def\0{\hv@pdf@char 0}%
12572 \def\1{\hv@pdf@char 1}%
12573 \def\2{\hv@pdf@char 2}%
12574 \def\3{\hv@pdf@char 3}%
12575 \def\({}%
12576 \def\)}%
12577 \def\do##1{%

```

```

12578 \ifnum\the\catcode'##1=\active
12579 \@makeother##1%
12580 \fi
12581 }%
12582 \dospecials
12583 \InputIfFileExists{\jobname.out}{-}{-}%
12584 \endgroup
12585 \ifx\WriteBookmarks\relax
12586 \else
12587 \if@filesw
12588 \newwrite\@outlinefile
12589 \Hy@OutlineRerunCheck
12590 \immediate\openout\@outlinefile=\jobname.out\relax
12591 \ifHy@typexml
12592 \immediate\write\@outlinefile{<relaxxml>\relax}%
12593 \fi
12594 \fi
12595 \fi
12596 }

12597 </vtex>
12598 <!*vtex>
12599 \def\ReadBookmarks{%
12600 \begingroup
12601 \escapechar='\%
12602 \let\escapechar\@gobble %
12603 \def\@@BOOKMARK[##1][##2]##3##4##5{%
12604 \calc@bm@number{##5}%
12605 }%
12606 \InputIfFileExists{\jobname.out}{-}{-}%
12607 \ifx\WriteBookmarks\relax
12608 \global\let\WriteBookmarks\relax
12609 \fi
12610 \def\@@BOOKMARK[##1][##2]##3##4##5{%
12611 \def\Hy@temp{##4}%
12612 <*pdfTex>
12613 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12614 \Hy@OutlineName{\Hy@pstringName{%
12615 ##2\check@bm@number{##3}}%
12616 }{%
12617 \expandafter\strip@prefix\meaning\Hy@temp
12618 }%
12619 </pdfTex>
12620 <*pdfmark>
12621 \pdfmark{%
12622 pdfmark=/OUT,%
12623 Count={##2\check@bm@number{##3}},%
12624 Dest={##3},%
12625 Title=\expandafter\strip@prefix\meaning\Hy@temp
12626 }%
12627 </pdfmark>
12628 <*dvipdfm | xetex>
12629 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12630 \@pdfm@mark{%
12631 outline \ifHy@DvipdfmxOutlineOpen
12632 [%
12633 \ifnum##21>\z@
12634 \else

```



```

12635         -%
12636         \fi
12637     ] %
12638     \fi
12639     ##1<<%
12640     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
12641     /A<<%
12642     /S/GoTo%
12643     /D(\Hy@pstringName)%
12644     >>%
12645     >>%
12646     }%
12647 </dvipdfm | xetex>
12648 }%
12649 {%
12650     \def\WriteBookmarks{0}%
12651     \InputIfFileExists{\jobname.out}{\{}}%
12652 }%
12653 {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{\{}}}%
12654 \ifx\WriteBookmarks\relax
12655 \else
12656     \if@filesw
12657         \newwrite\@outlinefile
12658         \Hy@OutlineRerunCheck
12659         \immediate\openout\@outlinefile=\jobname.out\relax
12660         \ifHy@typexml
12661             \immediate\write\@outlinefile{<relaxxml>\relax}%
12662         \fi
12663     \fi
12664 \fi
12665 \endgroup
12666 }
12667 <*pdfTeX>
12668 \def\Hy@OutlineName#1#2#3#4{%
12669     \pdfoutline goto name{#2}count#3{#4}%
12670 }
12671 </pdfTeX>
12672 \def\check@bm@number#1{%
12673     \expandafter\ifx\csname B_#1\endcsname\relax
12674         0%
12675     \else
12676         \csname B_#1\endcsname
12677     \fi
12678 }
12679 \def\calc@bm@number#1{%
12680     \@tempcnta=\check@bm@number{#1}\relax
12681     \advance\@tempcnta by 1 %
12682     \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
12683 }
12684 </!vTeX>

12685 \ifHy@implicit
12686 \else
12687     \expandafter\endinput
12688 \fi

12689 </outlines>
12690 <*outlines | hypertex>

```

```

12691 \newlength\Hy@SectionHShift
12692 \def\Hy@SectionAnchorHref#1{%
12693   \ifx\protect\@typeset@protect
12694     \Hy@@@SectionAnchor{#1}%
12695   \fi
12696 }
12697 \DeclareRobustCommand*\Hy@@@SectionAnchor}[1]{%
12698   \leavevmode
12699   \hbox to 0pt{%
12700     \kern-\Hy@SectionHShift
12701     \Hy@raisedlink{%
12702       \hyper@anchorstart{#1}\hyper@anchorend
12703     }%
12704     \hss
12705   }%
12706 }
12707 \let\H@old@ssect\@ssect
12708 \def\@ssect#1#2#3#4#5{%
12709   \Hy@GlobalStepCount\Hy@linkcounter
12710   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12711   \setlength{\Hy@SectionHShift}{#1}%
12712   \begingroup
12713     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
12714     \toks\tw@\expandafter{%
12715       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
12716       #5%
12717     }%
12718   \edef\x{\endgroup
12719     \the\toks@{\the\toks\tw@}}%
12720   }\x
12721 }
12722 \let\H@old@schapter\@schapter
12723 \def\@schapter#1{%
12724   \begingroup
12725     \let\@mkboth\@gobbletwo
12726     \Hy@GlobalStepCount\Hy@linkcounter
12727     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12728     \Hy@raisedlink{%
12729       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12730     }%
12731   \endgroup
12732   \H@old@schapter{#1}%
12733 }

```

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:

```

12734 \ifundefined{@chapter}{-}{-}%
12735 \let\Hy@org@chapter\@chapter
12736 \def\@chapter{%
12737   \def\Hy@next{%
12738     \Hy@GlobalStepCount\Hy@linkcounter
12739     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12740     \Hy@raisedlink{%
12741       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12742     }%
12743   }%
12744   \ifnum\c@secnumdepth>\m@ne

```

```

12745 \ifundefined{if@mainmatter}%
12746 \iftrue{\csname if@mainmatter\endcsname}%
12747 \let\Hy@next\relax
12748 \fi
12749 \fi
12750 \Hy@next
12751 \Hy@org@chapter
12752 }%
12753 }

12754 \let\H@old@part\@part
12755 \begingroup\expandafter\expandafter\expandafter\endgroup
12756 \expandafter\ifx\csname chapter\endcsname\relax
12757 \let\Hy@secnum@part\z@
12758 \else
12759 \let\Hy@secnum@part\m@ne
12760 \fi
12761 \def\@part{%
12762 \ifnum\Hy@secnum@part>\c@secnumdepth
12763 \phantomsection
12764 \fi
12765 \H@old@part
12766 }

12767 \let\H@old@spart\@spart
12768 \def\@spart#1{%
12769 \Hy@GlobalStepCount\Hy@linkcounter
12770 \xdef\@currentHref{part*.\the\Hy@linkcounter}%
12771 \Hy@raisedlink{%
12772 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12773 }%
12774 \H@old@spart{#1}%
12775 }

12776 \let\H@old@sect\@sect
12777 \def\@sect#1#2#3#4#5#6[#7]#8{%
12778 \ifnum #2>\c@secnumdepth
12779 \expandafter\@firstoftwo
12780 \else
12781 \expandafter\@secondoftwo
12782 \fi
12783 {%
12784 \Hy@GlobalStepCount\Hy@linkcounter
12785 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12786 \setlength{\Hy@SectionHShift}{#3}%
12787 \begingroup
12788 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
12789 \toks\tw@\expandafter{%
12790 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
12791 #8%
12792 }%
12793 \edef\x{\endgroup
12794 \the\toks@{\the\toks\tw@}}%
12795 }\x
12796 }{%
12797 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
12798 }%
12799 }

12800 </outlines | hypertext>

```

```

12801 <*outlines>
12802 \expandafter\def\csname Parent-4\endcsname{}
12803 \expandafter\def\csname Parent-3\endcsname{}
12804 \expandafter\def\csname Parent-2\endcsname{}
12805 \expandafter\def\csname Parent-1\endcsname{}
12806 \expandafter\def\csname Parent0\endcsname{}
12807 \expandafter\def\csname Parent1\endcsname{}
12808 \expandafter\def\csname Parent2\endcsname{}
12809 \expandafter\def\csname Parent3\endcsname{}
12810 \expandafter\def\csname Parent4\endcsname{}
12811 </outlines>

```

## 49 Compatibility with koma-script classes

```

12812 <*outlines | hypertex>

```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias Isenberg (Tobias.Isenberg@gmx.de). With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

12813 \def\Hy@tempa{%
12814   \def\@addchap{##1}##2{%
12815     \typeout{##2}%
12816     \if@twoside
12817       \mkboth{##1}{}%
12818     \else
12819       \mkboth{}{##1}%
12820     \fi
12821     \addtocontents{lof}{\protect\addvspace{10\p@}}%
12822     \addtocontents{lot}{\protect\addvspace{10\p@}}%
12823     \Hy@GlobalStepCount\Hy@linkcounter
12824     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12825     \Hy@raisedlink{%
12826       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12827     }%
12828     \if@twocolumn
12829       \topnewpage{\@makeschapterhead{##2}}%
12830     \else
12831       \@makeschapterhead{##2}%
12832       \@afterheading
12833     \fi
12834     \addcontentsline{toc}{chapter}{##1}%
12835   }%
12836 }
12837 \ifclassloaded{scrbook}{%
12838   \ifclasslater{scrbook}{2001/01/01}{%
12839     \let\Hy@tempa\@empty
12840   }{}%
12841 }{%
12842   \ifclassloaded{scrreprt}{%
12843     \ifclasslater{scrreprt}{2001/01/01}{%
12844       \let\Hy@tempa\@empty
12845     }{}%
12846   }{%
12847     \let\Hy@tempa\@empty
12848   }%

```

```

12849 }%
12850 \Hy@tempa
12851 </outlines | hypertex>

```

## 50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 50.1 PD1 encoding

```

12852 <*pd1enc>
12853 \DeclareFontEncoding{PD1}{-}{-}

```

#### Accents

```

12854 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
12855 \DeclareTextAccent{\'}{PD1}{\textacute}
12856 \DeclareTextAccent{\`}{PD1}{\textasciicircum}
12857 \DeclareTextAccent{\~}{PD1}{\texttilde}
12858 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
12859 \DeclareTextAccent{\r}{PD1}{\textring}
12860 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
12861 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
12862 \DeclareTextAccent{\c}{PD1}{\textcedilla}
12863 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
12864 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
12865 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
12866 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
12867 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
12868 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciicircum}
12869 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
12870 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
12871 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
12872 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
12873 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
12874 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
12875 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
12876 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
12877 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
12878 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
12879 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
12880 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciicircum}
12881 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
12882 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
12883 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
12884 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
12885 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
12886 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
12887 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
12888 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
12889 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
12890 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
12891 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
12892 \DeclareTextCommand{\newtie}{PD1}[1]{%
12893   \TextSymbolUnavailable{\newtie{#1}}#1%
12894 }

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

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12895 % U+0009 (CHARACTER TABULATION)

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12896 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009  
 12897 % U+000A (LINE FEED)  
 12898 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A  
 12899 % U+000D (CARRIAGE RETURN)  
 12900 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D  
 Accent glyph names  
 12901 % U+02D8 BREVE; breve  
 12902 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8  
 12903 % U+02C7 CARON; caron  
 12904 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7  
 12905 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex  
 12906 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6  
 12907 % U+02D9 DOT ABOVE; dotaccent  
 12908 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9  
 12909 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 12910 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD  
 12911 % U+02DB OGONEK; ogonek  
 12912 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB  
 12913 % U+02DA RING ABOVE; ring  
 12914 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA  
 12915 % U+02DC SMALL TILDE; ilde, \*tilde  
 12916 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC  
 \040: U+0020 SPACE; \*space, spacehackarabic  
 \041: U+0021 EXCLAMATION MARK; exclam  
 12917 % U+0022 QUOTATION MARK; quotedbl  
 12918 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022  
 12919 % U+0023 NUMBER SIGN; numbersign  
 12920 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023  
 12921 % U+0024 DOLLAR SIGN; dollar  
 12922 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024  
 12923 % U+0025 PERCENT SIGN; percent  
 12924 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025  
 12925 % U+0026 AMPERSAND; ampersand  
 12926 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026  
 \047: U+0027 APOSTROPHE; quotesingle  
 12927 % U+0028 LEFT PARENTHESIS; parenleft  
 12928 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028  
 12929 % U+0029 RIGHT PARENTHESIS; parenright  
 12930 \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  
 12931 % U+002E FULL STOP; period  
 12932 \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  
 12933 % U+003C LESS-THAN SIGN; less  
 12934 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C

\075: U+003D EQUALS SIGN; equal  
 12935 % U+003E GREATER-THAN SIGN; greater  
 12936 \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  
 12937 % U+005C REVERSE SOLIDUS; backslash  
 12938 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 12939 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 12940 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 12941 % U+005F LOW LINE; underscore  
 12942 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 12943 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 12944 % U+0060 GRAVE ACCENT; grave  
 12945 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 12946 % U+0069 LATIN SMALL LETTER I; i  
 12947 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 12948 % U+007B LEFT CURLY BRACKET; braceleft  
 12949 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 12950 % U+007C VERTICAL LINE; \*bar, verticalbar  
 12951 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 12952 % U+007D RIGHT CURLY BRACKET; braceright  
 12953 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 12954 % U+007E TILDE; asciitilde  
 12955 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 12956 % U+2022 BULLET; bullet  
 12957 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 12958 % U+2020 DAGGER; dagger  
 12959 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 12960 % U+2021 DOUBLE DAGGER; daggerdbl  
 12961 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 12962 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 12963 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 12964 % U+2014 EM DASH; emdash  
 12965 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 12966 % U+2013 EN DASH; endash  
 12967 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 12968 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 12969 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
 12970 % U+2044 FRACTION SLASH; fraction  
 12971 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
 12972 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 lingleft  
 12973 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039

12974 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsingright  
12975 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A  
12976 % U+2212 MINUS SIGN; minus  
12977 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
12978 % U+2030 PER MILLE SIGN; perthousand  
12979 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
12980 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
12981 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
12982 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
12983 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
12984 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
12985 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
12986 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
12987 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
12988 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
12989 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
12990 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
12991 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
12992 % U+2122 TRADE MARK SIGN; trademark  
12993 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
12994 % U+FB01 LATIN SMALL LIGATURE FI; fi  
12995 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
12996 % U+FB02 LATIN SMALL LIGATURE FL; fl  
12997 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
12998 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
12999 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
13000 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
13001 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
13002 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
13003 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
13004 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
13005 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178  
13006 \DeclareTextCommand{\IJ}{PD1}{\230}  
13007 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
13008 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
13009 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
13010 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
13011 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
13012 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
13013 % U+0153 LATIN SMALL LIGATURE OE; oe  
13014 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
13015 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
13016 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
13017 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
13018 \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.  
13019 % U+20AC EURO SIGN; \*Euro, euro  
13020 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
13021 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
13022 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
13023 % U+00A2 CENT SIGN; cent  
13024 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
13025 % U+00A3 POUND SIGN; sterling  
13026 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
13027 % U+00A4 CURRENCY SIGN; currency



13028 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
13029 % U+00A5 YEN SIGN; yen  
13030 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
13031 % U+00A6 BROKEN BAR; brokenbar  
13032 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
13033 % U+00A7 SECTION SIGN; section  
13034 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
13035 % U+00A8 DIAERESIS; dieresis  
13036 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
13037 % U+00A9 COPYRIGHT SIGN; copyright  
13038 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
13039 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
13040 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
13041 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motleft  
13042 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
13043 % U+00AC NOT SIGN; logicalnot  
13044 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
13045 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
No glyph \255 in PDFDocEncoding.  
13046 % U+00AE REGISTERED SIGN; registered  
13047 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
13048 % U+00AF MACRON; \*macron, overscore  
13049 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
13050 % U+00B0 DEGREE SIGN; degree  
13051 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
13052 % U+00B1 PLUS-MINUS SIGN; plusminus  
13053 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
13054 % U+00B2 SUPERSCRIP T TWO; twosuperior  
13055 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2  
13056 % U+00B3 SUPERSCRIP T THREE; threesuperior  
13057 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3  
13058 % U+00B4 ACUTE ACCENT; acute  
13059 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
13060 % U+00B5 MICRO SIGN; mu, mul  
13061 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
13062 % U+00B6 PILCROW SIGN; paragraph  
13063 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
13064 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
13065 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
13066 % U+00B8 CEDILLA; cedilla  
13067 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
13068 % U+00B9 SUPERSCRIP T ONE; onesuperior  
13069 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9  
13070 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
13071 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
13072 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
13073 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
13074 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
13075 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
13076 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
13077 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
13078 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
13079 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
13080 % U+00BF INVERTED QUESTION MARK; questiondown  
13081 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF

13082 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
13083 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
13084 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
13085 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
13086 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
13087 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
13088 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
13089 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
13090 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
13091 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
13092 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
13093 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
13094 % U+00C6 LATIN CAPITAL LETTER AE; AE  
13095 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
13096 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
13097 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
13098 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
13099 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
13100 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
13101 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
13102 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
13103 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
13104 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
13105 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
13106 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
13107 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
13108 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
13109 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
13110 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
13111 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
13112 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
13113 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
13114 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
13115 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
13116 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
13117 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
13118 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
13119 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
13120 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
13121 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
13122 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
13123 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
13124 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
13125 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
13126 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
13127 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
13128 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
13129 % U+00D7 MULTIPLICATION SIGN; multiply  
13130 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
13131 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
13132 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
13133 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
13134 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
13135 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
13136 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
13137 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
13138 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB

13139 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
13140 \DeclareTextCompositeCommand{"}{PD1}{U}{\334}% U+00DC  
13141 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
13142 \DeclareTextCompositeCommand{'}{PD1}{Y}{\335}% U+00DD  
13143 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
13144 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
13145 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
13146 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
13147 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
13148 \DeclareTextCompositeCommand{'}{PD1}{a}{\340}% U+00E0  
13149 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; acute  
13150 \DeclareTextCompositeCommand{'}{PD1}{a}{\341}% U+00E1  
13151 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
13152 \DeclareTextCompositeCommand{'}{PD1}{a}{\342}% U+00E2  
13153 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
13154 \DeclareTextCompositeCommand{'}{PD1}{a}{\343}% U+00E3  
13155 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
13156 \DeclareTextCompositeCommand{"}{PD1}{a}{\344}% U+00E4  
13157 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
13158 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
13159 % U+00E6 LATIN SMALL LETTER AE; ae  
13160 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
13161 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
13162 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
13163 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
13164 \DeclareTextCompositeCommand{'}{PD1}{e}{\350}% U+00E8  
13165 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
13166 \DeclareTextCompositeCommand{'}{PD1}{e}{\351}% U+00E9  
13167 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
13168 \DeclareTextCompositeCommand{'}{PD1}{e}{\352}% U+00EA  
13169 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
13170 \DeclareTextCompositeCommand{"}{PD1}{e}{\353}% U+00EB  
13171 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
13172 \DeclareTextCompositeCommand{'}{PD1}{i}{\354}% U+00EC  
13173 \DeclareTextCompositeCommand{'}{PD1}{i}{\354}% U+00EC  
13174 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
13175 \DeclareTextCompositeCommand{'}{PD1}{i}{\355}% U+00ED  
13176 \DeclareTextCompositeCommand{'}{PD1}{i}{\355}% U+00ED  
13177 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
13178 \DeclareTextCompositeCommand{'}{PD1}{i}{\356}% U+00EE  
13179 \DeclareTextCompositeCommand{'}{PD1}{i}{\356}% U+00EE  
13180 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
13181 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF  
13182 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF  
13183 % U+00F0 LATIN SMALL LETTER ETH; eth  
13184 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
13185 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
13186 \DeclareTextCompositeCommand{'}{PD1}{n}{\361}% U+00F1  
13187 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
13188 \DeclareTextCompositeCommand{'}{PD1}{o}{\362}% U+00F2  
13189 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
13190 \DeclareTextCompositeCommand{'}{PD1}{o}{\363}% U+00F3  
13191 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
13192 \DeclareTextCompositeCommand{'}{PD1}{o}{\364}% U+00F4  
13193 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
13194 \DeclareTextCompositeCommand{'}{PD1}{o}{\365}% U+00F5  
13195 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis

13196 \DeclareTextCompositeCommand{"}{PD1}{o}{\366}% U+00F6  
 13197 % U+00F7 DIVISION SIGN; divide  
 13198 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
 13199 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 13200 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
 13201 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 13202 \DeclareTextCompositeCommand{'}{PD1}{u}{\371}% U+00F9  
 13203 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 13204 \DeclareTextCompositeCommand{'}{PD1}{u}{\372}% U+00FA  
 13205 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 13206 \DeclareTextCompositeCommand{\~}{PD1}{u}{\373}% U+00FB  
 13207 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 13208 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC  
 13209 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 13210 \DeclareTextCompositeCommand{'}{PD1}{y}{\375}% U+00FD  
 13211 % U+00FE LATIN SMALL LETTER THORN; thorn  
 13212 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE  
 13213 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 13214 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF  
 13215 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

13216 \DeclareTextCommand{\SS}{PD1}{SS}  
 13217 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

13218 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}  
 13219 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}  
 13220 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}  
 13221 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}  
 13222 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}  
 13223 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}  
 13224 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}  
 13225 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

Aliases (math names)

13226 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}  
 13227 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}  
 13228 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}  
 13229 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}  
 13230 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}  
 13231 \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).

13232 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek  
 13233 \DeclareTextCompositeCommand{'}{PD1}{c}{c}% cacute  
 13234 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek  
 13235 \DeclareTextCompositeCommand{'}{PD1}{n}{n}% nacute  
 13236 \DeclareTextCompositeCommand{'}{PD1}{s}{s}% sacute  
 13237 \DeclareTextCompositeCommand{'}{PD1}{z}{z}% zacute  
 13238 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot  
 13239 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek  
 13240 \DeclareTextCompositeCommand{'}{PD1}{C}{C}% Cacute  
 13241 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek  
 13242 \DeclareTextCompositeCommand{'}{PD1}{N}{N}% Nacute  
 13243 \DeclareTextCompositeCommand{'}{PD1}{S}{S}% Sacute  
 13244 \DeclareTextCompositeCommand{'}{PD1}{Z}{Z}% Zacute  
 13245 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

13246  $\langle$ /pdlenc)

## 50.2 PU encoding

13247  $\langle$ \*puenc)

13248 \DeclareFontEncoding{PU}{-}{-}

### 50.2.1 NFSS2 accents

13249 % U+0300 COMBINING GRAVE ACCENT; gravecmb, \*gravecmb  
13250 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300  
13251 % U+0301 COMBINING ACUTE ACCENT; acutecmb, \*acutecomb  
13252 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301  
13253 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb  
13254 \DeclareTextCommand{\~}{PU}[1]{#1\83\002}% U+0302  
13255 % U+0303 COMBINING TILDE; tildecmb, \*tildecmb  
13256 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303  
13257 % U+0304 COMBINING MACRON; macroncmb  
13258 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304  
13259 % U+0306 COMBINING BREVE; brevecmb  
13260 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306  
13261 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306  
13262 % U+0307 COMBINING DOT ABOVE; dotaccentcmb  
13263 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307  
13264 % U+0308 COMBINING DIAERESIS; dieresiscmb  
13265 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308  
13266 % U+030A COMBINING RING ABOVE; ringcmb  
13267 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A  
13268 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb  
13269 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B  
13270 % U+030C COMBINING CARON; caroncmb  
13271 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C  
13272 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
13273 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F  
13274 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F  
13275 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
13276 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311  
13277 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
13278 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323  
13279 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
13280 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331  
13281 % U+0327 COMBINING CEDILLA; cedillacmb  
13282 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327  
13283 % U+0328 COMBINING OGONEK; ogonekcmb  
13284 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328  
13285 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
13286 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361  
13287 % U+20DD COMBINING ENCLOSING CIRCLE  
13288 \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.

13289 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}  
13290 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}  
13291 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}  
13292 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}  
13293 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}  
13294 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}  
13295 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}  
13296 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}

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13297 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
13298 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
13299 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
13300 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
13301 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
13302 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
13303 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
13304 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
13305 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
13306 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
13307 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

13308 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
13309 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
13310 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
13311 \DeclareTextCompositeCommand{\-}{PU}{\ }{\texttilde}
13312 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
13313 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
13314 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
13315 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
13316 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
13317 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
13318 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
13319 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
13320 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
13321 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
13322 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
13323 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
13324 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
13325 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
13326 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

13327 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
13328 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
13329 \DeclareTextCommand{\capitalgrave}{PU}[1]{\{'{#1}}
13330 \DeclareTextCommand{\capitalacute}{PU}[1]{\'\{#1}}
13331 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
13332 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
13333 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\{"{#1}}
13334 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
13335 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
13336 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
13337 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
13338 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
13339 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
13340 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
13341 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

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

Special white space escape characters.

```

13342 % U+0009 (CHARACTER TABULATION)
13343 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
13344 % U+000A (LINE FEED)
13345 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
13346 % U+000D (CARRIAGE RETURN)
13347 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

```

\80\040: U+0020 SPACE; space, spacehackarabic  
 \80\041: U+0021 EXCLAMATION MARK; exclam  
 13348 % U+0022 QUOTATION MARK; quotedbl  
 13349 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022  
 13350 % U+0023 NUMBER SIGN; numbersign  
 13351 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023  
 13352 % U+0024 DOLLAR SIGN; dollar  
 13353 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024  
 13354 % U+0025 PERCENT SIGN; percent  
 13355 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025  
 13356 % U+0026 AMPERSAND; ampersand  
 13357 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026  
 13358 % U+0027 APOSTROPHE; quotesingle  
 13359 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027  
 13360 % U+0028 LEFT PARENTHESIS; parenleft  
 13361 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
 13362 % U+0029 RIGHT PARENTHESIS; parenright  
 13363 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
 13364 % U+002A ASTERISK; asterisk  
 13365 \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  
 13366 % U+003C LESS-THAN SIGN; less  
 13367 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
 \80\075: U+003D EQUALS SIGN; equal  
 13368 % U+003E GREATER-THAN SIGN; greater  
 13369 \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  
 13370 % U+005C REVERSE SOLIDUS; backslash  
 13371 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 13372 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 13373 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 13374 % U+005F LOW LINE; underscore  
 13375 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 13376 % U+0060 GRAVE ACCENT; grave  
 13377 \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

13378 % U+0069 LATIN SMALL LETTER I; i  
13379 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % \80\151 U+0069  
13380 \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  
13381 % U+007B LEFT CURLY BRACKET; braceleft  
13382 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
13383 % U+007C VERTICAL LINE; \*bar, verticalbar  
13384 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
13385 % U+007D RIGHT CURLY BRACKET; braceright  
13386 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
13387 % U+007E TILDE; asciitilde  
13388 \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  
13389 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
13390 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
13391 % U+00A2 CENT SIGN; cent  
13392 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
13393 % U+00A3 POUND SIGN; sterling  
13394 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
13395 % U+00A4 CURRENCY SIGN; currency  
13396 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
13397 % U+00A5 YEN SIGN; yen  
13398 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
13399 % U+00A6 BROKEN BAR; brokenbar  
13400 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
13401 % U+00A7 SECTION SIGN; section  
13402 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
13403 % U+00A8 DIAERESIS; diaeresis  
13404 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
13405 % U+00A9 COPYRIGHT SIGN; copyright  
13406 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9  
13407 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
13408 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
13409 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
13410 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
13411 % U+00AC NOT SIGN; logicalnot  
13412 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
13413 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
\80\255: U+00AD SOFT HYPHEN; sfthyphen, softhyphen  
13414 % U+00AE REGISTERED SIGN; registered  
13415 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
13416 % U+00AF MACRON; \*macron, overscore  
13417 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
13418 % U+00B0 DEGREE SIGN; degree  
13419 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
13420 % U+00B1 PLUS-MINUS SIGN; plusminus  
13421 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
13422 % U+00B2 SUPERScript TWO; twosuperior  
13423 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2  
13424 % U+00B3 SUPERScript THREE; threesuperior



13425 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3  
13426 % U+00B4 ACUTE ACCENT; acute  
13427 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
13428 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
13429 % U+00B5 MICRO SIGN; mu, mu1  
13430 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
13431 % U+00B6 PILCROW SIGN; paragraph  
13432 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
13433 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
13434 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
13435 % U+00B8 CEDILLA; cedilla  
13436 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
13437 % U+00B9 SUPERScript ONE; onesuperior  
13438 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9  
13439 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
13440 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
13441 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
13442 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
13443 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
13444 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
13445 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
13446 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
13447 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
13448 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
13449 % U+00BF INVERTED QUESTION MARK; questiondown  
13450 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
13451 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
13452 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
13453 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
13454 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
13455 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
13456 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
13457 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
13458 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
13459 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
13460 \DeclareTextCompositeCommand{\\"}{PU}{A}{\80\304}% U+00C4  
13461 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
13462 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
13463 % U+00C6 LATIN CAPITAL LETTER AE; AE  
13464 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
13465 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
13466 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
13467 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
13468 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
13469 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
13470 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
13471 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
13472 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
13473 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
13474 \DeclareTextCompositeCommand{\\"}{PU}{E}{\80\313}% U+00CB  
13475 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
13476 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
13477 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
13478 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
13479 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
13480 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE

13481 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
13482 \DeclareTextCompositeCommand{"}{PU}{I}{\80\317}% U+00CF  
13483 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
13484 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
13485 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
13486 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
13487 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
13488 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
13489 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
13490 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
13491 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
13492 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
13493 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
13494 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
13495 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
13496 \DeclareTextCompositeCommand{"}{PU}{O}{\80\326}% U+00D6  
13497 % U+00D7 MULTIPLICATION SIGN; multiply  
13498 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
13499 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
13500 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
13501 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
13502 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
13503 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
13504 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
13505 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
13506 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
13507 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
13508 \DeclareTextCompositeCommand{"}{PU}{U}{\80\334}% U+00DC  
13509 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
13510 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
13511 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
13512 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
13513 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
13514 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
13515 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
13516 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
13517 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
13518 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
13519 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
13520 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
13521 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
13522 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
13523 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
13524 \DeclareTextCompositeCommand{"}{PU}{a}{\80\344}% U+00E4  
13525 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
13526 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
13527 % U+00E6 LATIN SMALL LETTER AE; ae  
13528 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
13529 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
13530 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
13531 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
13532 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
13533 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
13534 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
13535 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
13536 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
13537 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis

13538 \DeclareTextCompositeCommand{"}{PU}{e}{\80\353}% U+00EB  
13539 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
13540 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}% U+00EC  
13541 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}% U+00EC  
13542 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
13543 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}% U+00ED  
13544 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}% U+00ED  
13545 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
13546 \DeclareTextCompositeCommand{~}{PU}{i}{\80\356}% U+00EE  
13547 \DeclareTextCompositeCommand{~}{PU}{i}{\80\356}% U+00EE  
13548 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
13549 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF  
13550 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF  
13551 % U+00F0 LATIN SMALL LETTER ETH; eth  
13552 \DeclareTextCommand{dh}{PU}{\80\360}% U+00F0  
13553 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
13554 \DeclareTextCompositeCommand{~}{PU}{n}{\80\361}% U+00F1  
13555 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
13556 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362}% U+00F2  
13557 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
13558 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}% U+00F3  
13559 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
13560 \DeclareTextCompositeCommand{~}{PU}{o}{\80\364}% U+00F4  
13561 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
13562 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365}% U+00F5  
13563 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
13564 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366}% U+00F6  
13565 % U+00F7 DIVISION SIGN; divide  
13566 \DeclareTextCommand{texdiv}{PU}{\80\367}% U+00F7  
13567 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
13568 \DeclareTextCommand{o}{PU}{\80\370}% U+00F8  
13569 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
13570 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371}% U+00F9  
13571 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
13572 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}% U+00FA  
13573 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
13574 \DeclareTextCompositeCommand{~}{PU}{u}{\80\373}% U+00FB  
13575 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
13576 \DeclareTextCompositeCommand{"}{PU}{u}{\80\374}% U+00FC  
13577 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
13578 \DeclareTextCompositeCommand{'}{PU}{y}{\80\375}% U+00FD  
13579 % U+00FE LATIN SMALL LETTER THORN; thorn  
13580 \DeclareTextCommand{th}{PU}{\80\376}% U+00FE  
13581 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
13582 \DeclareTextCompositeCommand{"}{PU}{y}{\80\377}% U+00FF

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

13583 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
13584 \DeclareTextCompositeCommand{=}{PU}{A}{\81\000}% U+0100  
13585 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
13586 \DeclareTextCompositeCommand{=}{PU}{a}{\81\001}% U+0101  
13587 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
13588 \DeclareTextCompositeCommand{u}{PU}{A}{\81\002}% U+0102  
13589 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
13590 \DeclareTextCompositeCommand{u}{PU}{a}{\81\003}% U+0103  
13591 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek

13592 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
13593 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
13594 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
13595 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
13596 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
13597 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
13598 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
13599 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
13600 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
13601 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
13602 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
13603 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
13604 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
13605 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
13606 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
13607 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
13608 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
13609 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
13610 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
13611 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
13612 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
13613 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
13614 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
13615 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
13616 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
13617 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron  
13618 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
13619 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
13620 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
13621 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
13622 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
13623 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
13624 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
13625 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
13626 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
13627 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
13628 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
13629 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
13630 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
13631 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
13632 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
13633 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
13634 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
13635 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
13636 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
13637 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
13638 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
13639 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
13640 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
13641 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
13642 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
13643 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
13644 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
13645 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
13646 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
13647 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
13648 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120

13649 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
13650 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
13651 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent  
13652 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
13653 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
13654 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
13655 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
13656 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
13657 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
13658 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
13659 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
13660 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
13661 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar  
13662 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127  
13663 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
13664 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
13665 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
13666 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
13667 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
13668 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
13669 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
13670 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
13671 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
13672 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
13673 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
13674 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
13675 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
13676 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
13677 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
13678 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
13679 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
13680 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
13681 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
13682 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
13683 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
13684 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
13685 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
13686 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
13687 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
13688 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
13689 % U+0133 LATIN SMALL LIGATURE IJ; ij  
13690 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
13691 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
13692 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
13693 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
13694 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
13695 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
13696 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
13697 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
13698 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
13699 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

The canonical name of U+0138, small letter kra, would be `\textkgreenlandic`, following the glyph naming convention. However `latex/base/inputenc.dtx` has choosen `\textkra`.

13700 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic

13701 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
13702 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
13703 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
13704 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
13705 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
13706 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-  
cent  
13707 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
13708 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
13709 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
13710 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
13711 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
13712 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
13713 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E  
There seems to be no variants of letters 'L' and 'l' with a dot above (reasonable). There-  
fore the \. accent is reused instead of making a separate accent macro \textmiddledot.  
13714 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
13715 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
13716 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
13717 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
13718 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
13719 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
13720 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
13721 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
13722 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
13723 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
13724 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
13725 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
13726 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-  
cent  
13727 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
13728 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
13729 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
13730 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
13731 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
13732 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
13733 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
13734 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-  
trophe, quoterightn  
13735 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
13736 % U+014A LATIN CAPITAL LETTER ENG; Eng  
13737 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
13738 % U+014B LATIN SMALL LETTER ENG; eng  
13739 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
13740 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
13741 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
13742 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
13743 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
13744 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
13745 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
13746 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
13747 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
13748 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblac-  
cute, Ohungarumlaut  
13749 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
13750 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblac-  
cute, ohungarumlaut

13751 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
13752 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
13753 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
13754 % U+0153 LATIN SMALL LIGATURE OE; oe  
13755 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
13756 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
13757 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
13758 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
13759 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
13760 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent  
13761 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
13762 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
13763 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
13764 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
13765 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
13766 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
13767 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
13768 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
13769 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
13770 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
13771 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
13772 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
13773 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
13774 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
13775 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
13776 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
13777 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
13778 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
13779 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
13780 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
13781 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
13782 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
13783 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
13784 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent  
13785 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
13786 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
13787 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
13788 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
13789 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
13790 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
13791 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
13792 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
13793 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
13794 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
13795 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
13796 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
13797 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
13798 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
13799 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
13800 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
13801 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
13802 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
13803 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
13804 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
13805 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C

13806 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
 13807 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
 13808 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
 13809 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
 13810 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
 13811 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
 13812 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
 13813 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
 13814 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
 13815 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
 13816 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
 13817 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
 13818 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
 13819 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
 13820 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
 13821 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
 13822 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
 13823 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
 13824 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
 13825 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
 13826 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 13827 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
 13828 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 13829 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
 13830 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 13831 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
 13832 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 13833 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
 13834 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 13835 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
 13836 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 13837 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 13838 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 13839 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 13840 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 13841 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 13842 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 13843 \DeclareTextCommand{\textlong}{PU}{\81\177}% U+017F

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

13844 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 13845 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
 13846 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 13847 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 13848 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
 13849 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 13850 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 13851 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 13852 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 13853 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 13854 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 13855 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 13856 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 13857 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 13858 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2



13859 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
13860 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
13861 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
13862 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
13863 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
13864 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
13865 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
13866 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
13867 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
13868 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
13869 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
13870 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
13871 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
13872 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
13873 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
13874 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
13875 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
13876 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
13877 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
13878 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
13879 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
13880 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
13881 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
13882 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
13883 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
13884 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
13885 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
13886 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
13887 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
13888 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
13889 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9  
13890 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
13891 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
13892 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
13893 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
13894 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; \*Oslasha-  
acute, Ostrokeacute  
13895 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
13896 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; \*oslasha-  
cute, ostrokeacute  
13897 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
13898 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
13899 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
13900 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
13901 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
13902 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
13903 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
13904 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
13905 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
13906 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
13907 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
13908 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
13909 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
13910 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
13911 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
13912 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
13913 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave

13914 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
 13915 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
 13916 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
 13917 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
 13918 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
 13919 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
 13920 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
 13921 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
 13922 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
 13923 % U+021E LATIN CAPITAL LETTER H WITH CARON  
 13924 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
 13925 % U+021F LATIN SMALL LETTER H WITH CARON  
 13926 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
 13927 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 13928 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 13929 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 13930 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 13931 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 13932 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 13933 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 13934 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 13935 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 13936 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 13937 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 13938 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 13939 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 13940 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 13941 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 13942 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 13943 % U+0237 LATIN SMALL LETTER DOTLESS J  
 13944 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

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

13945 % U+02C7 CARON; caron  
 13946 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 13947 % U+02D8 BREVE; breve  
 13948 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 13949 % U+02D9 DOT ABOVE; dotaccent  
 13950 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 13951 % U+02DA RING ABOVE; ring  
 13952 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 13953 % U+02DB OGONEK; ogonek  
 13954 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 13955 % U+02DC SMALL TILDE; ilde, \*tilde  
 13956 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 13957 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 13958 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 13959 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
 13960 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 13961 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 13962 % U+02F7 MODIFIER LETTER LOW TILDE  
 13963 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

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

13964 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 13965 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 13966 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb

13967 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 13968 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcmb  
 13969 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 13970 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 13971 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 13972 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 13973 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

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

13974 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 13975 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 13976 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 13977 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 13978 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos  
 13979 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 13980 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 13981 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 13982 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 13983 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 13984 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 13985 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 13986 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos  
 13987 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 13988 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos  
 13989 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
 13990 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
 13991 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
 13992 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; Iotadieresis  
 13993 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390  
 13994 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
 13995 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
 13996 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
 13997 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
 13998 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma  
 13999 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393  
 14000 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta  
 14001 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394  
 14002 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
 14003 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
 14004 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
 14005 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
 14006 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
 14007 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
 14008 % U+0398 GREEK CAPITAL LETTER THETA; Theta  
 14009 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398  
 14010 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
 14011 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
 14012 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
 14013 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
 14014 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda  
 14015 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B  
 14016 % U+039C GREEK CAPITAL LETTER MU; Mu  
 14017 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
 14018 % U+039D GREEK CAPITAL LETTER NU; Nu  
 14019 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D

14020 % U+039E GREEK CAPITAL LETTER XI; Xi  
 14021 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E  
 14022 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
 14023 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
 14024 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
 14025 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0  
 14026 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
 14027 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
 14028 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma  
 14029 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3  
 14030 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
 14031 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
 14032 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon  
 14033 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5  
 14034 % U+03A6 GREEK CAPITAL LETTER PHI; Phi  
 14035 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6  
 14036 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
 14037 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
 14038 % U+03A8 GREEK CAPITAL LETTER PSI; Psi  
 14039 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8  
 14040 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega  
 14041 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9  
 14042 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
 14043 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
 14044 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA  
 14045 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-  
 silondieresis  
 14046 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB  
 14047 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphonos  
 14048 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC  
 14049 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilononon  
 14050 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD  
 14051 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etatonon  
 14052 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE  
 14053 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotatonon  
 14054 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF  
 14055 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-  
 silondieresis  
 14056 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0  
 14057 % U+03B1 GREEK SMALL LETTER ALPHA; alpha  
 14058 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1  
 14059 % U+03B2 GREEK SMALL LETTER BETA; beta  
 14060 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2  
 14061 % U+03B3 GREEK SMALL LETTER GAMMA; gamma  
 14062 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3  
 14063 % U+03B4 GREEK SMALL LETTER DELTA; delta  
 14064 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4  
 14065 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon  
 14066 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5  
 14067 % U+03B6 GREEK SMALL LETTER ZETA; zeta  
 14068 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6  
 14069 % U+03B7 GREEK SMALL LETTER ETA; eta  
 14070 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7  
 14071 % U+03B8 GREEK SMALL LETTER THETA; theta  
 14072 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8  
 14073 % U+03B9 GREEK SMALL LETTER IOTA; iota  
 14074 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9

14075 % U+03BA GREEK SMALL LETTER KAPPA; kappa  
14076 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA  
14077 % U+03BB GREEK SMALL LETTER LAMDA; lambda  
14078 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB  
14079 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu  
14080 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC  
14081 % U+03BD GREEK SMALL LETTER NU; nu  
14082 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD  
14083 % U+03BE GREEK SMALL LETTER XI; xi  
14084 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE  
14085 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
14086 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
14087 % U+03C0 GREEK SMALL LETTER PI; pi  
14088 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0  
14089 % U+03C1 GREEK SMALL LETTER RHO; rho  
14090 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1  
14091 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
14092 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2  
14093 % U+03C3 GREEK SMALL LETTER SIGMA; sigma  
14094 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3  
14095 % U+03C4 GREEK SMALL LETTER TAU; tau  
14096 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4  
14097 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon  
14098 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5  
14099 % U+03C6 GREEK SMALL LETTER PHI; phi  
14100 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6  
14101 % U+03C7 GREEK SMALL LETTER CHI; chi  
14102 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7  
14103 % U+03C8 GREEK SMALL LETTER PSI; psi  
14104 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8  
14105 % U+03C9 GREEK SMALL LETTER OMEGA; omega  
14106 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9  
14107 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis  
14108 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA  
14109 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-  
silondieresis  
14110 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB  
14111 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos  
14112 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC  
14113 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos  
14114 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD  
14115 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD  
14116 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos  
14117 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE  
14118 % U+03DA GREEK LETTER STIGMA; Stigmatreek  
14119 \DeclareTextCommand{\textStigmatreek}{PU}{\83\332}% U+03DA  
14120 % U+03DB GREEK SMALL LETTER STIGMA  
14121 \DeclareTextCommand{\textstigmatreek}{PU}{\83\333}% U+03DB  
14122 % U+03DC GREEK LETTER DIGAMMA; Digammagreek  
14123 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC  
14124 % U+03DD GREEK SMALL LETTER DIGAMMA  
14125 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD  
14126 % U+03DE GREEK LETTER KOPPA; Koppagreek  
14127 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE  
14128 % U+03DF GREEK SMALL LETTER KOPPA  
14129 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF  
14130 % U+03E0 GREEK LETTER SAMPI; Sampigreek

14131 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0  
 14132 % U+03E1 GREEK SMALL LETTER SAMPI  
 14133 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

## 50.2.9 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

14134 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE  
 14135 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400  
 14136 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrilic, \*afii10023  
 14137 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401  
 14138 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???  
 14139 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, \*afii10051  
 14140 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402  
 14141 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afii10052  
 14142 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403  
 14143 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrilic, \*afii10053  
 14144 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
 14145 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afii10054  
 14146 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
 14147 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrrilic, \*afii10055  
 14148 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
 14149 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrrilic, \*afii10056  
 14150 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
 14151 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407  
 14152 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
 14153 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
 14154 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
 14155 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
 14156 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
 14157 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
 14158 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
 14159 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
 14160 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
 14161 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
 14162 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
 14163 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D  
 14164 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrrilic, \*afii10062  
 14165 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
 14166 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
 14167 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrrilic, \*afii10145  
 14168 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
 14169 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
 14170 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
 14171 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
 14172 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
 14173 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
 14174 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
 14175 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
 14176 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
 14177 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
 14178 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
 14179 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
 14180 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
 14181 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
 14182 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416

14183 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
14184 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
14185 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
14186 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
14187 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
14188 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
14189 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
14190 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
14191 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
14192 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
14193 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
14194 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
14195 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
14196 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
14197 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
14198 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
14199 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
14200 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
14201 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
14202 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
14203 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
14204 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
14205 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
14206 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
14207 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
14208 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
14209 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
14210 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
14211 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
14212 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
14213 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
14214 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
14215 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
14216 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
14217 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
14218 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
14219 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
14220 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
14221 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
14222 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, \*afii10044  
14223 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
14224 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
14225 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
14226 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, \*afii10046  
14227 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
14228 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
14229 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
14230 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
14231 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
14232 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
14233 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
14234 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
14235 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
14236 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
14237 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
14238 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
14239 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432

14240 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
 14241 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
 14242 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
 14243 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
 14244 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
 14245 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
 14246 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
 14247 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436  
 14248 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
 14249 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
 14250 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
 14251 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
 14252 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
 14253 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
 14254 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
 14255 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
 14256 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
 14257 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
 14258 \DeclareTextCommand{\cyr}{PU}{\84\073}% U+043B  
 14259 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
 14260 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
 14261 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
 14262 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
 14263 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
 14264 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
 14265 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
 14266 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
 14267 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
 14268 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
 14269 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
 14270 \DeclareTextCommand{\cyr}{PU}{\84\101}% U+0441  
 14271 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
 14272 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
 14273 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
 14274 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
 14275 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
 14276 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
 14277 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
 14278 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
 14279 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
 14280 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446  
 14281 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
 14282 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
 14283 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
 14284 \DeclareTextCommand{\cyrrsh}{PU}{\84\110}% U+0448  
 14285 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
 14286 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
 14287 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
 14288 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A  
 14289 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
 14290 \DeclareTextCommand{\cyrrery}{PU}{\84\113}% U+044B  
 14291 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
 14292 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% U+044C  
 14293 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
 14294 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D  
 14295 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
 14296 \DeclareTextCommand{\cyr}{PU}{\84\116}% U+044E



14297 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
 14298 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F  
 14299 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
 14300 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
 14301 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
 14302 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451  
 14303 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
 14304 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
 14305 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
 14306 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
 14307 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
 14308 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
 14309 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
 14310 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
 14311 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
 14312 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; \*afii10103, icyrillic  
 14313 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
 14314 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
 14315 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
 14316 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
 14317 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
 14318 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
 14319 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
 14320 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459  
 14321 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
 14322 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
 14323 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
 14324 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
 14325 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
 14326 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
 14327 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
 14328 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
 14329 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
 14330 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
 14331 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
 14332 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
 14333 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
 14334 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
 14335 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
 14336 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
 14337 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
 14338 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
 14339 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
 14340 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
 14341 \DeclareTextCommand{\cyrjat}{PU}{\84\143}% U+0463  
 14342 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
 14343 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
 14344 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
 14345 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
 14346 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
 14347 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
 14348 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
 14349 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
 14350 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleio-  
 14351 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468

14352 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleioti-  
 fiedcyrillic  
 14353 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
 14354 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
 14355 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
 14356 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
 14357 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
 14358 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
 cyrillic  
 14359 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
 14360 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyril-  
 lic  
 14361 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
 14362 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
 14363 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
 14364 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
 14365 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
 14366 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
 14367 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
 14368 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
 14369 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
 14370 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
 14371 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
 14372 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
 14373 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
 14374 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
 14375 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
 14376 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
 14377 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
 14378 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-  
 CENT; Izhitsadblgravecyrillic  
 14379 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
 14380 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-  
 CENT; izhitsadblgravecyrillic  
 14381 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
 14382 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
 14383 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
 14384 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
 14385 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 14386 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-  
 lic  
 14387 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
 14388 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 14389 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 14390 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-  
 cyrillic  
 14391 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 14392 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-  
 cyrillic  
 14393 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 14394 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 14395 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 14396 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 14397 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 14398 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 14399 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 14400 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic

14401 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
14402 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
14403 \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  
14404 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
14405 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
14406 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
14407 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
14408 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
14409 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
14410 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
14411 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
14412 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
14413 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
14414 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
14415 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
14416 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, \*afii10050  
14417 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
14418 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, gheupturncyrillic  
14419 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
14420 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic  
14421 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
14422 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
14423 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
14424 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic  
14425 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
14426 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic  
14427 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
14428 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic  
14429 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
14430 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic  
14431 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
14432 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic  
14433 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
14434 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
14435 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic  
14436 \DeclareTextCommand{\cyrzds}{PU}{\84\231}% U+0499  
14437 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499

14438 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic  
 14439 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
 14440 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadesendercyrillic  
 14441 \DeclareTextCommand{\cyrkdesc}{PU}{\84\233}% U+049B  
 14442 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-ticalstrokecyrillic  
 14443 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
 14444 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-ticalstrokecyrillic  
 14445 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
 14446 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
 14447 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
 14448 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
 14449 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
 14450 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
 14451 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
 14452 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
 14453 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
 14454 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic  
 14455 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
 14456 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic  
 14457 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
 14458 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
 14459 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
 14460 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
 14461 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
 14462 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
 14463 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
 14464 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
 14465 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
 14466 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
 14467 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
 14468 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
 14469 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
 14470 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
 14471 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
 14472 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
 14473 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
 14474 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
 14475 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB  
 14476 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
 14477 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
 14478 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
 14479 \DeclareTextCommand{\cyrtasc}{PU}{\84\255}% U+04AD  
 14480 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
 14481 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE

14482 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
14483 \DeclareTextCommand{\cyrj}{PU}{\84\257}% U+04AF  
14484 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Us-  
straightstrokecyrillic  
14485 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
14486 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; us-  
straightstrokecyrillic  
14487 \DeclareTextCommand{\cyrjhcrs}{PU}{\84\261}% U+04B1  
14488 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescen-  
dercyrillic  
14489 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
14490 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescender-  
cyrillic  
14491 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
14492 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
14493 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
14494 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
14495 \DeclareTextCommand{\cyrttetse}{PU}{\84\265}% U+04B5  
14496 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescen-  
dercyrillic  
14497 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
14498 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescen-  
dercyrillic  
14499 \DeclareTextCommand{\cyrchrds}{PU}{\84\267}% U+04B7  
14500 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-  
erticalstrokecyrillic  
14501 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
14502 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-  
erticalstrokecyrillic  
14503 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
14504 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
14505 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
14506 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
14507 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
14508 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-  
cyrillic  
14509 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
14510 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-  
lic  
14511 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
14512 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; Chedescenderabkhasiancyrillic  
14513 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
14514 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
14515 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; chedescenderabkhasiancyrillic  
14516 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
14517 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
14518 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
14519 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
14520 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
14521 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
14522 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
14523 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
14524 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
14525 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
14526 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic

14527 \DeclareTextCommand{\cyrrhk}{PU}{\84\304}% U+04C4  
14528 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
14529 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
14530 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
14531 \DeclareTextCommand{\cyrljsc}{PU}{\84\306}% U+04C6  
14532 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
14533 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
14534 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
14535 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
14536 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-cyrillic  
14537 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
14538 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-cyrillic  
14539 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
14540 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
14541 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
14542 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
14543 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
14544 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
14545 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
14546 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
14547 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
14548 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic  
14549 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2  
14550 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
14551 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3  
14552 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
14553 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
14554 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
14555 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
14556 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevecyrillic  
14557 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
14558 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevecyrillic  
14559 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
14560 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
14561 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
14562 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
14563 \DeclareTextCommand{\cyrswa}{PU}{\84\331}% U+04D9  
14564 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-siscyrillic  
14565 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
14566 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-siscyrillic  
14567 \DeclareTextCompositeCommand{\U}{PU}{\cyrswa}{\84\333}% U+04DB  
14568 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-siscyrillic  
14569 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC  
14570 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic  
14571 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\335}% U+04DD  
14572 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic  
14573 \DeclareTextCompositeCommand{\U}{PU}{\CYRZ}{\84\336}% U+04DE  
14574 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic

14575 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF  
 14576 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-cyrillic  
 14577 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
 14578 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic  
 14579 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
 14580 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
 14581 \DeclareTextCompositeCommand{=} {PU}{\CYRI}{\84\342}% U+04E2  
 14582 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
 14583 \DeclareTextCompositeCommand{=} {PU}{\cyri}{\84\343}% U+04E3  
 14584 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
 14585 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
 14586 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
 14587 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5  
 14588 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
 14589 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
 14590 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
 14591 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
 14592 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
 14593 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
 14594 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
 14595 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
 14596 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic  
 14597 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
 14598 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic  
 14599 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
 14600 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
 14601 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
 14602 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
 14603 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
 14604 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
 14605 \DeclareTextCompositeCommand{=} {PU}{\CYRU}{\84\356}% U+04EE  
 14606 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
 14607 \DeclareTextCompositeCommand{=} {PU}{\cyru}{\84\357}% U+04EF  
 14608 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
 14609 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
 14610 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
 14611 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
 14612 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic  
 14613 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
 14614 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic  
 14615 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
 14616 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic  
 14617 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
 14618 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
 14619 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 14620 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 14621 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 14622 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 14623 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7

14624 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-  
siscyrillic  
14625 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
14626 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-  
siscyrillic  
14627 \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  
14628 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
14629 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
14630 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
14631 \DeclareTextCommand{\cyrrhk}{PU}{\84\375}% U+04FD  
\84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE  
\84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

### 50.2.10 Thai: U+0E00 to U+0E7F

14632 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
14633 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

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

14634 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
14635 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02  
14636 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
14637 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03  
14638 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
14639 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
14640 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
14641 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
14642 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
14643 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A  
14644 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
14645 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B  
14646 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
14647 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
14648 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
14649 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
14650 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
14651 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
14652 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
14653 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
14654 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
14655 \DeclareTextCompositeCommand{.}{PU}{F}{\9036\036}% U+1E1E  
14656 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
14657 \DeclareTextCompositeCommand{.}{PU}{f}{\9036\037}% U+1E1F  
14658 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
14659 \DeclareTextCompositeCommand{=}{PU}{G}{\9036\040}% U+1E20  
14660 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
14661 \DeclareTextCompositeCommand{=}{PU}{g}{\9036\041}% U+1E21  
14662 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
14663 \DeclareTextCompositeCommand{.}{PU}{H}{\9036\042}% U+1E22  
14664 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
14665 \DeclareTextCompositeCommand{.}{PU}{h}{\9036\043}% U+1E23  
14666 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
14667 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26  
14668 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis



14669 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27  
14670 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
14671 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
14672 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
14673 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
14674 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
14675 \DeclareTextCompositeCommand{'}{PU}{K}{\9036\060}% U+1E30  
14676 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
14677 \DeclareTextCompositeCommand{'}{PU}{k}{\9036\061}% U+1E31  
14678 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
14679 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
14680 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
14681 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
14682 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
14683 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
14684 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
14685 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
14686 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
14687 \DeclareTextCompositeCommand{'}{PU}{M}{\9036\076}% U+1E3E  
14688 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
14689 \DeclareTextCompositeCommand{'}{PU}{m}{\9036\077}% U+1E3F  
14690 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
14691 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
14692 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
14693 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
14694 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
14695 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
14696 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
14697 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
14698 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
14699 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
14700 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
14701 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
14702 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
14703 \DeclareTextCompositeCommand{'}{PU}{P}{\9036\124}% U+1E54  
14704 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
14705 \DeclareTextCompositeCommand{'}{PU}{p}{\9036\125}% U+1E55  
14706 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
14707 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
14708 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
14709 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
14710 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
14711 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
14712 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
14713 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
14714 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
14715 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
14716 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
14717 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
14718 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
14719 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
14720 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
14721 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
14722 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
14723 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
14724 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
14725 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F

14726 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
14727 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
14728 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
14729 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
14730 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
14731 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
14732 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
14733 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
14734 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
14735 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\202}% U+1E82  
14736 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
14737 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\203}% U+1E83  
14738 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
14739 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
14740 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
14741 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
14742 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
14743 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
14744 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
14745 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
14746 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
14747 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
14748 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
14749 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
14750 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
14751 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
14752 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
14753 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
14754 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
14755 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
14756 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
14757 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
14758 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
14759 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90  
14760 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
14761 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
14762 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
14763 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
14764 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
14765 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
14766 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
14767 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
14768 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
14769 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
14770 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
14771 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
14772 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
14773 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
14774 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-  
cent  
14775 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
14776 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
14777 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
14778 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
14779 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
14780 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
14781 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2

14782 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 14783 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
 14784 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 14785 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 14786 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 14787 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

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

14788 % U+200C ZERO WIDTH NON-JOINER; \*afi61664, zerowidthnonjoiner  
 14789 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 14790 % U+2013 EN DASH; endash  
 14791 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 14792 % U+2014 EM DASH; emdash  
 14793 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 14794 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 14795 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 14796 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 14797 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 14798 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 14799 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 14800 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 14801 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 14802 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 14803 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 14804 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 14805 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 14806 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 14807 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 14808 % U+2020 DAGGER; dagger  
 14809 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020  
 14810 % U+2021 DOUBLE DAGGER; daggerdbl  
 14811 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 14812 % U+2022 BULLET; bullet  
 14813 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022  
 14814 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 14815 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 14816 % U+2030 PER MILLE SIGN; perthousand  
 14817 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 14818 % U+2031 PER TEN THOUSAND SIGN  
 14819 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 14820 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
     inglleft  
 14821 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
 14822 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guils-  
     inglright  
 14823 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
 14824 % U+203B REFERENCE MARK; referencemark  
 14825 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 14826 % U+203D INTERROBANG  
 14827 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 14828 % U+2044 FRACTION SLASH; fraction  
 14829 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 14830 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 14831 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 14832 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 14833 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 14834 % U+2052 COMMERCIAL MINUS SIGN

14835 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

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

14836 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
14837 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070  
14838 % U+2074 SUPERSCRIPT FOUR; foursuperior  
14839 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074  
14840 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
14841 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075  
14842 % U+2076 SUPERSCRIPT SIX; sixsuperior  
14843 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076  
14844 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
14845 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077  
14846 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
14847 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078  
14848 % U+2079 SUPERSCRIPT NINE; ninesuperior  
14849 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079  
14850 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
14851 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A  
14852 % U+207B SUPERSCRIPT MINUS  
14853 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}  
14854 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
14855 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}  
14856 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
14857 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}  
14858 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
14859 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}  
14860 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
14861 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}  
14862 % U+2080 SUBSCRIPT ZERO; zeroinferior  
14863 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080  
14864 % U+2081 SUBSCRIPT ONE; oneinferior  
14865 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081  
14866 % U+2082 SUBSCRIPT TWO; twoinferior  
14867 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082  
14868 % U+2083 SUBSCRIPT THREE; threeinferior  
14869 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083  
14870 % U+2084 SUBSCRIPT FOUR; fourinferior  
14871 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084  
14872 % U+2085 SUBSCRIPT FIVE; fiveinferior  
14873 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085  
14874 % U+2086 SUBSCRIPT SIX; sixinferior  
14875 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086  
14876 % U+2087 SUBSCRIPT SEVEN; seveninferior  
14877 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087  
14878 % U+2088 SUBSCRIPT EIGHT; eightinferior  
14879 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088  
14880 % U+2089 SUBSCRIPT NINE; nineinferior  
14881 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089  
14882 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
14883 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D  
14884 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
14885 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

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

14886 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
14887 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1

14888 % U+20A4 LIRA SIGN; afii08941, \*lira  
 14889 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 14890 % U+20A6 NAIRA SIGN  
 14891 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 14892 % U+20A7 PESETA SIGN; peseta  
 14893 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 14894 % U+20A9 WON SIGN; won  
 14895 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 14896 % U+20AB DONG SIGN; dong  
 14897 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 14898 % U+20AC EURO SIGN; \*Euro, euro  
 14899 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 14900 % U+20B1 PESO SIGN  
 14901 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 14902 % U+20B2 GUARANI SIGN  
 14903 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

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

14904 % U+2103 DEGREE CELSIUS; centigrade  
 14905 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 14906 % U+2116 NUMERO SIGN; \*afii61352, numero  
 14907 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 14908 % U+2117 SOUND RECORDING COPYRIGHT  
 14909 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 14910 % U+211E PRESCRIPTION TAKE; prescription  
 14911 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 14912 % U+2120 SERVICE MARK  
 14913 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 14914 % U+2122 TRADE MARK SIGN; trademark  
 14915 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 14916 % U+2126 OHM SIGN; Ohm, Omega  
 14917 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 14918 % U+2127 INVERTED OHM SIGN  
 14919 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127  
 14920 % U+212B ANGSTROM SIGN; angstrom  
 14921 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 14922 % U+212E ESTIMATED SYMBOL; estimated  
 14923 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 14924 % U+2135 ALEF SYMBOL; aleph  
 14925 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

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

14926 % U+2190 LEFTWARDS ARROW; arrowleft  
 14927 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190  
 14928 % U+2191 UPWARDS ARROW; arrowup  
 14929 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191  
 14930 % U+2192 RIGHTWARDS ARROW; arrowright  
 14931 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192  
 14932 % U+2193 DOWNWARDS ARROW; arrowdown  
 14933 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

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

14934 % U+2212 MINUS SIGN; minus  
 14935 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
 14936 % U+221A SQUARE ROOT; radical  
 14937 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

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

14938 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft  
14939 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329  
14940 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright  
14941 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

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

14942 % U+2422 BLANK SYMBOL  
14943 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
14944 % U+2423 OPEN BOX; blank  
14945 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

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

14946 % U+2460 CIRCLED DIGIT ONE; onecircle  
14947 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
14948 % U+2461 CIRCLED DIGIT TWO; twocircle  
14949 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
14950 % U+2462 CIRCLED DIGIT THREE; threecircle  
14951 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
14952 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
14953 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
14954 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
14955 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
14956 % U+2465 CIRCLED DIGIT SIX; sixcircle  
14957 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
14958 % U+2466 CIRCLED DIGIT SEVEN; sevendigit  
14959 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
14960 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
14961 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
14962 % U+2468 CIRCLED DIGIT NINE; ninecircle  
14963 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
14964 % U+2469 CIRCLED NUMBER TEN; tencircle  
14965 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
14966 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
14967 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
14968 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
14969 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
14970 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
14971 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
14972 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
14973 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
14974 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
14975 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
14976 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
14977 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
14978 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
14979 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
14980 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
14981 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
14982 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
14983 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
14984 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
14985 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
14986 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
14987 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
14988 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
14989 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7

14990 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
 14991 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
 14992 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
 14993 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
 14994 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
 14995 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
 14996 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
 14997 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
 14998 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
 14999 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
 15000 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
 15001 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
 15002 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
 15003 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
 15004 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
 15005 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
 15006 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
 15007 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
 15008 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
 15009 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
 15010 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
 15011 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
 15012 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
 15013 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
 15014 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
 15015 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
 15016 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
 15017 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
 15018 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
 15019 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
 15020 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
 15021 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
 15022 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
 15023 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
 15024 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
 15025 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
 15026 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
 15027 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
 15028 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
 15029 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
 15030 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 15031 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 15032 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 15033 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 15034 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 15035 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 15036 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 15037 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 15038 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 15039 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 15040 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 15041 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 15042 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 15043 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 15044 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 15045 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 15046 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle

15047 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 15048 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 15049 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 15050 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 15051 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 15052 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 15053 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 15054 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 15055 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 15056 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 15057 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 15058 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 15059 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 15060 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 15061 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 15062 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 15063 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 15064 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 15065 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 15066 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 15067 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 15068 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 15069 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 15070 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 15071 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 15072 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 15073 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 15074 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 15075 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 15076 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 15077 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 15078 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 15079 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 15080 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 15081 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 15082 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 15083 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 15084 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 15085 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 15086 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 15087 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 15088 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 15089 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 15090 % U+24EA CIRCLED DIGIT ZERO  
 15091 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

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

15092 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
 15093 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6  
 15094 % U+25EF LARGE CIRCLE; largecircle  
 15095 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

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

15096 % U+266A EIGHTH NOTE; musicalnote  
 15097 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
 15098 % U+26AD MARRIAGE SYMBOL  
 15099 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD



15100 % U+26AE DIVORCE SYMBOL  
 15101 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

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

15102 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 15103 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6  
 15104 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 15105 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

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

15106 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 15107 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 15108 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 15109 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 50.2.25 Miscellaneous

15110 \DeclareTextCommand{\SS}{PU}{SS}

### 50.2.26 Aliases

Aliases (german.sty)

15111 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}  
 15112 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}  
 15113 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}  
 15114 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}  
 15115 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}  
 15116 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}  
 15117 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}  
 15118 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

15119 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}  
 15120 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}  
 15121 \DeclareTextCommand{\textdiv}{PU}{\textdivide}  
 15122 \DeclareTextCommand{\textpm}{PU}{\textplusminus}  
 15123 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}  
 15124 </puenc>

## 50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

15125 <\*puvnenc>  
 15126 \DeclareTextCommand{\abreve}{PU}{\81\003}  
 15127 \DeclareTextCommand{\acircumflex}{PU}{\80\342}  
 15128 \DeclareTextCommand{\dj}{PU}{\81\021}  
 15129 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}  
 15130 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}  
 15131 \DeclareTextCommand{\ohorn}{PU}{\81\241}  
 15132 \DeclareTextCommand{\uhorn}{PU}{\81\260}  
 15133 \DeclareTextCommand{\ABREVE}{PU}{\81\002}  
 15134 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}  
 15135 \DeclareTextCommand{\DJ}{PU}{\81\020}  
 15136 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}  
 15137 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}  
 15138 \DeclareTextCommand{\OHORN}{PU}{\81\240}  
 15139 \DeclareTextCommand{\UHORN}{PU}{\81\257}

15140 \DeclareTextCompositeCommand{'}{PU}{a}{\80\341}  
15141 \DeclareTextCompositeCommand{d}{PU}{a}{\9036\241}  
15142 \DeclareTextCompositeCommand{'}{PU}{a}{\80\340}  
15143 \DeclareTextCompositeCommand{h}{PU}{a}{\9036\243}  
15144 \DeclareTextCompositeCommand{~}{PU}{a}{\80\343}  
15145 \DeclareTextCompositeCommand{'}{PU}{\abreve}{\9036\257}  
15146 \DeclareTextCompositeCommand{d}{PU}{\abreve}{\9036\267}  
15147 \DeclareTextCompositeCommand{'}{PU}{\abreve}{\9036\261}  
15148 \DeclareTextCompositeCommand{h}{PU}{\abreve}{\9036\263}  
15149 \DeclareTextCompositeCommand{~}{PU}{\abreve}{\9036\265}  
15150 \DeclareTextCompositeCommand{'}{PU}{\acircumflex}{\9036\245}  
15151 \DeclareTextCompositeCommand{d}{PU}{\acircumflex}{\9036\255}  
15152 \DeclareTextCompositeCommand{'}{PU}{\acircumflex}{\9036\247}  
15153 \DeclareTextCompositeCommand{h}{PU}{\acircumflex}{\9036\251}  
15154 \DeclareTextCompositeCommand{~}{PU}{\acircumflex}{\9036\253}  
15155 \DeclareTextCompositeCommand{'}{PU}{e}{\80\351}  
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15160 \DeclareTextCompositeCommand{'}{PU}{\ecircumflex}{\9036\277}  
15161 \DeclareTextCompositeCommand{d}{PU}{\ecircumflex}{\9036\307}  
15162 \DeclareTextCompositeCommand{'}{PU}{\ecircumflex}{\9036\301}  
15163 \DeclareTextCompositeCommand{h}{PU}{\ecircumflex}{\9036\303}  
15164 \DeclareTextCompositeCommand{~}{PU}{\ecircumflex}{\9036\305}  
15165 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}  
15166 \DeclareTextCompositeCommand{d}{PU}{i}{\9036\313}  
15167 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}  
15168 \DeclareTextCompositeCommand{h}{PU}{i}{\9036\311}  
15169 \DeclareTextCompositeCommand{~}{PU}{i}{\81\051}  
15170 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}  
15171 \DeclareTextCompositeCommand{d}{PU}{o}{\9036\315}  
15172 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362}  
15173 \DeclareTextCompositeCommand{h}{PU}{o}{\9036\317}  
15174 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365}  
15175 \DeclareTextCompositeCommand{'}{PU}{\ocircumflex}{\9036\321}  
15176 \DeclareTextCompositeCommand{d}{PU}{\ocircumflex}{\9036\331}  
15177 \DeclareTextCompositeCommand{'}{PU}{\ocircumflex}{\9036\323}  
15178 \DeclareTextCompositeCommand{h}{PU}{\ocircumflex}{\9036\325}  
15179 \DeclareTextCompositeCommand{~}{PU}{\ocircumflex}{\9036\327}  
15180 \DeclareTextCompositeCommand{'}{PU}{\ohorn}{\9036\333}  
15181 \DeclareTextCompositeCommand{d}{PU}{\ohorn}{\9036\343}  
15182 \DeclareTextCompositeCommand{'}{PU}{\ohorn}{\9036\335}  
15183 \DeclareTextCompositeCommand{h}{PU}{\ohorn}{\9036\337}  
15184 \DeclareTextCompositeCommand{~}{PU}{\ohorn}{\9036\341}  
15185 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}  
15186 \DeclareTextCompositeCommand{d}{PU}{u}{\9036\345}  
15187 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371}  
15188 \DeclareTextCompositeCommand{h}{PU}{u}{\9036\347}  
15189 \DeclareTextCompositeCommand{~}{PU}{u}{\81\151}  
15190 \DeclareTextCompositeCommand{'}{PU}{\uhorn}{\9036\351}  
15191 \DeclareTextCompositeCommand{d}{PU}{\uhorn}{\9036\361}  
15192 \DeclareTextCompositeCommand{'}{PU}{\uhorn}{\9036\353}  
15193 \DeclareTextCompositeCommand{h}{PU}{\uhorn}{\9036\355}  
15194 \DeclareTextCompositeCommand{~}{PU}{\uhorn}{\9036\357}  
15195 \DeclareTextCompositeCommand{'}{PU}{y}{\80\375}  
15196 \DeclareTextCompositeCommand{d}{PU}{y}{\9036\365}

15197 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}  
15198 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}  
15199 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}  
15200 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}  
15201 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}  
15202 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}  
15203 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}  
15204 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}  
15205 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}  
15206 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}  
15207 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}  
15208 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}  
15209 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}  
15210 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}  
15211 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}  
15212 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}  
15213 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}  
15214 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}  
15215 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}  
15216 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}  
15217 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}  
15218 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}  
15219 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}  
15220 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}  
15221 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}  
15222 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}  
15223 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}  
15224 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}  
15225 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}  
15226 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}  
15227 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}  
15228 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}  
15229 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}  
15230 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}  
15231 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}  
15232 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}  
15233 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}  
15234 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}  
15235 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}  
15236 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}  
15237 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}  
15238 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}  
15239 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}  
15240 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}  
15241 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}  
15242 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}  
15243 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}  
15244 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}  
15245 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}  
15246 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}  
15247 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}  
15248 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}  
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15250 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}  
15251 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}  
15252 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}  
15253 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}

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15254 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
15255 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
15256 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
15257 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
15258 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
15259 \DeclareTextCompositeCommand{\-}{PU}{Y}{\9036\370}

15260 </puvnc>

```

## 50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

15261 <*puarenc>

15262 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LET-
TER HAMZA
15263 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
15264 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
15265 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE
15266 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LET-
TER ALEF WITH HAMZA BELOW
15267 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LET-
TER YEH WITH HAMZA ABOVE
15268 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
15269 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
15270 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
15271 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
15272 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LET-
TER THEH
15273 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LET-
TER JEEM
15274 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
15275 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
15276 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
15277 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
15278 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
15279 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
15280 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
15281 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LET-
TER SHEEN
15282 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
15283 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
15284 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
15285 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
15286 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
15287 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LET-
TER GHAIN
15288 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
15289 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
15290 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
15291 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
15292 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
15293 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LET-
TER MEEM
15294 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON

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15295 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afi57470;ARABIC LETTER HEH
15296 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afi57448;ARABIC LETTER WAW
15297 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afi57449;ARABIC LET-
TER ALEF MAKSURA
15298 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afi57450;ARABIC LETTER YEH
15299 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afi57451;ARABIC FATHATAN
15300 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afi57452;ARABIC DAMMATAN
15301 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afi57453;ARABIC KASRATAN
15302 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afi57454;ARABIC FATHA
15303 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afi57455;ARABIC DAMMA
15304 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afi57456;ARABIC KASRA
15305 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afi57457;ARABIC SHADDA
15306 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afi57458;ARABIC SUKUN

Farsi
15307 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afi57506;ARABIC LETTER PEH
15308 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afi57507;ARABIC LET-
TER TCHEH
15309 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afi57508;ARABIC LETTER JEH
15310 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afi????;FARSI LET-
TER KAF
15311 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afi57509;ARABIC LETTER GAF
15312 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afi????;FARSI LET-
TER YEH

15313 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
15314 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ
15315 </puarenc>

```

## 51 End of file hyccheck.tex

```

15316 <*check>
15317 \typeout{}
15318 \begin{document}
15319 \end{document}
15320 </check>

```

## 52 Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

Symbols		
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