

Hypertext marks in L^AT_EX

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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_EX 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^AT_EX”

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3 File hycheck.tex

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

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

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

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

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

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

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

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

`\HyC@checkPackage`

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

`\checkcommand` The macro `\checkcommand` parses the next tokens as a \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 \LaTeX 's definitions is parsed.

```

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

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

```

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

`\HyC@noValue`

```

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

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


```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

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

```

4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```
231 \Hy@SetCatcodes
```

It needs the December 95 release of L^AT_EX, because it uses `\protected@write`, and it defines commands in options; and the page setup internal code changed at that point. It'll probably break with the later releases!

```

232 \RequirePackage{keyval}[1997/11/10]
233 \RequirePackage{ifpdf}[2006/02/20]
234 \RequirePackage{ifvtex}
235 \RequirePackage{ifxetex}[2006/08/21]
236 \RequirePackage{hycolor}
237 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
238 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
239 \def\Hy@Info#1{\PackageInfo{hyperref}{#1}}

```

4.2 Compatibility with format dumps

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

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

```

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

```

4.3 Switches

```

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

```

```

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

```

Defaults for the switches are now set.

```

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

```

```

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

```

5 Common help macros

`\Hy@StepCount`

```

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

```

`\Hy@GlobalStepCount`

```

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

326 \newdimen\@linkdim
327 \let\Hy@driver\@empty
328 \let\MaybeStopEarly\relax
329 \newcount\Hy@linkcounter
330 \newcount\Hy@pagecounter
331 \Hy@linkcounter0
332 \Hy@pagecounter0

```

5.1 Macros for recursions

`\Hy@ReturnAfterElseFi` The commands `\Hy@ReturnAfterElseFi` and `\Hy@ReturnAfterFi` avoid a too deep
`\Hy@ReturnAfterFi` `\if`-nesting especially for recursive macros.

```

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

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

```

5.2 Babel's protection of shorthand characters

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

```

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

```

5.3 Coordinate transformations

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

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

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

Example (T_EX):

```

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

\hypercalcbp

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

```

```

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

```

6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

6.1 Description of PDF strings

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

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

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

6.2 Definition of `\pdfstringdef`

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

Important: In \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 \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 \TeX string is expanded the first time to get a PDF string.
3. Postprocessing. The result of the expansion is checked and converted to the final form.

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

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

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

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

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

```
382 \begingroup
```

6.2.1 Preprocessing

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

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

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

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

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

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

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

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

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

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

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

```
388 \ifHy@unicode
```

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

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

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

```
392 \HyPsd@UTFviii
```

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

```
394 \else
```

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

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

```
397 \fi
```

```
398 \enc@update
```

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

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

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

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

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

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

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

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

Newline `\newline` or `\\` do not work in bookmarks, in text annotations they should expand to `\r`. In pdf strings `\\` stands for a backslash. Therefore the commands are disabled now. The user can redefine them for a result what he want:

backslash: `\pdfstringdefDisableCommands{\let\\\textbackslash}`

new line: `\pdfstringdefDisableCommands{\let\\\textCR}`

disabled: `\pdfstringdefDisableCommands{\let\\\empty}`

At any case, however, the optional argument or the star cannot be scanned in a 100% sure manner.

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

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

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

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

```

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

```

Package color.

```

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

```

Upper- and lowercase.

```

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

```

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

```

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

```

```

468 \let\@safe@activetrue\relax
469 \let\@safe@activesfalse\relax

```

Disable \cyr, used in russianb.ldf.

```

470 \let\cyr\relax

```

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

```

471 \let\es@roman\@Roman

```

Package german.

```

472 \let\glqq\textglqq
473 \let\grqq\textgrqq
474 \let\glq\textglq
475 \let\grq\textgrq
476 \let\flqq\textflqq
477 \let\frqq\textfrqq
478 \let\flq\textflq
479 \let\frq\textfrq

```

Package french. The support is deferred, because it needs \GenericError to be disabled (see below).

Package FrenchPro. This package uses:

```

\if@mid@expandable{not fully expandable code}{fully expandable code}

480 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

481 \HyPsd@AMSclassfix

```

Redefinition of \hspace \hspace don't work in bookmarks, the following fix tries to set a space if the argument is a positive length.

```

482 \let\hspace\HyPsd@hspace

```

Commands of referencing and indexing systems. Some L^AT_EX commands that are legal in \section commands have to be disabled here.

```

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

```

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

```

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

```

Miscellaneous commands.

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

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

```
494 \def\halign{\pdfstringdefWarn\halign\@gobble}%
495 \let\ignorespaces\HyPsd@ignorespaces
496 \let\Hy@SectionAnchor\@empty
```

Patch for cjk bookmarks.

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

User hook. The switch `\Hy@pdfstring` is turned on. So user commands can detect that they are processed not to be typeset within \TeX 's stomach, but to be expanded by the mouth to give a PDF string. At this place before interpreting the string in #2 additional redefinitions can be added by the hook `\pdfstringdefPreHook`.

The position in the middle of the redefinitions is a compromise: The user should be able to provide his own (perhaps better) redefinitions, but some commands should have their original meaning, because they can be used in the hook (`\bgroup`, or `\@protected@testopt`, and `\@ifnextchar` for `\renewcommand`).

```
500 \Hy@pdfstringtrue
501 \pdfstringdefPreHook
```

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

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

Package xspace.

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

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

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

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

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

A mimicry of `\@ifnextchar` only with 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:

```

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

```

Support for package ‘xargs’:

```

519 \let\@protected@testopt\xargs\HyPsd@protected@testopt

```

6.2.2 Expansion

There are several possibilities to expand tokens within \LaTeX :

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

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

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

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

```

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

```

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

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

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

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

6.2.3 Postprocessing

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

```
537     \ifx#1\@empty
538     \else
```

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

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

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

```
539     \HyPsd@ProtectSpaces#1%
540     \let\HyPsd@String\@empty
541     \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
542     \global\let#1\HyPsd@String
```

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

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

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

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

```

543 \let\HyPsd@SPACEOPTI\relax
544 {%
545   \let\HyPsd@String\@empty
546   \expandafter\HyPsd@CheckCatcodes#1\HyPsd@end
547   \global\let#1\HyPsd@String
548 }%
549 \expandafter\HyPsd@RemoveMask\expandafter
550 |\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.

```

551 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
552 \let\HyPsd@String\@empty
553 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
554 \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.

```
555 \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.

```

556 \ifHy@unicode
557   \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
558   \HyPsd@SPACEOPTI#1%
559 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
```



```

560      \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
561      {\HyPsd@SPACEOPTI\80\273}\#1%
562    \else
563      \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI\#1%
564      \expandafter\HyPsd@Subst\expandafter{%
565        \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
566        \string\273}\HyPsd@SPACEOPTI\273}\#1%
567    \fi

```

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

```

568    \ifHy@unicode
569      \HyPsd@StringSubst{\}){\80\051}\#1%
570      \HyPsd@Subst){\80\051}\#1%
571      \let\HyPsd@empty\relax
572      \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
573      {\HyPsd@empty\80\051}\#1%
574    \else
575      \HyPsd@StringSubst{\}){\051}\#1%
576      \HyPsd@Subst){\051}\#1%
577      \let\HyPsd@empty\relax
578      \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}\#1%
579    \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`.

```

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

```

Ligatures. \TeX forms ligatures in its stomach, but the PDF strings are treated only by \TeX 's mouth. The `PDFDocEncoding` contains some ligatures, but the current version 3 of the `AcrobatReader` lacks the `fi` and `fl` glyphs, and the Linux version lacks the `emdash` and `endash` glyphs. So the necessary code is provided here, but currently disabled, hoping that version 4 of the `AcrobatReader` is better. To break the ligatures the user can use

an empty group, because it leads to an insertion of an `\HyPsd@empty`. If this ligature code will be enabled some day, then the italic correction should also break the ligatures. Currently this occurs only, if package `xspace` is loaded.

Since newer AcrobatReader versions now show the en- and emdash in a correct way (AR7/Linux, AR8/Linux), the substitution code for them is enabled starting with version 6.78l.

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

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

```
595 \let\HyPsd@empty\@empty
```

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

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

```
596 \ifHy@unicode
597 \HyPsd@StringSubst\(\textparenleft#1%
598 \HyPsd@Subst(\textparenleft#1%
599 \else
600 \HyPsd@StringSubst\({\050}#1%
601 \HyPsd@Subst({\050}#1%
602 \HyPsd@StringSubst{\050}{\string\()}#1%
603 \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.

```
604 \ifHy@unicode
605 \edef\HyPsd@SPACEOPTI{\80\040}%
606 \else
607 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
608 \fi
609 \xdef#1{#1\@empty}%
610 \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.

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

Try conversion back to PDFDocEncoding.

```
615 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
616 \@ifundefined{StringEncodingConvertTest}{%
617 }{%
618 \EdefUnescapeString\HyPsd@temp#1%
```

```

619      \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
620      {utf16be}{pdfdoc}{%
621      \EdefEscapeString\HyPsd@temp\HyPsd@temp
622      \global\let#1\HyPsd@temp
623      \Hy@unicodedefalse
624      }{}%
625      }%
626      \fi
627      \fi

```

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

```

628      \pdfstringdefPostHook#1%
629      \endgroup
630 }

```

`\Hy@pdfstringdef`

```

631 \def\Hy@pdfstringdef#1#2{%
632   \pdfstringdef\Hy@gtemp{#2}%
633   \let#1\Hy@gtemp
634 }

```

6.3 Encodings

6.3.1 Workaround for package linguex

```

635 \@ifpackageloaded{linguex}{%
636   \let\HyLinguex@OrgB\b
637   \let\HyLinguex@OrgC\c
638   \let\HyLinguex@OrgD\d
639   \def\HyLinguex@Restore{%
640     \let\b\HyLinguex@OrgB
641     \let\c\HyLinguex@OrgC
642     \let\d\HyLinguex@OrgD
643   }%
644   \AtEndOfPackage{%
645     \pdfstringdefDisableCommands{%
646       \@ifundefined{olddb}{\let\b\olddb}%
647       \@ifundefined{oldc}{\let\c\oldc}%
648       \@ifundefined{oldd}{\let\d\oldd}%
649     }%
650   }%
651 }{%
652   \let\HyLinguex@Restore\relax
653 }%

```

6.3.2 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L^AT_EX 2_ε's NFSS. Because the informational strings are not set by T_EX'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_EX does not process it anyway. So use CM.

```

654 \@ifundefined{T@PD1}{%

```

```

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

```

6.3.3 PU encoding

The PU encoding implements the Unicode encoding for use with L^AT_EX'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`.

```

661 \def\HyPsd@InitUnicode{%
662   \@ifundefined{T@PU}{%
663     \input{puenc.def}%
664     \HyLinguex@Restore
665   }{}%
666   \DeclareFontFamily{PU}{pdf}{}%
667   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
668   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
669   \let\HyPsd@InitUnicode\relax
670 }

```

6.4 Additional user commands

6.4.1 \texorpdfstring

`\texorpdfstring` While expanding the string in `\pdfstringdef` the switch `\ifHy@pdfstring` is set. This is used by the full expandable macro `\texorpdfstring`. It expects two arguments, the first contains the string that will be set and processed by T_EX's stomach, the second contains the replacement for PDF strings.

```

671 \def\texorpdfstring{%
672   \ifHy@pdfstring
673     \expandafter\@secondoftwo
674   \else
675     \expandafter\@firstoftwo
676   \fi
677 }

```

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`.

```

678 \@ifundefined{pdfstringdefPreHook}{%
679   \let\pdfstringdefPreHook\@empty
680 }{}
681 \@ifundefined{pdfstringdefPostHook}{%
682   \let\pdfstringdefPostHook\@gobble
683 }{}

```

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

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

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

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

```
684 \def\pdfstringdefDisableCommands{%
685   \begingroup
686     \makeatletter
687     \HyPsd@DisableCommands
688 }
```

`\HyPsd@DisableCommands`

```
689 \long\def\HyPsd@DisableCommands#1{%
690   \toks0=\expandafter{\pdfstringdefPreHook}%
691   \toks1={#1}%
692   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
693   \endgroup
694 }
```

`\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`.

```
695 \def\pdfstringdefWarn#1{%
696   \expandafter\noexpand\csname<>-string#1\endcsname
697 }
```

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.

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

6.5.2 Babel languages

```
707 \newif\ifHy@next

    Nothing to do for english.
708 \@ifundefined{danish@sh@{@sel}{-}{-}{%
709   \def\HyPsd@babel@danish{%
710     \declare@shorthand{danish}{-}{-}{-}%
711     \declare@shorthand{danish}{-}{-}{-}%
712   }%
713 }
714 \@ifundefined{dutch@sh@{@sel}{-}{-}{%
715   \def\HyPsd@babel@dutch{%
716     \declare@shorthand{dutch}{-}{-}{-}%
717     \declare@shorthand{dutch}{-}{-}{-}%
718   }%
719 }
720 \@ifundefined{finnish@sh@{@sel}{-}{-}{%
721   \def\HyPsd@babel@finnish{%
722     \declare@shorthand{finnish}{-}{-}{-}%
723   }%
724 }
725 \@ifundefined{french@sh@{@sel}{-}{-}{%
726   \def\HyPsd@babel@frenchb{%
727     \def\guill@spacing{ }%
728   }%
729 }
730 \@ifundefined{german@sh@{@sel}{-}{-}{%
731   \def\HyPsd@babel@german{%
732     \declare@shorthand{german}{f}{f}%
733     \declare@shorthand{german}{-}{-}{-}%
734     \declare@shorthand{german}{-}{-}{-}%
735   }%
736 }
737 \@ifundefined{macedonian@sh@{@sel}{-}{-}{%
738   \def\HyPsd@babel@macedonian{%
739     \declare@shorthand{macedonian}{-}{-}{-}%
740     \declare@shorthand{macedonian}{-}{-}{-}%
741   }%
742 }{}
743 \@ifundefined{ngerman@sh@{@sel}{-}{-}{%
744   \def\HyPsd@babel@ngerman{%
745     \declare@shorthand{ngerman}{-}{-}{-}%
746     \declare@shorthand{ngerman}{-}{-}{-}%
747   }%
748 }
749 \@ifundefined{portuges@sh@{@sel}{-}{-}{%
750   \def\HyPsd@babel@portuges{%
751     \declare@shorthand{portuges}{-}{-}{-}%
752   }%
753 }
754 \@ifundefined{russian@sh@{@sel}{-}{-}{%
755   \def\HyPsd@babel@russian{%
756     \declare@shorthand{russian}{-}{-}{-}%
757     \declare@shorthand{russian}{-}{-}{-}%
758   }%
759 }
760 \@ifundefined{slovene@sh@{@sel}{-}{-}{%
```

```

761 \def\HyPsd@babel@slovene{%
762   \declare@shorthand{slovene}{"}{|}%
763 }%
764 }

```

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

```

765 \@ifundefined{spanish@sh@>@sel}{}{%
766   \def\HyPsd@babel@spanish{%
767     \declare@shorthand{spanish}{<<}{\guillemotleft}%
768     \declare@shorthand{spanish}{>>}{\guillemotright}%
769     \declare@shorthand{spanish}{"}{|}%
770     \declare@shorthand{spanish}{"}{|}%
771     \declare@shorthand{spanish}{"}{|}%
772     \declare@shorthand{spanish}{"}{|}%
773   }%
774 }
775 \@ifundefined{swedish@sh@"@sel}{}{%
776   \def\HyPsd@babel@swedish{%
777     \declare@shorthand{swedish}{"}{|}%
778     \declare@shorthand{swedish}{"}{|}%
779   }%
780 }
781 \@ifundefined{ukrainian@sh@"@sel}{}{%
782   \def\HyPsd@babel@ukrainian{%
783     \declare@shorthand{ukrainian}{"}{|}%
784     \declare@shorthand{ukrainian}{"}{|}%
785   }%
786 }
787 \@ifundefined{usorbian@sh@"@sel}{}{%
788   \def\HyPsd@babel@usorbian{%
789     \declare@shorthand{usorbian}{f}{f}%
790     \declare@shorthand{usorbian}{"}{|}%
791   }%
792 }
793 \@ifundefined{greek@sh@\string~@sel}{%
794   \let\HyPsd@GreekPatch\empty
795 }{%
796   \def\HyPsd@GreekPatch{%
797     \let\greeknumeral\HyPsd@greeknumeral
798     \let\Greeknatural\HyPsd@greeknatural
799   }%
800 }
801 \def\HyPsd@greeknumeral#1{%
802   \HyPsd@GreekNum\@firstoftwo{#1}%
803 }
804 \def\HyPsd@Greeknatural#1{%
805   \HyPsd@GreekNum\@secondoftwo{#1}%
806 }
807 \def\HyPsd@GreekNum#1#2{%
808   \ifHy@unicode
809     \ifnum#2<\@ne
810       \@arabic{#2}%
811     \else
812       \ifnum#2<1000000 %
813         \HyPsd@@GreekNum#1{#2}%
814       \else
815         \@arabic{#2}%
816       \fi

```

```

817 \fi
818 \else
819 \@arabic{#2}%
820 \fi
821 }
822 \def\HyPsd@GreeNum#1#2{%
823 \ifnum#2<\@m
824 \ifnum#2<10 %
825 \expandafter\HyPsd@GreeNumI
826 \expandafter\@gobble\expandafter#1\number#2%
827 \else
828 \ifnum#2<100 %
829 \expandafter\HyPsd@GreeNumII
830 \expandafter\@gobble\expandafter#1\number#2%
831 \else
832 \expandafter\HyPsd@GreeNumIII
833 \expandafter\@gobble\expandafter#1\number#2%
834 \fi
835 \fi
836 \ifnum#2>\z@
837 \textnumeralsigngreek
838 \fi
839 \else
840 \ifnum#2<\@M
841 \expandafter\HyPsd@GreeNumIV\expandafter#1\number#2%
842 \else
843 \ifnum#2<100000 %
844 \expandafter\HyPsd@GreeNumV\expandafter#1\number#2%
845 \else
846 \expandafter\HyPsd@GreeNumVI\expandafter#1\number#2%
847 \fi
848 \fi
849 \fi
850 }
851 \def\HyPsd@GreeNumI#1#2#3{%
852 #1{%
853 \ifnum#3>\z@
854 \textnumeralsignlowergreek
855 \fi
856 }%
857 \expandafter#2%
858 \ifcase#3 %
859 {}{}%
860 \or\textalpha\textAlpha
861 \or\textbeta\textBeta
862 \or\textgamma\textGamma
863 \or\textdelta\textDelta
864 \or\textepsilon\textEpsilon
865 \or\textstigmagreek\textStigmagreek
866 \or\textzeta\textZeta
867 \or\texteta\textEta
868 \or\texttheta\textTheta
869 \else
870 {}{}%
871 \fi
872 }
873 \def\HyPsd@GreeNumII#1#2#3#4{%

```



```

874 #1{%
875     \ifnum#3>\z@
876         \textnumeralsignlowergreek
877     \fi
878 }%
879 \expandafter#2%
880 \ifcase#3 %
881     {}{}%
882 \or\textiota\textIota
883 \or\textkappa\textKappa
884 \or\textlambda\textLambda
885 \or\textmu\textMu
886 \or\textnu\textNu
887 \or\textxi\textXi
888 \or\textomicron\textOmicron
889 \or\textpi\textPi
890 \or\textkoppagreek\textKoppagreek
891 \else
892     {}{}%
893 \fi
894 \HyPsd@GreekNumI#1#2#4%
895 }
896 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
897     #1{%
898         \ifnum#3>\z@
899             \textnumeralsignlowergreek
900         \fi
901     }%
902     \expandafter#2%
903     \ifcase#3 %
904         {}{}%
905 \or\textrho\textRho
906 \or\textsigma\textSigma
907 \or\texttau\textTau
908 \or\textupsilon\textUpsilon
909 \or\textphi\textPhi
910 \or\textchi\textChi
911 \or\textpsi\textPsi
912 \or\textomega\textOmega
913 \or\textsampigreek\textSampigreek
914 \else
915     {}{}%
916 \fi
917 \HyPsd@GreekNumII#1#2#4#5%
918 }
919 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
920     \HyPsd@GreekNumI\@firstofone#1#2%
921     \HyPsd@@GreekNum#1{#3#4#5}%
922 }
923 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
924     \HyPsd@GreekNumII\@firstofone#1#2#3%
925     \HyPsd@@GreekNum#1{#4#5#6}%
926 }
927 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
928     \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
929     \HyPsd@@GreekNum#1{#5#6#7}%
930 }

```

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 ($\geq 0x40$).

```

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

```

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

```

962 \def\HyPsd@CJKActiveChars#1{%
963   \ifx#1!%
964     \let\HyPsd@CJKActiveChars\relax
965   \else
966     \edef#1{\noexpand\Hy@cjkpu\string#1}%
967   \fi
968   \HyPsd@CJKActiveChars
969 }

```

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

```
970 \def\HyPsd@DecimalToOctal#1{%
```

```

971 \ifcase #1 %
972     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
973     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
974     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
975     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
976     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
977     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
978     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
979     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
980     \or @\or A\or B\or C\or D\or E\or F\or G%
981     \or H\or I\or J\or K\or L\or M\or N\or O%
982     \or P\or Q\or R\or S\or T\or U\or V\or W%
983     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
984     \or \140\or a\or b\or c\or d\or e\or f\or g%
985     \or h\or i\or j\or k\or l\or m\or n\or o%
986     \or p\or q\or r\or s\or t\or u\or v\or w%
987     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
988     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
989     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
990     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
991     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
992     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
993     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
994     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
995     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
996     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
997     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
998     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
999     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1000    \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1001    \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1002    \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1003    \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1004 \fi
1005 }

```

6.5.4 \@inmathwarn-Patch

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

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

```

\def\@current@cmd#1{%
  \ifx\protect\@typesetprotect
    \@inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble
  \fi}
\def\@changed@cmd#1#2{%
  \ifx\protect\@typesetprotect
    \@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}

1006 \def\HyPsd@inmathwarn#1#2{%
1007   \ifx#2\expandafter
1008     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1009       \HyPsd@GLYPHERR
1010       \expandafter\@gobble\string#1%
1011       >%
1012       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1013     \else
1014       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1015     \fi
1016   \else
1017     \expandafter#2%
1018   \fi
1019 }
1020 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1021 \def\HyPsd@EndWithElse#1\else\else}

\HyPsd@add@accent

1022 \def\HyPsd@add@accent#1#2{%
1023   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1024   #2%
1025 }%

```

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`.

```

1026 \def\HyPsd@LetUnexpandableSpace#1{%
1027   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1028 }

```

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

```
1029 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace
```

6.5.6 Marker for commands

`\HyPsd@XSPACE` `\HyPsd@ITALCORR` `\HyPsd@GLYPHERR` 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.

```
1030 \edef\HyPsd@XSPACE{\string#\string X}
1031 \edef\HyPsd@ITALCORR{\string#\string I}
1032 \edef\HyPsd@GLYPHERR{\string#\string G}
```

6.5.7 `\hspace` fix

`\HyPsd@hspace`

```
1033 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1034 \def\HyPsd@@hspace#1*#2\END{%
1035   \ifx\#2\%
1036     \HyPsd@hspacetest{#1}%
1037   \else
1038     \expandafter\HyPsd@hspacetest
1039   \fi
1040 }
```

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

```
1041 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

6.5.8 Fix for AMS classes

```
1042 \@ifundefined{tocsection}{%
1043   \let\HyPsd@AMSclassfix\relax
1044 }{%
1045   \def\HyPsd@AMSclassfix{%
1046     \let\tocpart\HyPsd@tocsection
1047     \let\tocchapter\HyPsd@tocsection
1048     \let\tocappendix\HyPsd@tocsection
1049     \let\tocsection\HyPsd@tocsection
1050     \let\tocsubsection\HyPsd@tocsection
1051     \let\tocsubsubsection\HyPsd@tocsection
1052     \let\tocparagraph\HyPsd@tocsection
1053   }%
1054   \def\HyPsd@tocsection#1#2#3{%
1055     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1056     #3%
1057   }%
1058 }
```

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.

```

1059 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%

\HyPsd@@ref Macro \HyPsd@@ref checks if a star is present.
1060 \def\HyPsd@@ref#1*#2\END{%
1061   \ifx\#2\%
1062     \HyPsd@@@ref{#1}%
1063   \else
1064     \expandafter\HyPsd@@@ref
1065   \fi
1066 }%

\HyPsd@@@ref \HyPsd@@@ref does the work and extracts the first argument.
1067 \def\HyPsd@@@ref#1{%
1068   \expandafter\ifx\csname r@#1\endcsname\relax
1069     ??%
1070   \else
1071     \expandafter\expandafter\expandafter
1072     \@car\csname r@#1\endcsname\@nil
1073   \fi
1074 }

\HyPsd@pageref Macro \HyPsd@pageref calls the macro \HyPsd@@pageref for star checking. The same
methods like in \HyPsd@hspace is used.
1075 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

\HyPsd@@pageref Macro \HyPsd@@pageref checks if a star is present.
1076 \def\HyPsd@@pageref#1*#2\END{%
1077   \ifx\#2\%
1078     \HyPsd@@@pageref{#1}%
1079   \else
1080     \expandafter\HyPsd@@@pageref
1081   \fi
1082 }

\HyPsd@@@pageref \HyPsd@@@pageref does the work and extracts the second argument.
1083 \def\HyPsd@@@pageref#1{%
1084   \expandafter\ifx\csname r@#1\endcsname\relax
1085     ??%
1086   \else
1087     \expandafter\expandafter\expandafter\expandafter
1088     \expandafter\expandafter\expandafter\@car
1089     \expandafter\expandafter\expandafter\@gobble
1090     \csname r@#1\endcsname{}\@nil
1091   \fi
1092 }

\HyPsd@nameref Macro \HyPsd@nameref calls the macro \HyPsd@@nameref for star checking. The same
methods like in \HyPsd@hspace is used.
1093 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

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

```

```

1099 \fi
1100 }

```

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

```

1101 \def\HyPsd@@@nameref#1{%
1102   \expandafter\ifx\csname r@#1\endcsname\relax
1103     ??%
1104   \else
1105     \expandafter\expandafter\expandafter\expandafter
1106     \expandafter\expandafter\expandafter\@car
1107     \expandafter\expandafter\expandafter\@gobbletwo
1108     \csname r@#1\endcsname{}{}{}\@nil
1109   \fi
1110 }

```

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

```

1111 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1112 \def\HyPsd@@autoref#1*#2\END{%
1113   \ifx\#2\%
1114     \HyPsd@@@autoref{#1}%
1115   \else
1116     \expandafter\HyPsd@@@autoref
1117   \fi
1118 }

```

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

```

1119 \def\HyPsd@@@autoref#1{%
1120   \expandafter\ifx\csname r@#1\endcsname\relax
1121     ??%
1122   \else
1123     \expandafter\expandafter\expandafter\HyPsd@autorefname
1124     \csname r@#1\endcsname{}{}{}{}\@nil
1125     \expandafter\expandafter\expandafter
1126     \@car\csname r@#1\endcsname\@nil
1127   \fi
1128 }

```

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

```

1129 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1130   \ifx\#4\%
1131   \else
1132     \HyPsd@@@autorefname#4.\@nil
1133   \fi
1134 }

```

`\HyPsd@@@autorefname`

```

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

```

```

1142 \csname#1autorefname\endcsname\space
1143 }%
1144 }

```

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 cause TeX to stop with an error message. With a deep trick it is possible to define commands in such a context: `\csname` does the job, it defines the command to be `\relax`, if it has no meaning.

Active characters cannot be defined with this trick. It is possible to define all undefined active characters (perhaps that they have the meaning of `\relax`). To avoid side effects this should be done in `\pdfstringdef` shortly before the `\xdef` job. But checking and defining all possible active characters of the full range (0 until 255) would take a while. `\pdfstringdef` is slow enough, so this isn't done.

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

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

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

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand
1145 \begingroup
1146 \def\x#1#2{%
1147 \endgroup
1148 \let#1\def
1149 \def\HyPsd@DefCommand##1##2##3{%
1150 #1%
1151 \expandafter\noexpand
1152 \csname\expandafter@gobble\string##1\@empty\endcsname
1153 \@gobble
1154 }%
1155 \let#2\let
1156 \def\HyPsd@LetCommand##1{%
1157 \expandafter\ifx\csname##1\expandafter\endcsname
1158 \csname iftrue\endcsname
1159 \pdfstringdefWarn\let
1160 \expandafter@gobble
1161 \else
1162 \expandafter\ifx\csname##1\expandafter\endcsname
1163 \csname iffalse\endcsname
1164 \pdfstringdefWarn\let
1165 \expandafter\expandafter\expandafter@gobble

```



```

1166         \else
1167         #2%
1168         \expandafter\noexpand
1169         \csname##1\expandafter\expandafter\expandafter\endcsname
1170     \fi
1171 \fi
1172 }%
1173 }%
1174 \expandafter\x\csname <def>-command\expandafter\endcsname
1175         \csname <let>-command\endcsname
1176 \def\HyPsd@LetCommand#1{%
1177     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1178     \expandafter\expandafter\expandafter{%
1179     \expandafter\@gobble\string#1\@empty
1180 }%
1181 }

```

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).

```

1182 \def\HyPsd@ifnextchar#1{%
1183     \pdfstringdefWarn#1%
1184     \expandafter\@gobbletwo\@gobble
1185 }

```

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`.

```

1186 \def\HyPsd@protected@testopt#1{%
1187     \pdfstringdefWarn#1%
1188     \@gobbletwo
1189 }

```

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:

```

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

```

```

1194 \endgroup
1195 }

```

6.6.2 Protecting spaces

```

1196 \RequirePackage{etexcmds}[2007/09/09]
1197 \ifetex@unexpanded
1198   \expandafter\@secondoftwo
1199 \else
1200   \expandafter\@firstoftwo
1201 \fi
1202 {%

```

`\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`.

```

1203   \def\HyPsd@ProtectSpaces#1{%
1204     \iftrue
1205       \expandafter\HyPsd@@ProtectSpacesFi
1206       \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1207     \fi
1208   }%

```

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

```

1209   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1210     \fi
1211     \ifx\scrollmode#2\scrollmode
1212       \HyPsd@RemoveMask#1\HyPsd@End#3%
1213     \else
1214       \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1215       \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1216     \fi
1217   }%

```

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.

```

1218   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1219     \toks@\expandafter{#1}%
1220     \xdef#2{\the\toks@}%
1221   }%

1222 }{%
1223   \let\HyPsd@fi\fi
1224   \def\HyPsd@ProtectSpaces#1{%
1225     \xdef#1{%
1226       \iftrue
1227         \expandafter\HyPsd@@ProtectSpacesFi
1228         \expandafter|\expandafter\@empty#1| %
1229       \HyPsd@fi
1230     }%
1231     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1232   }%
1233   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1234     \fi

```

```

1235 \etex@unexpanded{#1}%
1236 \ifx\scrollmode#2\scrollmode
1237 \else
1238 \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1239 \HyPsd@fi
1240 }%
1241 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1242 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1243 }%
1244 }

```

6.6.3 Remove grouping braces

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

```

1245 \def\HyPsd@RemoveBraces#1{%
1246 \ifx\scrollmode#1\scrollmode
1247 \else
1248 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1249 \fi
1250 }

```

`\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`.

```

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

```

```

1277         {\Hy@temp@A#2}%
1278     }%
1279     \fi
1280 \fi
1281 \Hy@ReturnEnd
1282 }

```

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

```

1283 \def\HyPsd@AppendItalcorr#1{%
1284   \expandafter\HyPsd@@AppendItalcorr\expandafter{/}#1%
1285 }
1286 \def\HyPsd@@AppendItalcorr#1#2{%
1287   \expandafter\def\expandafter#2\expandafter{#2#1}%
1288 }

```

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`).

```

1289 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1290   \global\let\HyPsd@Rest\relax
1291   \ifcat\relax\noexpand#1\relax
1292     \ifx#1\protect
1293       \else
1294         \ifx#1\penalty
1295           \setbox\z@=\hbox{%
1296             \afterassignment\HyPsd@AfterCountRemove
1297             \count@=#2\HyPsd@End
1298           }%
1299         \else
1300           \ifx#1\kern
1301             \setbox\z@=\hbox{%
1302               \afterassignment\HyPsd@AfterDimenRemove
1303               \dimen@=#2\HyPsd@End
1304             }%
1305           \else
1306             \ifx#1\hskip
1307               \setbox\z@=\hbox{%
1308                 \afterassignment\HyPsd@AfterSkipRemove
1309                 \skip@=#2\HyPsd@End
1310               }%
1311             \else
1312               \HyPsd@CatcodeWarning{#1}%
1313             \fi
1314           \fi
1315         \fi

```

```

1316 \fi
1317 \else
1318 \ifcat#1A% letter
1319 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1320 \HyPsd@String#1%
1321 }%
1322 \else
1323 \ifcat#1 % SPACE
1324 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1325 \HyPsd@String\HyPsd@SPACEOPTI
1326 }%
1327 \else
1328 \ifcat$#1%
1329 \HyPsd@CatcodeWarning{math shift}%
1330 \else
1331 \ifcat&#1%
1332 \HyPsd@CatcodeWarning{alignment tab}%
1333 \else
1334 \ifcat^#1%
1335 \HyPsd@CatcodeWarning{superscript}%
1336 \else
1337 \ifcat_#1%
1338 \HyPsd@CatcodeWarning{subscript}%
1339 \else
1340 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1341 \HyPsd@String#1%
1342 }%
1343 \fi
1344 \fi
1345 \fi
1346 \fi
1347 \fi
1348 \fi
1349 \fi
1350 \ifx\HyPsd@Rest\relax
1351 \ifx\scrollmode#2\scrollmode
1352 \else
1353 \Hy@ReturnAfterFiFiEnd{%
1354 \HyPsd@CheckCatcodes#2\HyPsd@End
1355 }%
1356 \fi
1357 \else
1358 \ifx\HyPsd@Rest\@empty
1359 \else
1360 \Hy@ReturnAfterFiFiEnd{%
1361 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1362 }%
1363 \fi
1364 \fi
1365 \Hy@ReturnEnd
1366 }

```

Remove counts, dimens, skips.

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

```

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

```

1369 }

`\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.

```
1370 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
1371   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1372     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1373     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1374   \else
1375     \ifdim\dimen@=\z@
1376     \else
1377       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1378     \fi
1379     \gdef\HyPsd@Rest{#1}%
1380   \fi
1381 }
```

`\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).

```
1382 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1383   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1384     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1385     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1386   \else
1387     \ifdim\skip@=\z@
1388     \else
1389       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1390     \fi
1391     \gdef\HyPsd@Rest{#1}%
1392   \fi
1393 }
```

Catcode warnings.

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

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

```

1413 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1414 |endgroup

```

\HyPsd@RemoveSpaceWarning

```

1415 \def\HyPsd@RemoveSpaceWarning#1{%
1416   \HyPsd@Warning{%
1417     Token not allowed in a PDF string (%)
1418     \ifHy@unicode
1419       Unicode%
1420     \else
1421       PDFDocEncoding%
1422     \fi
1423   }:%
1424   \MessageBreak #1\MessageBreak
1425   removed%
1426 }%
1427 }

```

\HyPsd@ReplaceSpaceWarning

```

1428 \def\HyPsd@ReplaceSpaceWarning#1{%
1429   \HyPsd@Warning{%
1430     Token not allowed in a PDF string (%)
1431     \ifHy@unicode
1432       Unicode%
1433     \else
1434       PDFDocEncoding%
1435     \fi
1436   }:%
1437   \MessageBreak #1\MessageBreak
1438   replaced by space%
1439 }%
1440 }

```

6.6.5 Check for wrong glyphs

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

```

1441 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1442   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1443     \HyPsd@String#1%
1444   }%
1445   \ifx\#2\%
1446   \else
1447     \Hy@ReturnAfterFi{%
1448       \HyPsd@GlyphProcessWarning#2\@empty
1449     }%
1450   \fi
1451 }
1452 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1453   \HyPsd@@GlyphProcessWarning#1++>%
1454   \HyPsd@GlyphProcess#2\@empty
1455 }
1456 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1457   \ifx\#2\%
1458     \HyPsd@Warning{%
1459       Glyph not defined in %
1460       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak

```

```

1461     removing '@backslashchar#1'%
1462   }%
1463 \else
1464   \HyPsd@Warning{%
1465     Composite letter '@backslashchar#1+#2'\MessageBreak
1466     not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1467     \MessageBreak
1468     removing '@backslashchar#1'%
1469   }%
1470 \fi
1471 }

```

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`.

```

1472 \def\HyPsd@spaceopti#1{ % first space
1473   \ifx\HyPsd@spaceopti#1%
1474     \040%
1475   \else
1476     #1%
1477   \fi
1478 }%

```

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.

```

1479 \def\HyPsd@Subst#1#2#3{%
1480   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1481     \fi
1482     ##1%
1483     \ifx\scrollmode##2\scrollmode
1484     \else
1485       #2%
1486       \HyPsd@@ReplaceFi##2\END
1487     \fi
1488   }%
1489   \xdef#3{%
1490     \iftrue
1491       \expandafter\HyPsd@@ReplaceFi#3#1\END
1492     \fi
1493   }%
1494 }

```

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

```

1495 \def\HyPsd@StringSubst#1{%
1496   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1497 }

```


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.

```
1498 \def\HyPsd@doxspace#1{%
1499   \ifx#1\relax\else
1500     \ifx#1.\else
1501       \ifx#1:\else
1502         \ifx#1,\else
1503           \ifx#1;\else
1504             \ifx#1!\else
1505               \ifx#1?\else
1506                 \ifx#1/\else
1507                   \ifx#1-\else
1508                     \ifx#1'\else
1509                       \HyPsd@SPACEOPTI
1510                     \fi
1511                   \fi
1512                 \fi
1513               \fi
1514             \fi
1515           \fi
1516         \fi
1517       \fi
1518     \fi
1519   \fi
1520   #1%
1521 }%
```

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.

```
1522 \begingroup
1523   \catcode'\|=0 %
1524   \catcode'\|=12 %
```

`\HyPsd@ConvertToUnicode`

```
1525 |gdef|HyPsd@ConvertToUnicode#1{%
1526   |xdef#1{%
1527     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1528   }%
1529   |ifx#1|@empty
1530   |else
1531     |xdef#1{%
1532       \376\377%
1533       #1%
1534     }%
1535   |fi
1536 }%
```

`\HyPsd@DoConvert`

```
1537 |gdef|HyPsd@DoConvert#1{%
1538   |ifx#1|@empty
```

```

1539     |else
1540     |Hy@ReturnAfterFi{%
1541     |ifx#1\%%
1542     \%%
1543     |expandafter|HyPsd@DoEscape
1544     |else
1545     |HyPsd@Char{#1}%
1546     |expandafter|HyPsd@DoConvert
1547     |fi
1548     }%
1549     |fi
1550 }%

```

\HyPsd@DoEscape

```

1551 |gdef|HyPsd@DoEscape#1{%
1552 |ifx#19%
1553 |expandafter|HyPsd@GetTwoBytes
1554 |else
1555 |Hy@ReturnAfterFi{%
1556 |ifx#18%
1557 00%
1558 |expandafter|HyPsd@GetTwoBytes
1559 |else
1560 #1%
1561 |expandafter|HyPsd@GetOneByte
1562 |fi
1563 }%
1564 |fi
1565 }%

```

\HyPsd@GetTwoBytes

```

1566 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1567 #1\#2#3#4%
1568 |HyPsd@DoConvert
1569 }%

```

\HyPsd@GetOneByte

```

1570 |gdef|HyPsd@GetOneByte#1#2{%
1571 #1#2%
1572 |HyPsd@DoConvert
1573 }%
1574 |endgroup

```

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

```

1575 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1576 \xdef#4{#4#1#2}%
1577 \HyPsd@@ConvertToUnicode#3\END#4%
1578 }

```

\HyPsd@Char

```

1579 \begingroup
1580 \catcode0=9 %
1581 \catcode'\^=7 %
1582 \catcode'\^^=12 %
1583 \def\x{^^^^0000}%
1584 \expandafter\endgroup

```

```

1585 \ifx\x\@empty
1586   \def\HyPsd@Char#1{%
1587     \ifnum'#1<128 %
1588       \@backslashchar 000#1%
1589     \else
1590       \ifnum'#1<65536 %
1591         \expandafter\HyPsd@CharTwoByte\number'#1!%
1592       \else
1593         \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
1594         \intcalcSub{'#1}{65536}!%
1595       \fi
1596     \fi
1597   }%
1598   \def\HyPsd@CharTwoByte#1!{%
1599     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1600     \IntCalcDiv#1!256!!%
1601     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1602     \IntCalcMod#1!256!!%
1603   }%
1604   \def\HyPsd@CharOctByte#1!{%
1605     \@backslashchar
1606     \IntCalcDiv#1!64!%
1607     \intcalcDiv{\IntCalcMod#1!64!}{8}%
1608     \IntCalcMod#1!8!%
1609   }%
1610   \def\HyPsd@CharSurrogate#1!{%
1611     \@backslashchar 33%
1612     \IntCalcDiv#1!262144!%
1613     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1614     \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1615     \@backslashchar 33%
1616     \expandafter\expandafter\expandafter\IntCalcAdd
1617     \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1618     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1619     \IntCalcMod#1!256!!%
1620   }%
1621 \else
1622   \def\HyPsd@Char#1{%
1623     \@backslashchar 000#1%
1624   }%
1625 \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`

```

1626 \begingroup\expandafter\expandafter\expandafter\endgroup
1627 \expandafter\ifx\csname numexpr\endcsname\relax

```

```

1628 \let\HyPsd@UTFviii\relax
1629 \else
1630 \begingroup
1631 \lccode'\~='^^f4\relax
1632 \lowercase{\endgroup
1633 \def\HyPsd@UTFviii{%
1634 \let\UTFviii@two@octets\HyPsd@UTFviii@two
1635 \let\UTFviii@three@octets\HyPsd@UTFviii@three
1636 \let\UTFviii@four@octets\HyPsd@UTFviii@four
1637 \ifx~\HyPsd@UTFviii@ccxliv@undef
1638 \let~\HyPsd@UTFviii@ccxliv@def
1639 \fi
1640 \let\unichar\HyPsd@unichar
1641 }%
1642 }%
1643 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1644 \edef\HyPsd@UTFviii@ccxliv@def{%
1645 \noexpand\UTFviii@four@octets\string ^^f4%
1646 }%

```

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.

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

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

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

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

$$(5)$$

```

1647 \def\HyPsd@UTFviii@two#1#2{%
1648 \expandafter\HyPsd@UTFviii@@two
1649 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|%
1650 \number'#1\expandafter|%
1651 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|%
1652 \number'#2 \@nil
1653 }%
1654 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1655 \expandafter\8%
1656 \number\numexpr #1-48\expandafter\relax
1657 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1658 \number\numexpr #3-8*%
1659 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1660 \number\numexpr #4-8*#3\relax
1661 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1662 \def\HyPsd@UTFviii@three#1#2#3{%
1663   \expandafter\HyPsd@UTFviii@three
1664   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1665   \number'#1\expandafter|
1666   \number\ifnum\dimexpr'#2-128\relax <32 0\else 1\fi\expandafter|
1667   \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|
1668   \number'#2\expandafter|
1669   \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|
1670   \number'#3 \@nil
1671 }%
1672 \def\HyPsd@UTFviii@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1673   \expandafter\
1674   \number\dimexpr #1-56\expandafter\relax
1675   \number\dimexpr 2*(#2-4*#1)+#3\expandafter\relax
1676   \number\dimexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1677   \csname\number\dimexpr #5-4*#4\relax\expandafter\endcsname
1678   \number\dimexpr #6-16\expandafter\relax
1679   \number\dimexpr #7-8*#6\relax
1680 }%

```

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

```

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

```

```

1681 \def\HyPsd@UTFviii@four#1#2{%
1682   \expandafter\HyPsd@UTFviii@four\
1683   \number\dimexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1684   \expandafter|\
1685   \number\dimexpr'#2-16*\dimexpr.0625\dimexpr'#2sp|
1686 }%
1687 \def\HyPsd@UTFviii@four#1|#2|#3{%
1688   \933\
1689   \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1690   \ifodd#2 %
1691     \number\dimexpr(#2-1)/2\relax
1692   \else
1693     \number\dimexpr#2/2\relax
1694   \fi
1695   \number\dimexpr\ifodd#2 4+\fi
1696   \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1697   \933%
1698   \expandafter\HyPsd@UTFviii@four\
1699   \number\dimexpr'#3-16*\dimexpr.0625\dimexpr'#3sp|
1700 }%
1701 \def\HyPsd@UTFviii@four#1|#2{%
1702   \number\dimexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1703   \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1704   \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1705   \number\dimexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1706 }%

```

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

```

1707 \def\HyPsd@unichar#1{%
1708   \ifHy@unicode

```

```

1709     \ifnum#1>"10FFFF %
1710     \HyPsd@UnicodeReplacementCharacter % illegal
1711     \else
1712     \ifnum#1>"FFFF %

```

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

```

1713     \expandafter\HyPsd@unichar\expandafter{%
1714     \number\numexpr 55296+
1715     \dimexpr.0009765625\dimexpr\number#1sp-\p@
1716     \relax\relax\relax
1717     }%

```

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

```

1718     \expandafter\HyPsd@unichar\expandafter{%
1719     \number\numexpr#1-9216
1720     -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1721     \relax\relax\relax
1722     }%
1723     \else
1724     \ifnum#1>"7FF %
1725     \9%
1726     \expandafter\HyPsd@unichar@first@byte\expandafter{%
1727     \number
1728     \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1729     }%
1730     \else
1731     \8%
1732     \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1733     \fi
1734     \expandafter\HyPsd@unichar@second@byte\expandafter{%
1735     \number
1736     \numexpr#1-256*\number
1737     \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1738     }%
1739     \fi
1740     \fi
1741     \else
1742     .% unsupported (Unicode -> PDF Doc Encoding)
1743     \fi
1744     }%
1745     \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1746     \def\HyPsd@unichar@first@byte#1{%
1747     \number\dimexpr.015625\dimexpr#1sp\relax\relax
1748     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1749     \number
1750     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1751     \relax\relax\relax
1752     }%
1753     }%
1754     \def\HyPsd@unichar@second@byte#1{%
1755     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1756     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1757     \number
1758     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1759     \relax\relax\relax
1760     }%
1761     }%
1762     \def\HyPsd@unichar@octtwo#1{%

```

```

1763 \number\dimexpr.125\dimexpr#1sp\relax\relax
1764 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1765 \relax\relax\relax
1766 }%
1767 \fi

```

7 Support of other packages

7.1 Class memoir

```

1768 \@ifclassloaded{memoir}{%
1769 \AtEndOfPackage{\RequirePackage{memhfixc}}%
1770 }{}

```

7.2 Package subfigure

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

```

1771 \@ifpackageloaded{subfigure}{%
1772 \ifundefined{sub@label}{%
1773 \Hy@hypertexnamesfalse
1774 }{%
1775 \renewcommand*{\sub@label}[1]{%
1776 \bsphack
1777 \subfig@oldlabel{#1}%
1778 \if@filesw
1779 \begingroup
1780 \edef\@currentlabstr{%
1781 \expandafter\strip@prefix\meaning\@currentlabelname
1782 }%
1783 \protected@write\@auxout{}{%
1784 \string\newlabel{sub@#1}{%
1785 {\@nameuse{@@thesub\@capttype}}%
1786 {\thepage}%
1787 }%
1788 \expandafter\strip@period\@currentlabstr
1789 \relax.\relax\@@@%
1790 }%
1791 {\@currentHref}%
1792 }%
1793 }%
1794 }%
1795 \endgroup
1796 \fi
1797 \esphack
1798 }%
1799 \@ifpackagelater{subfigure}{2002/03/26}{%
1800 \providecommand*\toclevel@subfigure{1}%
1801 \providecommand*\toclevel@subtable{1}%
1802 }%
1803 }%
1804 }{}

```

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:

```

1805 \@ifundefined{XR@addURL}{%
1806 }{%

```

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.

```

1807 \def\XR@addURL#1{\XR@dURL#1{}{}{}{}\\}%
1808 \def\XR@dURL#1#2#3#4#5\\{%
1809   {#1}-{#2}%
1810   \if!#4!%
1811   \else
1812     {#3}-{#4}-{\XR@URL}%
1813   \fi
1814 }%
1815 }

1816 \def\Hy@true{true}
1817 \def\Hy@false{false}

```

Providing dummy definitions.

```

1818 \let\literalps@out\@gobble
1819 \newcommand\pdfbookmark[3][]{ }
1820 \def\Acrobatmenu#1#2{\leavevmode#2}
1821 \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

```

1822 \let\HyperRaiseLinkHook\@empty
1823 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

1824 \def\Hy@raisedlink#1{%
1825   \ifvmode
1826     #1%
1827   \else
1828     \penalty\@M
1829     \smash{%
1830       \begingroup
1831         \let\HyperRaiseLinkLength\@tempdima
1832         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1833         \HyperRaiseLinkHook
1834       \expandafter\endgroup
1835       \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
1836     }%
1837   \fi
1838 }

```


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

```

1839 \def\Hy@SaveLastskip{%
1840   \let\Hy@RestoreLastskip\relax
1841   \ifvmode
1842     \ifdim\lastskip=\z@
1843       \let\Hy@RestoreLastskip\nobreak
1844     \else
1845       \begingroup
1846         \skip@=-\lastskip
1847         \edef\x{%
1848           \endgroup
1849           \def\noexpand\Hy@RestoreLastskip{%
1850             \noexpand\ifvmode
1851               \noexpand\nobreak
1852               \vskip\the\skip@
1853               \vskip\the\lastskip\relax
1854             \noexpand\fi
1855           }%
1856         }%
1857       \x
1858     \fi
1859   \else
1860     \ifhmode
1861       \ifdim\lastskip=\z@
1862         \let\Hy@RestoreLastskip\nobreak
1863       \else
1864         \begingroup
1865           \skip@=-\lastskip
1866           \edef\x{%
1867             \endgroup
1868             \def\noexpand\Hy@RestoreLastskip{%
1869               \noexpand\ifhmode
1870                 \noexpand\nobreak
1871                 \hskip\the\skip@
1872                 \hskip\the\lastskip\relax
1873             \noexpand\fi
1874           }%
1875         }%
1876       \x
1877     \fi
1878   \fi
1879 \fi
1880 }%
```

9 Options

9.1 Help macros

`\Hy@boolkey`

```

1881 \def\Hy@boolkey{\@dblarg\Hy@boolkey}
1882 \def\Hy@@boolkey[#1]#2#3{%
1883   \edef\Hy@tempa{#3}%
1884   \lowercase\expandafter{%
1885     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
1886   }%
1887   \ifx\Hy@tempa\@empty
```

```

1888 \let\Hy@tempa\Hy@true
1889 \fi
1890 \ifx\Hy@tempa\Hy@true
1891 \else
1892 \ifx\Hy@tempa\Hy@false
1893 \else
1894 \let\Hy@tempa\relax
1895 \fi
1896 \fi
1897 \ifx\Hy@tempa\relax
1898 \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
1899 \else
1900 \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
1901 \csname Hy@#2\Hy@tempa\endcsname
1902 \fi
1903 }

```

\Hy@WarnOptionValue

```

1904 \def\Hy@WarnOptionValue#1#2#3{%
1905 \Hy@Warning{%
1906 Unexpected value ‘#1’\MessageBreak
1907 of option ‘#2’ instead of\MessageBreak
1908 #3%
1909 }%
1910 }

```

\Hy@DisableOption

```

1911 \def\Hy@DisableOption#1{%
1912 \ifundefined{KV@Hyp@#1@default}{%
1913 \define@key{Hyp}{#1}%
1914 }{%
1915 \define@key{Hyp}{#1}[]%
1916 }%
1917 {\Hy@WarnOptionDisabled{#1}}%
1918 }

```

\Hy@WarnOptionDisabled

```

1919 \def\Hy@WarnOptionDisabled#1{%
1920 \Hy@Warning{%
1921 Option ‘#1’ has already been used,\MessageBreak
1922 setting the option has no effect%
1923 }%
1924 }

```

\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.

```

1925 \def\Hy@CheckOptionValue#1#2#3{%
1926 \begingroup
1927 \edef\x{#1}%
1928 \@onelevel@sanitize\x
1929 \let\y=y%
1930 \def\do##1##2{%
1931 \def\z{##1}%
1932 \@onelevel@sanitize\z
1933 \ifx\x\z
1934 \let\y=n%
1935 \let\do\@gobbletwo

```

```

1936     \fi
1937   }%
1938   #3%
1939   \ifx\y y%
1940     \def\do##1##2{%
1941       * '##1'%
1942       \ifx\##2\\\else\space(##2)\fi
1943       \MessageBreak
1944     }%
1945     \Hy@Warning{%
1946       Values of option '##2':\MessageBreak
1947       #3%
1948       * An empty value disables the option.\MessageBreak
1949       Unknown value '\x'%
1950     }%
1951   \fi
1952 \endgroup
1953 }

```

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

```

1954 \def\Hy@DefNameKey#1{%
1955   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
1956 }

```

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

```

1957 \def\Hy@@DefNameKey#1#2#3{%
1958   \define@key{Hyp}{#2}{%
1959     \edef#1{##1}%
1960     \ifx#1\@empty
1961     \else
1962       \Hy@CheckOptionValue{##1}{#2}{#3}%
1963     \fi
1964   }%
1965   \let#1\@empty
1966 }

```

`\Hy@UseNameKey`

```

1967 \def\Hy@UseNameKey#1#2{%
1968   \ifx#2\@empty
1969   \else
1970     /#1/#2%
1971   \fi
1972 }

```

9.2 Defining the options

```

1973 \define@key{Hyp}{implicit}[true]{%
1974   \Hy@boolkey{implicit}{#1}%
1975 }
1976 \define@key{Hyp}{draft}[true]{%
1977   \Hy@boolkey{draft}{#1}%
1978 }

```

```

1979 \define@key{Hyp}{final}[true]{%
1980   \Hy@boolkey{final}{#1}%
1981 }
1982 \let\KV@Hyp@nolinks\KV@Hyp@draft
1983 \define@key{Hyp}{a4paper}[true]{%
1984   \def\special@paper{210mm,297mm}%
1985   \def\Hy@pageheight{842}%
1986 }
1987 \define@key{Hyp}{a5paper}[true]{%
1988   \def\special@paper{148mm,210mm}%
1989   \def\Hy@pageheight{595}%
1990 }
1991 \define@key{Hyp}{b5paper}[true]{%
1992   \def\special@paper{176mm,250mm}%
1993   \def\Hy@pageheight{709}%
1994 }
1995 \define@key{Hyp}{letterpaper}[true]{%
1996   \def\special@paper{8.5in,11in}%
1997   \def\Hy@pageheight{792}%
1998 }
1999 \define@key{Hyp}{legalpaper}[true]{%
2000   \def\special@paper{8.5in,14in}%
2001   \def\Hy@pageheight{1008}%
2002 }
2003 \define@key{Hyp}{executivepaper}[true]{%
2004   \def\special@paper{7.25in,10.5in}%
2005   \def\Hy@pageheight{720}%
2006 }
2007 \define@key{Hyp}{setpagesize}[true]{%
2008   \Hy@boolkey{setpagesize}{#1}%
2009 }
2010 \define@key{Hyp}{debug}[true]{%
2011   \Hy@boolkey[debug]{verbose}{#1}%
2012 }
2013 \define@key{Hyp}{linktocpage}[true]{%
2014   \Hy@boolkey{linktocpage}{#1}%
2015   \ifHy@linktocpage
2016     \let\Hy@linktoc\Hy@linktoc@page
2017   \else
2018     \let\Hy@linktoc\Hy@linktoc@section
2019   \fi
2020 }
2021 \chardef\Hy@linktoc@none=0 %
2022 \chardef\Hy@linktoc@section=1 %
2023 \chardef\Hy@linktoc@page=2 %
2024 \chardef\Hy@linktoc@all=3 %
2025 \ifHy@linktocpage
2026   \let\Hy@linktoc\Hy@linktoc@page
2027 \else
2028   \let\Hy@linktoc\Hy@linktoc@section
2029 \fi
2030 \define@key{Hyp}{linktoc}{%
2031   \@ifundefined{Hy@linktoc@#1}{%
2032     \Hy@Warning{%
2033       Unexpected value ‘#1’ of\MessageBreak
2034       option ‘linktoc’ instead of ‘none’,\MessageBreak
2035       ‘section’, ‘page’ or ‘all’%

```

```

2036    }%
2037  }{%
2038    \expandafter\let\expandafter\Hy@linktoc
2039    \csname Hy@linktoc@#1\endcsname
2040  }%
2041 }
2042 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2043 \let\XR@ext\relax
2044 \define@key{Hyp}{verbose}[true]{%
2045   \Hy@boolkey{verbose}{#1}%
2046 }
2047 \define@key{Hyp}{typexml}[true]{%
2048   \Hy@boolkey{typexml}{#1}%
2049 }

```

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.

```

2050 \define@key{Hyp}{raiselinks}[true]{%
2051   \Hy@boolkey{raiselinks}{#1}%
2052 }

```

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

```

2053 \def\Hy@setbreaklinks#1{%
2054   \csname breaklinks#1\endcsname
2055 }
2056 \def\Hy@breaklinks@unsupported{%
2057   \ifx\Hy@setbreaklinks@gobble
2058     \ifHy@breaklinks
2059       \Hy@WarningNoLine{%
2060         You have enabled option 'breaklinks'.\MessageBreak
2061         But driver '\Hy@driver.def' does not support this.\MessageBreak
2062         Expect trouble with the link areas of broken links%
2063       }%
2064     \fi
2065   \fi
2066 }
2067 \define@key{Hyp}{breaklinks}[true]{%
2068   \Hy@boolkey{breaklinks}{#1}%
2069   \let\Hy@setbreaklinks@gobble
2070 }

```

Determines whether an automatic anchor is put on each page

```

2071 \define@key{Hyp}{pageanchor}[true]{%
2072   \Hy@boolkey{pageanchor}{#1}%
2073 }

```

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.

```

2074 \define@key{Hyp}{plainpages}[true]{%
2075   \Hy@boolkey{plainpages}{#1}%
2076 }

```

Are the names for anchors made as per the HyperTeX system, or do they simply use what L^AT_EX provides?

```

2077 \define@key{Hyp}{naturalnames}[true]{%
2078   \Hy@boolkey{naturalnames}{#1}%
2079 }

```

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

```
2080 \define@key{Hyp}{hypertexnames}[true]{%
2081   \Hy@boolkey{hypertexnames}{#1}%
2082 }
```

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

```
2083 \define@key{Hyp}{nesting}[true]{%
2084   \Hy@boolkey{nesting}{#1}%
2085 }

2086 \define@key{Hyp}{unicode}[true]{%
2087   \Hy@boolkey{unicode}{#1}%
2088   \ifHy@unicode
2089     \def\HyPsd@pdfencoding{unicode}%
2090   \else
2091     \def\HyPsd@pdfencoding{pdfdoc}%
2092   \fi
2093   \HyPsd@LoadUnicode
2094 }

2095 \def\HyPsd@LoadUnicode{%
2096   \@ifundefined{T@PU}{%
2097     \input{puenc.def}%
2098     \HyLinguex@Restore
2099   }{}%
2100   \DeclareFontFamily{PU}{pdf}{}%
2101   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
2102   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2103   \global\let\HyPsd@LoadUnicode\relax
2104 }

2105 \AtBeginDocument{%
2106   \ifx\HyPsd@LoadUnicode\relax
2107   \else
2108     \def\HyPsd@LoadUnicode{%
2109       \PackageError{hyperref}{%
2110         Unicode support for bookmarks is not available.\MessageBreak
2111         Activate unicode support by using one of the options\MessageBreak
2112         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2113         in the preamble%
2114       }{\@ehc
2115         \global\let\HyPsd@LoadUnicode\relax
2116         \global\Hy@unicodedefalse
2117         \global\let\Hy@unicodetrue\Hy@unicodedefalse
2118       }%
2119     \fi
2120 }

2121 \define@key{Hyp}{pdfencoding}{%
2122   \edef\HyPsd@temp{#1}%
2123   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2124     \let\HyPsd@pdfencoding\HyPsd@temp
2125     \Hy@unicodedefalse
2126   \else
2127     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2128       \z@
2129     \else
2130       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2131         \z@
2132       \else
```

```

2133         \@ne
2134         \fi
2135     \fi
2136     \let\HyPsd@pdfencoding\HyPsd@temp
2137     \hypersetup{unicode}%
2138     \ifHy@unicode
2139         \def\HyPsd@pdfencoding{#1}%
2140         \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2141             \HyPsd@LoadStringEnc
2142         \fi
2143     \else
2144         \Hy@Warning{Cannot switch to unicode bookmarks}%
2145         \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2146     \fi
2147 \else
2148     \@onelevel@sanitize\HyPsd@temp
2149     \Hy@Warning{%
2150         Values of option 'pdfencoding':\MessageBreak
2151         'pdfdoc', 'unicode', 'auto'.\MessageBreak
2152         Ignoring unknown value '\HyPsd@temp'%
2153     }%
2154 \fi
2155 \fi
2156 }
2157 \def\HyPsd@pdfencoding@auto{auto}
2158 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2159 \def\HyPsd@pdfencoding@unicode{unicode}
2160 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2161 \def\HyPsd@LoadStringEnc{%
2162     \RequirePackage{stringenc}[2007/06/14]%
2163     \let\HyPsd@LoadStringEnc\relax
2164 }
2165 \AtBeginDocument{%
2166     \ifpackageloaded{stringenc}{%
2167         \let\HyPsd@LoadStringEnc\relax
2168     }{%
2169         \def\HyPsd@LoadStringEnc{%
2170             \Hy@WarningNoLine{%
2171                 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2172                 in the preamble or load the package there%
2173             }%
2174         }%
2175     }%
2176 }
2177 \newif\ifHy@setpdfversion
2178 \define@key{Hyp}{pdfversion}{%
2179     \@ifundefined{Hy@pdfversion@#1}{%
2180         \PackageWarning{hyperref}{%
2181             Unsupported PDF version '#1'.\MessageBreak
2182             Valid values: 1.2 until 1.9%
2183         }%
2184     }{%
2185         \Hy@setpdfversiontrue
2186         \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2187     }%
2188 }
2189 \@namedef{Hy@pdfversion@1.2}{2}%

```

```

2190 \@namedef{Hy@pdfversion@1.3}{3}%
2191 \@namedef{Hy@pdfversion@1.4}{4}%
2192 \@namedef{Hy@pdfversion@1.5}{5}%
2193 \@namedef{Hy@pdfversion@1.6}{6}%
2194 \@namedef{Hy@pdfversion@1.7}{7}%
2195 \@namedef{Hy@pdfversion@1.8}{8}%
2196 \@namedef{Hy@pdfversion@1.9}{9}%
2197 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2198 \define@key{Hyp}{hyperref}[true]{%
2199 \define@key{Hyp}{tex4ht}[true]{%
2200   \Hy@texhttrue
2201   \setkeys{Hyp}{colorlinks=true}%
2202   \def\BeforeTeXIVht{\usepackage{color}}%
2203   \def\Hy@driver{htex4ht}%
2204   \def\MaybeStopEarly{%
2205     \typeout{Hyperref stopped early}%
2206     \AfterBeginDocument{%
2207       \PDF@FinishDoc
2208       \gdef\PDF@FinishDoc{}%
2209     }%
2210   \endinput
2211 }%
2212 }
2213 \define@key{Hyp}{pdftex}[true]{%
2214 \def\Hy@driver{hpdftex}%
2215 }
2216 \define@key{Hyp}{nativepdf}[true]{%
2217 \def\Hy@driver{hdvips}%
2218 }
2219 \define@key{Hyp}{dvipdfm}[true]{%
2220 \def\Hy@driver{hdvipdfm}%
2221 }
2222 \define@key{Hyp}{dvipdfmx}[true]{%
2223 \def\Hy@driver{hdvipdfm}%
2224 }
2225 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2226 \expandafter\ifx\csname if#1\expandafter\endcsname
2227   \csname iftrue\endcsname
2228   \chardef\SpecialDvipdfmxOutlineOpen@ne
2229 \else
2230   \chardef\SpecialDvipdfmxOutlineOpen@z@
2231 \fi
2232 }
2233 \define@key{Hyp}{xetex}[true]{%
2234 \def\Hy@driver{hdvipdfm}%
2235 }
2236 \define@key{Hyp}{pdfmark}[true]{%
2237 \def\Hy@driver{hdvips}%
2238 }
2239 \define@key{Hyp}{dvips}[true]{%
2240 \def\Hy@driver{hdvips}%
2241 }
2242 \define@key{Hyp}{hypertex}[true]{%
2243 \def\Hy@driver{hypertex}%

```



```

2244 }
2245 \let\Hy@MaybeStopNow\relax
2246 \define@key{Hyp}{vtex}[true]{%
2247   \begingroup\expandafter\expandafter\expandafter\endgroup
2248   \expandafter\ifx\csname OpMode\endcsname\relax
2249     \@latex@error{Non-VTeX processor}{}%
2250     \global\let\Hy@MaybeStopNow\endinput
2251   \endinput
2252 }else
2253   \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2254     \def\Hy@driver{hvtex}%
2255   \else
2256     \ifnum\OpMode=10\relax
2257       \def\Hy@driver{hvtexhtm}%
2258       \def\MaybeStopEarly{%
2259         \typeout{Hyperref stopped early}%
2260         \AfterBeginDocument{%
2261           \PDF@FinishDoc
2262           \gdef\PDF@FinishDoc{}}%
2263       }%
2264       \endinput
2265     }%
2266   \else
2267     \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2268     \global\let\Hy@MaybeStopNow\endinput
2269   \endinput
2270   \fi
2271   \fi
2272 \fi
2273 }
2274 \define@key{Hyp}{vtexpdfmark}[true]{%
2275   \begingroup\expandafter\expandafter\expandafter\endgroup
2276   \expandafter\ifx\csname OpMode\endcsname\relax
2277     \@latex@error{Non-VTeX processor}{}%
2278     \let\Hy@MaybeStopNow\endinput
2279   \endinput
2280 }else
2281   \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2282     \def\Hy@driver{hvtexmrk}%
2283   \else
2284     \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2285     \let\Hy@MaybeStopNow\endinput
2286   \endinput
2287   \fi
2288   \fi
2289 }
2290 \define@key{Hyp}{dviwindo}[true]{%
2291   \def\Hy@driver{hdviwind}%
2292   \setkeys{Hyp}{colorlinks}%
2293   \PassOptionsToPackage{dviwindo}{color}%
2294 }
2295 \define@key{Hyp}{dvipsone}[true]{%
2296   \def\Hy@driver{hdvipson}%
2297 }
2298 \define@key{Hyp}{textures}[true]{%
2299   \def\Hy@driver{htexture}%
2300 }

```

```

2301 \define@key{Hyp}{latex2html}[true]{%
2302   \AtBeginDocument{\@latex2htmlX}%
2303 }

```

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

```

2304 \define@key{Hyp}{ps2pdf}[true]{%
2305   \def\Hy@driver{hdvips}%
2306   \providecommand*\@pdfborder{0 0 1}%
2307 }

```

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.

```

2308 \define@key{Hyp}{hyperfigures}[true]{%
2309   \Hy@boolkey[hyperfigures]{figures}{#1}%
2310 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2311 \define@key{Hyp}{hyperfootnotes}[true]{%
2312   \Hy@boolkey{hyperfootnotes}{#1}%
2313 }

```

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

```

2314 \def\back@none{none}
2315 \def\back@section{section}
2316 \def\back@page{page}
2317 \def\back@slide{slide}
2318 \define@key{Hyp}{backref}[section]{%
2319   \lowercase{\def\Hy@tempa{#1}}%
2320   \ifx\Hy@tempa\@empty
2321     \let\Hy@tempa\back@section
2322   \fi
2323   \ifx\Hy@tempa\Hy@false
2324     \let\Hy@tempa\back@none
2325   \fi
2326   \ifx\Hy@tempa\back@slide
2327     \let\Hy@tempa\back@section
2328   \fi
2329   \ifx\Hy@tempa\back@page
2330     \PassOptionsToPackage{hyperpageref}{backref}%
2331     \Hy@backreftrue
2332   \else
2333     \ifx\Hy@tempa\back@section
2334       \PassOptionsToPackage{hyperref}{backref}%
2335       \Hy@backreftrue
2336     \else
2337       \ifx\Hy@tempa\back@none
2338         \Hy@backreffalse
2339       \else
2340         \Hy@WarnOptionValue{#1}{backref}{%
2341           'section', 'slide', 'page', 'none', \MessageBreak
2342           or 'false'}%
2343       \fi
2344     \fi
2345   \fi
2346 }
2347 \define@key{Hyp}{pagebackref}[true]{%

```

```

2348 \edef\Hy@tempa{#1}%
2349 \lowercase\expandafter{%
2350   \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2351 }%
2352 \ifx\Hy@tempa\@empty
2353   \let\Hy@tempa\Hy@true
2354 \fi
2355 \ifx\Hy@tempa\Hy@true
2356   \PassOptionsToPackage{hyperpageref}{backref}%
2357   \Hy@backreftrue
2358 \else
2359   \ifx\Hy@tempa\Hy@false
2360     \Hy@backreffalse
2361   \else
2362     \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
2363   \fi
2364 \fi
2365 }

```

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

```

2366 \define@key{Hyp}{hyperindex}[true]{%
2367   \Hy@boolkey{hyperindex}{#1}%
2368 }

```

Configuration of encap char.

```

2369 \define@key{Hyp}{encap}[\l]{%
2370   \def\HyInd@EncapChar{#1}%
2371 }

```

12 Language options

The \autoref feature depends on the language.

```

2372 \def\HyLang@afrikaans{%
2373   \def\equationautorefname{Vergelyking}%
2374   \def\footnoteautorefname{Voetnota}%
2375   \def\itemautorefname{Item}%
2376   \def\figureautorefname{Figuur}%
2377   \def\tableautorefname{Tabel}%
2378   \def\partautorefname{Deel}%
2379   \def\appendixautorefname{Bylae}%
2380   \def\chapterautorefname{Hoofstuk}%
2381   \def\sectionautorefname{Afdeling}%
2382   \def\subsectionautorefname{Subafdeling}%
2383   \def\subsubsectionautorefname{Subsubafdeling}%
2384   \def\paragraphautorefname{Paragraaf}%
2385   \def\subparagraphautorefname{Subparagraaf}%
2386   \def\FancyVerbLineautorefname{Lyn}%
2387   \def\theoremautorefname{Teorema}%
2388   \def\pageautorefname{Bladsy}%
2389 }
2390 \def\HyLang@english{%
2391   \def\equationautorefname{Equation}%
2392   \def\footnoteautorefname{footnote}%
2393   \def\itemautorefname{item}%
2394   \def\figureautorefname{Figure}%
2395   \def\tableautorefname{Table}%

```

```

2396 \def\partautorefname{Part}%
2397 \def\appendixautorefname{Appendix}%
2398 \def\chapterautorefname{chapter}%
2399 \def\sectionautorefname{section}%
2400 \def\subsectionautorefname{subsection}%
2401 \def\subsubsectionautorefname{subsubsection}%
2402 \def\paragraphautorefname{paragraph}%
2403 \def\subparagraphautorefname{subparagraph}%
2404 \def\FancyVerbLineautorefname{line}%
2405 \def\theoremautorefname{Theorem}%
2406 \def\pageautorefname{page}%
2407 }
2408 \def\HyLang@french{%
2409 \def\equationautorefname{\`Equation}%
2410 \def\footnoteautorefname{note}%
2411 \def\itemautorefname{item}%
2412 \def\figureautorefname{Figure}%
2413 \def\tableautorefname{Tableau}%
2414 \def\partautorefname{Partie}%
2415 \def\appendixautorefname{Appendice}%
2416 \def\chapterautorefname{chapitre}%
2417 \def\sectionautorefname{section}%
2418 \def\subsectionautorefname{sous-section}%
2419 \def\subsubsectionautorefname{sous-sous-section}%
2420 \def\paragraphautorefname{paragraphe}%
2421 \def\subparagraphautorefname{sous-paragraphe}%
2422 \def\FancyVerbLineautorefname{ligne}%
2423 \def\theoremautorefname{Th\'eor\`eme}%
2424 \def\pageautorefname{page}%
2425 }
2426 \def\HyLang@german{%
2427 \def\equationautorefname{Gleichung}%
2428 \def\footnoteautorefname{Fu\ss note}%
2429 \def\itemautorefname{Punkt}%
2430 \def\figureautorefname{Abbildung}%
2431 \def\tableautorefname{Tabelle}%
2432 \def\partautorefname{Teil}%
2433 \def\appendixautorefname{Anhang}%
2434 \def\chapterautorefname{Kapitel}%
2435 \def\sectionautorefname{Abschnitt}%
2436 \def\subsectionautorefname{Unterabschnitt}%
2437 \def\subsubsectionautorefname{Unterunterabschnitt}%
2438 \def\paragraphautorefname{Absatz}%
2439 \def\subparagraphautorefname{Unterabsatz}%
2440 \def\FancyVerbLineautorefname{Zeile}%
2441 \def\theoremautorefname{Theorem}%
2442 \def\pageautorefname{Seite}%
2443 }
2444 \def\HyLang@italian{%
2445 \def\equationautorefname{Equazione}%
2446 \def\footnoteautorefname{nota}%
2447 \def\itemautorefname{punto}%
2448 \def\figureautorefname{Figura}%
2449 \def\tableautorefname{Tabella}%
2450 \def\partautorefname{Parte}%
2451 \def\appendixautorefname{Appendice}%
2452 \def\chapterautorefname{Capitolo}%

```

```

2453 \def\sectionautorefname{sezione}%
2454 \def\subsectionautorefname{sottosezione}%
2455 \def\subsubsectionautorefname{sottosottosezione}%
2456 \def\paragraphautorefname{paragrafo}%
2457 \def\subparagraphautorefname{sottoparagrafo}%
2458 \def\FancyVerbLineautorefname{linea}%
2459 \def\theoremautorefname{Teorema}%
2460 \def\pageautorefname{Pag.\@}%
2461 }
2462 \def\HyLang@magyar{%
2463 \def\equationautorefname{Egyenlet}%
2464 \def\footnoteautorefname{l\'abjegyzet}%
2465 \def\itemautorefname{Elem}%
2466 \def\figureautorefname{\`Abra}%
2467 \def\tableautorefname{T\'abl\'azat}%
2468 \def\partautorefname{R\'esz}%
2469 \def\appendixautorefname{F\'uggel\'ek}%
2470 \def\chapterautorefname{fejezet}%
2471 \def\sectionautorefname{szakasz}%
2472 \def\subsectionautorefname{alszakasz}%
2473 \def\subsubsectionautorefname{alalszakasz}%
2474 \def\paragraphautorefname{bekezd\'es}%
2475 \def\subparagraphautorefname{albekezd\'es}%
2476 \def\FancyVerbLineautorefname{sor}%
2477 \def\theoremautorefname{T\'etel}%
2478 \def\pageautorefname{oldal}%
2479 }
2480 \def\HyLang@portuges{%
2481 \def\equationautorefname{Equa\c c\~ao}%
2482 \def\footnoteautorefname{Nota de rodap\'e}%
2483 \def\itemautorefname{Item}%
2484 \def\figureautorefname{Figura}%
2485 \def\tableautorefname{Tabela}%
2486 \def\partautorefname{Parte}%
2487 \def\appendixautorefname{Ap\~endice}%
2488 \def\chapterautorefname{Cap\'itulo}%
2489 \def\sectionautorefname{Se\c c\~ao}%
2490 \def\subsectionautorefname{Subse\c c\~ao}%
2491 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2492 \def\paragraphautorefname{par\'agrafo}%
2493 \def\subparagraphautorefname{subpar\'agrafo}%
2494 \def\FancyVerbLineautorefname{linha}%
2495 \def\theoremautorefname{Teorema}%
2496 \def\pageautorefname{P\'agina}%
2497 }

```

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`.

```

2498 \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`?

```
2499 \def\equationautorefname{\cyr\cyrv\cyrrery\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`.

```
2500 % \def\equationautorefname{%
2501 %     \cyr\cyrv\cyrrery\cyrr\cyra\cyrrzh\cyre\cyrn\cyri\cyre
2502 % }%
```

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

```
2503 \def\footnoteautorefname{%
2504     \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
2505 }%
```

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}`”

```
2506 % \def\footnoteautorefname{%
2507 %     \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrrzh\cyrn\cyro\cyre\ %
2508 %     \cyrp\cyrr\cyri\cyrm\cyre\cyrrzh\cyra\cyrn\cyri\cyre
2509 % }%
```

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

```
2510 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
2511 % \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.

```
2512 \def\itemautorefname{\cyr\cyrp.}%
2513 % \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.

```
2514 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
2515 \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.

```
2516 \def\partautorefname{\cyr\cyrrch.}%
2517 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
2518 \def\sectionautorefname{\cyr\cyrr\cyra\cyrrzh\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.

```
2519 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
2520 % \def\appendixautorefname{%
2521 %     \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrzh\cyre\cyrn\cyri\cyre
2522 % }%
```

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.

```
2523 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrrzh\cyrd.}%
2524 \def\subsubsectionautorefname{\cyr\cyrr\cyra\cyrrzh\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.

```
2525 \def\paragraphautorefname{\cyr\cyrp.}%
2526 \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.

```
2527 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2528 % \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.

```
2529 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
2530 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
2531 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
2532 % \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 ...

```
2533 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2534 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
2535 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2536 \def\pageautorefname{\cyr\cyrs.}%
2537 }
```

```
2538 \def\HyLang@spanish{%
2539 \def\equationautorefname{Ecuaci'on}%
2540 \def\footnoteautorefname{Nota a pie de p'agina}%
2541 \def\itemautorefname{Elemento}%
2542 \def\figureautorefname{Figura}%
2543 \def\tableautorefname{Tabla}%
2544 \def\partautorefname{Parte}%
2545 \def\appendixautorefname{Ap'endice}%
2546 \def\chapterautorefname{Cap'itulo}%
2547 \def\sectionautorefname{Secci'on}%
2548 \def\subsectionautorefname{Subsecci'on}%
2549 \def\subsubsectionautorefname{Subsubsecci'on}%
2550 \def\paragraphautorefname{P'arrafo}%
2551 \def\subparagraphautorefname{Subp'arrafo}%
2552 \def\FancyVerbLineautorefname{L'inea}%
2553 \def\theoremautorefname{Teorema}%
2554 \def\pageautorefname{P'agina}%
2555 }
2556 \def\HyLang@vietnamese{%
2557 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr\`inh}%
2558 \def\footnoteautorefname{Ch\`u th\`ich}%
```

```

2559 \def\itemautorefname{m\d{u}c}%
2560 \def\figureautorefname{H\'inh}%
2561 \def\tableautorefname{B\h{a}ng}%
2562 \def\partautorefname{Ph\'acircumflex{}n}%
2563 \def\appendixautorefname{Ph\d{u} l\d{u}c}%
2564 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
2565 \def\sectionautorefname{m\d{u}c}%
2566 \def\subsectionautorefname{m\d{u}c}%
2567 \def\subsubsectionautorefname{m\d{u}c}%
2568 \def\paragraphautorefname{dj{}o\d{a}n}%
2569 \def\subparagraphautorefname{dj{}o\d{a}n}%
2570 \def\FancyVerbLineautorefname{d\'ong}%
2571 \def\theoremautorefname{DJ{}\d{i}nh l\'y}%
2572 \def\pageautorefname{Trang}%
2573 }

```

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

```

2574 \def\HyLang@addto#1#2{%
2575   #2%
2576   \@temptokena{#2}%
2577   \ifx#1\relax
2578     \let#1\@empty
2579   \fi
2580   \ifx#1\undefined
2581     \edef#1{\the\@temptokena}%
2582   \else
2583     \toks@\expandafter{#1}%
2584     \edef#1{\the\toks@\the\@temptokena}%
2585   \fi
2586   \@temptokena{}\toks@\@temptokena
2587 }

2588 \def\HyLang@DeclareLang#1#2#3{%
2589   \begingroup
2590     \edef\x##1##2{%
2591       \noexpand\ifx##2\relax
2592         \errmessage{No definitions for language #2' found!}%
2593       \noexpand\fi
2594     \endgroup
2595     \noexpand\define@key{Hyp}{#1}[]{%
2596       \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2597       #3%
2598     }%
2599   }%

2600   \expandafter\x\csname extras#1\expandafter\endcsname
2601     \csname HyLang@#2\endcsname
2602 }

2603 \HyLang@DeclareLang{english}{english}{}
2604 \HyLang@DeclareLang{UKenglish}{english}{}
2605 \HyLang@DeclareLang{british}{english}{}
2606 \HyLang@DeclareLang{USenglish}{english}{}
2607 \HyLang@DeclareLang{american}{english}{}
2608 \HyLang@DeclareLang{german}{german}{}
2609 \HyLang@DeclareLang{austrian}{german}{}
2610 \HyLang@DeclareLang{ngerman}{german}{}
2611 \HyLang@DeclareLang{naustrian}{german}{}
2612 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}

```



```

2613 \HyLang@DeclareLang{brazil}{portuges}{}
2614 \HyLang@DeclareLang{brazilian}{portuges}{}
2615 \HyLang@DeclareLang{portuguese}{portuges}{}
2616 \HyLang@DeclareLang{spanish}{spanish}{}
2617 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
2618 \HyLang@DeclareLang{french}{french}{}
2619 \HyLang@DeclareLang{frenchb}{french}{}
2620 \HyLang@DeclareLang{francais}{french}{}
2621 \HyLang@DeclareLang{acadian}{french}{}
2622 \HyLang@DeclareLang{canadien}{french}{}
2623 \HyLang@DeclareLang{italian}{italian}{}
2624 \HyLang@DeclareLang{magyar}{magyar}{}
2625 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

2626 \define@key{Hyp}{vietnamese}[]{}%
2627   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2628   \AtEndOfPackage{%
2629     \ifundefined{T@PU}{}{}%
2630     \input{puvnenc.def}%
2631   }%
2632 }%
2633 }
2634 \define@key{Hyp}{vietnam}[]{}%
2635   \HyLang@addto\extravietnam\HyLang@vietnamese
2636   \AtEndOfPackage{%
2637     \ifundefined{T@PU}{}{}%
2638     \input{puvnenc.def}%
2639   }%
2640 }%
2641 }

```

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

```

2642 \define@key{Hyp}{arabic}[]{}%
2643   \AtEndOfPackage{%
2644     \ifundefined{T@PU}{}{}%
2645     \input{puarenc.def}%
2646   }%
2647 }%
2648 }

```

13 Options to change appearance of links

Colouring links at the \LaTeX level is useful for debugging, perhaps.

```

2649 \define@key{Hyp}{colorlinks}[true]{}%
2650   \Hy@boolkey{colorlinks}{#1}%
2651 }
2652 \define@key{Hyp}{ocgcolorlinks}[true]{}%
2653   \Hy@boolkey{ocgcolorlinks}{#1}%
2654 }
2655 \AtBeginDocument{%
2656   \begingroup
2657     \ifundefined{OBJ@OCG@view}{}%
2658     \ifHy@ocgcolorlinks
2659       \Hy@Warning{%
2660         Driver does not support ‘ocgcolorlinks’,\MessageBreak
2661         using ‘colorlinks’ instead%

```

```

2662     }%
2663     \fi
2664   }{}%
2665 \endgroup
2666 }
2667 \define@key{Hyp}{frenchlinks}[true]{%
2668   \Hy@boolkey{frenchlinks}{#1}%
2669 }

```

14 Bookmarking

```

2670 \begingroup\expandafter\expandafter\expandafter\endgroup
2671 \expandafter\ifx\csname chapter\endcsname\relax
2672   \def\toclevel@part{0}%
2673 \else
2674   \def\toclevel@part{-1}%
2675 \fi
2676 \def\toclevel@chapter{0}
2677 \def\toclevel@section{1}
2678 \def\toclevel@subsection{2}
2679 \def\toclevel@subsubsection{3}
2680 \def\toclevel@paragraph{4}
2681 \def\toclevel@subparagraph{5}
2682 \def\toclevel@figure{0}
2683 \def\toclevel@table{0}
2684 \@ifpackageloaded{listings}{%
2685   \providecommand*\theHlstlisting{\thelstlisting}%
2686   \providecommand*\toclevel@lstlisting{0}%
2687 }{}
2688 \@ifpackageloaded{listing}{%
2689   \providecommand*\theHlisting{\thelisting}%
2690   \providecommand*\toclevel@listing{0}%
2691 }{}
2692 \define@key{Hyp}{bookmarks}[true]{%
2693   \Hy@boolkey{bookmarks}{#1}%
2694 }
2695 \define@key{Hyp}{bookmarksopen}[true]{%
2696   \Hy@boolkey{bookmarksopen}{#1}%
2697 }

```

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.

```

2698 \let\Hy@bookmarksdepth\c@tocdepth
2699 \define@key{Hyp}{bookmarksdepth}[]{}%
2700 \begingroup
2701   \edef\x{#1}%
2702   \ifx\x\empty

```

```

2703     \global\let\Hy@bookmarksdepth\c@tocdepth
2704   \else
2705     \@ifundefined{toclevel@x}{%
2706       \@onelevel@sanitize\x
2707       \edef\y{\expandafter\@car\x\@nil}%
2708       \ifcase 0\expandafter\ifx\y-1\fi
2709         \expandafter\ifnum\expandafter'\y>47 %
2710           \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
2711       \Hy@Warning{Unknown document division name (\x)}%
2712     \else
2713       \setbox\z@=\hbox{%
2714         \count@=\x
2715         \xdef\Hy@bookmarksdepth{\the\count@}%
2716       }%
2717     \fi
2718   }{%
2719     \setbox\z@=\hbox{%
2720       \count@=\csname toclevel@x\endcsname
2721       \xdef\Hy@bookmarksdepth{\the\count@}%
2722     }%
2723   }%
2724   \fi
2725 \endgroup
2726 }

```

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

```

2727 \define@key{Hyp}{bookmarksopenlevel}{%
2728   \def\@bookmarksopenlevel{#1}%
2729 }
2730 \def\@bookmarksopenlevel{\maxdimen}
2731 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
2732 \define@key{Hyp}{bookmarkstype}{%
2733   \def\Hy@bookmarkstype{#1}%
2734 }
2735 \def\Hy@bookmarkstype{toc}

```

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

```

2736 \define@key{Hyp}{bookmarksnumbered}[true]{%
2737   \Hy@boolkey{bookmarksnumbered}{#1}%
2738 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

2739 \define@key{Hyp}{CJKbookmarks}[true]{%
2740   \Hy@boolkey{CJKbookmarks}{#1}%
2741 }
2742 \def\Hy@temp#1{%
2743   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2744 }
2745 \def\Hy@@temp#1#2#3{%
2746   \define@key{Hyp}{#2color}{%
2747     \HyColor@HyperrefColor{##1}#1%
2748   }%
2749   \def#1{#3}%
2750 }
2751 \Hy@temp{link}{red}
2752 \Hy@temp{anchor}{black}
2753 \Hy@temp{cite}{green}

```

```

2754 \Hy@temp{file}{cyan}
2755 \Hy@temp{url}{magenta}
2756 \Hy@temp{menu}{red}
2757 \Hy@temp{run}{\@filecolor}
2758 \define@key{Hyp}{pagecolor}{%
2759   \Hy@WarningPageColor
2760 }
2761 \def\Hy@WarningPageColor{%
2762   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
2763   \global\let\Hy@WarningPageColor\relax
2764 }

2765 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2766 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2767 \let\@baseurl\empty
2768 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2769 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2770 \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.

```

2771 \let\@pdfpagetransition\relax
2772 \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.

```

2773 \let\@pdfpageduration\relax
2774 \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.

```

2775 \newif\ifHy@useHidKey
2776 \Hy@useHidKeyfalse
2777 \define@key{Hyp}{pdfpagehidden}[true]{%
2778   \Hy@boolkey{pdfpagehidden}{#1}%
2779   \ifHy@pdfpagehidden
2780     \global\Hy@useHidKeytrue
2781   \fi
2782 }

```

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).

```

2783 \def\Hy@ColorList{cite,file,link,menu,run,url}
2784 \@for\Hy@temp:=\Hy@ColorList\do{%
2785   \edef\Hy@temp{%
2786     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%

```

```

2787     \noexpand\HyColor@HyperrefBorderColor
2788     {##1}%
2789     \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2790     {hyperref}%
2791     {\Hy@temp bordercolor}%
2792   }%
2793 }%
2794 \Hy@temp
2795 }
2796 \define@key{Hyp}{pagebordercolor}{%
2797   \Hy@WarningPageBorderColor
2798 }
2799 \def\Hy@WarningPageBorderColor{%
2800   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2801   \global\let\Hy@WarningPageBorderColor\relax
2802 }

2803 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
2804 \Hy@DefNameKey{pdfhighlight}{%
2805   \do{/I}{Invert}%
2806   \do{/N}{None}%
2807   \do{/O}{Outline}%
2808   \do{/P}{Push}%
2809 }
2810 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
2811 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
2812 \def\Hy@setpdfborder{%
2813   \ifx\@pdfborder\@empty
2814     \else
2815       /Border[\@pdfborder]%
2816     \fi
2817     \ifx\@pdfborderstyle\@empty
2818       \else
2819         /BS<<\@pdfborderstyle>>%
2820       \fi
2821 }
2822 \Hy@DefNameKey{pdfpagemode}{%
2823   \do{UseNone}{}%
2824   \do{UseOutlines}{}%
2825   \do{UseThumbs}{}%
2826   \do{FullScreen}{}%
2827   \do{UseOC}{PDF 1.5}%
2828   \do{UseAttachments}{PDF 1.6}%
2829 }
2830 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2831   \do{UseNone}{}%
2832   \do{UseOutlines}{}%
2833   \do{UseThumbs}{}%
2834   \do{FullScreen}{}%
2835   \do{UseOC}{PDF 1.5}%
2836   \do{UseAttachments}{PDF 1.6}%
2837 }
2838 \Hy@DefNameKey{pdfdirection}{%
2839   \do{L2R}{Left to right}%
2840   \do{R2L}{Right to left}%
2841 }
2842 \Hy@DefNameKey{pdfviewarea}{%
2843   \do{MediaBox}{}%

```

```

2844 \do{CropBox}{}%
2845 \do{BleedBox}{}%
2846 \do{TrimBox}{}%
2847 \do{ArtBox}{}%
2848 }
2849 \Hy@DefNameKey{pdfviewclip}{%
2850 \do{MediaBox}{}%
2851 \do{CropBox}{}%
2852 \do{BleedBox}{}%
2853 \do{TrimBox}{}%
2854 \do{ArtBox}{}%
2855 }
2856 \Hy@DefNameKey{pdfprintarea}{%
2857 \do{MediaBox}{}%
2858 \do{CropBox}{}%
2859 \do{BleedBox}{}%
2860 \do{TrimBox}{}%
2861 \do{ArtBox}{}%
2862 }
2863 \Hy@DefNameKey{pdfprintclip}{%
2864 \do{MediaBox}{}%
2865 \do{CropBox}{}%
2866 \do{BleedBox}{}%
2867 \do{TrimBox}{}%
2868 \do{ArtBox}{}%
2869 }
2870 \Hy@DefNameKey{pdfprintscaling}{%
2871 \do{AppDefault}{}%
2872 \do{None}{}%
2873 }
2874 \Hy@DefNameKey{pdfduplex}{%
2875 \do{Simplex}{}%
2876 \do{DuplexFlipShortEdge}{}%
2877 \do{DuplexFlipLongEdge}{}%
2878 }
2879 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
2880 \do{true}{}%
2881 \do{false}{}%
2882 }
2883 \define@key{Hyp}{pdfprintpagerange}{%
2884 \def\@pdfprintpagerange{#1}%
2885 }
2886 \Hy@DefNameKey{pdfnumcopies}{%
2887 \do{2}{two copies}%
2888 \do{3}{three copies}%
2889 \do{4}{four copies}%
2890 \do{5}{five copies}%
2891 }
2892 \define@key{Hyp}{pdfusetitle}[true]{%
2893 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
2894 }
2895 \define@key{Hyp}{pdftitle}{\pdfstringdef\@pdftitle{#1}}
2896 \define@key{Hyp}{pdfauthor}{\pdfstringdef\@pdfauthor{#1}}
2897 \define@key{Hyp}{pdfproducer}{\pdfstringdef\@pdfproducer{#1}}
2898 \define@key{Hyp}{pdfcreator}{\pdfstringdef\@pdfcreator{#1}}
2899 \define@key{Hyp}{pdfcreationdate}{%
2900 \begingroup

```

```

2901 \Hy@unicodedefalse
2902 \pdfstringdef\@pdfcreationdate{#1}%
2903 \endgroup
2904 }
2905 \define@key{Hyp}{pdfmoddate}{%
2906 \begingroup
2907 \Hy@unicodedefalse
2908 \pdfstringdef\@pdfmoddate{#1}%
2909 \endgroup
2910 }
2911 \define@key{Hyp}{pdfsubject}{\pdfstringdef\@pdfsubject{#1}}
2912 \define@key{Hyp}{pdfkeywords}{\pdfstringdef\@pdfkeywords{#1}}
2913 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
2914 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
2915 \let\setpdflinkmargin\@gobble
2916 \def\calculate@pdfview#1 #2\{%
2917 \def\@pdfview{#1}%
2918 \ifx\#2\%
2919 \def\@pdfviewparams{ -32768}%
2920 \else
2921 \def\@pdfviewparams{ #2}%
2922 \fi
2923 }
2924 \begingroup\expandafter\expandafter\expandafter\endgroup
2925 \expandafter\ifx\csname numexpr\endcsname\relax
2926 \def\Hy@number#1{%
2927 \expandafter\@firstofone\expandafter{\number#1}%
2928 }%
2929 \else
2930 \def\Hy@number#1{%
2931 \the\numexpr#1\relax
2932 }%
2933 \fi
2934 \define@key{Hyp}{pdfstartpage}{%
2935 \ifx\#1\%
2936 \def\@pdfstartpage{}%
2937 \else
2938 \edef\@pdfstartpage{\Hy@number{#1}}%
2939 \fi
2940 }%
2941 \define@key{Hyp}{pdfstartview}{%
2942 \ifx\#1\%
2943 \def\@pdfstartview{}%
2944 \else
2945 \hypercalcbpdef\@pdfstartview{ /#1 }%
2946 \fi
2947 }
2948 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
2949 \define@key{Hyp}{pdftoolbar}[true]{%
2950 \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
2951 }
2952 \define@key{Hyp}{pdfmenubar}[true]{%
2953 \Hy@boolkey[pdfmenubar]{menubar}{#1}%
2954 }
2955 \define@key{Hyp}{pdfwindowui}[true]{%
2956 \Hy@boolkey[pdfwindowui]{windowui}{#1}%
2957 }

```

```

2958 \define@key{Hyp}{pdffitwindow}[true]{%
2959   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
2960 }
2961 \define@key{Hyp}{pdfcenterwindow}[true]{%
2962   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
2963 }
2964 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
2965   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
2966 }
2967 \define@key{Hyp}{pdfa}[true]{%
2968   \Hy@boolkey[pdfa]{#1}%
2969 }
2970 \define@key{Hyp}{pdfnewwindow}[true]{%
2971   \def\Hy@temp{#1}%
2972   \ifx\Hy@temp\@empty
2973     \Hy@newwindowsetfalse
2974   \else
2975     \Hy@newwindowsettrue
2976     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
2977   \fi
2978 }
2979 \def\Hy@SetNewWindow{%
2980   \ifHy@newwindowset
2981     /NewWindow %
2982   \ifHy@newwindow true\else false\fi
2983 }
2984 }
2985 \Hy@DefNameKey{pdfpagelayout}{%
2986   \do{SinglePage}{}%
2987   \do{OneColumn}{}%
2988   \do{TwoColumnLeft}{}%
2989   \do{TwoColumnRight}{}%
2990   \do{TwoPageLeft}{PDF 1.5}%
2991   \do{TwoPageRight}{PDF 1.5}%
2992 }
2993 \define@key{Hyp}{pdflang}{%
2994   \def\@pdflang{#1}%
2995 }
2996 \define@key{Hyp}{pdfpagelabels}[true]{%
2997   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
2998 }
2999 \define@key{Hyp}{pdfescapeform}[true]{%
3000   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
3001 }

```

Default values:

```

3002 \def\@linkbordercolor{1 0 0}
3003 \def\@urlbordercolor{0 1 1}
3004 \def\@menubordercolor{1 0 0}
3005 \def\@filebordercolor{0 .5 .5}
3006 \def\@runbordercolor{0 .7 .7}
3007 \def\@citebordercolor{0 1 0}
3008 \def\@pdfhighlight{/I}
3009 \def\@pdftitle{}
3010 \def\@pdfauthor{}
3011 \let\@pdfproducer\relax
3012 \def\@pdfcreator{LaTeX with hyperref package}
3013 \def\@pdfcreationdate{}

```



```

3014 \def\@pdfmoddate{}
3015 \def\@pdfsubject{}
3016 \def\@pdfkeywords{}
3017 \def\@pdfpagescrop{}
3018 \def\@pdfstartview{ /Fit }
3019 \def\@pdfstartpage{1}
3020 \def\@pdfprintpagerange{}
3021 \def\@pdflang{}
3022 \let\PDF@SetupDoc\@empty
3023 \let\PDF@FinishDoc\@empty
3024 \let\phantomsection\@empty
3025 \let\special@paper\@empty
3026 \def\HyperDestNameFilter#1{#1}
3027 \@ifundefined{stockwidth}{%
3028   \ifdim\paperwidth>\z@
3029     \ifdim\paperheight>\z@
3030       \edef\special@paper{\the\paperwidth,\the\paperheight}%
3031     \fi
3032   \fi
3033 }{%
3034   \ifdim\stockwidth>\z@
3035     \ifdim\stockheight>\z@
3036       \edef\special@paper{\the\stockwidth,\the\stockheight}%
3037     \fi
3038   \fi
3039 }
3040 \begingroup
3041   \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
3042   \dimen@=\x\relax
3043   \ifdim\dimen@>\z@
3044     \else
3045       \dimen@=11in\relax
3046       \Hy@WarningNoLine{%
3047         Height of page (\expandafter\string\x) %
3048         is invalid (\the\x),\MessageBreak
3049         using 11in%
3050       }%
3051     \fi
3052     \dimen@=0.99626401\dimen@
3053     \xdef\Hy@pageheight{\strip@pt\dimen@}%
3054 \endgroup
3055 \def\HyInd@EncapChar{\|}
3056 \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.

```

3057 \let\hyper@normalise\ExecuteOptions
3058 \let\ExecuteOptions\hypersetup
3059 \Hy@RestoreCatcodes
3060 \InputIfFileExists{hyperref.cfg}{-}{-}
3061 \Hy@SetCatcodes
3062 \let\ExecuteOptions\hyper@normalise
3063 \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.

```
3064 \RequirePackage{kvoptions}[2009/04/10]
```

Add option tex4ht if package tex4ht is loaded.

```
3065 \@ifpackageloaded{tex4ht}{%
3066   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
3067   \PassOptionsToPackage{tex4ht}{hyperref}%
3068 }%
3069 }{}

3070 \let\ReadBookmarks\relax
3071 \ProcessKeyvalOptions{Hyp}
```

After processing options.

```
3072 \AtBeginDocument{%
3073   \ifHy@draft
3074     \let\hyper@@anchor\@gobble
3075     \gdef\hyper@link#1#2#3{#3}%
3076     \let\hyper@anchorstart\@gobble
3077     \let\hyper@anchorend\@empty
3078     \let\hyper@linkstart\@gobbletwo
3079     \let\hyper@linkend\@empty
3080     \def\hyper@linkurl#1#2{#1}%
3081     \def\hyper@linkfile#1#2#3{#1}%
3082     \def\hyper@link@[#1]#2#3{#1}%
3083     \def\Acrobatmenu#1#2{\leavevmode#2}%
3084     \let\PDF@SetupDoc\@empty
3085     \let\PDF@FinishDoc\@empty
3086     \let\@fifthoffive\@secondoftwo
3087     \let\@secondoffive\@secondoftwo
3088     \let\ReadBookmarks\relax
3089     \let\WriteBookmarks\relax
3090     \Hy@WarningNoLine{ draft mode on}%
3091   \fi
3092   \Hy@DisableOption{draft}%
3093   \Hy@DisableOption{nolinks}%
3094   \Hy@DisableOption{final}%
3095 }
```

15.1 PDF/A

```
3096 \Hy@DisableOption{pdfa}

3097 \ifHy@pdfa
3098   \setkeys{Hyp}{pdfversion=1.4}%
3099   \def\Hy@Acrobatmenu#1#2{%
3100     \leavevmode
3101     \begingroup
3102       \edef\x{#1}%
3103       \@onelevel@sanitize\x
3104       \ifx\x\Hy@NextPage
3105         \let\y=Y%
3106       \else
3107         \ifx\x\Hy@PrevPage
3108           \let\y=Y%
3109         \else
3110           \ifx\x\Hy@FirstPage
3111             \let\y=Y%
```

```

3112         \else
3113             \ifx\x\Hy@LastPage
3114                 \let\y=Y%
3115             \else
3116                 \let\y=N%
3117             \fi
3118         \fi
3119     \fi
3120 \fi
3121 \expandafter\endgroup
3122 \ifx\y Y%
3123 \else
3124     \PackageError{hyperref}{%
3125         PDF/A: Named action ‘#1’ is not permitted%
3126     }\@ehc
3127     {#2}%
3128     \expandafter\@gobble
3129 \fi
3130 }%
3131 \def\Hy@temp#1{%
3132     \expandafter\def\csname Hy@#1\endcsname{#1}%
3133     \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3134 }%
3135 \Hy@temp{NextPage}%
3136 \Hy@temp{PrevPage}%
3137 \Hy@temp{FirstPage}%
3138 \Hy@temp{LastPage}%
3139 \else
3140     \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3141 \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.

```

3142 \Hy@nextfalse
3143 \@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
3144 \@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
3145 \@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
3146 \ifHy@next
3147     \let\texttilde~%
3148 \fi

```

15.3 Patch for babel 3.8j

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

```

3149 \@ifpackageloaded{babel}{%
3150     \ifpackagelater{babel}{2008/03/16}{%
3151         \def\Hy@PatchLanguageShorthands#1{%
3152             \begingroup
3153                 \edef\x{#1}%
3154                 \@onelevel@sanitize\x
3155                 \def\y{system}%
3156                 \@onelevel@sanitize\y
3157             \expandafter\endgroup
3158             \ifx\x\y

```

```

3159     \else
3160     \HyOrg@languageshorthands{#1}%
3161     \fi
3162   }%
3163   \AtBeginDocument{%
3164     \begingroup
3165     \toks0=\expandafter{\pdfstringdefPreHook}%
3166     \xdef\pdfstringdefPreHook{%
3167       \let\noexpand\HyOrg@languageshorthands
3168       \noexpand\languageshorthands
3169       \let\noexpand\languageshorthands
3170       \noexpand\Hy@PatchLanguageShorthands
3171       \the\toks0 %
3172       \let\noexpand\languageshorthands
3173       \noexpand\HyOrg@languageshorthands
3174     }%
3175     \endgroup
3176   }%
3177   }{}%
3178 }{}

3179 \ifHy@figures
3180 \Hy@Info{Hyper figures ON}%
3181 \else
3182 \Hy@Info{Hyper figures OFF}%
3183 \fi
3184 \ifHy@nesting
3185 \Hy@Info{Link nesting ON}%
3186 \else
3187 \Hy@Info{Link nesting OFF}%
3188 \fi
3189 \ifHy@hyperindex
3190 \Hy@Info{Hyper index ON}%
3191 \else
3192 \Hy@Info{Hyper index OFF}%
3193 \fi
3194 \ifHy@plainpages
3195 \Hy@Info{Plain pages ON}%
3196 \else
3197 \Hy@Info{Plain pages OFF}%
3198 \fi
3199 \ifHy@backref
3200 \Hy@Info{Backreferencing ON}%
3201 \else
3202 \Hy@Info{Backreferencing OFF}%
3203 \fi
3204 \ifHy@typexml
3205 \AtEndOfPackage{%
3206   \RequirePackage{color}%
3207   \RequirePackage{nameref}%
3208 }%
3209 \fi
3210 \Hy@DisableOption{typexml}
3211 \ifHy@implicit
3212 \typeout{Implicit mode ON; LaTeX internals redefined}%
3213 \else
3214 \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3215 \def\MaybeStopEarly{%

```

```

3216 \typeout{Hyperref stopped early}%
3217 \AfterBeginDocument{%
3218   \PDF@FinishDoc
3219   \gdef\PDF@FinishDoc{}%
3220 }%
3221 \endinput
3222 }%
3223 \AtBeginDocument{%
3224   \let\autoref\ref
3225   \let\autopageref\pageref
3226   \ifx\@pdfpagemode\@empty
3227     \gdef\@pdfpagemode{UseNone}%
3228   \fi
3229   \global\Hy@backreffalse
3230 }%
3231 \AtEndOfPackage{%
3232   \global\let\ReadBookmarks\relax
3233   \global\let\WriteBookmarks\relax
3234 }%
3235 \fi
3236 \Hy@DisableOption{implicit}

```

15.3.1 Driver loading

```

3237 \AtEndOfPackage{%
3238   \@ifpackageloaded{tex4ht}{%
3239     \def\Hy@driver{htex4ht}%
3240     \Hy@texhttrue
3241   }{}%

```

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.

```

3242   \ifx\Hy@driver\@empty
3243   \else
3244     \def\Hy@temp{hpdfTeX}%
3245     \ifpdf
3246       \ifx\Hy@driver\Hy@temp
3247       \else
3248         \Hy@WarningNoLine{%
3249           Wrong driver ‘\Hy@driver.def’;\MessageBreak
3250           pdfTeX is running in PDF mode.\MessageBreak
3251           Forcing driver ‘\Hy@temp.def’%
3252         }%
3253         \let\Hy@driver\Hy@temp
3254       \fi
3255     \else
3256       \ifx\Hy@driver\Hy@temp
3257       \Hy@WarningNoLine{%
3258         Wrong driver ‘\Hy@driver.def’;\MessageBreak
3259         pdfTeX is not running in PDF mode.\MessageBreak
3260         Using default driver%
3261       }%
3262       \let\Hy@driver\@empty
3263     \fi
3264   \fi
3265 \fi
3266 \ifx\Hy@driver\@empty
3267 \else

```

```

3268 \def\Hy@temp{hdvipdfm}%
3269 \ifxetex
3270 \ifx\Hy@driver\Hy@temp
3271 \else
3272 \Hy@WarningNoLine{%
3273   Wrong driver '\Hy@driver.def';\MessageBreak
3274   XeTeX is running.\MessageBreak
3275   Forcing driver '\Hy@temp.def' for XeTeX%
3276 }%
3277 \let\Hy@driver\Hy@temp
3278 \fi
3279 \fi
3280 \fi
3281 \ifx\Hy@driver\@empty
3282 \else
3283 \def\Hy@temp{hvtexhtm}%
3284 \ifvtexhtml
3285 \ifx\Hy@driver\Hy@temp
3286 \else
3287 \Hy@WarningNoLine{%
3288   Wrong driver '\Hy@driver.def';\MessageBreak
3289   VTeX is running in HTML mode.\MessageBreak
3290   Forcing driver '\Hy@temp.def'%
3291 }%
3292 \let\Hy@driver\Hy@temp
3293 \fi
3294 \else
3295 \ifx\Hy@driver\Hy@temp
3296 \Hy@WarningNoLine{%
3297   Wrong driver '\Hy@driver.def';\MessageBreak
3298   VTeX is not running in HTML mode.\MessageBreak
3299   Using default driver%
3300 }%
3301 \let\Hy@driver\@empty
3302 \fi
3303 \fi
3304 \fi

```

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

```

3305 \ifx\Hy@driver\@empty
3306 \providecommand*{\Hy@defaultdriver}{hypertex}%
3307 \ifpdf
3308 \def\Hy@driver{hpdftex}%
3309 \else
3310 \ifxetex
3311 \def\Hy@driver{hdvipdfm}%
3312 \else
3313 \ifvtexhtml
3314 \def\Hy@driver{hvtexhtm}%
3315 \def\MaybeStopEarly{%
3316   \typeout{Hyperref stopped early}%
3317   \AfterBeginDocument{%
3318     \PDF@FinishDoc
3319     \gdef\PDF@FinishDoc{}%
3320   }%
3321   \endinput
3322 }%
3323 \else

```

```

3324         \ifvtexpdf
3325         \def\Hy@driver{hvtex}%
3326     \else
3327         \ifvtexps
3328         \def\Hy@driver{hvtex}%
3329     \else
3330         \let\Hy@driver\Hy@defaultdriver
3331     \fi
3332 \fi
3333 \fi
3334 \fi
3335 \fi
3336 \ifx\Hy@driver\Hy@defaultdriver
3337     \def\Hy@temp{hdvwind}%
3338     \ifx\Hy@temp\Hy@driver
3339         \setkeys{Hyp}{colorlinks}%
3340         \PassOptionsToPackage{dviwindo}{color}%
3341     \fi
3342 \fi
3343 \typeout{*hyperref using default driver \Hy@driver*}%
3344 \else
3345     \typeout{*hyperref using driver \Hy@driver*}%
3346 \fi
3347 \input{\Hy@driver.def}%
3348 \let\@unprocessedoptions\relax
3349 \Hy@RestoreCatcodes
3350 }

```

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

```

3351 \newif\ifHy@DvipdfmxOutlineOpen
3352 \ifxetex
3353     \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
3354     \else
3355         \Hy@DvipdfmxOutlineOpen>true
3356     \fi
3357 \fi
3358 \begingroup\expandafter\expandafter\expandafter\endgroup
3359 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3360 \else
3361     \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3362         \Hy@DvipdfmxOutlineOpen>true
3363     \fi
3364 \fi
3365 \Hy@DisableOption{tex4ht}
3366 \Hy@DisableOption{pdftex}
3367 \Hy@DisableOption{nativepdf}
3368 \Hy@DisableOption{dvipdfm}
3369 \Hy@DisableOption{dvipdfmx}
3370 \Hy@DisableOption{dvipdfmx-outline-open}
3371 \Hy@DisableOption{pdfmark}
3372 \Hy@DisableOption{dvips}
3373 \Hy@DisableOption{hypertex}
3374 \Hy@DisableOption{vtex}
3375 \Hy@DisableOption{vtexpdfmark}
3376 \Hy@DisableOption{dviwindo}
3377 \Hy@DisableOption{dvipsone}

```

```

3378 \Hy@DisableOption{textures}
3379 \Hy@DisableOption{latex2html}
3380 \Hy@DisableOption{ps2pdf}
3381 \Hy@DisableOption{xetex}
3382 \AtEndOfPackage{%
3383   \Hy@DisableOption{pdfversion}%
3384 }

```

15.3.2 Bookmarks

```

3385 \def\WriteBookmarks{0}
3386 \def\@bookmarkopenstatus#1{%
3387   \ifHy@bookmarksopen

```

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

```

3388   \ifnum#1<\expandafter\@firstofone\expandafter
3389     {\number\@bookmarkopenlevel} % explicit space
3390   \else
3391     -%
3392   \fi
3393 \else
3394   -%
3395 \fi
3396 }
3397 \ifHy@bookmarks
3398   \Hy@Info{Bookmarks ON}%
3399   \ifx\@pdfpagemode\@empty
3400     \def\@pdfpagemode{UseOutlines}%
3401   \fi
3402 \else
3403   \def\@bookmarkopenstatus#1{%
3404     \Hy@Info{Bookmarks OFF}%
3405     \AtEndOfPackage{%
3406       \global\let\ReadBookmarks\relax
3407       \global\let\WriteBookmarks\relax
3408     }%
3409     \ifx\@pdfpagemode\@empty
3410       \def\@pdfpagemode{UseNone}%
3411     \fi
3412 \fi
3413 \Hy@DisableOption{bookmarks}

```

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

```

3414 \def\Hy@CatcodeWrapper#1{%
3415   \def\Hy@endWrap{}%
3416   \def\TMP@EnsureCode##1##2{%
3417     \edef\Hy@endWrap{%
3418       \Hy@endWrap
3419       \catcode##1 \the\catcode##1\relax
3420     }%
3421     \catcode##1 ##2\relax
3422   }%
3423   \TMP@EnsureCode{10}{12}% ^^J
3424   \TMP@EnsureCode{33}{12}% !
3425   \TMP@EnsureCode{34}{12}% "
3426   \TMP@EnsureCode{36}{3}% $ (math)
3427   \TMP@EnsureCode{38}{4}% & (alignment)
3428   \TMP@EnsureCode{39}{12}% '
3429   \TMP@EnsureCode{40}{12}% (

```



```

3430 \TMP@EnsureCode{41}{12}% )
3431 \TMP@EnsureCode{42}{12}% *
3432 \TMP@EnsureCode{43}{12}% +
3433 \TMP@EnsureCode{44}{12}% ,
3434 \TMP@EnsureCode{45}{12}% -
3435 \TMP@EnsureCode{46}{12}% .
3436 \TMP@EnsureCode{47}{12}% /
3437 \TMP@EnsureCode{58}{12}% :
3438 \TMP@EnsureCode{59}{12}% ;
3439 \TMP@EnsureCode{60}{12}% <
3440 \TMP@EnsureCode{61}{12}% =
3441 \TMP@EnsureCode{62}{12}% >
3442 \TMP@EnsureCode{63}{12}% ?
3443 \TMP@EnsureCode{91}{12}% [
3444 \TMP@EnsureCode{93}{12}% ]
3445 \TMP@EnsureCode{94}{7}% ^ (superscript)
3446 \TMP@EnsureCode{95}{8}% _ (subscript)
3447 \TMP@EnsureCode{96}{12}% '
3448 \TMP@EnsureCode{124}{12}% |
3449 \TMP@EnsureCode{126}{13}% ~ (active)
3450 #1\relax
3451 \Hy@endWrap
3452 }

```

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

```

3453 \AtBeginDocument{%
3454   \ifHy@ocgcolorlinks
3455     \setkeys{Hyp}{colorlinks}%
3456     \ifHy@pdfa
3457       \Hy@Warning{%
3458         PDF/A: Optional Content Groups are prohibited,\MessageBreak
3459         using 'colorlinks' instead of 'ocgcolorlinks'%
3460       }%
3461       \Hy@ocgcolorlinksfalse
3462     \fi
3463   \fi
3464   \ifHy@ocgcolorlinks
3465   \else
3466     \Hy@DisableOption{ocgcolorlinks}%
3467   \fi
3468   \ifHy@colorlinks
3469     \def\@pdfborder{0 0 0}%
3470     \let\@pdfborderstyle\@empty
3471     \ifHy@typexml
3472     \else
3473       \Hy@CatcodeWrapper{%
3474         \RequirePackage{color}%
3475       }%
3476     \fi
3477     \def\Hy@colorlink#1{%
3478       \begingroup
3479       \HyColor@UseColor#1%
3480     }%
3481     \def\Hy@endcolorlink{\endgroup}%
3482     \Hy@Info{Link coloring ON}%
3483   \else
3484     \ifHy@frenchlinks

```

```

3485     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3486     \def\Hy@endcolorlink{\endgroup}%
3487     \Hy@Info{French linking ON}%
3488     \else
for grouping consistency:
3489     \def\Hy@colorlink#1{\begingroup}%
3490     \def\Hy@endcolorlink{\endgroup}%
3491     \Hy@Info{Link coloring OFF}%
3492     \fi
3493 \fi
3494 \Hy@DisableOption{colorlinks}%
3495 \Hy@DisableOption{frenchlinks}%
3496 \ifHy@texht
3497     \long\def\@firstoffive#1#2#3#4#5{#1}%
3498     \long\def\@secondoffive#1#2#3#4#5{#2}%
3499     \long\def\@thirdoffive#1#2#3#4#5{#3}%
3500     \long\def\@fourthoffive#1#2#3#4#5{#4}%
3501     \long\def\@fifthoffive#1#2#3#4#5{#5}%
3502     \providecommand*\@safe@activestruetrue{}%
3503     \providecommand*\@safe@activesfalse{}%
3504     \def\T@ref#1{%
3505         \Hy@safe@activestruetrue
3506         \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3507         \Hy@safe@activesfalse
3508     }%
3509     \def\T@pageref#1{%
3510         \Hy@safe@activestruetrue
3511         \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3512         \Hy@safe@activesfalse
3513     }%
3514 \else
3515     \ifHy@typexml
3516     \else
3517         \Hy@CatcodeWrapper{%
3518             \RequirePackage{nameref}%
3519         }%
3520     \fi
3521 \fi
3522 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3523 \DeclareRobustCommand\pageref{%
3524     \@ifstar\@pagerefstar\T@pageref
3525 }%
3526 }
3527 \AfterBeginDocument{%
3528     \ifHy@texht
3529     \else
3530         \Hy@CatcodeWrapper{%
3531             \ReadBookmarks
3532         }%
3533     \fi
3534 }
3535 \ifHy@backref
3536     \RequirePackage{backref}%
3537 \else
3538     \let\Hy@backout\@gobble
3539 \fi
3540 \Hy@DisableOption{backref}

```

```
3541 \Hy@DisableOption{pagebackref}
```

```
3542 \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.

```
3543 \begingroup
3544 \endlinechar=-1 %
3545 \catcode'\^^A=14 %
3546 \catcode'\^^M\active
3547 \catcode'\%\active
3548 \catcode'\#\active
3549 \catcode'\_\active
3550 \catcode'\$\active
3551 \catcode'\&\active
3552 \gdef\hyper@normalise{^^A
3553   \begingroup
3554   \catcode'\^^M\active
3555   \def^^M{ }^^A
3556   \catcode'\%\active
3557   \let%\@percentchar
3558   \let%\@percentchar
3559   \catcode'\#\active
3560   \def#{\hyper@hash}^^A
3561   \def\#{\hyper@hash}^^A
3562   \@makeother\&^^A
3563   \edef&{\string&}^^A
3564   \edef\&{\string&}^^A
3565   \edef\textunderscore{\string_}^^A
3566   \let\_ \textunderscore
3567   \catcode'\_\active
3568   \let\_ \textunderscore
3569   \let~\hyper@tilde
3570   \let~\hyper@tilde
3571   \let\textasciitilde\hyper@tilde
3572   \let\\\@backslashchar
3573   \edef$\string$}^^A
3574   \Hy@safe@activetrue
3575   \hyper@n@rmalise
3576 }^^A
3577 \catcode'\#=6 ^^A
3578 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3579 \gdef\hyper@n@rmalise#1#2{^^A
3580   \def\Hy@tempa{#2}^^A
3581   \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3582     \Hy@ReturnAfterElseFi{^^A
3583       \hyper@@normalise{#1}^^A
3584     }^^A
3585   \else
3586     \Hy@ReturnAfterFi{^^A
3587       \hyper@@normalise{#1}{#2}^^A
```

```

3588     }^^A
3589     \fi
3590 }^^A
3591 \gdef\hyper@@normalise#1#2{^^A
3592     \edef\Hy@tempa{^^A
3593         \endgroup
3594         \noexpand#1{\Hy@RemovePercentCr#2%^M\@nil}^^A
3595     }^^A
3596     \Hy@tempa
3597 }^^A
3598 \gdef\Hy@RemovePercentCr#1%^M#2\@nil{^^A
3599     #1^^A
3600     \ifx\limits#2\limits
3601     \else
3602         \Hy@ReturnAfterFi{^^A
3603             \Hy@RemovePercentCr #2\@nil
3604         }^^A
3605     \fi
3606 }^^A
3607 \endgroup
3608 \providecommand*\hyper@chars{%
3609     \let#\hyper@hash
3610     \let%\@percentchar
3611     \Hy@safe@activetrue
3612 }
3613 \def\hyperlink#1#2{%
3614     \hyper@@link{#1}{#2}%
3615 }
3616 \DeclareRobustCommand*\href{%
3617     \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3618 }
3619 \def\Hy@href#{%
3620     \hyper@normalise\href@
3621 }
3622 \begingroup
3623     \catcode'\$=6 %
3624     \catcode'\#=12 %
3625     \gdef\href@#1{\expandafter\href@split$1#\}%
3626     \gdef\href@split$1#$2#$3\{%
3627         \hyper@@link{$1}{$2}%
3628     }%
3629 \endgroup

```

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

```

3630 \RequirePackage{url}
3631 \let\HyOrg@url\url
3632 \def\Hurl{\begingroup \Url}
3633 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
3634 \def\nolinkurl@#1{\Hurl{#1}}
3635 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3636 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
3637 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3638 \providecommand\hyper@image[2]{#2}
3639 \def\hypertarget#1#2{%
3640     \ifHy@nesting
3641         \hyper@@anchor{#1}{#2}%

```

```

3642 \else
3643   \hyper@@anchor{#1}{\relax}#2%
3644 \fi
3645 }

```

`\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^AT_EX label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

3646 \DeclareRobustCommand*\hyperref{%
3647   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3648 }
3649 \def\Hy@babelnormalise#1[#2]{%
3650   \begingroup
3651     \Hy@safe@activetrue
3652     \edef\Hy@tempa{%
3653       \endgroup
3654       \noexpand#1[#2]}%
3655   }%
3656   \Hy@tempa
3657 }
3658 \def\@hyperref{\hyper@normalise\@hyperref}
3659 \def\@hyperref#1#2#3{%
3660   \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
3661   \expandafter\tryhyper@link\ref@one\{#1}%
3662 }
3663 \def\tryhyper@link#1\#2{%
3664   \hyper@@link{#2}{#1}%
3665 }
3666 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef]}
3667 \def\label@hyperdef#1#2#3{%, category, name, text
3668   \ifx\#1\%
3669     \def\Hy@AnchorName{#2}%
3670   \else
3671     \def\Hy@AnchorName{#1.#2}%
3672   \fi
3673   \ifHy@nesting
3674     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
3675   \else
3676     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
3677   \fi
3678 }

```

We also have a need to give a L^AT_EX *label* to a hyper reference, to ease the pain of referring to it later.

```

3679 \def\label@hyperref[#1]{%
3680   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
3681 }%
3682 \def\label@@hyperref#1#2#3{%
3683   \ifx#1\relax
3684     \protect\G@refundefinedtrue
3685     \@latex@warning{%
3686       Hyper reference ‘#2’ on page \thepage \space undefined%
3687     }%
3688     \hyper@@link{}{??}{#3}%

```

```

3689 \else
3690   \hyper@@link{\expandafter\@fifthoffive#1}%
3691   {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3692 \fi
3693 }
3694 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3695                               % anchor text
3696   \@bsphack
3697   \ifx\\#2\\%
3698     \def\Hy@AnchorName{#3}%
3699   \else
3700     \def\Hy@AnchorName{#2.#3}%
3701   \fi
3702   \if@filesw
3703     \protected@write\@auxout{%
3704       \string\newlabel{#1}{\Hy@AnchorName}{#4}%
3705     }%
3706   \fi
3707   \@esphack
3708   \ifHy@nesting
3709     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
3710   \else
3711     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
3712   \fi
3713 }

```

17 Underlying basic hypertext macros

Links have an optional type, a filename (possibly a URL), an internal name, and some marked text. (Caution: the internal name may contain babel shorthand characters.) If the second parameter is empty, it's an internal link, otherwise we need to open another file or a URL. A link start has a type, and a URL.

```

3714 \def\hyper@@link{\let\Hy@reserved@a\relax
3715   \ifnextchar{\hyper@link@}{\hyper@link@[link]}%
3716 }
3717 \def\hyper@link@[#1]#2#3#4{%
3718   \begingroup
3719     \protected@edef\Hy@tempa{#2}%
3720     \Hy@safe@activestrue
3721     \edef\x{#3}%
3722     \ifx\Hy@tempa\@empty
3723       \toks0{\hyper@link{#1}}%
3724     \else
3725       \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3726     \fi
3727     \toks2{%
3728       \Hy@safe@activesfalse
3729       #4%
3730     }%
3731     \edef\Hy@tempa{\the\toks2}%
3732     \edef\x{\endgroup
3733       \ifx\Hy@tempa\@empty
3734         \noexpand\Hy@Warning{Suppressing empty link}%
3735       \else
3736         \the\toks0 {\x}{\the\toks2}%
3737       \fi

```

```

3738     }%
3739   \x
3740 }

```

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.

```

3741 \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.

```

3742   \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\|#1}%
3743 }

```

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

```

3744 \def\@pdftempwordfile{file}%
3745 \def\@pdftempwordrun{run}%
3746 \def\@hyper@readexternallink#1#2#3#4:#5:#6\|#7{%

```

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

```

3747   \ifx\|#6\|
3748     \expandafter\@hyper@linkfile file:#7\|#3}{#2}%
3749   \else
3750     \ifx\|#4\|
3751       \expandafter\@hyper@linkfile file:#7\|#3}{#2}%
3752     \else

```

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

```

3753       \def\@pdftempa{#4}%
3754       \ifx\@pdftempa\@pdftempwordfile
3755         \expandafter\@hyper@linkfile#7\|#3}{#2}%
3756       \else

```

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

```

3757       \ifx\@pdftempa\@pdftempwordrun
3758         \ifHy@pdfa
3759           \PackageError{hyperref}{%
3760             PDF/A: Launch action is prohibited%
3761           }\@ehc
3762         \begingroup
3763           \leavevmode
3764           #2%
3765         \endgroup
3766       \else

```

```

3767         \expandafter\@hyper@launch#7\{\#3}\#2}%
3768     \fi
3769 \else

```

otherwise its a URL

```

3770         \hyper@linkurl{\#3}\#7\ifx\#2\\\else\hyper@hash#2\fi}%
3771     \fi
3772 \fi
3773 \fi
3774 \fi
3775 }

```

By default, turn run: into file:

```

3776 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
3777     \hyper@linkurl{\#2}{%
3778         \Hy@linkfileprefix
3779         #1%
3780         \ifx\#3\\%
3781         \else
3782             \hyper@hash
3783             #3%
3784         \fi
3785     }%
3786 }

```

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

```

3787 \def\@hyper@linkfile file:#1\#2#3{%
3788     %file url,link string, name
3789     \filename@parse{#1}%
3790     \ifx\filename@ext\relax
3791         \edef\filename@ext{\XR@ext}%
3792     \fi
3793     \def\use@file{\filename@area\filename@base.\filename@ext}%
3794     \ifx\filename@ext\XR@ext
3795         \hyper@linkfile{\#2}{\use@file}{\#3}%
3796     \else
3797         \ifx\@baseurl\@empty
3798             \hyper@linkurl{\#2}{%
3799                 \Hy@linkfileprefix\use@file\ifx\#3\\\else\hyper@hash#3\fi
3800             }%
3801         \else
3802             \hyper@linkurl{\#2}{\use@file\ifx\#3\\\else\hyper@hash#3\fi}%
3803         \fi
3804     \fi
3805 }

```

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.

```

3806 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3807 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3808     \ifx\#1\\%
3809         #2\Hy@WarningNoLine{empty link? #1: #2#3}%

```



```

3810 \else
3811   \def\anchor@spot{#2#3}%
3812   \let\put@me@back\@empty
3813   \ifx\relax#2\relax
3814   \else
3815     \ifHy@nesting
3816     \else
3817       \ifcat a\noexpand#2\relax
3818       \else
3819         \ifcat 0\noexpand#2 \relax
3820         \else
3821           \typeout{Anchor start is not alphanumeric %
3822             on input line\the\inputlineno%
3823           }%
3824           \let\anchor@spot\@empty
3825           \def\put@me@back{#2#3}%
3826         \fi
3827       \fi
3828     \fi
3829   \fi
3830   \ifHy@activeanchor
3831   \anchor@spot
3832   \else
3833     \hyper@anchor{#1}%
3834   \fi
3835   \expandafter\put@me@back
3836 \fi
3837 \let\anchor@spot\@empty
3838 }

```

18 Compatibility with the *L^AT_EX2html* 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.

```

3839 \let\htmladding\hyperimage
3840 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3841 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3842 \def\htmlref#1#2{% anchor text, label
3843   \label@hyperref[{#2}]{#1}%
3844 }

```

This is really too much. The *L^AT_EX2html* 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.

```

3845 \def\@latex2htmlX{%
3846   \let\hhyperref\hyperref
3847   \def\hyperref##1##2##3##4{% anchor text for HTML
3848     % text to print before label in print
3849     % label
3850     % post-label text in print
3851     ##2\ref{##4}##3%

```

```

3852 }%
3853 }

```

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.

```

3854 \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
3855 \def\HyField@NewFlag#1#2{%
3856   \lowercase{\HyField@NewOption{#2}}%
3857   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3858 }

```

```

\HyField@NewFlagOnly
3859 \def\HyField@NewFlagOnly#1#2{%
3860   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3861 }

```

```

\HyField@NewOption #1: option name
3862 \def\HyField@NewOption#1{%
3863   \expandafter\newif\csname ifFld@#1\endcsname
3864   \define@key{Field}{#1}[true]{%
3865     \lowercase{\Field@boolkey{##1}}{#1}%
3866   }%
3867 }

```

\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
3868 \def\HyField@NewBitsetFlag#1#2#3#4{%
3869   \begingroup
3870     \count@=#4\relax
3871     \advance\count@\m@ne
3872     \def\x##1{%
3873       \endgroup
3874       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
3875       \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
3876         \expandafter\edef\csname HyField@#3@##1\endcsname{%

```

```

3877         (\number#4) #2%
3878     }%
3879     \else
3880         \expandafter\edef\csname HyField@#3@##1\endcsname{%
3881             \csname HyField@#3@##1\endcsname
3882             /#2%
3883         }%
3884     \fi
3885 }%
3886 \expandafter\x\expandafter{\the\count@}%
3887 }

\HyField@UseFlag The bit set is HyField@#1
3888 \def\HyField@UseFlag#1#2{%
3889     \lowercase{\HyField@@UseFlag{#2}}{#1}%
3890 }

\HyField@@UseFlag
3891 \def\HyField@@UseFlag#1#2{%
3892     \bitsetSetValue{HyField@#2}{%
3893         \csname HyField@#2@#1\endcsname
3894     }{%
3895         \csname ifFld@#1\endcsname 1\else 0\fi
3896     }%
3897 }

\HyField@SetFlag The bit set is HyField@#1
3898 \def\HyField@SetFlag#1#2{%
3899     \lowercase{\HyField@@SetFlag{#2}}{#1}%
3900 }

\HyField@@SetFlag
3901 \def\HyField@@SetFlag#1#2{%
3902     \bitsetSetValue{HyField@#2}{%
3903         \csname HyField@#2@#1\endcsname
3904     }{1}%
3905 }

\HyField@PrintFlags
3906 \def\HyField@PrintFlags#1#2{%
3907     \ifHy@verbose
3908         \begingroup
3909         \let\Hy@temp\@empty
3910         \let\MessageBreak\relax
3911         \expandafter\@for\expandafter\x\expandafter:\expandafter=%
3912         \bitsetGetSetBitList{HyField@#1}\do{%
3913             \edef\Hy@temp{%
3914                 \Hy@temp
3915                 \csname HyField@#1@\x\endcsname\MessageBreak
3916             }%
3917         }%
3918     \edef\x{\endgroup
3919         \noexpand\Hy@Info{%
3920             Field flags: %
3921             \expandafter\ifx\@car#1\@nil S\else/\fi
3922             #1 %

```

```

3923         \bitsetGetDec{HyField@#1} %
3924         (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
3925     \Hy@temp
3926     for #2%
3927 }%
3928 }\x
3929 \fi
3930 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

3931 \HyField@NewFlag{Ff}{ReadOnly}{1}
3932 \HyField@NewFlag{Ff}{Required}{2}
3933 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

3934 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
3935 \HyField@NewFlag{Ff}{Radio}{16}
3936 \HyField@NewFlag{Ff}{Pushbutton}{17}
3937 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

3938 \HyField@NewFlag{Ff}{Multiline}{13}
3939 \HyField@NewFlag{Ff}{Password}{14}
3940 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
3941 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3942 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
3943 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
3944 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

3945 \HyField@NewFlag{Ff}{Combo}{18}
3946 \HyField@NewFlag{Ff}{Edit}{19}
3947 \HyField@NewFlag{Ff}{Sort}{20}
3948 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
3949 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3950 \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.

```

3951 \newif\ifFld@popdown
3952 \define@key{Field}{popdown}[true]{%
3953   \lowercase{\Field@boolkey{#1}}{popdown}%
3954 }

```

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.

```

3955 \HyField@NewFlag{F}{Invisible}{1}
3956 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
3957 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
3958 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
3959 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
3960 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3

```

```

3961 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
3962 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
3963 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

3964 \ifHy@pdfa
3965   \def\HyField@PDFAFflagWarning#1#2{%
3966     \Hy@Warning{%
3967       PDF/A: Annotation flag ‘#1’ must\MessageBreak
3968       be set to ‘#2’%
3969     }%
3970   }%
3971   \Fld@invisiblefalse
3972   \def\Fld@invisibletrue{%
3973     \HyField@PDFAFflagWarning{invisible}{false}%
3974   }%
3975   \Fld@hiddenfalse
3976   \def\Fld@hiddentrue{%
3977     \HyField@PDFAFflagWarning{hidden}{false}%
3978   }%
3979   \Fld@printtrue
3980   \def\Fld@printfalse{%
3981     \HyField@PDFAFflagWarning{print}{true}%
3982   }%
3983   \Fld@nozoomtrue
3984   \def\Fld@nozoomfalse{%
3985     \HyField@PDFAFflagWarning{nozoom}{true}%
3986   }%
3987   \Fld@norotatetrue
3988   \def\Fld@norotatefalse{%
3989     \HyField@PDFAFflagWarning{norotate}{true}%
3990   }%
3991   \Fld@noviewfalse
3992   \def\Fld@noviewtrue{%
3993     \HyField@PDFAFflagWarning{noview}{false}%
3994   }%
3995 \fi

```

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

```

3996 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
3997 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
3998 \HyField@NewFlag{Submit}{GetMethod}{4}
3999 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
4000 \HyField@NewFlagOnly{Submit}{XFDF}{6}
4001 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
4002 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
4003 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
4004 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
4005 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
4006 \HyField@NewFlag{Submit}{ExclFKey}{12}
4007 \HyField@NewFlag{Submit}{EmbedForm}{14}

4008 \define@key{Field}{export}{%
4009   \lowercase{\def\Hy@temp{#1}}%
4010   \@ifundefined{Fld@export@\Hy@temp}{%
4011     \@onelevel@sanitize\Hy@temp
4012     \PackageError{hyperref}{%
4013       Unknown export format ‘\Hy@temp’.\MessageBreak
4014       Known formats are ‘FDF’, ‘HTML’, ‘XFDF’, and ‘PDF’%
4015     }\@ehc

```

```

4016 }{%
4017   \let\Fld@export\Hy@temp
4018 }%
4019 }
4020 \def\Fld@export{fdf}
4021 \@namedef{Fld@export@fdf}{0}%
4022 \@namedef{Fld@export@html}{1}%
4023 \@namedef{Fld@export@xfdf}{2}%
4024 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

4025 \def\HyField@FlagsSubmit{%
4026   \bitsetReset{HyField@Submit}%
4027   \ifcase\@nameuse{Fld@export@Fld@export} %
4028     % FDF
4029     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4030     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4031     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
4032     \HyField@UseFlag{Submit}{IncludeAnnotations}%
4033     \HyField@UseFlag{Submit}{CanonicalFormat}%
4034     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
4035     \HyField@UseFlag{Submit}{ExclFKey}%
4036     \HyField@UseFlag{Submit}{EmbedForm}%
4037   \or % HTML
4038     \HyField@SetFlag{Submit}{ExportFormat}%
4039     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4040     \HyField@UseFlag{Submit}{GetMethod}%
4041     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4042     \HyField@UseFlag{Submit}{CanonicalFormat}%
4043   \or % XFDF
4044     \HyField@SetFlag{Submit}{XFDF}%
4045     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4046     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4047     \HyField@UseFlag{Submit}{CanonicalFormat}%
4048   \or % PDF
4049     \HyField@SetFlag{Submit}{SubmitPDF}%
4050     \HyField@UseFlag{Submit}{GetMethod}%
4051   \fi
4052   \HyField@PrintFlags{Submit}{submit button field}%
4053   \bitsetIsEmpty{HyField@Submit}{%
4054     \def\Fld@submitflags{%
4055     }{%
4056       \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
4057     }%
4058 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

4059 \def\HyField@FlagsAnnot#1{%
4060   \bitsetReset{HyField@F}%
4061   \HyField@UseFlag{F}{Invisible}%
4062   \HyField@UseFlag{F}{Hidden}%
4063   \HyField@UseFlag{F}{Print}%

```

```

4064 \HyField@UseFlag{F}{NoZoom}%
4065 \HyField@UseFlag{F}{NoRotate}%
4066 \HyField@UseFlag{F}{NoView}%
4067 \HyField@UseFlag{F}{Locked}%
4068 \HyField@UseFlag{F}{ToggleNoView}%
4069 \HyField@UseFlag{F}{LockedContents}%
4070 \HyField@PrintFlags{F}{#1}%
4071 \bitsetIsEmpty{HyField@F}{%
4072   \def\Fld@annotflags{%
4073   }{%
4074   \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
4075   }%
4076 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

4077 \def\HyField@FlagsPushButton{%
4078   \HyField@FlagsAnnot{push button field}%
4079   \bitsetReset{HyField@Ff}%
4080   \HyField@UseFlag{Ff}{ReadOnly}%
4081   \HyField@UseFlag{Ff}{Required}%
4082   \HyField@UseFlag{Ff}{NoExport}%
4083   \HyField@SetFlag{Ff}{Pushbutton}%
4084   \HyField@PrintFlags{Ff}{push button field}%
4085   \bitsetIsEmpty{HyField@Ff}{%
4086     \def\Fld@flags{%
4087     }{%
4088     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4089     }%
4090 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

4091 \def\HyField@FlagsCheckBox{%
4092   \HyField@FlagsAnnot{check box field}%
4093   \bitsetReset{HyField@Ff}%
4094   \HyField@UseFlag{Ff}{ReadOnly}%
4095   \HyField@UseFlag{Ff}{Required}%
4096   \HyField@UseFlag{Ff}{NoExport}%
4097   \HyField@PrintFlags{Ff}{check box field}%
4098   \bitsetIsEmpty{HyField@Ff}{%
4099     \def\Fld@flags{%
4100     }{%
4101     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4102     }%
4103 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

4104 \def\HyField@FlagsRadioButton{%
4105   \HyField@FlagsAnnot{radio button field}%
4106   \bitsetReset{HyField@Ff}%
4107   \HyField@UseFlag{Ff}{ReadOnly}%

```

```

4108 \HyField@UseFlag{Ff}{Required}%
4109 \HyField@UseFlag{Ff}{NoExport}%
4110 \HyField@UseFlag{Ff}{NoToggleToOff}%
4111 \HyField@SetFlag{Ff}{Radio}%
4112 \HyField@UseFlag{Ff}{RadiosInUnison}%
4113 \HyField@PrintFlags{Ff}{radio button field}%
4114 \bitsetIsEmpty{HyField@Ff}{%
4115   \def\Fld@flags{%
4116 }{%
4117   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4118 }%
4119 }

```

19.1.7 Text fields

\HyField@FlagsText

```

4120 \def\HyField@FlagsText{%
4121   \HyField@FlagsAnnot{text field}%
4122   \bitsetReset{HyField@Ff}%
4123   \HyField@UseFlag{Ff}{ReadOnly}%
4124   \HyField@UseFlag{Ff}{Required}%
4125   \HyField@UseFlag{Ff}{NoExport}%
4126   \HyField@UseFlag{Ff}{Multiline}%
4127   \HyField@UseFlag{Ff}{Password}%
4128   \HyField@UseFlag{Ff}{FileSelect}%
4129   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4130   \HyField@UseFlag{Ff}{DoNotScroll}%
4131   \ifFld@comb
4132     \ifcase0\ifFld@multiline
4133       \else\ifFld@password
4134       \else\ifFld@fileselect
4135       \else 1\fi\fi\fi\relax
4136     \PackageError{hyperref}{%
4137       Field option ‘comb’ cannot used together with\MessageBreak
4138       ‘multiline’, ‘password’, or ‘fileselect’%
4139     }\@ehc
4140   \else
4141     \HyField@UseFlag{Ff}{Comb}%
4142   \fi
4143 \fi
4144 \HyField@UseFlag{Ff}{RichText}%
4145 \HyField@PrintFlags{Ff}{text field}%
4146 \bitsetIsEmpty{HyField@Ff}{%
4147   \def\Fld@flags{%
4148 }{%
4149   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4150 }%
4151 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

4152 \def\HyField@FlagsChoice{%
4153   \HyField@FlagsAnnot{choice field}%
4154   \bitsetReset{HyField@Ff}%
4155   \HyField@UseFlag{Ff}{ReadOnly}%

```



```

4156 \HyField@UseFlag{Ff}{Required}%
4157 \HyField@UseFlag{Ff}{NoExport}%
4158 \HyField@UseFlag{Ff}{Combo}%
4159 \ifFld@combo
4160   \HyField@UseFlag{Ff}{Edit}%
4161 \fi
4162 \HyField@UseFlag{Ff}{Sort}%
4163 \HyField@UseFlag{Ff}{MultiSelect}%
4164 \ifFld@combo
4165   \ifFld@edit
4166     \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4167   \fi
4168 \fi
4169 \HyField@UseFlag{Ff}{CommitOnSelChange}%
4170 \HyField@PrintFlags{Ff}{choice field}%
4171 \bitsetIsEmpty{HyField@Ff}{%
4172   \def\Fld@flags{%
4173 }{%
4174   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4175 }%
4176 }

```

19.2 Choice field

4177 \RequirePackage{kvsetkeys}[2007/09/29]

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

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

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

```

4178 \def\HyField@PDFChoices#1{%
4179   \begingroup
4180     \gdef\Fld@choices{%
4181       \def\HyTmp@optlist{%
4182         \let\HyTmp@optitem\relax
4183         \count@=0 %
4184         \kv@parse{#1}{%
4185           \Hy@pdfstringdef\kv@key\kv@key
4186           \ifx\kv@value\relax
4187             \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4188               \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4189             \else
4190               \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4191             \fi
4192           \else
4193             \Hy@pdfstringdef\kv@value\kv@value
4194             \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
4195           \fi
4196         \edef\HyTmp@optlist{%
4197           \HyTmp@optlist
4198           \HyTmp@optitem{\the\count@}{\kv@key}0%
4199         }%
4200         \advance\count@ by 1 %
4201         \@gobbletwo
4202       }%
4203       \xdef\Fld@choices{/Opt[\Fld@choices]}%
4204       \ifFld@multiselect
4205         \HyField@@PDFChoices{DV}\Fld@default

```

```

4206     \HyField@@PDFChoices{V}\Fld@value
4207   \else
4208     \ifx\Fld@default\relax
4209   \else
4210     \pdfstringdef\Hy@gtemp\Fld@default
4211     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4212   \fi
4213   \ifx\Fld@value\relax
4214   \else
4215     \pdfstringdef\Hy@gtemp\Fld@value
4216     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4217   \fi
4218 \fi
4219 \endgroup
4220 }

```

\HyField@@PDFChoices

```

4221 \def\HyField@@PDFChoices#1#2{%
4222   \ifx#2\relax
4223   \else
4224     \count@=0 %
4225     \def\HyTmp@optitem##1##2##3{%
4226       \def\HyTmp@key{##2}%
4227       \ifx\HyTmp@key\Hy@gtemp
4228         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4229           \HyTmp@optlist
4230           \HyTmp@optitem{##1}{##2}1%
4231         }%
4232         \let\HyTmp@found=Y%
4233       \else
4234         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4235           \HyTmp@optlist
4236           \HyTmp@optitem{##1}{##2}##3%
4237         }%
4238       \fi
4239     }%
4240     \expandafter\comma@parse\expandafter{#2}{%
4241       \pdfstringdef\Hy@gtemp\comma@entry
4242       \let\HyTmp@found=N %
4243       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4244       \HyTmp@optlist
4245       \ifx\HyTmp@found Y%
4246         \advance\count@ by 1 %
4247       \else
4248         \@onelevel@sanitize\comma@entry
4249         \PackageWarning{hyperref}{%
4250           \string\ChoiceBox: Ignoring value ‘\comma@entry’,%
4251           \MessageBreak
4252           it cannot be found in the choices%
4253         }%
4254       \fi
4255     }%
4256     \gobble
4257   \def\HyTmp@optitem##1##2##3{%
4258     \ifnum##3=1 %
4259       (##2)%
4260     \fi

```

```

4261 }%
4262 \ifcase\count@
4263 \or
4264 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4265 \else
4266 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4267 \ifx#1V%
4268 \def\HyTmp@optitem##1##2##3{%
4269 \ifnum##3=1 %
4270 \@firstofone{ ##1}%
4271 \fi
4272 }%
4273 \edef\HyTmp@optlist{\HyTmp@optlist}%
4274 \xdef\Fld@choices{%
4275 \Fld@choices
4276 /I[\expandafter\@firstofone\HyTmp@optlist]}%
4277 }%
4278 \fi
4279 \fi
4280 \fi
4281 }

```

19.3 Forms

\HyField@SetKeys

```

4282 \def\HyField@SetKeys{%
4283 \setkeys{Field}%
4284 }

4285 \newif\ifFld@checked
4286 \newif\ifFld@disabled
4287 \Fld@checkedfalse
4288 \Fld@disabledfalse
4289 \newcount\Fld@menulength
4290 \newdimen\Fld@Width
4291 \newdimen\Fld@charsize
4292 \Fld@charsize=10\p@
4293 \def\Fld@maxlen{0}
4294 \def\Fld@align{0}
4295 \def\Fld@color{0 0 0 rg}
4296 \def\Fld@bcolor{1 1 1}
4297 \def\Fld@bordercolor{1 0 0}
4298 \def\Fld@bordersep{1\p@}
4299 \def\Fld@borderwidth{1}
4300 \def\Fld@borderstyle{S}
4301 \def\Fld@cbsymbol{4}
4302 \def\Fld@radiosymbol{H}
4303 \def\Fld@rotation{0}
4304 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4305 \def\endForm{\@endForm}
4306 \newif\ifForm@html
4307 \Form@htmlfalse
4308 \def\Form@boolkey#1#2{%
4309 \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4310 }
4311 \define@key{Form}{action}{%
4312 \hyper@normalise\Hy@DefFormAction{#1}%

```

```

4313 }
4314 \def\Hy@DefFormAction{\def\Form@action}
4315 \def\enc@html{html}
4316 \define@key{Form}{encoding}{%
4317   \def\Hy@tempa{#1}%
4318   \ifx\Hy@tempa\enc@html
4319     \Form@htmltrue
4320     \def\Fld@export{html}%
4321   \else
4322     \typeout{hyperref: form 'encoding' key set to #1 %
4323     -- unknown type%
4324   }%
4325   \Form@htmlfalse
4326 \fi
4327 }
4328 \define@key{Form}{method}{%
4329   \lowercase{\def\Hy@temp{#1}}%
4330   \@ifundefined{Form@method@\Hy@temp}{%
4331     \onelevel@sanitize\Hy@temp
4332     \PackageError{hyperref}{%
4333       Unknown method '\Hy@temp'.\MessageBreak
4334       Known values are 'post' and 'get'%
4335     }\@ehc
4336   }{%
4337     \let\Form@method\Hy@temp
4338     \ifcase\@nameuse{Form@method@\Hy@temp} %
4339       \Fld@getmethodfalse
4340     \else
4341       \Fld@getmethodtrue
4342     \fi
4343   }%
4344 }
4345 \def\Form@method{}
4346 \@namedef{Form@method@post}{0}
4347 \@namedef{Form@method@get}{1}
4348 \def\Fld@boolkey#1#2{%
4349   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4350 }
4351 \newtoks\Fld@toks
4352 \Field@toks={ }%
4353 \def\Fld@addtoks#1#2{%
4354   \edef\@processme{\Field@toks{\the\Fld@toks\space #1="#2"}}%
4355   \@processme
4356 }
4357 \def\Fld@checkequals#1=#2=#3\\{%
4358   \def\@currDisplay{#1}%
4359   \ifx\#2\\%
4360     \def\@currValue{#1}%
4361   \else
4362     \def\@currValue{#2}%
4363   \fi
4364 }
4365 \define@key{Field}{loc}{%
4366   \def\Fld@loc{#1}%
4367 }
4368 \define@key{Field}{checked}[true]{%
4369   \lowercase{\Field@boolkey{#1}}{checked}%

```

```

4370 }
4371 \define@key{Field}{disabled}[true]{%
4372   \lowercase{\Field@boolkey{#1}}{disabled}%
4373 }
4374 \define@key{Field}{accesskey}{%
4375   \Field@addtoks{accesskey}{#1}%
4376 }
4377 \define@key{Field}{tabkey}{%
4378   \Field@addtoks{tabkey}{#1}%
4379 }
4380 \define@key{Field}{name}{%
4381   \def\Fld@name{#1}%
4382 }
4383 \define@key{Field}{width}{%
4384   \def\Fld@width{#1}%
4385   \Field@Width#1\setbox0=\hbox{m}%
4386 }
4387 \define@key{Field}{maxlen}{%
4388   \def\Fld@maxlen{#1}%
4389 }
4390 \define@key{Field}{menulength}{%
4391   \Fld@menulength=#1\relax
4392 }
4393 \define@key{Field}{height}{%
4394   \def\Fld@height{#1}%
4395 }
4396 \define@key{Field}{charsize}{%
4397   \Fld@charsize#1%
4398 }
4399 \define@key{Field}{borderwidth}{%
4400   \def\Fld@borderwidth{#1}%
4401 }
4402 \define@key{Field}{borderstyle}{%
4403   \def\Fld@borderstyle{#1}%
4404 }
4405 \define@key{Field}{bordersep}{%
4406   \def\Fld@bordersep{#1}%
4407 }
4408 \define@key{Field}{default}{%
4409   \def\Fld@default{#1}%
4410 }
4411 \define@key{Field}{align}{%
4412   \def\Fld@align{#1}%
4413 }
4414 \define@key{Field}{value}{%
4415   \def\Fld@value{#1}%
4416 }
4417 \define@key{Field}{checkboxsymbol}{%
4418   \Fld@DingDef\Fld@cbsymbol{#1}%
4419 }
4420 \define@key{Field}{radiosymbol}{%
4421   \Fld@DingDef\Fld@radiosymbol{#1}%
4422 }
4423 \def\Fld@DingDef#1#2{%
4424   \def\Fld@temp{}%
4425   \Fld@@DingDef#2\ding{}\@nil
4426   \let#1\Fld@temp

```

```

4427 }
4428 \def\Fld@@DingDef#1\ding#2#3\@nil{%
4429   \expandafter\def\expandafter\Fld@temp\expandafter{%
4430     \Fld@temp
4431     #1%
4432   }%
4433   \ifx\#3\%
4434     \expandafter\@gobble
4435   \else
4436     \begingroup
4437       \lccode'0=#2\relax
4438       \lowercase{\endgroup
4439         \expandafter\def\expandafter\Fld@temp\expandafter{%
4440           \Fld@temp
4441           0%
4442         }%
4443       }%
4444       \expandafter\@firstofone
4445     \fi
4446     {%
4447       \Fld@@DingDef#3\@nil
4448     }%
4449 }

4450 \define@key{Field}{rotation}{%
4451   \def\Fld@rotation{#1}%
4452 }

4453 \define@key{Field}{backgroundcolor}{%
4454   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4455 }

4456 \define@key{Field}{bordercolor}{%
4457   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4458 }

4459 \define@key{Field}{color}{%
4460   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4461 }

4462 \def\Fld@onclick@code{}
4463 \def\Fld@format@code{}
4464 \def\Fld@validate@code{}
4465 \def\Fld@calculate@code{}
4466 \def\Fld@keystroke@code{}
4467 \def\Fld@onfocus@code{}
4468 \def\Fld@onblur@code{}
4469 \def\Fld@onmousedown@code{}
4470 \def\Fld@onmouseup@code{}
4471 \def\Fld@onenter@code{}
4472 \def\Fld@onexit@code{}
4473 \def\Hy@temp#1{%
4474   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4475 }
4476 \def\Hy@@temp#1#2{%
4477   \ifHy@pdfa
4478     \define@key{Field}{#2}{%
4479       \PackageError{hyperref}{%
4480         PDF/A: Additional action ‘#2’ is prohibited%
4481       }\@ehc
4482     }%

```

```

4483 \else
4484 \define@key{Field}{#2}{%
4485 \def#1{##1}%
4486 }%
4487 \fi
4488 }
4489 \Hy@temp{keystroke}
4490 \Hy@temp{format}
4491 \Hy@temp{validate}
4492 \Hy@temp{calculate}
4493 \Hy@temp{onfocus}
4494 \Hy@temp{onblur}
4495 \Hy@temp{onenter}
4496 \Hy@temp{onexit}
4497 \def\Hy@temp#1{%
4498 \define@key{Field}{#1}{%
4499 \Field@addtoks{#1}{##1}%
4500 }%
4501 }
4502 \Hy@temp{onselect}
4503 \Hy@temp{onchange}
4504 \Hy@temp{ondblclick}
4505 \Hy@temp{onmousedown}
4506 \Hy@temp{onmouseup}
4507 \Hy@temp{onmouseover}
4508 \Hy@temp{onmousemove}
4509 \Hy@temp{onmouseout}
4510 \Hy@temp{onkeypress}
4511 \Hy@temp{onkeydown}
4512 \Hy@temp{onkeyup}
4513 \ifHy@pdfa
4514 \define@key{Field}{onclick}{%
4515 \PackageError{hyperref}{%
4516 PDF/A: Action ‘onclick’ is prohibited%
4517 }\@ehc
4518 }%
4519 \else
4520 \define@key{Field}{onclick}{%
4521 \def\Fld@onclick@code{#1}%
4522 \Field@addtoks{onclick}{#1}%
4523 }%
4524 \fi
4525 \DeclareRobustCommand\TextField{%
4526 \@ifnextchar[{\@TextField}{\@TextField[]}%
4527 }
4528 \DeclareRobustCommand\ChoiceMenu{%
4529 \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4530 }
4531 \DeclareRobustCommand\CheckBox{%
4532 \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4533 }
4534 \DeclareRobustCommand\PushButton{%
4535 \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4536 }
4537 \DeclareRobustCommand\Gauge{%
4538 \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4539 }

```

```

4540 \DeclareRobustCommand\Submit{%
4541   \@ifnextchar[{\@Submit}{\@Submit[]}%
4542 }
4543 \DeclareRobustCommand\Reset{%
4544   \@ifnextchar[{\@Reset}{\@Reset[]}%
4545 }
4546 \def\LayoutTextField#1#2{% label, field
4547   #1 #2%
4548 }
4549 \def\LayoutChoiceField#1#2{% label, field
4550   #1 #2%
4551 }
4552 \def\LayoutCheckField#1#2{% label, field
4553   #1 #2%
4554 }
4555 \def\LayoutPushButtonField#1{% button
4556   #1%
4557 }
4558 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4559 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4560 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4561 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4562 \def\MakeButtonField#1{%
4563   \sbox0{%
4564     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4565   }%
4566   \@tempdima\ht0 %
4567   \advance\@tempdima by \Fld@borderwidth bp %
4568   \advance\@tempdima by \Fld@borderwidth bp %
4569   \ht0\@tempdima
4570   \@tempdima\dp0 %
4571   \advance\@tempdima by \Fld@borderwidth bp %
4572   \advance\@tempdima by \Fld@borderwidth bp %
4573   \dp0\@tempdima
4574   \box0\relax
4575 }
4576 \def\DefaultHeightofSubmit{14pt}
4577 \def\DefaultWidthofSubmit{2cm}
4578 \def\DefaultHeightofReset{14pt}
4579 \def\DefaultWidthofReset{2cm}
4580 \def\DefaultHeightofCheckBox{\baselineskip}
4581 \def\DefaultWidthofCheckBox{\baselineskip}
4582 \def\DefaultHeightofChoiceMenu{\baselineskip}
4583 \def\DefaultWidthofChoiceMenu{\baselineskip}
4584 \def\DefaultHeightofText{\baselineskip}
4585 \def\DefaultHeightofTextMultiline{4\baselineskip}
4586 \def\DefaultWidthofText{3cm}
4587 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4588 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4589 \def\DefaultOptionsofPushButton{print}
4590 \def\DefaultOptionsofCheckBox{print}
4591 \def\DefaultOptionsofText{print}

Default options for the types of \ChoiceMenu.
4592 \def\DefaultOptionsofListBox{print}
4593 \def\DefaultOptionsofComboBox{print,edit,sort}
4594 \def\DefaultOptionsofPopdownBox{print}
4595 \def\DefaultOptionsofRadio{print,notoggletooff}

```


20 Setup

```
4596 \ifHy@figures
4597   \Hy@Info{Hyper figures ON}%
4598 \else
4599   \Hy@Info{Hyper figures OFF}%
4600 \fi
4601 \ifHy@nesting
4602   \Hy@Info{Link nesting ON}%
4603 \else
4604   \Hy@Info{Link nesting OFF}%
4605 \fi
4606 \ifHy@hyperindex
4607   \Hy@Info{Hyper index ON}%
4608 \else
4609   \Hy@Info{Hyper index OFF}%
4610 \fi
4611 \ifHy@backref
4612   \Hy@Info{backreferencing ON}%
4613 \else
4614   \Hy@Info{backreferencing OFF}%
4615 \fi
4616 \ifHy@colorlinks
4617   \Hy@Info{Link coloring ON}%
4618 \else
4619   \Hy@Info{Link coloring OFF}%
4620 \fi
4621 \ifHy@ocgcolorlinks
4622   \Hy@Info{Link coloring with OCG ON}%
4623 \else
4624   \Hy@Info{Link coloring with OCG OFF}%
4625 \fi
4626 \ifHy@pdfa
4627   \Hy@Info{PDF/A mode ON}%
4628 \else
4629   \Hy@Info{PDF/A mode OFF}%
4630 \fi
```

21 Low-level utility macros

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

```
4631 \edef\hyper@hash{\string#}
4632 \edef\hyper@tilde{\string~}
4633 \edef\hyper@quote{\string"}
4634 \let\@currentHref\@empty
4635 \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.

```
4636 \AfterBeginDocument{%
4637   \Hy@pdfstringtrue
4638   \PDF@SetupDoc
4639   \let\PDF@SetupDoc\@empty
4640   \Hy@DisableOption{pdfpagescrop}%
4641   \Hy@DisableOption{pdfpagemode}%
4642   \Hy@DisableOption{pdfnonfullscreenpagemode}%
4643   \Hy@DisableOption{pdfdirection}%
4644   \Hy@DisableOption{pdfviewarea}%
```

```

4645 \Hy@DisableOption{pdfviewclip}%
4646 \Hy@DisableOption{pdfprintarea}%
4647 \Hy@DisableOption{pdfprintclip}%
4648 \Hy@DisableOption{pdfprintscaling}%
4649 \Hy@DisableOption{pdfduplex}%
4650 \Hy@DisableOption{pdfpicktraybypdfsize}%
4651 \Hy@DisableOption{pdfprintpagerange}%
4652 \Hy@DisableOption{pdfnumcopies}%
4653 \Hy@DisableOption{pdfstartview}%
4654 \Hy@DisableOption{pdfstartpage}%
4655 \Hy@DisableOption{pdftoolbar}%
4656 \Hy@DisableOption{pdfmenubar}%
4657 \Hy@DisableOption{pdfwindowui}%
4658 \Hy@DisableOption{pdffitwindow}%
4659 \Hy@DisableOption{pdfcenterwindow}%
4660 \Hy@DisableOption{pdfdisplaydoctitle}%
4661 \Hy@DisableOption{pdfpagelayout}%
4662 \Hy@DisableOption{pdflang}%
4663 \Hy@DisableOption{baseurl}%
4664 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4665 \Hy@pdfstringfalse
4666 }

```

Ignore star from referencing macros:

```

4667 \let\NoHy@OrgRef\ref
4668 \def\ref{%
4669   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
4670 }
4671 \let\NoHy@OrgPageRef\pageref
4672 \def\pageref{%
4673   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
4674 }

```

22 Localized nullifying of package

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

```

4675 \def\NoHyper{%
4676   \def\hyper@link@{##1}##2##3##4{##4}%
4677   \def\hyper@@anchor##1{%
4678     \global\let\hyper@livelink\hyper@link
4679     \gdef\hyper@link##1##2##3{##3}%
4680     \def\hyper@anchorstart##1{%
4681       \let\hyper@anchorend\@empty
4682       \def\hyper@linkstart##1##2{%
4683         \let\hyper@linkend\@empty
4684         \def\hyper@linkurl##1##2{##1}%
4685         \def\hyper@linkfile##1##2##3{##1}%
4686         \def\hyper@link@{##1}##2##3{%
4687           \let\Hy@backout\@gobble
4688         }
4689       \def\stop@hyper{%
4690         \def\hyper@link@{##1}##2##3##4{##4}%
4691         \let\Hy@backout\@gobble

```

```

4692 \def\hyper@@anchor##1{%
4693 \def\hyper@link##1##2##3{##3}%
4694 \def\hyper@anchorstart##1{%
4695 \let\hyper@anchorend\@empty
4696 \def\hyper@linkstart##1##2{%
4697 \let\hyper@linkend\@empty
4698 \def\hyper@linkurl##1##2{##1}%
4699 \def\hyper@linkfile##1##2##3{##1}%
4700 \def\hyper@link@{##1}##2##3{%
4701 }
4702 \def\endNoHyper{%
4703 \global\let\hyper@link\hyper@livelink
4704 }
4705 \</package>

```

23 Package nohyperref

This package is introduced by Sebastian Rahtz.

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

Some low-level commands:

```

4706 \<*nohyperref>
4707 \let\hyper@@anchor\@gobble
4708 \def\hyper@link#1#2#3{#3}%
4709 \let\hyper@anchorstart\@gobble
4710 \let\hyper@anchorend\@empty
4711 \let\hyper@linkstart\@gobbletwo
4712 \let\hyper@linkend\@empty
4713 \def\hyper@linkurl#1#2{#1}%
4714 \def\hyper@linkfile#1#2#3{#1}%
4715 \def\hyper@link@{#1}#2#3{%
4716 \let\PDF@SetupDoc\@empty
4717 \let\PDF@FinishDoc\@empty
4718 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

4719 \def\Acrobatmenu#1#2{\leavevmode#2}
4720 \let\pdfstringdefDisableCommands\@gobbletwo
4721 \let\texorpdfstring\@firstoftwo
4722 \let\pdfbookmark\@undefined
4723 \newcommand\pdfbookmark[3][\@empty]{\@empty}
4724 \let\phantomsection\@empty
4725 \let\hypersetup\@gobble
4726 \let\hyperbaseurl\@gobble
4727 \let\href\@gobble
4728 \let\hyperdef\@gobbletwo
4729 \let\hyperlink\@gobble
4730 \let\hypertarget\@gobble
4731 \def\hyperref{%
4732 \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4733 }
4734 \long\def\@gobbleopt[#1]{\@empty}
4735 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

4736 \let\NoHy@OrgRef\ref
4737 \def\ref{%
4738   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
4739 }
4740 \let\NoHy@OrgPageRef\pageref
4741 \def\pageref{%
4742   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
4743 }
4744 \nohyperref

```

24 The Mangling Of Aux and Toc Files

Some extra tests so that the hyperref package may be removed or added to a document without having to remove .aux and .toc files (this section is by David Carlisle) All the code is delayed to `\begin{document}`

```

4745 \*package
4746 \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.

```

4747 \if@filesw
4748   \ifHy@typexml
4749     \immediate\closeout\@mainaux
4750     \immediate\openout\@mainaux\jobname.aux\relax
4751     \immediate\write\@auxout{<relaxxml>\relax}%
4752   \fi
4753   \immediate\write\@auxout{%
4754     \string\ifx\string\hyper@anchor\string\undefined^^J%
4755     \global\let\string\oldcontentsline\string\contentsline^^J%
4756     \gdef\string\contentsline%
4757       \string#1\string#2\string#3\string#4{%
4758       \string\oldcontentsline%
4759       {\string#1}{\string#2}{\string#3}}^^J%
4760     \global\let\string\oldnewlabel\string\newlabel^^J%
4761     \gdef\string\newlabel\string#1\string#2{%
4762     \string\newlabelxx{\string#1}\string#2}^^J%
4763     \gdef\string\newlabelxx%
4764       \string#1\string#2\string#3\string#4\string#5\string#6{%
4765       \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.

```

4766     \string\AtEndDocument{%
4767     \let\string\contentsline\string\oldcontentsline^^J%
4768     \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.

```

4769     \string\else^^J%
4770     \global\let\string\hyper@last\relax^^J%
4771     \string\fi^^J%
4772   }%
4773 \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.

```

4774 \ifx\hyper@last\@undefined
4775   \def\@starttoc#1{%
4776     \begingroup
4777       \makeatletter
4778       \IfFileExists{\jobname.#1}{%
4779         \Hy@WarningNoLine{%
4780           old #1 file detected, not used; run LaTeX again%
4781         }%
4782       }{}%
4783     \if@filesw
4784       \expandafter\newwrite\csname tf@#1\endcsname
4785       \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4786     \fi
4787     \@nobreakfalse
4788   \endgroup
4789   }%
4790   \def\newlabel#1#2{\@newl@bel r{#1}{#2}{}{}{}}%
4791 \fi
4792 }
```

25 Title strings

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

```

4793 \ifHy@usetitle
4794   \let\HyOrg@title\title
4795   \let\HyOrg@author\author
4796   \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
4797   \def\Hy@scanopttitle[#1]{%
4798     \gdef\Hy@title{#1}%
4799     \HyOrg@title[{#1}]%
4800   }%
4801   \def\Hy@scantitle#1{%
4802     \gdef\Hy@title{#1}%
4803     \HyOrg@title{#1}%
4804   }%
4805   \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4806   \def\Hy@scanoptauthor[#1]{%
4807     \gdef\Hy@author{#1}%
4808     \HyOrg@author[{#1}]%
4809   }%
4810   \def\Hy@scanauthor#1{%
4811     \gdef\Hy@author{#1}%
4812     \HyOrg@author{#1}%
4813   }%
```

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.

```

4814 \begingroup
4815   \def\process@me#1\@nil#2{%
4816     \expandafter\let\expandafter\x\csname @#2\endcsname
```

```

4817 \edef\y{\expandafter\strip@prefix\meaning\x}%
4818 \def\c##1##2\@nil{%
4819 \ifx\\##1\\%
4820 \else
4821 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
4822 \expandafter{\x}%
4823 \fi
4824 }%
4825 \expandafter\c\y\relax#1\@nil
4826 }%
4827 \expandafter\process@me\string\@latex@\@nil{title}%
4828 \expandafter\process@me\string\@latex@\@nil{author}%
4829 \endgroup
4830 \fi
4831 \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.

```

4832 \def\Hy@UseMaketitleString#1{%
4833 \ifundefined{Hy@#1}{}%
4834 \begingroup
4835 \let\Hy@saved@hook\pdfstringdefPreHook
4836 \pdfstringdefDisableCommands{%
4837 \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
4838 \let\newline\\%
4839 }%
4840 \expandafter\ifx\csname @pdf#1\endcsname\@empty
4841 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4842 \csname Hy@#1\endcsname\@empty
4843 }%
4844 \fi
4845 \global\let\pdfstringdefPreHook\Hy@saved@hook
4846 \endgroup
4847 }%
4848 }
4849 \def\Hy@newline@title#1{ #1}
4850 \def\Hy@newline@author#1{, #1}
4851 \def\Hy@UseMaketitleInfos{%
4852 \Hy@UseMaketitleString{title}%
4853 \Hy@UseMaketitleString{author}%
4854 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

4855 \RequirePackage{atbegshi}[2007/09/09]
4856 \def\Hy@EveryPageHook{}
4857 \def\Hy@EveryPageBoxHook{}
4858 \def\Hy@FirstPageHook{}
4859 \AtBeginShipout{%
4860   \Hy@EveryPageHook
4861   \ifx\Hy@EveryPageBoxHook\@empty
4862   \else
4863     \setbox\AtBeginShipoutBox=\vbox{%
4864       \offinterlineskip
4865       \Hy@EveryPageBoxHook
4866       \box\AtBeginShipoutBox
4867     }%
4868   \fi
4869 }
4870 \AtBeginShipoutFirst{%
4871   \Hy@FirstPageHook
4872 }
4873 \g@addto@macro\Hy@FirstPageHook{%
4874   \PDF@FinishDoc
4875   \gdef\PDF@FinishDoc{}}%
4876 }

```

27.1 PDF /PageLabels

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

```

4877 \ifHy@pagelabels
4878   \begingroup\expandafter\expandafter\expandafter\endgroup
4879   \expandafter\ifx\csname thepage\endcsname\relax
4880     \Hy@pagelabelsfalse
4881     \Hy@WarningNoLine{%
4882       Option 'pdfpagelabels' is turned off\MessageBreak
4883       because \string\thepage\space is undefined%
4884     }%
4885     \csname fi\endcsname
4886     \csname iffalse\expandafter\endcsname
4887   \fi

```

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

```

4888 \def\thispdfpagelabel#1{%
4889   \gdef\HyPL@thisLabel{#1}%
4890 }%
4891 \global\let\HyPL@thisLabel\relax

```

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

```

4892 \def\HyPL@Labels{}%

```

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

```

4893 \newcount\Hy@abspage
4894 \Hy@abspage=0 %

```

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

```

4895 \def\HyPL@LastType{init}%
4896 \def\HyPL@LastNumber{0}%
4897 \def\HyPL@LastPrefix{}%

```

Definitions for the PDF names of the L^AT_EX pendants.

```

4898 \def\HyPL@arabic{D}%
4899 \def\HyPL@Roman{R}%
4900 \def\HyPL@roman{r}%
4901 \def\HyPL@Alph{A}%
4902 \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.

```

4903 \def\HyPL@EveryPage{%
4904   \begingroup
4905   \ifx\HyPL@thisLabel\relax
4906     \let\HyPL@page\thepage
4907   \else
4908     \let\HyPL@page\HyPL@thisLabel
4909     \global\let\HyPL@thisLabel\relax
4910   \fi
4911   \let\HyPL@Type\relax
4912   \ifnum\the\c@page>0 %
4913     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4914   \fi
4915   \let\Hy@temp Y%
4916   \ifx\HyPL@Type\HyPL@LastType
4917   \else
4918     \let\Hy@temp N%
4919   \fi
4920   \ifx\HyPL@Type\relax
4921     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4922   \else
4923     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4924   \fi
4925   \ifx\HyPL@Prefix\HyPL@LastPrefix
4926   \else
4927     \let\Hy@temp N%
4928   \fi
4929   \if Y\Hy@temp
4930     \advance\c@page by -1 %
4931     \ifnum\HyPL@LastNumber=\the\c@page\relax
4932     \else
4933       \let\Hy@temp N%
4934     \fi
4935     \Hy@StepCount\c@page
4936   \fi
4937   \if N\Hy@temp
4938     \ifx\HyPL@Type\relax
4939       \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
4940     \else
4941       \HyPL@StorePageLabel{%
4942         \ifx\HyPL@Prefix\empty
4943         \else
4944           /P(\HyPL@Prefix)%
4945         \fi
4946         /S/\csname HyPL\HyPL@Type\endcsname
4947         \ifnum\the\c@page=1 %
4948         \else
4949           \space/St \the\c@page
4950         \fi

```



```

4951         }%
4952     \fi
4953 \fi
4954 \xdef\HyPL@LastNumber{\the\c@page}%
4955 \global\let\HyPL@LastType\HyPL@Type
4956 \global\let\HyPL@LastPrefix\HyPL@Prefix
4957 \endgroup
4958 \Hy@GlobalStepCount\Hy@abspage
4959 }%

```

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

```

4960 \def\HyPL@CheckThePage#1\@nil{%
4961     \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
4962 }%

```

`\HyPL@@CheckThePage` The first check is, is `\thepage` is defined such as in \LaTeX , e. g.: `\csname @arabic\endcsname\c@page`. In the current implementation the check fails, if there is another `\csname` before.

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

```

4963 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4964     \def\Hy@tempa{#4}%
4965     \def\Hy@tempb{\csname\endcsname\c@page}%
4966     \ifx\Hy@tempa\Hy@tempb
4967         \expandafter\ifx\csname HyPL#3\endcsname\relax
4968         \else
4969             \def\HyPL@Type{#3}%
4970             \def\HyPL@Prefix{#2}%
4971         \fi
4972     \else
4973         \begingroup
4974         \let\Hy@next\endgroup
4975         \let\HyPL@found\@undefined
4976         \def\arabic{\HyPL@Format{arabic}}%
4977         \def\Roman{\HyPL@Format{Roman}}%
4978         \def\roman{\HyPL@Format{roman}}%
4979         \def\Alph{\HyPL@Format{Alph}}%
4980         \def\alph{\HyPL@Format{alph}}%
4981         \protected@edef\Hy@temp{#1}%
4982         \ifx\HyPL@found\relax
4983             \toks@{\expandafter{\Hy@temp}}%
4984             \edef\Hy@next{\endgroup
4985                 \noexpand\HyPL@@@CheckThePage\the\toks@
4986                 \noexpand\HyPL@found\relax\noexpand\@nil
4987             }%
4988         \fi
4989         \Hy@next
4990     \fi
4991 }%

```

`\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`.

```

4992 \def\HyPL@Format#1#2{%
4993     \ifx\HyPL@found\@undefined
4994         \expandafter\ifx\csname c@#2\endcsname\c@page
4995             \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
4996         \else

```

```

4997      \expandafter\noexpand\csname#1\endcsname{#2}%
4998      \fi
4999      \else
5000      \expandafter\noexpand\csname#1\endcsname{#2}%
5001      \fi
5002  }%

```

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

```

5003  \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
5004    \def\Hy@tempa{#3}%
5005    \def\Hy@tempb{\HyPL@found\relax}%
5006    \ifx\Hy@tempa\Hy@tempb
5007      \def\HyPL@Type{#2}%
5008      \def\HyPL@Prefix{#1}%
5009    \fi
5010  }%

```

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

```

5011  \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`.

```

5012  \def\HyPL@Useless{0<</S/D>>}%
5013  \@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.

```

5014  \def\HyPL@SetPageLabels{%
5015    \@onelevel@sanitize\HyPL@Labels
5016    \ifx\HyPL@Labels\@empty
5017      \else
5018        \ifx\HyPL@Labels\HyPL@Useless
5019          \else
5020            \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
5021          \fi
5022        \fi
5023  }%

```

```

5024  \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
5025 \fi

```

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

```

5026 \Hy@DisableOption{pdfpagelabels}
5027 </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`

```

5028 <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.

```

5029 < *vtex >
5030 \providecommand*{\XR@ext}{pdf}
5031 \edef\Hy@VTeXversion{%
5032   \ifx\VTeXversion\undefined
5033     \z@
5034   \else
5035     \ifx\VTeXversion\relax
5036       \z@
5037     \else
5038       \VTeXversion
5039     \fi
5040   \fi
5041 }
5042 \begingroup
5043   \ifnum\Hy@VTeXversion<660 %
5044     \gdef\Hy@PutCatalog#1{%
5045       \Hy@WarningNoLine{%
5046         VTeX 6.59g or above required for pdfpagelabels%
5047       }%
5048     }%
5049   \else
5050     \gdef\Hy@PutCatalog#1{%
5051       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
5052     }%
5053     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
5054       \ifx\#2\%
5055         \else
5056           \immediate\special{!pdfpagelabels #2}%
5057         \fi
5058       }%
5059     \fi
5060 \endgroup
5061 < /vtex >

5062 < *pdfTeX | vtex >

```

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

```

5063 \ifHy@pagelabels
5064   \def\HyPL@StorePageLabel#1{%
5065     \toks@ \expandafter{\HyPL@Labels}%
5066     \xdef\HyPL@Labels{%
5067       \the\toks@
5068       \the\Hy@abspage<<#1>>%
5069     }%
5070   }%

```

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.

```

5071 \RequirePackage{atveryend}[2009/12/07]%
5072 \AtVeryEndDocument{%
5073   \HyPL@SetPageLabels
5074 }%

```

```

5075 \fi
5076 </pdfTeX | vTeX>

```

27.1.2 pdfmarkbase, dvipdfm

```

5077 <*pdfmarkbase>
5078 \begingroup
5079   \toks@ \expandafter{\Hy@FirstPageHook}%
5080   \xdef\Hy@FirstPageHook{%
5081     \noexpand\headerps@out{%
5082       systemdict /pdfmark known%
5083       {%
5084         userdict /?pdfmark systemdict /exec get put%
5085       }{%
5086         userdict /?pdfmark systemdict /pop get put %
5087         userdict /pdfmark systemdict /cleartomark get put%
5088       }%
5089     }%
5090   }%
5091   \the\toks@
5092 }%
5093 \endgroup
5094 </pdfmarkbase>

```

\Hy@PutCatalog

```

5095 <dvipdfm>\def\Hy@PutCatalog#1{\@pdfmark{docview << #1 >>}}
5096 <*pdfmarkbase>
5097 \def\Hy@PutCatalog#1{%
5098   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog}\string} << #1 >>}}%
5099 }
5100 </pdfmarkbase>

5101 <*pdfmarkbase | dvipdfm>
5102 \ifHy@pagelabels

```

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

```

5103 \def\HyPL@StorePageLabel#1{%
5104   \if@filesw
5105     \begingroup
5106       \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
5107       \immediate\write\@mainaux{%
5108         \string\HyPL@Entry{\Hy@tempa}%
5109       }%
5110     \endgroup
5111   \fi
5112 }%

```

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.

```

5113 \AfterBeginDocument{%
5114   \if@filesw
5115     \immediate\write\@mainaux{%
5116       \string\providecommand\string*\string\HyPL@Entry[1]{}%
5117     }%
5118   \fi
5119   \ifx\HyPL@Labels\@empty
5120     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%

```

```

5121     \else
5122         \HyPL@SetPageLabels
5123     \fi
5124     \let\HyPL@Entry\@gobble
5125 }%

\HyPL@Entry
5126 \def\HyPL@Entry#1{%
5127     \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
5128         \HyPL@Labels
5129         #1%
5130     }%
5131 }%

5132 \fi
5133 </pdfmarkbase | dvipdfm>
5134 <*package>
5135 \MaybeStopEarly

```

28 Automated L^AT_EX 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^AT_EX provides, which may be useable. But then its up to you to make sure these are legal PDF and HTML names. The ‘hypertextnames=false’ option just makes up arbitrary names.

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

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

Start with a fallback for equations

```

5136 \def\Hy@CounterExists#1{%
5137     \begingroup\expandafter\expandafter\expandafter\endgroup
5138     \expandafter\ifx\csname c@#1\endcsname\relax
5139         \expandafter\@gobble
5140     \else
5141         \begingroup\expandafter\expandafter\expandafter\endgroup
5142         \expandafter\ifx\csname the#1\endcsname\relax
5143             \expandafter\expandafter\expandafter\@gobble
5144         \else
5145             \expandafter\expandafter\expandafter\@firstofone
5146         \fi
5147     \fi
5148 }
5149 \Hy@CounterExists{section}{%
5150     \newcommand\theHequation{\theHsection.\arabic{equation}}}%
5151 }
5152 \Hy@CounterExists{part}{%

```

```

5153 \newcommand\theHpart{\arabic{part}}%
5154 }
5155 \@ifundefined{thechapter}{%
5156 \newcommand\theHsection {\arabic{section}}%
5157 \newcommand\theHfigure {\arabic{figure}}%
5158 \newcommand\theHtable {\arabic{table}}%
5159 }{%
5160 \newcommand\theHchapter {\arabic{chapter}}%
5161 \newcommand\theHfigure {\theHchapter.\arabic{figure}}%
5162 \newcommand\theHtable {\theHchapter.\arabic{table}}%
5163 \newcommand\theHsection {\theHchapter.\arabic{section}}%
5164 }
5165 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
5166 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5167 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
5168 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
5169 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
5170 \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.

```

5171 \let\H@item\item
5172 \newcounter{Item}
5173 \def\theHItem{\arabic{Item}}
5174 \def\item{%
5175 \@hyper@itemfalse
5176 \if@nmbrrlist\@hyper@itemtrue\fi
5177 \H@item
5178 }
5179 \newcommand\theHenumi {\theHItem}
5180 \newcommand\theHenumii {\theHItem}
5181 \newcommand\theHenumiii {\theHItem}
5182 \newcommand\theHenumiv {\theHItem}
5183 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5184 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5185 \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.

```

5186 \let\H@refstepcounter\refstepcounter
5187 \edef\name@of@eq{equation}%
5188 \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.

```

5189 \newif\if@hyper@item
5190 \newif\if@skiphyperref
5191 \@hyper@itemfalse
5192 \@skiphyperreffalse
5193 \def\refstepcounter#1{%
5194 \ifHy@pdfstring
5195 \else
5196 \H@refstepcounter{#1}%
5197 \edef\This@name{#1}%
5198 \ifx\This@name\name@of@slide

```

```

5199 \else
5200 \if@skiphyperref
5201 \else
5202 \if@hyper@item
5203 \stepcounter{Item}%
5204 \hyper@refstepcounter{Item}%
5205 \@hyper@itemfalse
5206 \else
5207 \hyper@refstepcounter{#1}%
5208 \fi
5209 \fi
5210 \fi
5211 \fi
5212 }

```

AMST_{EX} 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.

```

5213 \ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

5214 \def\hyper@refstepcounter#1{%
5215 \edef\This@name{#1}%
5216 \ifx\This@name\name@of@eq
5217 \@ifundefined{theHequation}{%
5218 \make@stripped@name{\theequation}%
5219 \let\theHequation\newname
5220 }{}%
5221 \fi
5222 \@ifundefined{theH#1}{%
5223 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5224 }{}%
5225 \hyper@makecurrent{#1}%
5226 \ifmeasuring@
5227 \else
5228 \Hy@raisedlink{%
5229 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5230 }%
5231 \fi
5232 }

```

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`.

```

5233 \begingroup\expandafter\expandafter\expandafter\endgroup
5234 \expandafter\ifx\csname chapter\endcsname\relax
5235 \def\Hy@chapterstring{section}%
5236 \else
5237 \def\Hy@chapterstring{chapter}%
5238 \fi
5239 \def\Hy@appendixstring{appendix}
5240 \def\Hy@chapapp{\Hy@chapterstring}
5241 \let\HyOrg@appendix\appendix
5242 \def\appendix{%

```

```

5243 \@ifundefined{chapter}%
5244   {\gdef\theHsection{\Alph{section}}}%
5245   {\gdef\theHchapter{\Alph{chapter}}}%
5246 \xdef\Hy@chapapp{\Hy@appendixstring}%
5247 \HyOrg@appendix
5248 }

```

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

```

5249 \def\hyper@makecurrent#1{%
5250   \begingroup
5251     \edef\Hy@param{#1}%
5252     \ifx\Hy@param\Hy@chapterstring
5253       \let\Hy@param\Hy@chapapp
5254     \fi
5255     \ifHy@hypertextnames
5256       \let\@number\@firstofone
5257       \@ifundefined{latin@Alph}{\{}{%
5258         \ifx\@Alph\greek@Alph
5259           \def\@Alph{Alph\@arabic}%
5260         \fi
5261       }%
5262       \ifx\@Alph\@Alph@bul
5263         \def\@Alph{Alph\@arabic}%
5264       \fi
5265       \ifx\@alph\@alph@bul
5266         \def\@alph{alph\@arabic}%
5267       \fi
5268       \ifHy@naturalnames
5269         \let\textlatin\@firstofone
5270         \xdef\@currentHlabel{\csname the#1\endcsname}%
5271       \else
5272         \xdef\@currentHlabel{%
5273           \csname
5274             the%
5275             \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
5276             #1%
5277           \endcsname
5278         }%
5279       \fi
5280       \xdef\@currentHref{%
5281         \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5282       }%
5283     \else
5284       \Hy@GlobalStepCount\Hy@linkcounter
5285       \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
5286     \fi
5287   \endgroup
5288 }

5289 \@ifpackageloaded{fancyvrb}{%
5290   \@ifpackagelater{fancyvrb}{1998/05/20}{\{}{%
5291     \def\FV@StepLineNo{%
5292       \FV@SetLineNo
5293       \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5294     \FV@SetLineNo
5295   }%
5296 }%

```


29 Package lastpage support

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

`\lastpage@putlabel`

```

5298 \AtBeginDocument{%
5299   \ifclassloaded{revtex4}{%
5300     \@namedef{ver@lastpage.sty}{1994/06/25}%
5301   }{}%
5302   \@ifpackageloaded{lastpage}{%
5303     \ifHy@pageanchor
5304     \else
5305       \Hy@WarningNoLine{%
5306         The \string\pageref{LastPage} link doesn't work\MessageBreak
5307         with disabled option 'pageanchor'%
5308       }%
5309     \fi
5310     \def\lastpage@putlabel{%
5311       \addtocounter{page}{-1}%
5312       \if@filesw
5313         \begingroup
5314           \let\@number\@firstofone
5315           \ifHy@pageanchor
5316             \ifHy@hypertexnames
5317               \ifHy@plainpages
5318                 \def\Hy@temp{\arabic{page}}%
5319               \else
5320                 \Hy@unicodedefalse
5321                 \pdfstringdef\Hy@temp{\thepage}%
5322               \fi
5323             \else
5324               \def\Hy@temp{\the\Hy@pagecounter}%
5325             \fi
5326           \fi
5327           \immediate\write\@auxout{%
5328             \string\newlabel
5329             {LastPage}{}{\thepage}{}{%
5330               \ifHy@pageanchor page.\Hy@temp\fi}{}%
5331             }%
5332           \endgroup
5333         \fi
5334       \addtocounter{page}{1}%
5335     }%
5336   \ifclassloaded{revtex4}{%
5337     \begingroup
5338       \toks@{\expandafter{\lastpage@putlabel}}%
5339       \edef\x{\endgroup
5340         \def\noexpand\lastpage@putlabel{%
5341           \noexpand\stepcounter{page}%

```

```

5342         \the\toks@
5343         \noexpand\addtocounter{page}\noexpand\m@ne
5344     }%
5345 }%
5346     \x
5347 }{}%
5348 }{}%
5349 }
5350 \</package>
5351 \<*check>
5352 \checkpackage{lastpage}[1994/06/25]
5353 \checkcommand\def\lastpage@putlabel{%
5354     \addtocounter{page}{-1}%
5355     \immediate\write\@auxout{%
5356         \string\newlabel{LastPage}{{}\{thepage}}%
5357     }%
5358     \addtocounter{page}{1}%
5359 }
5360 \</check>
5361 \<*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.

```

5362 \def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
5363 \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:

```

5364 \@ifpackageloaded{titlesec}{%
5365     \def\ttl@Hy@steplink#1{%
5366         \Hy@GlobalStepCount\Hy@linkcounter
5367         \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5368         \def\ttl@Hy@saveanchor{%
5369             \Hy@raisedlink{%
5370                 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5371             }%
5372         }%
5373     }%
5374     \def\ttl@Hy@refstepcounter#1{%
5375         \let\ttl@b\Hy@raisedlink
5376         \def\Hy@raisedlink##1{%
5377             \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5378         }%
5379         \refstepcounter{#1}%
5380         \let\Hy@raisedlink\ttl@b
5381     }%
5382 }{}

```

Package titletoc support:

```

5383 \@ifpackageloaded{titletoc}{%

```

```

5384 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5385 }{}

```

32 Package varioref support

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

```

5386 \def\Hy@varioref@undefined{{??}{??}{}}{}{}
5387 \@ifpackageloaded{varioref}{%
5388   \def\vref@pagenum#1#2{%
5389     \ifundefined{r@#2}{%
5390       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5391     }{}%
5392     \edef#1{\getpagerefnumber{#2}}%
5393   }%
5394 }{}

```

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

```

5395 \@ifpackageloaded{longtable}{%
5396   \begin{group}
5397     \def\y{\LT@array}%
5398     \@ifundefined{scr@LT@array}{}{\def\y{\scr@LT@array}}%
5399     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5400       \expandafter\endgroup
5401       \expandafter\def\y[#1]##2{%
5402         \H@refstepcounter{#1}%
5403         \hyper@makecurrent{table}%
5404         \let\Hy@LT@currentHlabel\@currentHlabel
5405         \let\Hy@LT@currentHref\@currentHref
5406         #2\@sharp####4%
5407       }%
5408     }%
5409     \expandafter\expandafter\expandafter\x\y[#1]{#2}\@nil

```

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

```

5410   \begin{group}
5411     \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5412       \endgroup
5413       \def\LT@start{%
5414         #1%
5415         \let\@currentHlabel\Hy@LT@currentHlabel
5416         \let\@currentHref\Hy@LT@currentHref
5417         \Hy@raisedlink{%
5418           \hyper@anchorstart{\@currentHref}\hyper@anchorend
5419         }%
5420         \ifvoid\LT@firsthead\copy
5421         #2%
5422       }%
5423     }%

```

```

5424 \expandafter\x\LT@start\@nil
5425 }{}

```

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.

```

5426 \let\new@refstepcounter\refstepcounter
5427 \let\H@equation\equation
5428 \let\H@endequation\endequation

5429 \@ifpackageloaded{amsmath}{%
5430   \long\def\Hy@temp{%
5431     \incr@eqnum
5432     \mathdisplay@push
5433     \st@rredfalse \global\@eqnswtrue
5434     \mathdisplay{equation}%
5435   }%
5436   \ifx\Hy@temp\equation
5437     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5438       \csname iftrue\endcsname
5439     \else
5440       \long\def\equation{%
5441         \mathdisplay@push
5442         \st@rredfalse \global\@eqnswtrue
5443         \mathdisplay{equation}%
5444         \incr@eqnum
5445       }%
5446     \fi
5447   \fi
5448 }{}%
5449 \def\equation{%
5450   \let\refstepcounter\H@refstepcounter
5451   \H@equation
5452   \@ifundefined{theHequation}{%
5453     \make@stripped@name{\theequation}%
5454     \let\theHequation\newname
5455   }{}%
5456   \hyper@makecurrent{equation}%
5457   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5458   \let\refstepcounter\new@refstepcounter
5459 }%
5460 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5461 }

```

My goodness, why can't \LaTeX be consistent? Why is `\eqnarray` set up differently from other objects?

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

```

5462 \newif\if@eqnstar
5463 \@eqnstarfalse
5464 \let\H@eqnarray\eqnarray

```

```

5465 \let\H@endeqnarray\endeqnarray
5466 \def\eqnarray{%
5467   \let\Hy@reserved@a\relax
5468   \def\@currentHref{%
5469     \H@eqnarray
5470     \if@eqnstar
5471     \else
5472       \ifx\\ \@currentHref\\
5473       \else
5474         \ifundefined{theHequation}{%
5475           \make@stripped@name{theequation}%
5476           \let\theHequation\newname
5477         }{}%
5478         \hyper@makecurrent{equation}%
5479         \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5480       \fi
5481     \fi
5482   }
5483 \def\endeqnarray{%
5484   \H@endeqnarray
5485 }

```

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.

```

5486 \@namedef{eqnarray*}{%
5487   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
5488 }
5489 \@namedef{endeqnarray*}{%
5490   \nonumber\endeqnarray\@eqnstarfalse
5491 }

```

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

```

5492 \@ifundefined{subeqnarray}{}{%
5493   \let\H@subeqnarray\subeqnarray
5494   \let\H@endsubeqnarray\endsubeqnarray
5495   \def\subeqnarray{%
5496     \let\Hy@reserved@a\relax
5497     \H@subeqnarray
5498     \@ifundefined{theHequation}{%
5499       \make@stripped@name{theequation}%
5500       \let\theHequation\newname
5501     }{}%
5502     \hyper@makecurrent{equation}%
5503     \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5504   }%
5505   \def\endsubeqnarray{%
5506     \H@endsubeqnarray
5507   }%
5508   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5509 }

```

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

```

5510 \def\make@stripped@name#1{%
5511   \begingroup
5512     \escapechar\m@ne
5513     \global\let\newname\empty
5514     \protected@edef\Hy@tempa{#1}%
5515     \edef\@tempb{%

```

```

5516 \noexpand\@tfor\noexpand\Hy@tempa:=%
5517 \expandafter\strip@prefix\meaning\Hy@tempa
5518 }%
5519 \@tempb\do{%
5520 \if\Hy@tempa\else
5521 \if\Hy@tempa\else
5522 \xdef\newname{\newname\Hy@tempa}%
5523 \fi
5524 \fi
5525 }%
5526 \endgroup
5527 }

```

Support for amsmath's subequations:

```

5528 \begingroup\expandafter\expandafter\expandafter\endgroup
5529 \expandafter\ifx\csname subequations\endcsname\relax
5530 \else
5531 \let\HyOrg@subequations\subequations
5532 \def\subequations{%
5533 \stepcounter{equation}%
5534 \protected@edef\theHparentequation{%
5535 \@ifundefined{theHequation}\theequation\theHequation
5536 }%
5537 \addtocounter{equation}{-1}%
5538 \HyOrg@subequations
5539 \def\theHequation{\theHparentequation\alph{equation}}%
5540 \ignorespaces
5541 }%
5542 \fi

```

Support for package amsthm (Daniel Müllner):

```

5543 \@ifpackageloaded{amsthm}{%
5544 \def\@thm#1#2#3{%
5545 \ifhmode
5546 \unskip\unskip\par
5547 \fi
5548 \normalfont
5549 \trivlist
5550 \let\thmheadnl\relax
5551 \let\thm@swap\@gobble
5552 \thm@notefont{\fontseries\mddefault\upshape}%
5553 \thm@headpunct{.}% add period after heading
5554 \thm@headsep 5\p@ plus\p@ minus\p@\relax
5555 \thm@space@setup
5556 #1% style overrides
5557 \@topsep \thm@preskip % used by thm head
5558 \@topsepadd \thm@postskip % used by \@endparentv
5559 \def\dth@counter{#2}%
5560 \ifx\@empty\dth@counter
5561 \def\@tempa{%
5562 \oparg{\@begintheorem{#3}{}}[]%
5563 }%
5564 \else
5565 \H@refstepcounter{#2}%
5566 \hyper@makecurrent{#2}%
5567 \def\@tempa{%
5568 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
5569 }%

```

```

5570 \fi
5571 \@tempa
5572 }%
5573 \dth@everypar={%
5574 \@minipagefalse
5575 \global\@newlistfalse
5576 \@noparitemfalse
5577 \if@inlabel
5578 \global\@inlabelfalse
5579 \begingroup
5580 \setbox\z@\lastbox
5581 \ifvoid\z@
5582 \kern-\itemindent
5583 \fi
5584 \endgroup
5585 \ifx\@empty\dth@counter
5586 \else
5587 \Hy@raisedlink{%
5588 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5589 }%
5590 \fi
5591 \unhbox\@labels
5592 \fi
5593 \if@nobreak
5594 \@nobreakfalse \clubpenalty\@M
5595 \else
5596 \clubpenalty\@clubpenalty \everypar{}%
5597 \fi
5598 }%
5599 }{}

```

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.

```

5600 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5601 \ifHy@hyperfootnotes
5602 \newcounter{Hfootnote}%
5603 \let\H@@footnotetext\@footnotetext
5604 \let\H@@footnotemark\@footnotemark
5605 \def\@xfootnotenext[#1]{%
5606 \begingroup
5607 \csname c@\@mpfn\endcsname #1\relax
5608 \unrestored@protected@xdef\@thefnmark{\thempfn}%
5609 \endgroup
5610 \ifx\@footnotetext\@mpfootnotetext
5611 \expandafter\H@@mpfootnotetext
5612 \else
5613 \expandafter\H@@footnotetext
5614 \fi
5615 }%
5616 \def\@xfootnotemark[#1]{%
5617 \begingroup

```

```

5618     \c@footnote #1\relax
5619     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5620   \endgroup
5621   \H@@footnotemark
5622 }%
5623 \let\H@@mpfootnotetext\@mpfootnotetext
5624 \long\def\@mpfootnotetext#1{%
5625   \H@@mpfootnotetext{%
5626     \ifHy@nesting
5627       \expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}{#1}%
5628     \else
5629       \Hy@raisedlink{%
5630         \expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}{\relax}%
5631       }#1%
5632     \fi
5633   }%
5634 }%
5635 \long\def\@footnotetext#1{%
5636   \H@@footnotetext{%
5637     \ifHy@nesting
5638       \expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}{#1}%
5639     \else
5640       \Hy@raisedlink{%
5641         \expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}{\relax}%
5642       }%
5643       \let\@currentHlabel\Hy@footnote@currentHlabel
5644       \let\@currentHref\Hy@footnote@currentHref
5645       \let\@currentlabelname\@empty
5646       #1%
5647     \fi
5648   }%
5649 }%

```

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.

```

5650 \def\@footnotemark{%
5651   \leavevmode
5652   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
5653   \stepcounter{Hfootnote}%
5654   \global\let\Hy@saved@currentHlabel\@currentHlabel
5655   \global\let\Hy@saved@currentHref\@currentHref
5656   \hyper@makecurrent{Hfootnote}%
5657   \global\let\Hy@footnote@currentHlabel\@currentHlabel
5658   \global\let\Hy@footnote@currentHref\@currentHref
5659   \global\let\@currentHlabel\Hy@saved@currentHlabel
5660   \global\let\@currentHref\Hy@saved@currentHref
5661   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5662   \@makefnmark
5663   \hyper@linkend
5664   \ifhmode\spacefactor\x@sf\fi
5665   \relax
5666 }%

```

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

```

5667 \ifpackageloaded{longtable}{%
5668   \CheckCommand*{\LT@p@ftntext}[1]{%
5669     \edef\@tempa{%
5670       \the\LT@p@ftn
5671       \noexpand\footnotetext[\the\c@footnote]%
5672     }%
5673     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5674   }%
5675   \long\def\LT@p@ftntext#1{%
5676     \edef\@tempa{%
5677       \the\LT@p@ftn
5678       \begingroup
5679         \noexpand\c@footnote=\the\c@footnote\relax
5680         \noexpand\protected@xdef
5681           \noexpand\@thefnmark{\noexpand\thempfn}%
5682         \noexpand\protected@xdef\noexpand\@thefnmark{%
5683           \noexpand\thempfn
5684         }%
5685         \expandafter\expandafter\expandafter\noexpand
5686         \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5687         \expandafter\expandafter\expandafter{%
5688           \expandafter\Hy@footnote@currentHref\expandafter
5689           }\expandafter{\Hy@footnote@currentHlabel}%
5690       }%
5691       \global\LT@p@ftn\expandafter{%
5692         \@tempa{#1}%
5693       }\endgroup
5694     }%
5695   }%
5696   \long\def\Hy@LT@footnotetext#1#2#3{%
5697     \H@@footnotetext{%
5698       \ifHy@nesting
5699         \hyper@@anchor{#1}{#3}%
5700       \else
5701         \Hy@raisedlink{%
5702           \hyper@@anchor{#1}{\relax}%
5703         }%
5704         \def\@currentHlabel{#2}%
5705         \def\@currentHref{#1}%
5706         \let\@currentlabelname\@empty
5707         #3%
5708       \fi
5709     }%
5710   }%
5711 }{}%
```

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

```

5712 \ifpackageloaded{fancyvrb}{%
5713   \def\V@@footnotetext{%
5714     \insert\footins\bgroup
5715     \csname reset@font\endcsname
5716     \footnotesize
5717     \interlinepenalty\interfootnotelinepenalty
5718     \splittopskip\footnotesep
5719     \splitmaxdepth\dp\strutbox
5720     \floatingpenalty \@MM
5721     \hsize\columnwidth
```

```

5722 \parboxrestore
5723 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5724 \@makefnmark}%
5725 \rule{\z@}{\footnotesep}%
5726 \bgroup
5727 \aftergroup\V@@@footnotetext
5728 \Hy@raisedlink{%
5729 \expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}{\relax}%
5730 }%
5731 \let\@currentHlabel\Hy@footnote@currentHlabel
5732 \let\@currentHref\Hy@footnote@currentHref
5733 \let\@currentlabelname\@empty
5734 \ignorespaces
5735 }%
5736 }{}%

```

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.

```

5737 \let\HyOrg@maketitle\maketitle
5738 \def\maketitle{%
5739 \let\Hy@saved@footnotemark\@footnotemark
5740 \let\Hy@saved@footnotetext\@footnotetext
5741 \let\@footnotemark\H@@footnotemark
5742 \let\@footnotetext\H@@footnotetext
5743 \@ifnextchar[\Hy@maketitle@optarg{% ]
5744 \HyOrg@maketitle
5745 \Hy@maketitle@end
5746 }%
5747 }%
5748 \def\Hy@maketitle@optarg[#1]{%
5749 \HyOrg@maketitle[#{1}]%
5750 \Hy@maketitle@end
5751 }%
5752 \def\Hy@maketitle@end{%
5753 \ifx\@footnotemark\H@@footnotemark
5754 \let\@footnotemark\Hy@saved@footnotemark
5755 \fi
5756 \ifx\@footnotetext\H@@footnotetext
5757 \let\@footnotetext\Hy@saved@footnotetext
5758 \fi
5759 }%

```

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

```

5760 \def\realfootnote{%
5761 \@ifnextchar[\@xfootnote{%
5762 \stepcounter{\@mpfn}%
5763 \protected@xdef\@thefnmark{\thempfn}%
5764 \H@@footnotemark\H@@footnotetext
5765 }%
5766 }%

5767 \fi
5768 \Hy@DisableOption{hyperfootnotes}

5769 </package>
5770 <*check>
5771 \checklatex
5772 \checkcommand\def\@xfootnotenext[#1]{%

```

```

5773 \begingroup
5774   \csname c@\mpfn\endcsname #1\relax
5775   \unrestored@protected@xdef\@thefnmark{\thempfn}%
5776 \endgroup
5777 \@footnotetext
5778 }
5779 \checkcommand\def\xfootnotemark[#1]{%
5780 \begingroup
5781   \c@footnote #1\relax
5782   \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5783 \endgroup
5784 \@footnotemark
5785 }
5786 \checkcommand\def\@footnotemark{%
5787 \leavevmode
5788 \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
5789 \@makefnmark
5790 \ifhmode\spacefactor\x@sf\fi
5791 \relax
5792 }
5793 </check>
5794 <*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.

```

5795 \def\caption{%
5796   \ifx\@captive\undefined
5797     \@latex@error{noexpand\caption outside float}\@ehd
5798     \expandafter\@gobble
5799   \else
5800     \H@refstepcounter\@captive
5801     \let\Hy@tempa\@caption
5802     \@ifundefined{float@caption}{%
5803       }{%
5804         \expandafter\ifx\csname @float@c@\@captive\endcsname
5805           \float@caption
5806           \let\Hy@tempa\Hy@float@caption
5807         \fi
5808       }%
5809     \expandafter\@firstofone
5810   \fi
5811   {\@dblarg{\Hy@tempa\@captive}}%
5812 }
5813 \long\def\@caption#1[#2]#3{%
5814   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5815     \csname iftrue\endcsname
5816     \global\let\@currentHref\hc@currentHref
5817   \else
5818     \hyper@makecurrent{\@captive}%
5819   \fi
5820   \@ifundefined{NR@getttitle}{%
5821     \def\@currentlabelname{#2}%
5822   }{%
5823     \NR@getttitle{#2}%

```

```

5824 }%
5825 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5826 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5827 }%
5828 \begingroup
5829 \@parboxrestore
5830 \if@minipage
5831 \setminipage
5832 \fi
5833 \normalsize
5834 \expandafter\ifx\csname if@capstart\expandafter\endcsname
5835 \csname iftrue\endcsname
5836 \global\@capstartfalse
5837 \makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5838 \else
5839 \makecaption{\csname fnum@#1\endcsname}{%
5840 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

5841 \ifHy@nesting
5842 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
5843 \else
5844 \Hy@raisedlink{%
5845 \expandafter\hyper@@anchor\expandafter{\@currentHref}{\relax}%
5846 }%
5847 #3%
5848 \fi
5849 }%
5850 \fi
5851 \par
5852 \endgroup
5853 }

```

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.

```

5854 \let\Hy@float@caption\@caption
5855 \ifpackageloaded{float}{%
5856 \def\Hy@float@caption{%
5857 \ifx\Hy@float@currentHref\@undefined
5858 \hyper@makecurrent{\@cuptype}%
5859 \global\let\Hy@float@currentHref\@currentHref
5860 \else
5861 \let\@currentHref\Hy@float@currentHref
5862 \fi
5863 \float@caption
5864 }%
5865 \let\HyOrg@float@makebox\float@makebox
5866 \renewcommand{\float@makebox}[1]{%
5867 \HyOrg@float@makebox{%
5868 #1\relax
5869 \ifx\Hy@float@currentHref\@undefined
5870 \else
5871 \expandafter\hyper@@anchor\expandafter{\Hy@float@currentHref}{\relax}%
5872 \global\let\Hy@float@currentHref\@undefined
5873 \fi
5874 }%
5875 }%
5876 }{}

```

```

5877 </package>
5878 <*check>
5879 \checklatex[1999/06/01 - 2000/06/01]
5880 \checkcommand\def\caption{%
5881   \ifx\@capttype\undefined
5882     \latexerror{\noexpand\caption outside float}\@ehd
5883     \expandafter\@gobble
5884   \else
5885     \refstepcounter\@capttype
5886     \expandafter\@firstofone
5887   \fi
5888   {\@dblarg{\@caption\@capttype}}}%
5889 }
5890 \checkcommand\long\def\@caption#1[#2]#3{%
5891   \par
5892   \addcontentsline{\csname ext@#1\endcsname}{#1}%
5893     {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
5894   \begingroup
5895     \@parboxrestore
5896     \if@minipage
5897       \setminipage
5898     \fi
5899     \normalsize
5900     \makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5901   \endgroup
5902 }
5903 </check>
5904 <*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.

```

5905 \def\hyper@natlinkstart#1{%
5906   \Hy@backout{#1}%
5907   \hyper@linkstart{cite}{cite.#1}%
5908   \def\hyper@nat@current{#1}%
5909 }
5910 \def\hyper@natlinkend{%
5911   \hyper@linkend
5912 }
5913 \def\hyper@natlinkbreak#1#2{%
5914   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
5915 }
5916 \def\hyper@natanchorstart#1{%
5917   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
5918 }
5919 \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.

```

5920 \ifundefined{NAT@parse}{%
5921   \providecommand*\@extra@binfo{}%
5922   \providecommand*\@extra@b@citeb{}%
5923   \def\bibcite#1#2{%
5924     \newl@bel{b}{#1\@extra@binfo}{%
5925       \hyper@@link[cite]{}{cite.#1\@extra@b@citeb}{#2}%
5926     }%
5927   }%
5928   \gdef\@extra@binfo{}%

```

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

```

5929 \let\Hy@bibcite\bibcite
5930 \begingroup
5931   \ifundefined{bbl@cite@choice}{}{%
5932     \g@addto@macro\bbl@cite@choice{%
5933       \let\bibcite\Hy@bibcite
5934     }%
5935   }%
5936 \endgroup

```

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

```

5937 \providecommand*\@BIBLABEL{\@biblabel}%
5938 \def\@lbibitem[#1]#2{%
5939   \@skiphyperreftrue
5940   \H@item[%
5941     \ifx\Hy@raisedlink\@empty
5942       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
5943       \@BIBLABEL{#1}%
5944       \hyper@anchorend
5945     \else
5946       \Hy@raisedlink{%
5947         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
5948       }%
5949       \@BIBLABEL{#1}%
5950     \fi
5951     \hfill
5952   ]%
5953   \@skiphyperreffalse
5954   \if@filesw
5955     \begingroup
5956       \let\protect\noexpand
5957       \immediate\write\@auxout{%
5958         \string\bibcite{#2}{#1}%
5959       }%
5960     \endgroup
5961   \fi
5962   \ignorespaces
5963 }%

```

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

```

5964 \def\@bibitem#1{%
5965   \@skiphyperreftrue\H@item\@skiphyperreffalse
5966   \Hy@raisedlink{%

```

```

5967     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
5968   }%
5969   \if@filesw
5970     \begingroup
5971       \let\protect\noexpand
5972       \immediate\write\@auxout{%
5973         \string\bibcite{#1}{\the\value{\@listctr}}}%
5974     }%
5975   \endgroup
5976   \fi
5977   \ignorespaces
5978 }%
5979 }{}

5980 </package>
5981 <*check>
5982 \checklatex
5983 \checkcommand\def\@lbibitem[#1]#2{%
5984   \item[\@biblabel{#1}\hfill]%
5985   \if@filesw
5986     {%
5987       \let\protect\noexpand
5988       \immediate\write\@auxout{%
5989         \string\bibcite{#2}{#1}%
5990       }%
5991     }%
5992   \fi
5993   \ignorespaces
5994 }
5995 \checkcommand\def\@bibitem#1{%
5996   \item
5997   \if@filesw
5998     \immediate\write\@auxout{%
5999       \string\bibcite{#1}{\the\value{\@listctr}}}%
6000   }%
6001   \fi
6002   \ignorespaces
6003 }
6004 </check>
6005 <*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.

```

6006 \@ifclassloaded{revtex}{%
6007   \Hy@Info{*** compatibility with revtex **** }%
6008   \def\revtex@checking#1#2{%
6009     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
6010     \expandafter\def\csname b@#1\endcsname{#2}%
6011     \@SetMaxRnhefLabel{#1}%
6012     \expandafter\let\csname b@#1\endcsname\T@temp
6013   }%

```

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

```

6014 \ifundefined{CITE}{\def\CITE{\@cite}}{}%
6015 \providecommand*\@extra@b@citeb{}%
6016 \def\CITE[#1]#2{%

```

```

6017 \let\@citea\@empty
6018 \leavevmode
6019 \unskip
6020 $\sim$
6021 \scriptstyle
6022 \@CITE{%
6023   \@for\@citeb:=#2\do{%
6024     \@citea
6025     \def\@citea{,\penalty\@m\ }%
6026     \edef\@citeb{\expandafter\@firstofone\@citeb}%
6027     \if@filesw
6028       \immediate\write\@auxout{\string\citation{\@citeb}}%
6029     \fi
6030     \@ifundefined{b@\@citeb\extra@b@citeb}{%
6031       \mbox{\reset@font\bfseries ?}%
6032       \G@refundefinedtrue
6033       \latex@warning{%
6034         Citation '\@citeb' on page \thepage \space undefined%
6035       }%
6036     }{%
6037       {\csname b@\@citeb\extra@b@citeb\endcsname}%
6038     }%
6039   }%
6040 }{\#1}%
6041 }$%
6042 }%

```

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

```

6043 \def\@citex[#1]#2{%
6044   \let\@citea\@empty
6045   \@cite{%
6046     \@for\@citeb:=#2\do{%
6047       \@citea
6048       \def\@citea{,\penalty\@m\ }%
6049       \edef\@citeb{\expandafter\@firstofone\@citeb}%
6050       \if@filesw
6051         \immediate\write\@auxout{\string\citation{\@citeb}}%
6052       \fi
6053       \@ifundefined{b@\@citeb\extra@b@citeb}{%
6054         \mbox{\reset@font\bfseries ?}%
6055         \G@refundefinedtrue
6056         \latex@warning{%
6057           Citation '\@citeb' on page \thepage \space undefined%
6058         }%
6059       }{%
6060         \hbox{\csname b@\@citeb\extra@b@citeb\endcsname}%
6061       }%
6062     }%
6063   }{\#1}%
6064 }%
6065 }{}

```

37.1 Package harvard

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

section for each bibliography entry.

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

```

6066 \ifpackageloaded{harvard}{%
6067   \AtBeginDocument{%
6068     \Hy@Info{*** compatibility with harvard *** }%
6069     \Hy@raiselinksfalse
6070     \def\harvardcite#1#2#3#4{%
6071       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{cite.#1}{#2}}%
6072       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{cite.#1}{#3}}%
6073       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{cite.#1}{#4}}%
6074       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
6075     }%
6076     \def\HAR@citetoaux#1{%
6077       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
6078       \ifHy@backref
6079         \ifx\@empty\@currentlabel
6080           \else
6081             \@bsphack
6082             \if@filesw
6083               \protected@write\@auxout{}{%
6084                 \string\writefile{brf}{%
6085                   \string\backcite{#1}{%
6086                     {thepage}{\@currentlabel}{\@currentHref}%
6087                   }%
6088                 }%
6089               \fi
6090             \fi
6091             \@esphack
6092           \fi
6093         \fi
6094       }%
6095       \def\harvarditem{%
6096         \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
6097       }%
6098       \def\@harvarditem[#1]#2#3#4#5\par{%
6099         \item[]%
6100         \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
6101         \if@filesw
6102           \begingroup
6103             \def\protect##1{\string ##1\space}%
6104             \ifthenelse{\equal{#1}{\null}}{%
6105               {\def\next{#4}{#2}{#2}{#3}}}%
6106             {\def\next{#4}{#2}{#1}{#3}}}%
6107             \immediate\write\@auxout{\string\harvardcite\codeof\next}%
6108           \endgroup
6109         \fi
6110         \protect\hspace*{-\labelwidth}%
6111         \protect\hspace*{-\labelsep}%
6112         \ignorespaces
6113         #5%
6114         \ifHy@backref
6115           \newblock
6116           \backref{\csname br@#4\endcsname}%
6117         \fi
6118       \par

```

```
6119 }%
```

`\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`:

```
6120 \long\def\HAR@checkcitations#1#2#3#4{%
6121   \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
6122   \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
6123     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
6124     \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
6125       \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
6126       \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
6127         \else
6128           \@tempswatrue
6129         \fi
6130       \else
6131         \@tempswatrue
6132       \fi
6133     \else
6134       \@tempswatrue
6135     \fi
6136   }%
6137 }%

6138 }{}
```

37.2 Package chicago

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

```
6139 \@ifpackageloaded{chicago}{%
```

`\citeN`

```
6140 \def\citeN{%
6141   \def\@citesep{--1000}%
6142   \def\@cite##1##2{##1}%
6143   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
6144   \@citedata@opt
6145 }%
```

`\shortciteN`

```
6146 \def\shortciteN{%
6147   \def\@citesep{--1000}%
6148   \def\@cite##1##2{##1}%
6149   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
6150   \@citedata@opt
6151 }%
```

`\@citedata@opt`

```
6152 \def\@citedata@opt{%
6153   \let\@cite@opt\@empty
6154   \@ifnextchar [{%
6155     \@tempswatrue
6156     \@citedatax@opt
6157   }{%
6158     \@tempswafalse
6159     \@citedatax[]%
```

```

6160 }%
6161 }%

\@citedatax@opt
6162 \def\@citedatax@opt[#1]{%
6163   \def\@cite@opt{, #1}%
6164   \@citedatax[#1]}%
6165 }%

6166 }{}

```

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.

```

6167 \def\Hy@EveryPageAnchor{%
6168   \Hy@DistillerDestFix
6169   \ifHy@pageanchor
6170     \ifHy@hypertextnames
6171     \ifHy@plainpages
6172       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
6173     \else
6174       \begingroup
6175         \let\@number\@firstofone
6176         \Hy@unicodedefalse
6177         \pdfstringdef\@the@H@page{\thepage}%
6178       \endgroup
6179       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
6180     \fi
6181   \else
6182     \Hy@GlobalStepCount\Hy@pagecounter
6183     \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
6184   \fi
6185   \vbox to 0pt{%
6186     \kern\voffset
6187     \kern\topmargin
6188     \kern-1bp\relax
6189     \hbox to 0pt{%
6190       \kern\hoffset
6191       \kern\ifodd\value{page}%
6192         \oddsidemargin
6193       \else
6194         \evensidemargin
6195       \fi
6196       \kern-1bp\relax
6197       \Hy@TempPageAnchor
6198     \hss
6199   }%
6200   \vss
6201 }%
6202 \fi
6203 }

```

```

6204 \g@addto@macro\Hy@EveryPageBoxHook{%
6205   \Hy@EveryPageAnchor
6206 }

```

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.

```

6207 \def\addcontentsline#1#2#3{% toc extension, type, tag
6208   \begingroup
6209     \let\label\@gobble
6210     \ifx\@currentHref\@empty
6211       \Hy@Warning{%
6212         No destination for bookmark of \string\addcontentsline,%
6213         \MessageBreak destination is added%
6214       }%
6215       \phantomsection
6216     \fi
6217     \expandafter\ifx\csname toplevel@#2\endcsname\relax
6218       \begingroup
6219         \def\Hy@tempa{#1}%
6220         \ifx\Hy@tempa\Hy@bookmarkstype
6221           \Hy@WarningNoLine{%
6222             bookmark level for unknown #2 defaults to 0%
6223           }%
6224         \else
6225           \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6226         \fi
6227       \endgroup
6228       \expandafter\gdef\csname toplevel@#2\endcsname{0}%
6229     \fi
6230     \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
6231     \Hy@writebookmark{\csname the#2\endcsname}%
6232       {#3}%
6233       {\@currentHref}%
6234       {\Hy@toplevel}%
6235       {#1}%
6236     \ifHy@verbose
6237       \def\Hy@tempa{#3}%
6238       \@onelevel@sanitize\Hy@tempa
6239       \typeout{pdftex: bookmark at \the\inputlineno: %
6240         {\csname the#2\endcsname}%
6241         {\Hy@tempa}%
6242         {\@currentHref}%
6243         {\Hy@toplevel}%
6244         {#1}%
6245       }%
6246     \fi
6247     \addtocontents{#1}{%
6248       \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6249     }%
6250   \endgroup
6251 }
6252 \def\contentsline#1#2#3#4{%
6253   \ifx\#4\%

```

```

6254 \csname l@#1\endcsname{#2}{#3}%
6255 \else
6256 \ifcase\Hy@linktoc % none
6257 \csname l@#1\endcsname{#2}{#3}%
6258 \or % section
6259 \csname l@#1\endcsname{%
6260 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6261 }{#3}%
6262 \or % page
6263 \csname l@#1\endcsname{#2}{#3}%
6264 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6265 }%
6266 \else % all
6267 \csname l@#1\endcsname{%
6268 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6269 }{#3}%
6270 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6271 }%
6272 \fi
6273 \fi
6274 }

6275 </package>
6276 <*check>
6277 \checklatex
6278 \checkcommand\def\addcontentsline#1#2#3{%
6279 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
6280 }
6281 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6282 </check>
6283 <*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.

```

6284 \let\H@definecounter\@definecounter
6285 \def\@definecounter#1{%
6286 \H@definecounter{#1}%
6287 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6288 }

```

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.

```

6289 \let\H@newctr\@newctr
6290 \def\@newctr#1[#2]{%
6291 \H@newctr#1[#2]%
6292 \expandafter\def\csname theH#1\endcsname{%
6293 \csname the\@ifundefined{theH#2}{H}#2\endcsname.\arabic{#1}%
6294 }%
6295 }

```

41 AMS \LaTeX compatibility

Oh, no, they don't use anything as simple as `\refstepcounter` in the AMS! We need to intercept some low-level operations of theirs. Damned if we are going to try and work

out what they get up to. Just stick a label of ‘AMS’ on the front, and use the label *they* worked out. If that produces something invalid, I give up. They’ll change all the code again anyway, I expect (SR).

Version 6.77p uses a patch by Ross Moore.

```

6296 \ifpackage{amsmath}{%
6297   \def\Hy@make@anchor{%
6298     \Hy@GlobalStepCount\Hy@linkcounter
6299     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6300     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6301   }%
6302   \def\Hy@make@df@tag@#1{%
6303     \gdef\df@tag{%
6304       \maketag@@@{\Hy@make@anchor#1}%
6305     \def\@currentlabel{#1}%
6306   }%
6307 }%
6308 \def\Hy@make@df@tag@@#1{%
6309   \gdef\df@tag{%
6310     \tagform@{\Hy@make@anchor#1}%
6311     \toks@{\xp{\p@equation{#1}}}%
6312     \edef\@currentlabel{\the\toks@}%
6313   }%
6314 }%
6315 \let\HyOrg@make@df@tag@@\make@df@tag@@
6316 \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
6317 \let\make@df@tag@@\Hy@make@df@tag@@
6318 \let\make@df@tag@@@ \Hy@make@df@tag@@@
6319 }{}

```

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

```

6320 \ifpackage{hyperref}{pdfTeX}{%
6321   \let\H@seteqlabel\@seteqlabel
6322   \def\@seteqlabel#1{%
6323     \H@seteqlabel{#1}%
6324     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6325     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6326   }%
6327 }{}

```

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.

```

6328 \let\HyOrg@addtoreset\@addtoreset
6329 \def\@addtoreset#1#2{%

```

```

6330 \HyOrg@addtoreset{#1}{#2}%
6331 \expandafter\xdef\csname theH#1\endcsname{%
6332     \expandafter\noexpand
6333         \csname the\@ifundefined{theH#2}{H#2}\endcsname
6334     .\noexpand\the\noexpand\value{#1}%
6335 }%
6336 }

```

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

```

6337 </package>
6338 <*check>
6339 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6340 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6341     \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6342         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6343             \@addtoreset{#2}{#3}%
6344             \@xp\xdef\csname the#2\endcsname{%
6345                 \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6346             }%
6347         }%
6348     }%
6349 }%
6350 </check>
6351 <*package>
6352 \@ifpackageloaded{amsmath}{%
6353     \@ifpackagelater{amsmath}{1999/12/14}{%
6354         \renewcommand*{\numberwithin}[3][\arabic]{%
6355             \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6356                 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6357                     \HyOrg@addtoreset{#2}{#3}%
6358                     \@xp\xdef\csname the#2\endcsname{%
6359                         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6360                     }%
6361                     \@xp\xdef\csname theH#2\endcsname{%
6362                         \@xp\@nx
6363                         \csname the\@ifundefined{theH#3}{H#3}\endcsname
6364                         .\@nx#1{#2}%
6365                     }%
6366                 }%
6367             }%
6368         }%
6369     }%
6370     \Hy@WarningNoLine{%
6371         \string\numberwithin\space of package 'amsmath' %
6372         only fixed\MessageBreak
6373         for version 2000/06/06 v2.12 or newer%
6374     }%
6375 }%
6376 {}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

6377 \ifHy@figures
6378     \let\Hy@Gin@setfile\Gin@setfile

```

```

6379 \def\Gin@setfile#1#2#3{%
6380   \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6381 }%
6382 \fi
6383 \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.

```

6384 \ifHy@hyperindex
6385   \def\HyInd@ParenLeft{({}%
6386   \def\HyInd@ParenRight{)}}%
6387   \def\hyperindexformat#1#2{%
6388     \let\HyOrg@hyperpage\hyperpage
6389     \let\hyperpage\@firstofone
6390     #1{\HyOrg@hyperpage{#2}}%
6391     \let\hyperpage\HyOrg@hyperpage
6392   }%
6393   \Hy@nextfalse
6394   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6395   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6396   \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
6397   \begingroup
6398     \lccode'\|=\expandafter'\HyInd@EncapChar\relax
6399     \lccode'\|=\|\\relax
6400   \lowercase{\endgroup
6401     \ifHy@next
6402       \let\HyInd@org@wrindex\@wrindex
6403       \def\@wrindex#1#2{\HyInd@@wrindex{#1}{#2}||\\}%
6404       \def\HyInd@@wrindex#1#2|#3|#4\\{%
6405         \ifx\\#3\\%
6406           \HyInd@org@wrindex{#1}{#2|hyperpage}%
6407         \else
6408           \HyInd@@@wrindex{#1}{#2}{#3}\\%
6409         \fi
6410       }%
6411       \def\HyInd@@@wrindex#1#2#3#4\\{%
6412         \def\Hy@temp@A{#3}%
6413         \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6414           \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6415         \relax
6416         \HyInd@org@wrindex{#1}{%
6417           #2|hyperindexformat{/#3#4}%
6418         }%
6419       \else
6420         \ifx\\#4\\%
6421           \ifx\Hy@temp@A\HyInd@ParenRight

```



```

6422         \HyInd@org@wrindex{#1}{#2|#3}%
6423     \else
6424         \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6425     \fi
6426 \else
6427     \HyInd@org@wrindex{#1}{%
6428         #2|#3hyperindexformat{/#4}%
6429     }%
6430 \fi
6431 \fi
6432 }%
6433 \else
6434     \def\@wrindex#1{\@wrindex#1||\}%
6435     \def\@wrindex#1|#2|#3\{\%
6436         \if@filesw
6437             \ifx\|#2\%
6438                 \protected@write\@indexfile{}\%
6439                 \string\indexentry{#1|hyperpage}{\thepage}%
6440             }%
6441         \else
6442             \HyInd@@@wrindex{#1}#2\%
6443         \fi
6444     \fi
6445 \endgroup
6446 \@esphack
6447 }%
6448 \def\HyInd@@@wrindex#1#2#3\{\%
6449     \def\Hy@temp@A{#2}%
6450     \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6451         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6452         \relax
6453     \protected@write\@indexfile{}\%
6454     \string\indexentry{%
6455         #1|hyperindexformat{/#2#3}%
6456     }{\thepage}%
6457 }%
6458 \else
6459     \ifx\|#3\%
6460         \ifx\Hy@temp@A\HyInd@ParenRight
6461             \protected@write\@indexfile{}\%
6462             \string\indexentry{#1|#2}{\thepage}%
6463         }%
6464     \else
6465         \protected@write\@indexfile{}\%
6466         \string\indexentry{#1|#2hyperpage}{\thepage}%
6467     }%
6468 \fi
6469 \else
6470     \protected@write\@indexfile{}\%
6471     \string\indexentry{%
6472         #1|#2hyperindexformat{/#3}%
6473     }{\thepage}%
6474 }%
6475 \fi
6476 \fi
6477 }%
6478 \fi

```

```

6479 }%
6480 \fi
6481 \Hy@DisableOption{hyperindex}
6482 \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.

```

6483 \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.

```

6484 \def\hyperpage#1{%
6485   \HyInd@hyperpage#1\nohyperpage{}\@nil
6486 }
6487 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
6488   \HyInd@@hyperpage{#1}%
6489   #2%
6490   \def\Hy@temp{#3}%
6491   \ifx\Hy@temp\@empty
6492   \else
6493     \Hy@ReturnAfterFi{%
6494       \HyInd@hyperpage#3\@nil
6495     }%
6496   \fi
6497 }
6498 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
6499 \def\@hyperpage#1--#2--#3\{%
6500   \ifx\#2\%
6501     \@commahyperpage{#1}%
6502   \else
6503     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6504   \fi
6505 }
6506 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6507 \def\@commahyperpage#1, #2,#3\{%
6508   \ifx\#2\%
6509     \HyInd@pagelink{#1}%
6510   \else
6511     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6512   \fi
6513 }

```

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

```

6514 \def\HyInd@pagelink#1{%
6515   \begingroup
6516     \toks@={}%
6517     \HyInd@removespaces#1 \@nil
6518   \endgroup
6519 }
6520 \def\HyInd@removespaces#1 #2\@nil{%
6521   \toks@=\expandafter{\the\toks@#1}%
6522   \ifx\#2\%
6523     \edef\x{\the\toks@}%
6524     \ifx\x\@empty
6525     \else
6526       \hyperlink{page.\the\toks@}{\the\toks@}%

```

```

6527 \fi
6528 \else
6529 \Hy@ReturnAfterFi{%
6530 \HyInd@removespaces#2\@nil
6531 }%
6532 \fi
6533 }

```

44 Compatibility with foiltex

```

6534 \@ifclassloaded{foils}{%
6535 \providecommand*\ext@table{lot}%
6536 \providecommand*\ext@figure{lof}%
6537 }{}

```

45 Compatibility with seminar slide package

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

```

6538 \@ifclassloaded{seminar}{%
6539 \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}%
6540 }{%
6541 \Hy@seminarslidesfalse
6542 }
6543 \@ifpackageloaded{slidesec}{%
6544 \newcommand\theHslidesection {\arabic{slidesection}}%
6545 \newcommand\theHslidesubsection{%
6546 \theHslidesection.\arabic{slidesubsection}}%
6547 }%
6548 \def\slide@heading[#1]#2{%
6549 \H@refstepcounter{slidesection}%
6550 \@addtoreset{slidesubsection}{slidesection}%
6551 \addtocontents{los}{%
6552 \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6553 {\@SCTR}{slideheading.\theslidesection}}%
6554 }%
6555 \def\Hy@tempa{#2}%
6556 \ifx\Hy@tempa\@empty
6557 \else
6558 {%
6559 \edef\@currentlabel{%
6560 \csname p@slidesection\endcsname\theslidesection
6561 }%
6562 \makeslideheading{#2}%
6563 }%
6564 \fi
6565 \gdef\theslideheading{#1}%
6566 \gdef\theslidesubheading{%
6567 \ifHy@bookmarksnumbered
6568 \def\Hy@slidetitle{\theslidesection\space #1}%
6569 \else
6570 \def\Hy@slidetitle{#1}%
6571 \fi
6572 \ifHy@hypertextnames
6573 \ifHy@naturalnames
6574 \hyper@@anchor{slideheading.\theslidesection}{\relax}%

```

```

6575         \Hy@writebookmark
6576             {\theslide\section}%
6577             {\Hy@slidetitle}%
6578             {slideheading.\theslide\section}%
6579             {1}%
6580             {toc}%
6581     \else
6582         \hyper@@anchor{slideheading.\theHslide\section}{\relax}%
6583         \Hy@writebookmark
6584             {\theslide\section}%
6585             {\Hy@slidetitle}%
6586             {slideheading.\theHslide\section}%
6587             {1}%
6588             {toc}%
6589     \fi
6590 \else
6591     \Hy@GlobalStepCount\Hy@linkcounter
6592     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6593     \Hy@writebookmark
6594         {\theslide\section}%
6595         {\Hy@slidetitle}%
6596         {slideheading.\the\Hy@linkcounter}%
6597         {1}%
6598         {toc}%
6599 \fi
6600 }%
6601 \def\slide@subheading[#1]#2{%
6602     \H@refstepcounter{slidesubsection}%
6603     \addtocontents{los}{%
6604         \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6605         {\@SCTR}{slideheading.\theslidesubsection}%
6606     }%
6607     \def\Hy@tempa{#2}%
6608     \ifx\Hy@tempa\@empty
6609     \else
6610         {%
6611             \edef\@currentlabel{%
6612                 \csname p@slidesubsection\endcsname\theslidesubsection
6613             }%
6614             \makeslidesubheading{#2}%
6615         }%
6616     \fi
6617     \gdef\theslidesubheading{#1}%
6618     \ifHy@bookmarksnumbered
6619         \def\Hy@slidetitle{\theslidesubsection\space #1}%
6620     \else
6621         \def\Hy@slidetitle{#1}%
6622     \fi
6623     \ifHy@hypertextnames
6624         \ifHy@naturalnames
6625             \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6626             \Hy@writebookmark
6627                 {\theslidesubsection}%
6628                 {\Hy@slidetitle}%
6629                 {slideheading.\theslidesubsection}%
6630                 {2}%
6631                 {toc}%

```

```

6632 \else
6633 \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6634 \Hy@writebookmark
6635 {\theslidesubsection}%
6636 {\Hy@slidetitle}%
6637 {slideheading.\theHslidesubsection}%
6638 {2}%
6639 {toc}%
6640 \fi
6641 \else
6642 \Hy@GlobalStepCount\Hy@linkcounter
6643 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6644 \Hy@writebookmark
6645 {\theslidesubsection}%
6646 {\Hy@slidetitle}%
6647 {slideheading.\the\Hy@linkcounter}%
6648 {1}%
6649 {toc}%
6650 \fi
6651 }%
6652 \providecommand*\listslidesname{List of Slides}%
6653 \def\listofslides{%
6654 \section*{%
6655 \listslidesname
6656 \@mkboth{%
6657 \expandafter\MakeUppercase\listslidesname
6658 }{%
6659 \expandafter\MakeUppercase\listslidesname
6660 }%
6661 }%
6662 \def\l@slide##1##2##3##4{%
6663 \slide@undottedcline{%
6664 \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
6665 }{}%
6666 }%
6667 \let\l@subslide\l@slide
6668 \@startlos
6669 }%
6670 \def\slide@contents{%
6671 \def\l@slide##1##2##3##4{%
6672 \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6673 }%
6674 \let\l@subslide\@gobblefour
6675 \@startlos
6676 }%
6677 \def\Slide@contents{%
6678 \def\l@slide##1##2##3##4{%
6679 \ifcase\lslide@flag
6680 \message{##1 ** \the\c@slidesection}%
6681 \ifnum##1>\c@slidesection
6682 \def\lslide@flag{1}%
6683 {%
6684 \large
6685 \slide@ccline{%
6686 \slidenumberline{$\rightarrow\bullet$}%
6687 {\hyperlink{##4}{##2}}}%
6688 }{##3}%

```

```

6689         }%
6690     \else
6691     {%
6692         \large
6693         \slide@cline{%
6694             \slidenumberline{$\surd\;\bullet$}%
6695             {\hyperlink{##4}{##2}}%
6696         }{##3}%
6697     }%
6698     \fi
6699 \or
6700 \def\lslide@flag{2}%
6701 {%
6702     \large
6703     \slide@cline{%
6704         \slidenumberline{$\bullet$}%
6705         {\hyperlink{##4}{##2}}%
6706     }{##3}%
6707 }%
6708 \or
6709 {%
6710     \large
6711     \slide@cline{%
6712         \slidenumberline{$\bullet$}%
6713         {\hyperlink{##4}{##2}}%
6714     }{##3}%
6715 }%
6716 \fi
6717 }%
6718 \def\l@subslide##1##2##3##4{%
6719     \ifnum\lslide@flag=1 %
6720         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6721     \fi
6722 }%
6723 \def\lslide@flag{0}%
6724 \@startlos
6725 }%
6726 }{}

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.)

6727 \ifHy@texht
6728     \expandafter\endinput
6729 \fi
6730 \let\real@setref\@setref
6731 \def\@setref#1#2#3{% csname, extract group, refname
6732     \ifx#1\relax
6733         \protect\G@refundefinedtrue
6734         \nfss@text{\reset@font\bfseries ??}%
6735         \@latex@warning{%
6736             Reference ‘#3’ on page \thepage \space undefined%
6737         }%
6738     \else
6739         \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6740     \fi
6741 }

```

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

```

6742 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6743   \begingroup
6744     \toks0={\hyper@@link{#5}{#4}}%
6745     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6746     \edef\x{\endgroup
6747       \the\toks0 {\the\toks1 }%
6748     }%
6749   \x
6750 }
6751 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6752   \ifx#1\relax
6753     \protect\G@refundefinedtrue
6754     \nfss@text{\reset@font\bfseries ??}%
6755     \@latex@warning{%
6756       Reference ‘#3’ on page \thepage \space undefined%
6757     }%
6758   \else
6759     \protect\hyper@@link
6760     {\expandafter\@fifthoffive#1}%
6761     {page.\expandafter\@secondoffive#1}%
6762     {\expandafter\@secondoffive#1}%
6763   \fi
6764 }
6765 </package>
6766 <*check>
6767 \checklatex
6768 \checkcommand\def\@setref#1#2#3{%
6769   \ifx#1\relax
6770     \protect\G@refundefinedtrue
6771     \nfss@text{\reset@font\bfseries ??}%
6772     \@latex@warning{%
6773       Reference ‘#3’ on page \thepage\space undefined%
6774     }%
6775   \else
6776     \expandafter#2#1\relax
6777   \fi
6778 }
6779 </check>
6780 <*package>

```

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

```

6781 \def\HyRef@StarSetRef#1{%
6782   \begingroup
6783     \Hy@safe@activetrue
6784     \edef\x{#1}%
6785     \@onelevel@sanitize\x
6786     \edef\x{\endgroup
6787       \noexpand\HyRef@@StarSetRef
6788       \expandafter\noexpand\csname r@\x\endcsname{\x}%
6789     }%
6790   \x
6791 }
6792 \def\HyRef@@StarSetRef#1#2#3{%
6793   \ifx#1\@undefined

```

```

6794 \let#1\relax
6795 \fi
6796 \real@setref#1#3{#2}%
6797 }
6798 \def\@refstar#1{%
6799 \HyRef@StarSetRef{#1}\@firstoffive
6800 }
6801 \def\@pagerefstar#1{%
6802 \HyRef@StarSetRef{#1}\@secondoffive
6803 }
6804 \AtBeginDocument{%
6805 \ifpackageloaded{varioref}{%
6806 \def\@Refstar#1{%
6807 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6808 }%
6809 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
6810 \MakeUppercase#1%
6811 }%
6812 \DeclareRobustCommand*\Ref}{%
6813 \@ifstar\@Refstar\HyRef@Ref
6814 }%
6815 \def\HyRef@Ref#1{%
6816 \hyperref[#{1}]{\Ref*{#1}}%
6817 }%
6818 \def\Vr@f#1{%
6819 \leavevmode\unskip\vref@space
6820 \hyperref[#{1}]{%
6821 \Ref*{#1}%
6822 \let\vref@space\nobreakspace
6823 \vpageref[\unskip]{#1}%
6824 }%
6825 }%
6826 \def\vr@f#1{%
6827 \leavevmode\unskip\vref@space
6828 \begingroup
6829 \let\T@pageref\@pagerefstar
6830 \hyperref[#{1}]{%
6831 \ref*{#1}%
6832 \vpageref[\unskip]{#1}%
6833 }%
6834 \endgroup
6835 }%
6836 }{}%
6837 }
6838 \DeclareRobustCommand*\autopageref}{%
6839 \@ifstar{%
6840 \HyRef@autopagerefname\pageref*%
6841 }\HyRef@autopageref
6842 }
6843 \def\HyRef@autopageref#1{%
6844 \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%
6845 }
6846 \def\HyRef@autopagerefname{%
6847 \@ifundefined{pageautorefname}{%
6848 \@ifundefined{pagename}{%
6849 \Hy@Warning{No autoref name for 'page'}%
6850 }{}}%

```



```

6851     \pagename\nobreakspace
6852   }%
6853 }{%
6854   \pageautorefname\nobreakspace
6855 }%
6856 }
6857 \DeclareRobustCommand*{\autoref}{%
6858   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
6859 }
6860 \def\HyRef@autoref#1#2{%
6861   \begingroup
6862     \Hy@safe@activetrue
6863     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
6864   \endgroup
6865 }
6866 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
6867   \HyRef@ShowKeysRef{#2}%
6868   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6869     \edef\HyRef@thisref{%
6870       \expandafter\@fourthoffive#1\@empty\@empty\@empty
6871     }%
6872     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6873     \Hy@safe@activesfalse
6874     #3{%
6875       \expandafter\@fifthoffive#1\@empty\@empty\@empty
6876     }{%
6877       \expandafter\@fourthoffive#1\@empty\@empty\@empty
6878     }{%
6879       \HyRef@currentHtag
6880       \expandafter\@firstoffive#1\@empty\@empty\@empty
6881       \null
6882     }%
6883   \else
6884     \protect\G@refundefinedtrue
6885     \nfss@text{\reset@font\bfseries ??}%
6886     \@latex@warning{%
6887       Reference ‘#2’ on page \thepage\space undefined%
6888     }%
6889   \fi
6890 }
6891 \def\HyRef@testreftype#1.#2\{%
6892   \@ifundefined{#1autorefname}{%
6893     \@ifundefined{#1name}{%
6894       \HyRef@StripStar#1\*\@nil{#1}%
6895       \@ifundefined{\HyRef@name autorefname}{%
6896         \@ifundefined{\HyRef@name name}{%
6897           \def\HyRef@currentHtag{%
6898             \Hy@Warning{No autoref name for ‘#1’}%
6899           }{%
6900             \edef\HyRef@currentHtag{%
6901               \expandafter\noexpand\csname\HyRef@name name\endcsname
6902               \noexpand~%
6903             }%
6904           }%
6905         }{%
6906           \edef\HyRef@currentHtag{%
6907             \expandafter\noexpand\csname\HyRef@name autorefname\endcsname

```

```

6908         \noexpand~%
6909     }%
6910 }%
6911 }{%
6912     \edef\HyRef@currentHtag{%
6913         \expandafter\noexpand\csname#1name\endcsname
6914         \noexpand~%
6915     }%
6916 }%
6917 }{%
6918     \edef\HyRef@currentHtag{%
6919         \expandafter\noexpand\csname#1autorefname\endcsname
6920         \noexpand~%
6921     }%
6922 }%
6923 }
6924 \def\HyRef@StripStar#1*\#2\@nil#3{%
6925     \def\HyRef@name{#2}%
6926     \ifx\HyRef@name\HyRef@CaseStar
6927         \def\HyRef@name{#1}%
6928     \else
6929         \def\HyRef@name{#3}%
6930     \fi
6931 }
6932 \def\HyRef@CaseStar{*\\}
6933 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

6934 \let\HyRef@ShowKeysRef\@gobble
6935 \def\HyRef@ShowKeysInit{%
6936     \begingroup\expandafter\expandafter\expandafter\endgroup
6937     \expandafter\ifx\csname SK@@label\endcsname\relax
6938     \else
6939         \ifx\SK@ref\@empty
6940         \else
6941             \def\HyRef@ShowKeysRef{%
6942                 \SK@\SK@@ref
6943             }%
6944         \fi
6945     \fi
6946 }
6947 \@ifpackageloaded{showkeys}{%
6948     \HyRef@ShowKeysInit
6949 }{%
6950     \AtBeginDocument{%
6951         \@ifpackageloaded{showkeys}{%
6952             \HyRef@ShowKeysInit
6953         }{%
6954             }%
6955     }

```

Defaults for the names that \autoref uses.

```

6956 \providecommand*\AMSautorefname{\equationautorefname}
6957 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
6958 \providecommand*\Itemautorefname{\itemautorefname}
6959 \providecommand*\itemautorefname{item}

```

```

6960 \providecommand*\equationautorefname{Equation}
6961 \providecommand*\footnoteautorefname{footnote}
6962 \providecommand*\itemautorefname{item}
6963 \providecommand*\figureautorefname{Figure}
6964 \providecommand*\tableautorefname{Table}
6965 \providecommand*\partautorefname{Part}
6966 \providecommand*\appendixautorefname{Appendix}
6967 \providecommand*\chapterautorefname{chapter}
6968 \providecommand*\sectionautorefname{section}
6969 \providecommand*\subsectionautorefname{subsection}
6970 \providecommand*\subsubsectionautorefname{subsubsection}
6971 \providecommand*\paragraphautorefname{paragraph}
6972 \providecommand*\subparagraphautorefname{subparagraph}
6973 \providecommand*\FancyVerbLineautorefname{line}
6974 \providecommand*\theoremautorefname{Theorem}
6975 \providecommand*\pageautorefname{page}
6976 \end{package}

```

46 Configuration files

46.1 PS/PDF strings

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

`\Hy@pstringdef` Therefore such strings should be passed through `\Hy@pstringdef`. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdf_TE_X offers `\pdfescapestring`.

```

6977 <*pdfTex | dvipdfm | vtEx | pdfmarkbase | dviwindo>
6978 \RequirePackage{pdfTexcmds}[2009/04/10]
6979 \begingroup\expandafter\expandafter\expandafter\endgroup
6980 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
6981   \begingroup
6982     \catcode'\| =0 %
6983     \@makeother\| %
6984     |@firstofone{|endgroup
6985     |def|Hy@pstringdef#1#2{%
6986       |begingroup
6987         |edef~{|string~}%
6988         |xdef|Hy@gtemp{#2}%
6989       |endgroup
6990       |let#1|Hy@gtemp
6991       |@onelevel@sanitize#1%
6992       |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
6993       |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
6994       |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
6995     }%
6996     |def|Hy@ExchangeBackslash#1\#2|@nil{%
6997       #1%
6998       |ifx|\#2|\| %
6999       |else
7000         \| %
7001       |Hy@ReturnAfterFi{%
7002         |Hy@ExchangeBackslash#2|@nil
7003       }%

```

```

7004     |fi
7005   }%
7006 }%
7007 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
7008   #1%
7009   \ifx\#2\%
7010   \else
7011     \@backslashchar(%
7012     \Hy@ReturnAfterFi{%
7013       \Hy@ExchangeLeftParenthesis#2\@nil
7014     }%
7015   \fi
7016 }%
7017 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
7018   #1%
7019   \ifx\#2\%
7020   \else
7021     \@backslashchar)%
7022     \Hy@ReturnAfterFi{%
7023       \Hy@ExchangeRightParenthesis#2\@nil
7024     }%
7025   \fi
7026 }%
7027 \else
7028   \def\Hy@pstringdef#1#2{%
7029     \begingroup
7030     \edef~{\string~}%
7031     \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
7032     \endgroup
7033     \let#1\Hy@gtemp
7034   }%
7035 \fi
7036 </pdfTeX | dvipdfm | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

7037 < *pdfTeX>
7038 \providecommand*{\XR@ext}{pdf}
7039 \Hy@setbreaklinks{true}

```

This driver is for Han The Thanh's T_EX 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_EX 1.10a, 2003-01-16: \pdfoptionpdfminorversion
- pdfT_EX 1.30, 2005-08-08: \pdfminorversion

```

7040 \let\Hy@pdfminorversion\relax
7041 \begingroup\expandafter\expandafter\expandafter\endgroup
7042 \expandafter\ifx\csname pdfminorversion\endcsname\relax
7043   \begingroup\expandafter\expandafter\expandafter\endgroup
7044   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
7045     \else
7046       \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
7047     \fi
7048   \else
7049     \def\Hy@pdfminorversion{\pdfminorversion}%

```

```

7050 \fi
7051 \ifundefined{Hy@pdfminorversion}{%
7052   \PackageInfo{hyperref}{%
7053     PDF version is not set, because pdfTeX is too old (<1.10a)%
7054   }%
7055 }{%
7056   \ifHy@ocgcolorlinks
7057     \ifnum\Hy@pdfminorversion<5 %
7058       \setkeys{Hyp}{pdfversion=1.5}%
7059     \fi
7060   \fi
7061   \ifHy@setpdfversion
7062     \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
7063     \else
7064       \Hy@pdfminorversion=\Hy@pdfversion\relax
7065     \fi
7066     \PackageInfo{hyperref}{%
7067       \expandafter\string\Hy@pdfminorversion
7068       :=\number\Hy@pdfversion\space
7069     }%
7070   \fi
7071   \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
7072 }
7073 \Hy@DisableOption{pdfversion}%
7074 \ifHy@ocgcolorlinks
7075   \immediate\pdfobj{%
7076     <<%
7077       /Type/OCG%
7078       /Name(View)%
7079       /Usage<<%
7080         /Print<<%
7081           /PrintState/OFF%
7082         >>%
7083       /View<<%
7084         /ViewState/ON%
7085       >>%
7086     >>%
7087   }%
7088   \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
7089   \immediate\pdfobj{%
7090     <<%
7091       /Type/OCG%
7092       /Name(Print)%
7093       /Usage<<%
7094         /Print<<%
7095           /PrintState/ON%
7096         >>%
7097       /View<<%
7098         /ViewState/OFF%
7099       >>%
7100     >>%
7101   }%
7102   \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
7103   \immediate\pdfobj{%
7104     [%

```

```

7107     \OBJ@OCG@view\space\OBJ@OCG@print
7108   ]%
7109 }%
7110 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
7111 \pdfcatalog{%
7112   /OCProperties<<%
7113     /OCGs \OBJ@OCGs
7114   /D<<%
7115     /OFF[\OBJ@OCG@print]%
7116   /AS[%
7117     <<%
7118       /Event/View%
7119       /OCGs \OBJ@OCGs
7120       /Category[/View]%
7121     >>%
7122     <<%
7123       /Event/Print%
7124       /OCGs \OBJ@OCGs
7125       /Category[/Print]%
7126     >>%
7127     <<%
7128       /Event/Export%
7129       /OCGs \OBJ@OCGs
7130       /Category[/Print]%
7131     >>%
7132   ]%
7133 >>%
7134 >>%
7135 }%
7136 \beginngroup
7137   \edef\x{\endgroup
7138     \pdfpageresources{%
7139       /Properties<<%
7140         /OCView \OBJ@OCG@view
7141         /OCPrint \OBJ@OCG@print
7142       >>%
7143     }%
7144   }%
7145 \x
7146 \AtBeginDocument{%
7147   \def\Hy@colorlink#1{%
7148     \beginngroup
7149       \ifHy@ocgcolorlinks
7150         \def\Hy@ocgcolor{#1}%
7151         \setbox0=\color@hbox
7152       \else
7153         \HyColor@UseColor#1%
7154       \fi
7155     }%
7156   \def\Hy@endcolorlink{%
7157     \ifHy@ocgcolorlinks
7158       \color@endbox
7159     \mbox{%
7160       \pdfliteral page{/OC/OCPrint BDC}%
7161       \rlap{\copy0}%
7162       \pdfliteral page{EMC/OC/OCView BDC}%
7163     }%

```

```

7164         \expandafter\HyColor@UseColor\Hy@ocgcolor
7165         \box0 %
7166     \endgroup
7167     \pdfliteral page{EMC}%
7168 }%
7169 \fi
7170 \endgroup
7171 }%
7172 }%
7173 \else
7174 \Hy@DisableOption{ocgcolorlinks}%
7175 \fi

```

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

```

7176 \def\setpdflinkmargin#1{\pdflinkmargin#1}
7177 \ifx\pdfstartlink\undefined% less than version 14
7178 \let\pdfstartlink\pdfannotlink
7179 \let\pdflinkmargin\@tempdima
7180 \let\pdfxform\pdfform
7181 \let\pdflastxform\pdfastform
7182 \let\pdfrefxform\pdfreiform
7183 \else
7184 \pdflinkmargin1pt %
7185 \fi

```

First set up the default linking

```

7186 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

7187 \def\new@pdflink#1{%
7188 \ifHy@verbose
7189 \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
7190 \fi
7191 \Hy@SaveLastskip
7192 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7193 \Hy@DestName\Hy@pstringDest\@pdfview
7194 \Hy@RestoreLastskip
7195 }
7196 \let\pdf@endanchor\@empty

```

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

```

7197 \def\Hy@DestName#1#2{%
7198 \pdfdest name{#1}#2\relax
7199 }

```

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.

```

7200 \providecommand*\@pdfborder{0 0 1}
7201 \providecommand*\@pdfborderstyle{}
7202 \def\Hy@undefinedname{UNDEFINED}
7203 \def\find@pdflink#1#2{%
7204 \leavevmode
7205 \protected@edef\Hy@testname{#2}%
7206 \ifx\Hy@testname\@empty
7207 \Hy@Warning{%

```

```

7208      Empty destination name,\MessageBreak
7209      using '\Hy@undefinedname'%
7210    }%
7211    \let\Hy@testname\Hy@undefinedname
7212  \else
7213    \Hy@pstringdef\Hy@testname{%
7214      \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7215    }%
7216  \fi
7217  \Hy@StartlinkName{%
7218    \ifHy@pdfa /F 4\fi
7219    \Hy@setpdfborder
7220    \ifx\@pdfhighlight\@empty
7221      \else
7222        /H\@pdfhighlight
7223      \fi
7224      \ifx\CurrentBorderColor\relax
7225        \else
7226          /C[\CurrentBorderColor]%
7227        \fi
7228    }\Hy@testname
7229    \expandafter\Hy@colorlink\csname @#1color\endcsname
7230  }
7231  \def\Hy@StartlinkName#1#2{%
7232    \pdfstartlink attr{#1}goto name{#2}\relax
7233  }
7234  \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
7235  \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
7236  \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
7237  \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
7238  \def\hyper@linkstart#1#2{%
7239    \@ifundefined{@#1bordercolor}{%
7240      \let\CurrentBorderColor\relax
7241    }{%
7242      \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7243    }%
7244    \find@pdflink{#1}{#2}%
7245  }
7246  \def\hyper@linkend{\close@pdflink}
7247  \def\hyper@link#1#2#3{%
7248    \@ifundefined{@#1bordercolor}{%
7249      \let\CurrentBorderColor\relax
7250    }{%
7251      \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7252    }%
7253    \find@pdflink{#1}{#2}#3%
7254    \close@pdflink
7255  }
7256  \let\CurrentBorderColor\@linkbordercolor
7257  \def\hyper@linkurl#1#2{%
7258    \begingroup
7259      \Hy@pstringdef\Hy@pstringURI{#2}%
7260      \hyper@chars
7261      \leavevmode
7262      \pdfstartlink
7263        attr{%
7264          \Hy@setpdfborder

```



```

7265         \ifx\@pdfhighlight\@empty
7266         \else
7267             /H\@pdfhighlight
7268         \fi
7269         \ifx\@urlbordercolor\relax
7270         \else
7271             /C[\@urlbordercolor]%
7272         \fi
7273     }%
7274     user{%
7275         /Subtype/Link%
7276         \ifHy@pdfa /F 4\fi
7277         /A<<%
7278             /Type/Action%
7279             /S/URI%
7280             /URI(\Hy@pstringURI)%
7281         >>%
7282     }%
7283     \relax
7284     \Hy@colorlink\@urlcolor#1%
7285     \close@pdflink
7286 \endgroup
7287 }
7288 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7289     \begingroup
7290     \Hy@pstringdef\Hy@pstringF{#2}%
7291     \Hy@pstringdef\Hy@pstringD{#3}%
7292     \leavevmode
7293     \pdfstartlink
7294     attr{%
7295         \Hy@setpdfborder
7296         \ifx\@pdfhighlight\@empty
7297         \else
7298             /H\@pdfhighlight
7299         \fi
7300         \ifx\@filebordercolor\relax
7301         \else
7302             /C[\@filebordercolor]%
7303         \fi
7304     }%
7305     user {%
7306         /Subtype/Link%
7307         \ifHy@pdfa /F 4\fi
7308         /A<<%
7309             /F(\Hy@pstringF)%
7310             /S/GoToR%
7311         \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}

```

```

7312         \ifx\#3\%
7313         /D[0 \@pdfstartview]%
7314         \else
7315         /D(\Hy@pstringD)%
7316         \fi
7317     >>%
7318 }%
7319 \relax
7320 \Hy@colorlink\@filecolor#1%
7321 \close@pdflink
7322 \endgroup
7323 }
7324 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
7325 \begingroup
7326 \Hy@pstringdef\Hy@pstringF{#1}%
7327 \Hy@pstringdef\Hy@pstringP{#3}%
7328 \leavevmode
7329 \pdfstartlink
7330 attr{%
7331 \Hy@setpdfborder
7332 \ifx\@pdfhighlight\@empty
7333 \else
7334 /H\@pdfhighlight
7335 \fi
7336 \ifx\@runbordercolor\relax
7337 \else
7338 /C[\@runbordercolor]%
7339 \fi
7340 }%
7341 user {%
7342 /Subtype/Link%
7343 \ifHy@pdfa /F 4\fi
7344 /A<<%
7345 /F(\Hy@pstringF)%
7346 /S/Launch%
7347 \Hy@SetNewWindow
7348 \ifx\#3\%
7349 \else
7350 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7351 \fi
7352 >>%
7353 }%
7354 \relax
7355 \Hy@colorlink\@runcolor#2%
7356 \close@pdflink
7357 \endgroup
7358 }

\@pdfproducer

7359 \ifx\@pdfproducer\relax
7360 \begingroup\expandafter\expandafter\expandafter\endgroup
7361 \expandafter\ifx\csname luatexversion\endcsname\relax
7362 \def\@pdfproducer{pdfTeX}%
7363 \ifx\@pdfproducer\@undefined
7364 \else
7365 \ifx\@pdfproducer\relax
7366 \else

```

```

7367         \ifnum\TeXversion>0 %
7368         \def\@pdfproducer{pdfTeX}%
7369         \fi
7370     \fi
7371 \fi
7372 \ifx\pdfTeXversion\undefined
7373 \else
7374     \ifnum\pdfTeXversion<100 %
7375         \edef\@pdfproducer{%
7376             \@pdfproducer
7377             \the\pdfTeXversion.\pdfTeXrevision
7378         }%
7379     \else
7380         \ifnum\pdfTeXversion<130 %
7381             \edef\@pdfproducer{%
7382                 \@pdfproducer-
7383                 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7384                 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
7385                 \pdfTeXrevision
7386             }%
7387         \else
7388             \ifnum\pdfTeXversion<140 %
7389             \else
7390                 \def\@pdfproducer{pdfTeX}%
7391             \fi
7392             \edef\@pdfproducer{%
7393                 \@pdfproducer-
7394                 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7395                 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7396                 \pdfTeXrevision
7397             }%
7398         \fi
7399     \fi
7400 \fi
7401 \else
7402     \begingroup
7403     \count@=\luaTeXversion
7404     \divide\count@ by 100 %
7405     \edef\x{\the\count@}%
7406     \count@=-\x\relax
7407     \multiply\count@ by 100 %
7408     \advance\count@ by \luaTeXversion
7409     \edef\x{\endgroup
7410         \def\noexpand\@pdfproducer{%
7411             LuaTeX-\x.\the\count@.\luaTeXrevision
7412         }%
7413     }%
7414     \x
7415 \fi
7416 \fi

```

\PDF@SetupDox

```

7417 \def\PDF@SetupDoc{%
7418     \ifx\@pdfpagescrop\@empty
7419     \else
7420         \edef\process@me{%
7421             \pdfpagesattr={%

```

```

7422         /CropBox[\@pdfpagescrop]%
7423         \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
7424         \else
7425         ^^J\the\pdfpagesattr
7426         \fi
7427     }%
7428 }%
7429 \process@me
7430 \fi
7431 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7432 \pdfcatalog{%
7433     /PageMode/\@pdfpagemode
7434     \ifx\@baseurl\@empty
7435     \else
7436     /URI<</Base(\Hy@pstringB)>>%
7437     \fi
7438 }%
7439 \ifx\@pdfstartpage\@empty
7440 \else
7441     \ifx\@pdfstartview\@empty
7442     \else
7443     openaction goto page\@pdfstartpage{\@pdfstartview}%
7444     \fi
7445 \fi
7446 \edef\Hy@temp{%
7447     \ifHy@toolbar\else /HideToolbar true\fi
7448     \ifHy@menubar\else /HideMenubar true\fi
7449     \ifHy>windowui\else /HideWindowUI true\fi
7450     \ifHy@fitwindow /FitWindow true\fi
7451     \ifHy@centerwindow /CenterWindow true\fi
7452     \ifHy@displaydoctitle /DisplayDocTitle true\fi
7453     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7454     \Hy@UseNameKey{Direction}\@pdfdirection
7455     \Hy@UseNameKey{ViewArea}\@pdfviewarea
7456     \Hy@UseNameKey{ViewClip}\@pdfviewclip
7457     \Hy@UseNameKey{PrintArea}\@pdfprintarea
7458     \Hy@UseNameKey{PrintClip}\@pdfprintclip
7459     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7460     \Hy@UseNameKey{Duplex}\@pdfduplex
7461     \ifx\@pdfpicktraybypdfsize\@empty
7462     \else
7463     /PickTrayByPDFSize \@pdfpicktraybypdfsize
7464     \fi
7465     \ifx\@pdfprintpagerange\@empty
7466     \else
7467     /PrintPageRange[\@pdfprintpagerange]%
7468     \fi
7469     \ifx\@pdfnumcopies\@empty
7470     \else
7471     /NumCopies \@pdfnumcopies
7472     \fi
7473 }%
7474 \pdfcatalog{%
7475     \ifx\Hy@temp\@empty
7476     \else
7477     /ViewerPreferences<<\Hy@temp>>%
7478     \fi

```

```

7479 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7480 \ifx\@pdflang\@empty
7481 \else
7482 /Lang(\@pdflang)%
7483 \fi
7484 }%
7485 }

```

\PDF@FinishDoc

```

7486 \def\PDF@FinishDoc{%
7487 \Hy@UseMaketitleInfos
7488 \pdfinfo{%
7489 /Author(\@pdfauthor)%
7490 /Title(\@pdftitle)%
7491 /Subject(\@pdfsubject)%
7492 /Creator(\@pdfcreator)%
7493 \ifx\@pdfcreationdate\@empty
7494 \else
7495 /CreationDate(\@pdfcreationdate)%
7496 \fi
7497 \ifx\@pdfmoddate\@empty
7498 \else
7499 /ModDate(\@pdfmoddate)%
7500 \fi
7501 \ifx\@pdfproducer\relax
7502 \else
7503 /Producer(\@pdfproducer)%
7504 \fi
7505 /Keywords(\@pdfkeywords)%
7506 }%
7507 \Hy@DisableOption{pdfauthor}%
7508 \Hy@DisableOption{pdftitle}%
7509 \Hy@DisableOption{pdfsubject}%
7510 \Hy@DisableOption{pdfcreator}%
7511 \Hy@DisableOption{pdfcreationdate}%
7512 \Hy@DisableOption{pdfmoddate}%
7513 \Hy@DisableOption{pdfproducer}%
7514 \Hy@DisableOption{pdfkeywords}%
7515 }

```

\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.

```

7516 \def\hyper@pagetransition{%
7517 \ifx\@pdfpagetransition\relax
7518 \else
7519 \expandafter\Hy@RemoveTransPageAttr
7520 \the\pdfpageattr^^J/Trans{}}>>\END
7521 \ifx\@pdfpagetransition\@empty
7522 \else
7523 \edef\@processme{%
7524 \global\pdfpageattr{%
7525 \the\pdfpageattr
7526 ^^J/Trans << /S /\@pdfpagetransition\space >>%
7527 }%
7528 }%
7529 \@processme

```

```

7530    \fi
7531    \fi
7532 }

```

\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.

```

7533 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7534   \ifx\#2\%
7535     \global\pdfpageattr{#1}%
7536   \else
7537     \Hy@RemoveTransPageAttr#1#4\END
7538   \fi
7539 }

```

\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`.

```

7540 \def\hyper@pageduration{%
7541   \ifx\@pdfpageduration\relax
7542   \else
7543     \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
7544     \ifx\@pdfpageduration\@empty
7545     \else
7546       \edef\@processme{%
7547         \global\pdfpageattr{%
7548           \the\pdfpageattr
7549           ^^J/Dur \@pdfpageduration\space
7550         }%
7551       }%
7552       \@processme
7553     \fi
7554   \fi
7555 }

```

\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.

```

7556 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7557   \ifx\#2\%
7558     \global\pdfpageattr{#1}%
7559   \else
7560     \Hy@RemoveDurPageAttr#1#4\END
7561   \fi
7562 }

```

\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).

```

7563 \def\hyper@pagehidden{%
7564   \ifHy@useHidKey
7565     \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7566     \ifHy@pdfpagehidden
7567       \edef\@processme{%

```

```

7568      \global\pdfpageattr{%
7569      \the\pdfpageattr
7570      ^^J/Hid true % SPACE
7571      }%
7572      }%
7573      \@processme
7574      \fi
7575      \fi
7576      }

```

`\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.

```

7577 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7578   \ifx\#2\%
7579     \global\pdfpageattr{#1}%
7580   \else
7581     \Hy@RemoveHidPageAttr#1#4\END
7582   \fi
7583 }

7584 \g@addto@macro\Hy@EveryPageHook{%
7585   \hyper@pagetransition
7586   \hyper@pageduration
7587   \hyper@pagehidden
7588 }

7589 \AtBeginDocument{%
7590   \ifHy@setpagesize
7591     \expandafter\@firstofone
7592   \else
7593     \expandafter\@gobble
7594   \fi
7595   {%
7596     \@ifclassloaded{seminar}{%
7597       \setlength{\pdfhorigin}{1truein}%
7598       \setlength{\pdfvorigin}{1truein}%
7599       \ifportrait
7600         \ifdim\paperwidth=\z@
7601         \else
7602           \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7603         \fi
7604         \ifdim\paperheight=\z@
7605         \else
7606           \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7607         \fi
7608       \else
7609         \ifdim\paperheight=\z@
7610         \else
7611           \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7612         \fi
7613         \ifdim\paperwidth=\z@
7614         \else
7615           \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7616         \fi
7617       \fi
7618     }%

```

```

7619 \@ifundefined{stockwidth}{%
7620 \ifdim\paperwidth=\z@
7621 \else
7622 \setlength{\pdfpagewidth}{\paperwidth}%
7623 \fi
7624 \ifdim\paperheight=\z@
7625 \else
7626 \setlength{\pdfpageheight}{\paperheight}%
7627 \fi
7628 }{%
7629 \ifdim\stockwidth=\z@
7630 \else
7631 \setlength{\pdfpagewidth}{\stockwidth}%
7632 \fi
7633 \ifdim\stockheight=\z@
7634 \else
7635 \setlength{\pdfpageheight}{\stockheight}%
7636 \fi
7637 }%
7638 }%
7639 }%
7640 \Hy@DisableOption{setpagesize}%
7641 }
7642 \def\Acrobatmenu#1#2{%
7643 \Hy@Acrobatmenu{#1}{#2}{%
7644 \pdfstartlink
7645 attr{%
7646 \Hy@setpdfborder
7647 \ifx\@pdfhighlight\@empty
7648 \else
7649 /H\@pdfhighlight
7650 \fi
7651 \ifx\@menubordercolor\relax
7652 \else
7653 /C[\@menubordercolor]%
7654 \fi
7655 }%
7656 user{%
7657 /Subtype/Link%
7658 \ifHy@pdfa /F 4\fi
7659 /A<<%
7660 /S/Named/N/#1%
7661 >>%
7662 }%
7663 \relax
7664 \Hy@colorlink\@menucolor#2%
7665 \close@pdflink
7666 }%
7667 }

```

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. How-

ever it's easier to add an additional box level for the pages after the first one. Also `\AtBeginShipoutFirst` could be invoked independently from `hyperref`.

```

7668 \def\Hy@FixNotFirstPage{%
7669   \gdef\Hy@FixNotFirstPage{%
7670     \setbox\AtBeginShipoutBox=\hbox{%
7671       \copy\AtBeginShipoutBox
7672     }%
7673   }%
7674 }
7675 \AtBeginShipout{\Hy@FixNotFirstPage}
7676 \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:`

name: `html:`

end: `html:`

image: `html:`

base_name: `html:<base href = "href_string">`

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

The *href* and *name* commands must be paired with an *end* command later in the `TeX` file — the `TeX` commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href_string*. The *anchor* associated with a name command represents a possible location to which other hypertext links may refer, either as local references (of the form `href="#name_string"` with the *name_string* identical to the one in the name command) or as part of a URL (of the form `URL#name_string`). Here *href_string* is a valid URL or local identifier, while *name_string* could be any string at all: the only caveat is that `'` characters should be escaped with a backslash (`\`), and if it looks like a URL name it may cause problems.

```

7677 \*hypertext
7678 \providecommand*\XR@ext{}{dvi}
7679 \def\PDF@FinishDoc{}
7680 \def\PDF@SetupDoc{%
7681   \ifx\@baseurl\@empty
7682   \else
7683     \special{html:<base href="\@baseurl">}%
7684   \fi
7685 }
7686 \def\hyper@anchor#1{%
7687   \Hy@SaveLastskip

```

```

7688 \begingroup
7689   \let\protect=\string
7690   \hyper@chars
7691   \special{html:<a name=%
7692     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7693 \endgroup
7694 \Hy@activeanchortrue
7695 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7696 \special{html:</a>}%
7697 \Hy@activeanchorfalse
7698 \Hy@RestoreLastskip
7699 }
7700 \def\hyper@anchorstart#1{%
7701   \Hy@SaveLastskip
7702   \begingroup
7703     \hyper@chars
7704     \special{html:<a name=%
7705       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7706   \endgroup
7707   \Hy@activeanchortrue
7708 }
7709 \def\hyper@anchorend{%
7710   \special{html:</a>}%
7711   \Hy@activeanchorfalse
7712   \Hy@RestoreLastskip
7713 }
7714 \def\@urltype{url}
7715 \def\hyper@linkstart#1#2{%
7716   \expandafter\Hy@colorlink\csname @#1color\endcsname
7717   \def\Hy@tempa{#1}%
7718   \ifx\Hy@tempa\@urltype
7719     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7720   \else
7721     \begingroup
7722       \hyper@chars
7723       \special{html:<a href=%
7724         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
7725     \endgroup
7726   \fi
7727 }
7728 \def\hyper@linkend{%
7729   \special{html:</a>}%
7730   \Hy@endcolorlink
7731 }
7732 \def\hyper@linkfile#1#2#3{%
7733   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
7734 }
7735 \def\hyper@linkurl#1#2{%

```

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

```

7736 \leavevmode
7737 \ifHy@raiselinks
7738   \setbox\@tempboxa=\color@hbox #1\color@endbox
7739   \@linkdim\dp\@tempboxa
7740   \lower\@linkdim\hbox{%
7741     \hyper@chars

```

```

7742     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7743   }%
7744   \Hy@colorlink\@urlcolor#1%
7745   \@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).

```

7746   \advance\@linkdim by -6.5\p@
7747   \raise\@linkdim\hbox{\special{html:</a>}}%
7748   \Hy@endcolorlink
7749 \else
7750 \begingroup
7751   \hyper@chars
7752   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7753   \Hy@colorlink\@urlcolor#1%
7754   \special{html:</a>}}%
7755   \Hy@endcolorlink
7756 \endgroup
7757 \fi
7758 }

```

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

```

7759 \def\hyper@link#1#2#3{%
7760   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}}%
7761 }

7762 \def\hyper@image#1#2{%
7763   \begingroup
7764     \hyper@chars
7765     \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
7766   \endgroup
7767 }
7768 </hypertex>
7769 <*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.

```

7770 \providecommand*\XR@ext{dvi}
7771 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
7772 \def\hyper@anchor#1{%
7773   \Hy@SaveLastskip
7774   \begingroup
7775     \let\protect=\string
7776     \special{mark: #1}%
7777   \endgroup
7778   \Hy@activeanchortrue

```

```

7779 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7780 \Hy@activeanchorfalse
7781 \Hy@RestoreLastskip
7782 }
7783 \def\hyper@anchorstart#1{%
7784 \Hy@SaveLastskip
7785 \special{mark: #1}%
7786 \Hy@activeanchortrue
7787 }
7788 \def\hyper@anchorend{%
7789 \Hy@activeanchorfalse
7790 \Hy@RestoreLastskip
7791 }
7792 \def\hyper@linkstart#1#2{%
7793 \expandafter\Hy@colorlink\csname @#1color\endcsname
7794 \special{button: %
7795 10000000 %
7796 \number\baselineskip\space
7797 #2%
7798 }%
7799 }
7800 \def\hyper@linkend{%
7801 \Hy@endcolorlink
7802 }
7803 \def\hyper@link#1#2#3{%
7804 \setbox\@tempboxa=\color@hbox #3\color@endbox
7805 \leavevmode
7806 \ifHy@raiselinks
7807 \@linkdim\dp\@tempboxa
7808 \lower\@linkdim\hbox{%
7809 \special{button: %
7810 \number\wd\@tempboxa\space
7811 \number\ht\@tempboxa\space
7812 #2%
7813 }%
7814 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7815 \Hy@endcolorlink
7816 }%
7817 \@linkdim\ht\@tempboxa
7818 \advance\@linkdim by -6.5\p@
7819 \raise\@linkdim\hbox{}%
7820 \else
7821 \special{button: %
7822 \number\wd\@tempboxa\space
7823 \number\ht\@tempboxa\space
7824 #2%
7825 }%
7826 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7827 \Hy@endcolorlink
7828 \fi
7829 }
7830 \def\hyper@linkurl#1#2{%
7831 \begingroup
7832 \hyper@chars
7833 \leavevmode
7834 \setbox\@tempboxa=\color@hbox #1\color@endbox
7835 \ifHy@raiselinks

```

```

7836 \@linkdim\dp\@tempboxa
7837 \lower\@linkdim\hbox{%
7838 \special{button: %
7839 \number\wd\@tempboxa\space
7840 \number\ht\@tempboxa\space
7841 launch: \wwwbrowser\space
7842 #2%
7843 }%
7844 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7845 }%
7846 \@linkdim\ht\@tempboxa
7847 \advance\@linkdim by -6.5\p@
7848 \raise\@linkdim\hbox{%
7849 \else
7850 \special{button: %
7851 \number\wd\@tempboxa\space
7852 \number\ht\@tempboxa\space
7853 launch: \wwwbrowser\space
7854 #2%
7855 }%
7856 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7857 \fi
7858 \endgroup
7859 }
7860 \def\hyper@linkfile#1#2#3{%
7861 \begingroup
7862 \hyper@chars
7863 \leavevmode
7864 \setbox\@tempboxa=\color@hbox #1\color@endbox
7865 \ifHy@raiselinks
7866 \@linkdim\dp\@tempboxa
7867 \lower\@linkdim\hbox{%
7868 \special{button: %
7869 \number\wd\@tempboxa\space
7870 \number\ht\@tempboxa\space
7871 #3,%
7872 file: #2%
7873 }%
7874 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7875 }%
7876 \@linkdim\ht\@tempboxa
7877 \advance\@linkdim by -6.5\p@
7878 \raise\@linkdim\hbox{%
7879 \else
7880 \special{button: %
7881 \number\wd\@tempboxa\space
7882 \number\ht\@tempboxa\space
7883 #3,%
7884 file: #2%
7885 }%
7886 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7887 \fi
7888 \endgroup
7889 }
7890 \ifx\@pdfproducer\relax
7891 \def\@pdfproducer{dviwindo + Distiller}%
7892 \fi

```

```

7893 \def\PDF@FinishDoc{%
7894   \Hy@UseMaketitleInfos
7895   \special{PDF: Keywords \@pdfkeywords}%
7896   \special{PDF: Title \@pdftitle}%
7897   \special{PDF: Creator \@pdfcreator}%
7898   \ifx\@pdfcreationdate\@empty
7899   \else
7900     \special{PDF: CreationDate \@pdfcreationdate}%
7901   \fi
7902   \ifx\@pdfmoddate\@empty
7903   \else
7904     \special{PDF: ModDate \@pdfmoddate}%
7905   \fi
7906   \special{PDF: Author \@pdfauthor}%
7907   \ifx\@pdfproducer\relax
7908   \else
7909     \special{PDF: Producer \@pdfproducer}%
7910   \fi
7911   \special{PDF: Subject \@pdfsubject}%
7912   \Hy@DisableOption{pdfauthor}%
7913   \Hy@DisableOption{pdftitle}%
7914   \Hy@DisableOption{pdfsubject}%
7915   \Hy@DisableOption{pdfcreator}%
7916   \Hy@DisableOption{pdfcreationdate}%
7917   \Hy@DisableOption{pdfmoddate}%
7918   \Hy@DisableOption{pdfproducer}%
7919   \Hy@DisableOption{pdfkeywords}%
7920 }
7921 \def\PDF@SetupDoc{%
7922   \ifx\@baseurl\@empty
7923   \else
7924     \special{PDF: Base \@baseurl}%
7925   \fi
7926   \ifx\@pdfpagescrop\@empty\else
7927     \special{PDF: BBox \@pdfpagescrop}%
7928   \fi
7929   \def\Hy@temp{%
7930     \ifx\@pdfstartpage\@empty
7931     \else
7932       \ifx\@pdfstartview\@empty
7933       \else
7934         \edef\Hy@temp{%
7935           ,Page=\@pdfstartpage
7936           ,View=\@pdfstartview
7937         }%
7938       \fi
7939     \fi
7940     \edef\Hy@temp{%
7941       \noexpand\pdfmark{%
7942         pdfmark=/DOCVIEW,%
7943         PageMode=/\@pdfpagemode
7944         \Hy@temp
7945       }%
7946     }%
7947     \Hy@temp
7948     \ifx\@pdfpagescrop\@empty
7949     \else

```

```

7950 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7951 \fi
7952 \edef\Hy@temp{%
7953 \ifHy@toolbar\else /HideToolbar true\fi
7954 \ifHy@menubar\else /HideMenubar true\fi
7955 \ifHy>windowui\else /HideWindowUI true\fi
7956 \ifHy@fitwindow /FitWindow true\fi
7957 \ifHy@centerwindow /CenterWindow true\fi
7958 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7959 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7960 \Hy@UseNameKey{Direction}\@pdfdirection
7961 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7962 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7963 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7964 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7965 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7966 \Hy@UseNameKey{Duplex}\@pdfduplex
7967 \ifx\@pdfpicktraybypdfsize\@empty
7968 \else
7969 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7970 \fi
7971 \ifx\@pdfprintpagerange\@empty
7972 \else
7973 /PrintPageRange[\@pdfprintpagerange]%
7974 \fi
7975 \ifx\@pdfnumcopies\@empty
7976 \else
7977 /NumCopies \@pdfnumcopies
7978 \fi
7979 }%
7980 \pdfmark{pdfmark=/PUT,%
7981 Raw={%
7982 \string{Catalog}\string}<<%
7983 \ifx\Hy@temp\@empty
7984 \else
7985 /ViewerPreferences<<\Hy@temp>>%
7986 \fi
7987 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7988 \ifx\@pdflang\@empty
7989 \else
7990 /Lang(\@pdflang)%
7991 \fi
7992 >>%
7993 }%
7994 }%
7995 }
7996 </dviwindo>
7997 <*dvi pdfm>

```

46.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

7998 \providecommand*{\XR@ext}{pdf}
7999 \Hy@setbreaklinks{true}
8000 \newsavebox{\pdfm@box}
8001 \def\@pdfm@mark#1{\special{pdf:#1}}
8002 \def\@pdfm@dest#1{%

```

```

8003 \Hy@SaveLastskip
8004 \begingroup
8005 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8006 \def\x{XYZ}%
8007 \ifx\x\pdfview
8008 \def\x{XYZ @xpos @ypos null}%
8009 \else
8010 \def\x{FitH}%
8011 \ifx\x\pdfview
8012 \def\x{FitH @ypos}%
8013 \else
8014 \def\x{FitBH}%
8015 \ifx\x\pdfview
8016 \def\x{FitBH @ypos}%
8017 \else
8018 \def\x{FitV}%
8019 \ifx\x\pdfview
8020 \def\x{FitV @xpos}%
8021 \else
8022 \def\x{FitBV}%
8023 \ifx\x\pdfview
8024 \def\x{FitBV @xpos}%
8025 \else
8026 \def\x{Fit}%
8027 \ifx\x\pdfview
8028 \let\x\pdfview
8029 \else
8030 \def\x{FitB}%
8031 \ifx\x\pdfview
8032 \let\x\pdfview
8033 \else
8034 \def\x{FitR}%
8035 \ifx\x\pdfview
8036 \Hy@Warning{'pdfview=FitR' is not supported}%
8037 \def\x{XYZ @xpos @ypos null}%
8038 \else
8039 \@onelevel@sanitize\pdfview
8040 \Hy@Warning{Unknown value '\pdfview' for pdfview}%
8041 \def\x{XYZ @xpos @ypos null}%
8042 \fi
8043 \fi
8044 \fi
8045 \fi
8046 \fi
8047 \fi
8048 \fi
8049 \fi
8050 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
8051 \endgroup
8052 \Hy@RestoreLastskip
8053 }
8054 \providecommand*\pdfview{XYZ}
8055 \providecommand*\pdfborder{0 0 1}
8056 \providecommand*\pdfborderstyle{}
8057 \def\hyper@anchor#1{%
8058 \pdfm@dest{#1}%
8059 }

```



```

8060 \def\hyper@anchorstart#1{%
8061   \Hy@activeanchortrue
8062   \@pdfm@dest{#1}%
8063 }
8064 \def\hyper@anchorend{%
8065   \Hy@activeanchorfalse
8066 }
8067 \newcounter{Hy@AnnotLevel}
8068 \ifHy@ocgcolorlinks
8069   \def\OBJ@OCG@view{@OCG@view}%
8070   \@pdfm@mark{%
8071     obj \OBJ@OCG@view <<%
8072       /Type/OCG%
8073       /Name(View)%
8074       /Usage<<%
8075       /Print<<%
8076       /PrintState/OFF%
8077       >>%
8078       /View<<%
8079       /ViewState/ON%
8080       >>%
8081     >>%
8082   >>%
8083 }%
8084 \@pdfm@mark{close \OBJ@OCG@view}%
8085 \def\OBJ@OCG@print{@OCG@print}%
8086 \@pdfm@mark{%
8087   obj \OBJ@OCG@print <<%
8088     /Type/OCG%
8089     /Name(Print)%
8090     /Usage<<%
8091     /Print<<%
8092     /PrintState/ON%
8093     >>%
8094     /View<<%
8095     /ViewState/OFF%
8096     >>%
8097   >>%
8098   >>%
8099 }%
8100 \@pdfm@mark{close \OBJ@OCG@print}%
8101 \def\OBJ@OCGs{@OCGs}%
8102 \@pdfm@mark{%
8103   obj \OBJ@OCGs [%
8104     \OBJ@OCG@view\space\OBJ@OCG@print
8105   ]%
8106 }%
8107 \@pdfm@mark{close \OBJ@OCGs}%
8108 \@pdfm@mark{%
8109   put @catalog <<%
8110     /OCProperties<<%
8111     /OCGs \OBJ@OCGs
8112     /D<<%
8113     /OFF[\OBJ@OCG@print]%
8114     /AS[%
8115       <<%
8116       /Event/View%

```

```

8117         /OCGs \OBJ@OCGs
8118         /Category[/View]%
8119     >>%
8120     <<%
8121         /Event/Print%
8122         /OCGs \OBJ@OCGs
8123         /Category[/Print]%
8124     >>%
8125     <<%
8126         /Event/Export%
8127         /OCGs \OBJ@OCGs
8128         /Category[/Print]%
8129     >>%
8130 ]%
8131 >>%
8132 >>%
8133 >>%
8134 }%
8135 \AtBeginShipout{%
8136     \setbox\AtBeginShipoutBox=\hbox{%
8137         \copy\AtBeginShipoutBox
8138         \@pdfm@mark{%
8139             put @resources <<%
8140                 /Properties<<%
8141                 /OCView \OBJ@OCG@view
8142                 /OCPrint \OBJ@OCG@print
8143             >>%
8144             >>%
8145         }%
8146     }%
8147 }%
8148 \AtBeginDocument{%
8149     \def\Hy@colorlink#1{%
8150         \begingroup
8151         \ifHy@ocgcolorlinks
8152             \def\Hy@ocgcolor{#1}%
8153             \setbox0=\color@hbox
8154         \else
8155             \HyColor@UseColor#1%
8156         \fi
8157     }%
8158     \def\Hy@endcolorlink{%
8159         \ifHy@ocgcolorlinks
8160             \color@endbox
8161             \mbox{%
8162                 \@pdfm@mark{content /OC/OCPrint BDC}%
8163                 \rlap{\copy0}%
8164                 \@pdfm@mark{content EMC/OC/OCView BDC}%
8165             \begingroup
8166                 \expandafter\HyColor@UseColor\Hy@ocgcolor
8167                 \box0 %
8168             \endgroup
8169             \@pdfm@mark{content EMC}%
8170         }%
8171         \fi
8172     \endgroup
8173 }%

```

```

8174 }%
8175 \else
8176   \Hy@DisableOption{ocgcolorlinks}%
8177 \fi

8178 \def\Hy@BeginAnnot#1{%
8179   \stepcounter{Hy@AnnotLevel}%
8180   \ifnum\value{Hy@AnnotLevel}=\@ne
8181     #1%
8182   \fi
8183 }
8184 \def\Hy@endAnnot{%
8185   \ifnum\value{Hy@AnnotLevel}=\@ne
8186     \Hy@endcolorlink
8187     \@pdfm@mark{eann}%
8188   \fi
8189   \addtocounter{Hy@AnnotLevel}\m@ne
8190 }

8191 \def\Hy@undefinedname{UNDEFINED}
8192 \def\hyper@linkstart#1#2{%
8193   \Hy@BeginAnnot{%
8194     \protected@edef\Hy@testname{#2}%
8195     \ifx\Hy@testname\@empty
8196       \Hy@Warning{%
8197         Empty destination name,\MessageBreak
8198         using '\Hy@undefinedname'%
8199       }%
8200       \let\Hy@testname\Hy@undefinedname
8201     \else
8202       \Hy@pstringdef\Hy@testname{%
8203         \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8204       }%
8205     \fi
8206     \@pdfm@mark{%
8207       bann<<%
8208         /Type/Annot%
8209         /Subtype/Link%
8210         \ifHy@pdfa /F 4\fi
8211         \Hy@setpdfborder
8212         \expandafter\ifx\csname @#1bordercolor\endcsname\relax
8213         \else
8214           /C[\csname @#1bordercolor\endcsname]%
8215         \fi
8216         /A<<%
8217         /S/GoTo%
8218         /D(\Hy@testname)%
8219         >>%
8220       >>%
8221     }%
8222     \expandafter\Hy@colorlink\csname @#1color\endcsname
8223   }%
8224 }
8225 \def\hyper@linkend{\Hy@endAnnot}%
8226 \def\hyper@link#1#2#3{%
8227   \hyper@linkstart{#1}{#2}#3\hyper@linkend
8228 }
8229 \def\hyper@linkfile#1#2#3{%
8230   \leavevmode

```

```

8231 \Hy@BeginAnnot{%
8232   \Hy@pstringdef\Hy@pstringF{#2}%
8233   \Hy@pstringdef\Hy@pstringD{#3}%
8234   \@pdfm@mark{%
8235     bann<<%
8236     /Type/Annot%
8237     /Subtype/Link%
8238     \ifHy@pdfa /F 4\fi
8239     \Hy@setpdfborder
8240     \ifx\@filebordercolor\relax
8241     \else
8242       /C[\@filebordercolor]%
8243     \fi
8244     /A<<%
8245     /S/GoToR%
8246     /F(\Hy@pstringF)%
8247     /D\ifx\#3\[\[O \@pdfstartview\]\else(\Hy@pstringD)\fi
8248     \Hy@SetNewWindow
8249     >>%
8250   >>%
8251  }%
8252   \Hy@colorlink\@filecolor
8253 }%
8254 #1%
8255 \Hy@endAnnot
8256 }
8257 \def\hyper@linkurl#1#2{%
8258   \leavevmode
8259   \Hy@BeginAnnot{%
8260     \Hy@pstringdef\Hy@pstringURI{#2}%
8261     \@pdfm@mark{%
8262       bann<<%
8263       /Type/Annot%
8264       /Subtype/Link%
8265       \ifHy@pdfa /F 4\fi
8266       \Hy@setpdfborder
8267       \ifx\@urlbordercolor\relax
8268       \else
8269         /C[\@urlbordercolor]%
8270       \fi
8271       /A<<%
8272       /S/URI%
8273       /URI(\Hy@pstringURI)%
8274       >>%
8275     >>%
8276    }%
8277     \Hy@colorlink\@urlcolor
8278   }%
8279   #1%
8280   \Hy@endAnnot
8281 }
8282 \def\Acrobatmenu#1#2{%
8283   \Hy@Acrobatmenu{#1}{#2}{%
8284     \Hy@BeginAnnot{%
8285       \@pdfm@mark{%
8286         bann<<%
8287         /Type/Annot%

```

```

8288         /Subtype/Link%
8289         \ifHy@pdfa /F 4\fi
8290         /A<<%
8291         /S/Named%
8292         /N/#1%
8293         >>%
8294         \Hy@setpdfborder
8295         \ifx\@menubordercolor\relax
8296         \relax
8297         /C[\@menubordercolor]%
8298         \fi
8299         >>%
8300     }%
8301     \Hy@colorlink\@menucolor
8302 }%
8303 #2%
8304 \Hy@endAnnot
8305 }%
8306 }
8307 \ifx\@pdfproducer\relax
8308 \def\@pdfproducer{dvipdfm}%

```

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

```

8309 \begingroup\expandafter\expandafter\expandafter\endgroup
8310 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8311 \else
8312 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8313 \fi
8314 \fi
8315 \def\PDF@FinishDoc{%
8316 \Hy@UseMaketitleInfos
8317 \@pdfm@mark{%
8318 docinfo<<%
8319 /Title(\@pdftitle)%
8320 /Subject(\@pdfsubject)%
8321 /Creator(\@pdfcreator)%
8322 \ifx\@pdfcreationdate\@empty
8323 \else
8324 /CreationDate(\@pdfcreationdate)%
8325 \fi
8326 \ifx\@pdfmoddate\@empty
8327 \else
8328 /ModDate(\@pdfmoddate)%
8329 \fi
8330 /Author(\@pdfauthor)%
8331 \ifx\@pdfproducer\relax
8332 \else
8333 /Producer(\@pdfproducer)%
8334 \fi
8335 /Keywords(\@pdfkeywords)%
8336 >>%
8337 }%
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 }

8347 \def\PDF@SetupDoc{%
8348 \edef\Hy@temp{%
8349 \ifHy@toolbar\else /HideToolbar true\fi
8350 \ifHy@menubar\else /HideMenubar true\fi
8351 \ifHy>windowui\else /HideWindowUI true\fi
8352 \ifHy@fitwindow /FitWindow true\fi
8353 \ifHy@centerwindow /CenterWindow true\fi
8354 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8355 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8356 \Hy@UseNameKey{Direction}\@pdfdirection
8357 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8358 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8359 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8360 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8361 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8362 \Hy@UseNameKey{Duplex}\@pdfduplex
8363 \ifx\@pdfpicktraybypdfsize\@empty
8364 \else
8365 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8366 \fi
8367 \ifx\@pdfprintpagerange\@empty
8368 \else
8369 /PrintPageRange[\@pdfprintpagerange]%
8370 \fi
8371 \ifx\@pdfnumcopies\@empty
8372 \else
8373 /NumCopies \@pdfnumcopies
8374 \fi
8375 }%
8376 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8377 \@pdfm@mark{%
8378 docview<<%
8379 \ifx\@pdfstartpage\@empty
8380 \else
8381 \ifx\@pdfstartview\@empty
8382 \else
8383 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
8384 \fi
8385 \fi
8386 \ifx\@baseurl\@empty
8387 \else
8388 /URI<</Base(\Hy@pstringB)>>%
8389 \fi
8390 /PageMode/\@pdfpagemode
8391 \ifx\Hy@temp\@empty
8392 \else
8393 /ViewerPreferences<<\Hy@temp>>%
8394 \fi
8395 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8396 \ifx\@pdflang\@empty
8397 \else
8398 /Lang(\@pdflang)%
8399 \fi
8400 >>%

```

```

8401 }%
8402 \ifx\@pdfpagescrop\@empty
8403 \else
8404   \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
8405 \fi
8406 }

8407 \AtBeginShipoutFirst{%
8408   \ifHy@setpagesize
8409     \begingroup
8410       \@ifundefined{stockwidth}{%
8411         \ifx\special@paper\@empty
8412           \special{papersize=\the\paperwidth,\the\paperheight}%
8413         \else
8414           \special{papersize=\special@paper}%
8415         \fi
8416       }{%
8417         \ifdim\stockwidth=\z@
8418         \else
8419           \special{papersize=\the\stockwidth,\the\stockheight}%
8420         \fi
8421       }%
8422     \endgroup
8423 \fi
8424 \Hy@DisableOption{setpagesize}%
8425 }
8426 </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.

```

8427 <*vtexhtml>
8428 \providecommand*{\XR@ext}{htm}
8429 \RequirePackage{vtexhtml}
8430 \newif\if@Localurl
8431 \def\PDF@FinishDoc{}
8432 \def\PDF@SetupDoc{%
8433   \ifx\@baseurl\@empty
8434   \else
8435     \special{!direct <base href="\@baseurl">}%
8436   \fi
8437 }
8438 \def\@urltype{url}
8439 \def\hyper@link#1#2#3{%
8440   \leavevmode
8441   \special{!direct <a href=%
8442     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8443   #3%
8444   \special{!direct </a>}%
8445 }
8446 \def\hyper@linkurl#1#2{%
8447   \begingroup
8448     \hyper@chars
8449     \leavevmode
8450     \MathBSuppress=1\relax
8451     \special{!direct <a href=%

```

```

8452      \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8453      #1%
8454      \MathBSuppress=0\relax
8455      \special{!direct </a>}%
8456 \endgroup
8457 }
8458 \def\hyper@linkfile#1#2#3{%
8459 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
8460 }
8461 \def\hyper@linkstart#1#2{%
8462 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8463 \@Localurltrue
8464 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8465 \else
8466 \@Localurlfalse
8467 \begingroup
8468 \hyper@chars
8469 \special{!aref \HyperDestNameFilter{#2}}}%
8470 \endgroup
8471 \fi
8472 }
8473 \def\hyper@linkend{%
8474 \if@Localurl
8475 \special{!endaref}%
8476 \else
8477 \special{!direct </a>}%
8478 \fi
8479 }
8480 \def\hyper@anchorstart#1{%
8481 \Hy@SaveLastskip
8482 \begingroup
8483 \hyper@chars
8484 \special{!aname #1}%
8485 \special{!direct <a name=%
8486 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8487 \endgroup
8488 \Hy@activeanchortrue
8489 }
8490 \def\hyper@anchorend{%
8491 \special{!direct </a>}%
8492 \Hy@activeanchorfalse
8493 \Hy@RestoreLastskip
8494 }
8495 \def\hyper@anchor#1{%
8496 \Hy@SaveLastskip
8497 \begingroup
8498 \let\protect=\string
8499 \hyper@chars
8500 \leavevmode
8501 \special{!aname #1}%
8502 \special{!direct <a name=%
8503 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8504 \endgroup
8505 \Hy@activeanchortrue
8506 \bgroup\anchor@spot\egroup
8507 \special{!direct </a>}%
8508 \Hy@activeanchorfalse

```



```

8509 \Hy@RestoreLastskip
8510 }
8511 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
8512 \def\@endForm{}
8513 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8514 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8515 }
8516 \def\@TextField[#1]#2{% parameters, label
8517 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8518 }
8519 \def\@CheckBox[#1]#2{% parameters, label
8520 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8521 }
8522 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8523 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8524 }
8525 \def\@PushButton[#1]#2{% parameters, label
8526 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8527 }
8528 \def\@Reset[#1]#2{%
8529 \typeout{Sorry, TeXpider does not yet support FORMs}%
8530 }
8531 \def\@Submit[#1]#2{%
8532 \typeout{Sorry, TeXpider does not yet support FORMs}%
8533 }
8534 \end{vtexhtml}
8535 \end{*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.

```

8536 \ifx\mediaheight\@undefined
8537 \else
8538 \ifx\mediaheight\relax
8539 \else
8540 \ifHy@setpagesize
8541 \providecommand*\VTeXInitMediaSize{%
8542 \ifundefined{stockwidth}{%
8543 \ifdim\paperheight>0pt %
8544 \setlength\mediaheight\paperheight
8545 \fi
8546 \ifdim\paperheight>0pt %
8547 \setlength\mediawidth\paperwidth
8548 \fi
8549 }{%
8550 \ifdim\stockheight>0pt %
8551 \setlength\mediaheight\stockheight
8552 \fi
8553 \ifdim\stockwidth>0pt %
8554 \setlength\mediawidth\stockwidth
8555 \fi
8556 }%
8557 }%
8558 \AtBeginDocument{\VTeXInitMediaSize}%
8559 \fi
8560 \Hy@DisableOption{setpagesize}%
8561 \fi

```

8562 \fi

Older versions of VTeX require xyz in lower case.

```
8563 \providecommand*\@pdfview{xyz}
8564 \providecommand*\@pdfborder{0 0 1}
8565 \providecommand*\@pdfborderstyle{}
8566 \let\CurrentBorderColor\@linkbordercolor
8567 \def\hyper@anchor#1{%
8568   \Hy@SaveLastskip
8569   \begingroup
8570     \let\protect=\string
8571     \hyper@chars
8572     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8573   \endgroup
8574   \Hy@activeanchortrue
8575   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8576   \Hy@activeanchorfalse
8577   \Hy@RestoreLastskip
8578 }
8579 \def\hyper@anchorstart#1{%
8580   \Hy@SaveLastskip
8581   \begingroup
8582     \hyper@chars
8583     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8584   \endgroup
8585   \Hy@activeanchortrue
8586 }
8587 \def\hyper@anchorend{%
8588   \Hy@activeanchorfalse
8589   \Hy@RestoreLastskip
8590 }
8591 \def\@urltype{url}
8592 \def\Hy@undefinedname{UNDEFINED}
8593 \def\hyper@linkstart#1#2{%
8594   \Hy@pstringdef\Hy@pstringURI{#2}%
8595   \expandafter\Hy@colorlink\csname @#1color\endcsname
8596   \@ifundefined{@#1bordercolor}{%
8597     \let\CurrentBorderColor\relax
8598   }{%
8599     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8600   }%
8601   \def\Hy@tempa{#1}%
8602   \ifx\Hy@tempa\@urltype
8603     \special{!%
8604       aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8605       a=<%
8606         \ifHy@pdfa /F 4\fi
8607         \Hy@setpdfborder
8608         \ifx\CurrentBorderColor\relax
8609           \else
8610             /C [\CurrentBorderColor]%
8611           \fi
8612         >%
8613       }%
8614   \else
8615     \protected@edef\Hy@testname{#2}%
8616     \ifx\Hy@testname\@empty
8617       \Hy@Warning{%
```

```

8618         Empty destination name,\MessageBreak
8619         using '\Hy@undefinedname'%
8620     }%
8621     \let\Hy@testname\Hy@undefinedname
8622 \fi
8623 \special{!%
8624     aref \expandafter\HyperDestNameFilter
8625         \expandafter{\Hy@testname};%
8626     a=<%
8627         \ifHy@pdfa /F 4\fi
8628         \Hy@setpdfborder
8629         \ifx\CurrentBorderColor\relax
8630         \else
8631             /C [\CurrentBorderColor]%
8632         \fi
8633     >%
8634 }%
8635 \fi
8636 }
8637 \def\hyper@linkend{%
8638     \special{!endaref}%
8639     \Hy@endcolorlink
8640 }
8641 \def\hyper@linkfile#1#2#3{%
8642     \leavevmode
8643     \special{!%
8644         aref <%
8645         \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8646         f=#2>#3;%
8647         a=<%
8648             \ifHy@pdfa /F 4\fi
8649             \Hy@setpdfborder
8650             \ifx\@filebordercolor\relax
8651             \else
8652                 /C [\@filebordercolor]%
8653             \fi
8654         >%
8655     }%
8656     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8657     \special{!endaref}%
8658 }
8659 \def\hyper@linkurl#1#2{%
8660     \begingroup
8661         \Hy@pstringdef\Hy@pstringURI{#2}%
8662         \hyper@chars
8663         \leavevmode
8664         \special{!%
8665             aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8666             a=<%
8667                 \ifHy@pdfa /F 4\fi
8668                 \Hy@setpdfborder
8669                 \ifx\@urlbordercolor\relax
8670                 \else
8671                     /C [\@urlbordercolor]%
8672                 \fi
8673             >%
8674         }%

```

```

8675 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8676 \special{!endaref}%
8677 \endgroup
8678 }
8679 \def\hyper@link#1#2#3{%
8680 \@ifundefined{#@1bordercolor}{%
8681 \let\CurrentBorderColor\relax
8682 }{%
8683 \edef\CurrentBorderColor{\csname @1bordercolor\endcsname}%
8684 }%
8685 \leavevmode
8686 \protected@edef\Hy@testname{#2}%
8687 \ifx\Hy@testname\@empty
8688 \Hy@Warning{%
8689 Empty destination name,\MessageBreak
8690 using '\Hy@undefinedname'%
8691 }%
8692 \let\Hy@testname\Hy@undefinedname
8693 \fi
8694 \special{!%
8695 aref \expandafter\HyperDestNameFilter
8696 \expandafter{\Hy@testname};%
8697 a=<%
8698 \ifHy@pdfa /F 4\fi
8699 \Hy@setpdfborder
8700 \ifx\CurrentBorderColor\relax
8701 \else
8702 /C [\CurrentBorderColor]%
8703 \fi
8704 >%
8705 }%
8706 \expandafter\Hy@colorlink\csname @1color\endcsname#3\Hy@endcolorlink
8707 \special{!endaref}%
8708 }
8709 \def\hyper@image#1#2{%
8710 \hyper@linkurl{#2}{#1}%
8711 }
8712 \def\@hyper@launch run:#1\#2#3{%
8713 \Hy@pstringdef\Hy@pstringF{#1}%
8714 \Hy@pstringdef\Hy@pstringP{#3}%
8715 \leavevmode
8716 \special{!aref %
8717 <u=%
8718 /Type/Action%
8719 /S/Launch%
8720 /F(\Hy@pstringF)%
8721 \Hy@SetNewWindow
8722 \ifx\#3\@empty /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
8723 >;%
8724 a=<%
8725 \ifHy@pdfa /F 4\fi
8726 \Hy@setpdfborder
8727 \ifx\@runbordercolor\relax
8728 \else
8729 /C[\@runbordercolor]%
8730 \fi
8731 >%

```

```

8732 }%
8733 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8734 \special{!endaref}%
8735 }
8736 \def\Acrobatmenu#1#2{%
8737 \Hy@Acrobatmenu{#1}{#2}{%
8738 \special{!%
8739 \aref <u=/S /Named /N /#1>;%
8740 a=<%
8741 \ifHy@pdfa /F 4\fi
8742 \Hy@setpdfborder
8743 \ifx\@menubordercolor\relax
8744 \else
8745 /C[\@menubordercolor]%
8746 \fi
8747 >%
8748 }%
8749 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8750 \special{!endaref}%
8751 }%
8752 }

```

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

The code below makes sense for VT_EX 7.02 or later.

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

```

8753 \ifnum\Hy@VTeXversion<702 %
8754 \else
8755 \def\hyper@pagetransition{%
8756 \ifx\@pdfpagetransition\relax
8757 \else
8758 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

8759 \else
8760 \hvtex@parse@trans\@pdfpagetransition
8761 \fi
8762 \fi
8763 }%

```

I have to write an “honest” parser to convert raw PDF code into VT_EX \special.
(AVK)

Syntax of VT_EX \special{!trans <transition_effect>}:

```

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

```

Transition codes:

```

8764 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8765 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8766 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8767 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8768 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8769 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8770 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

8771 \def\hvtex@par@dimension{/Dm}%
8772 \def\hvtex@par@direction{/Di}%
8773 \def\hvtex@par@duration{/D}%
8774 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

8775 \def\hvtex@gettoken{\expandafter\hvtex@gettoken@\hvtex@buffer\@nil}%

```

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

```

8776 \def\hvtex@gettoken@#1 #2\@nil{%
8777   \edef\hvtex@token{#1}%
8778   \edef\hvtex@buffer{#2}%
8779 }%
8780 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

8781 \let\hvtex@trans@code\@empty
8782 \let\hvtex@param@dimension\@empty
8783 \let\hvtex@param@direction\@empty
8784 \let\hvtex@param@duration\@empty
8785 \let\hvtex@param@motion\@empty
8786 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

8787 \hvtex@gettoken
8788 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

8789 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

8790 \else
8791 \hvtex@gettoken
8792 \fi
8793 \fi
8794 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

8795 \hvtex@trans@params
8796 }%

```

Reentrant macro to parse optional parameters.

```

8797 \def\hvtex@trans@params{%
8798 \ifx\hvtex@buffer\@empty
8799 \else
8800 \hvtex@gettoken
8801 \let\hvtex@trans@par\hvtex@token
8802 \ifx\hvtex@buffer\@empty
8803 \else
8804 \hvtex@gettoken
8805 \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. V_T_EX special takes it in milliseconds.

```
8806      \let\hvtex@param@duration\hvtex@token
8807      \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
8808      \expandafter\edef\expandafter\hvtex@param@motion
8809      \expandafter{\expandafter\@gobble\hvtex@token}%
8810      \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
8811      \expandafter\edef\expandafter\hvtex@param@dimension
8812      \expandafter{\expandafter\@gobble\hvtex@token}%
8813      \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).

```
8814      \let\hvtex@param@direction\hvtex@token
8815      \fi\fi\fi\fi
8816      \fi
8817      \fi
8818      \ifx\hvtex@buffer\@empty
8819      \let\next\hvtex@produce@trans
8820      \else
8821      \let\next\hvtex@trans@params
8822      \fi
8823      \next
8824  }%
```

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

```
8825  \def\hvtex@produce@trans{%
8826    \let\vtex@trans@special\@empty
8827    \if S\hvtex@trans@code
8828      \edef\vtex@trans@special{\hvtex@trans@code
8829        \hvtex@param@dimension\hvtex@param@motion}%
8830    \else\if B\hvtex@trans@code
8831      \edef\vtex@trans@special{%
8832        \hvtex@trans@code\hvtex@param@dimension
8833      }%
8834    \else\if X\hvtex@trans@code
8835      \edef\vtex@trans@special{%
8836        \hvtex@trans@code\hvtex@param@motion
8837      }%
8838    \else\if W\hvtex@trans@code
8839      \edef\vtex@trans@special{%
8840        \hvtex@trans@code\hvtex@param@direction
8841      }%
8842    \else\if D\hvtex@trans@code
8843      \let\vtex@trans@special\hvtex@trans@code
8844    \else\if R\hvtex@trans@code
8845      \let\vtex@trans@special\hvtex@trans@code
8846    \else\if G\hvtex@trans@code
8847      \edef\vtex@trans@special{%
8848        \hvtex@trans@code\hvtex@param@direction
8849      }%
8850    \fi\fi\fi\fi\fi\fi\fi
8851    \ifx\vtex@trans@special\@empty
8852    \else
8853      \ifx\hvtex@param@duration\@empty
```

```

8854     \else
8855     \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

8856     \multiply\dimen@\@m
8857     \edef\vtex@trans@special{%
8858     \vtex@trans@special,\strip@pt\dimen@
8859     }%
8860     \fi

```

And all the mess is just for this.

```

8861     \special{!trans \vtex@trans@special}%
8862     \fi
8863 }%

8864 \def\hyper@pageduration{%
8865 \ifx\@pdfpageduration\relax
8866 \else
8867 \ifx\@pdfpageduration\@empty
8868 \special{!duration-}%
8869 \else
8870 \special{!duration \@pdfpageduration}%
8871 \fi
8872 \fi
8873 }%
8874 \def\hyper@pagehidden{%
8875 \ifHy@useHidKey
8876 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8877 \fi
8878 }%
8879 \g@addto@macro\Hy@EveryPageBoxHook{%
8880 \hyper@pagetransition
8881 \hyper@pageduration
8882 \hyper@pagehidden
8883 }%
8884 \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

```

8885 \ifx\@pdfproducer\relax
8886 \def\@pdfproducer{VTeX}%
8887 \ifnum\Hy@VTeXversion>\z@
8888 \count@\VTeXversion
8889 \divide\count@ 100 %
8890 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
8891 \multiply\count@ -100 %
8892 \advance\count@\VTeXversion
8893 \edef\@pdfproducer{%
8894 \@pdfproducer
8895 .\ifnum\count@<10 0\fi\the\count@

```



```

8896 \ifx\VTeXOS\@undefined\else
8897 \ifnum\VTeXOS>0 %
8898 \ifnum\VTeXOS<6 %
8899 \space(
8900 \ifcase\VTeXOS
8901 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
8902 \fi
8903 )%
8904 \fi
8905 \fi
8906 \fi
8907 ,\space
8908 \ifnum\OpMode=\@ne PDF\else PS\fi
8909 \space backend%
8910 \ifx\gexmode\@undefined\else
8911 \ifnum\gexmode>z@\space with GeX\fi
8912 \fi
8913 }%
8914 \fi
8915 \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).

```

8916 \def\PDF@SetupDoc{%
8917 \ifx\@pdfpagescrop\@empty
8918 \else
8919 \special{!pdfinfo b=<\@pdfpagescrop>}%
8920 \fi
8921 \ifx\@pdfstartpage\@empty
8922 \else
8923 \ifx\@pdfstartview\@empty
8924 \else
8925 \special{!onopen Page\@pdfstartpage}%
8926 \fi
8927 \fi
8928 \special{!pdfinfo p=</\@pdfpagemode>}%
8929 \ifx\@baseurl\@empty
8930 \else
8931 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
8932 \fi
8933 \special{!pdfinfo v=<<<%
8934 \ifHy@toolbar\else /HideToolbar true\fi
8935 \ifHy@menubar\else /HideMenubar true\fi
8936 \ifHy>windowui\else /HideWindowUI true\fi
8937 \ifHy@fitwindow /FitWindow true\fi

```

```

8938 \ifHy@centerwindow /CenterWindow true\fi
8939 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8940 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8941 \Hy@UseNameKey{Direction}\@pdfdirection
8942 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8943 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8944 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8945 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8946 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8947 \Hy@UseNameKey{Duplex}\@pdfduplex
8948 \ifx\@pdfpicktraybypdfsize\@empty
8949 \else
8950 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8951 \fi
8952 \ifx\@pdfprintpagerange\@empty
8953 \else
8954 /PrintPageRange[\@pdfprintpagerange]%
8955 \fi
8956 \ifx\@pdfnumcopies\@empty
8957 \else
8958 /NumCopies \@pdfnumcopies
8959 \fi
8960 >>>}%
8961 \ifx\@pdfpagelayout\@empty
8962 \else
8963 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
8964 \fi
8965 }%
8966 \def\PDF@FinishDoc{%
8967 \Hy@UseMaketitleInfos
8968 \special{!pdfinfo a=<\@pdfauthor>}%
8969 \special{!pdfinfo t=<\@pdftitle>}%
8970 \special{!pdfinfo s=<\@pdfsubject>}%
8971 \special{!pdfinfo c=<\@pdfcreator>}%
8972 \ifx\@pdfproducer\relax
8973 \else
8974 \special{!pdfinfo r=<\@pdfproducer>}%
8975 \fi
8976 \special{!pdfinfo k=<\@pdfkeywords>}%
8977 \Hy@DisableOption{pdfauthor}%
8978 \Hy@DisableOption{pdftitle}%
8979 \Hy@DisableOption{pdfsubject}%
8980 \Hy@DisableOption{pdfcreator}%
8981 \Hy@DisableOption{pdfcreationdate}%
8982 \Hy@DisableOption{pdfmoddate}%
8983 \Hy@DisableOption{pdfproducer}%
8984 \Hy@DisableOption{pdfkeywords}%
8985 }
8986 </vtx>

```

46.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:

```

/showpage {
  //showpage

```

```

    clippath stroke erasepage
} bind def

```

But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

```

8987 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
8988 <package>\providecommand*\Hy@DistillerDestFix{}
8989 <*pdfmark | dviwindo>
8990 \def\Hy@DistillerDestFix{%
8991   \begingroup
8992     \let\x\literalps@out

```

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

```

8993   \ifnum \@ifundefined{OpMode}{0}{%
8994     \@ifundefined{gexmode}{0}{%
8995       \ifnum\gexmode>0 \OpMode\else 0\fi
8996     }>1 %
8997   \def\x##1{%
8998     \immediate\special{!=##1}%
8999   }%
9000 \fi
9001 \x{%
9002   /product where{%
9003     pop %
9004     product(Distiller)search{%
9005       pop pop pop %
9006       version(.)search{%
9007         exch pop exch pop%
9008         (3011)eq{%
9009           gsave %
9010             newpath 0 0 moveto closepath clip%
9011             /Courier findfont 10 scalefont setfont %
9012             72 72 moveto(.)show %
9013             grestore%
9014           }if%
9015         }{pop}ifelse%
9016       }{pop}ifelse%
9017     }if%
9018   }%
9019 \endgroup
9020 }
9021 </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

```

9022 <*pdfmark>
9023 \Hy@breaklinks@unsupported
9024 \def\hyper@anchor#1{%
9025   \Hy@SaveLastskip
9026   \beginingroup
9027     \pdfmark[\anchor@spot]{%
9028       pdfmark=/DEST,%
9029       linktype=anchor,%
9030       View=/\@pdfview \@pdfviewparams,%
9031       DestAnchor={#1}%
9032     }%
9033   \endgroup
9034   \Hy@RestoreLastskip
9035 }
9036 \@ifundefined{hyper@anchorstart}{\endinput}
9037 \def\hyper@anchorstart#1{%
9038   \Hy@SaveLastskip
9039   \literalps@out{H.S}%
9040   \xdef\hyper@currentanchor{#1}%
9041   \Hy@activeanchortrue
9042 }
9043 \def\hyper@anchorend{%
9044   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
9045   \pdfmark{%
9046     pdfmark=/DEST,%
9047     linktype=anchor,%
9048     View=/\@pdfview \@pdfviewparams,%
9049     DestAnchor=\hyper@currentanchor,%
9050   }%
9051   \Hy@activeanchorfalse
9052   \Hy@RestoreLastskip
9053 }
9054 \def\hyper@linkstart#1#2{%
9055   \ifHy@breaklinks
9056   \else
9057     \leavevmode\hbox\bgroup
9058     \fi
9059     \expandafter\Hy@colorlink\csname @#1color\endcsname
9060     \literalps@out{H.S}%
9061     \xdef\hyper@currentanchor{#2}%
9062     \gdef\hyper@currentlinktype{#1}%
9063 }
9064 \def\hyper@linkend{%
9065   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
9066   \@ifundefined{@\hyper@currentlinktype bordercolor}{%
9067     \let\Hy@tempcolor\relax
9068   }{%
9069     \edef\Hy@tempcolor{%
9070       \csname @\hyper@currentlinktype bordercolor\endcsname
9071     }%
9072   }%
9073   \pdfmark{%
9074     pdfmark=/ANN,%
9075     linktype=link,%
9076     Subtype=/Link,%
9077     PDFAMFlags=4,%
9078     Dest=\hyper@currentanchor,%

```

```

9079   AcroHighlight=\@pdfhighlight,%
9080   Border=\@pdfborder,%
9081   BorderStyle=\@pdfborderstyle,%
9082   Color=\Hy@tempcolor,%
9083   Raw=H.B%
9084 }%
9085 \Hy@endcolorlink
9086 \ifHy@breaklinks
9087 \else
9088   \egroup
9089 \fi
9090 }

```

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.

```

9091 \begingroup
9092 \catcode'P=12 %
9093 \catcode'T=12 %
9094 \lowercase{\endgroup
9095 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
9096 }
9097 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

9098 \def\hyper@pagetransition{%
9099 \ifx\@pdfpagetransition\relax
9100 \else
9101 \ifx\@pdfpagetransition\@empty
9102 % 1. Does an old entry have to be deleted?
9103 % 2. If 1=yes, how to delete?
9104 \else
9105 \pdfmark{%
9106 pdfmark=/PUT,%
9107 Raw={%
9108 \string{ThisPage\string}%
9109 <</Trans << /S /\@pdfpagetransition\space >> >>%
9110 }%
9111 }%
9112 \fi
9113 \fi
9114 }

```

\hyper@pageduration

```

9115 \def\hyper@pageduration{%
9116 \ifx\@pdfpageduration\relax
9117 \else
9118 \ifx\@pdfpageduration\@empty
9119 % 1. Does an old entry have to be deleted?
9120 % 2. If 1=yes, how to delete?
9121 \else
9122 \pdfmark{%
9123 pdfmark=/PUT,%
9124 Raw={%
9125 \string{ThisPage\string}%
9126 <</Dur \@pdfpageduration>>%
9127 }%

```

```

9128     }%
9129     \fi
9130 \fi
9131 }

```

\hyper@pagehidden

```

9132 \def\hyper@pagehidden{%
9133   \ifHy@useHidKey
9134     \pdfmark{%
9135       pdfmark=/PUT,%
9136       Raw={%
9137         \string{ThisPage\string}%
9138         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
9139       }%
9140     }%
9141   \fi
9142 }

9143 \g@addto@macro\Hy@EveryPageBoxHook{%
9144   \hyper@pagetransition
9145   \hyper@pageduration
9146   \hyper@pagehidden
9147 }

9148 \def\hyper@image#1#2{%
9149   \hyper@linkurl{#2}{#1}%
9150 }
9151 \def\Hy@undefinedname{UNDEFINED}
9152 \def\hyper@link#1#2#3{%
9153   \@ifundefined{#1bordercolor}{%
9154     \let\Hy@tempcolor\relax
9155   }{%
9156     \edef\Hy@tempcolor{\csname #1bordercolor\endcsname}%
9157   }%
9158   \begingroup
9159     \protected@edef\Hy@testname{#2}%
9160     \ifx\Hy@testname\@empty
9161       \Hy@Warning{%
9162         Empty destination name,\MessageBreak
9163         using '\Hy@undefinedname'%
9164       }%
9165     \let\Hy@testname\Hy@undefinedname
9166   \fi
9167   \pdfmark[#{#3}]{%
9168     Color=\Hy@tempcolor,%
9169     linktype={#1},%
9170     AcroHighlight=\@pdfhighlight,%
9171     Border=\@pdfborder,%
9172     BorderStyle=\@pdfborderstyle,%
9173     pdfmark=/ANN,%
9174     Subtype=/Link,%
9175     PDFAFlags=4,%
9176     Dest=\Hy@testname
9177   }%
9178   \endgroup
9179 }
9180 \newtoks\pdf@docset
9181 \def\PDF@FinishDoc{%

```

```

9182 \Hy@UseMaketitleInfos
9183 \let\Hy@temp\@empty
9184 \ifx\@pdfcreationdate\@empty
9185 \else
9186   \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
9187 \fi
9188 \ifx\@pdfmoddate\@empty
9189 \else
9190   \expandafter\def\expandafter\Hy@temp\expandafter{%
9191     \Hy@temp
9192     ModDate=\@pdfmoddate,%
9193   }%
9194 \fi
9195 \ifx\@pdfproducer\relax
9196 \else
9197   \expandafter\def\expandafter\Hy@temp\expandafter{%
9198     \Hy@temp
9199     Producer=\@pdfproducer,%
9200   }%
9201 \fi
9202 \expandafter
9203 \pdfmark\expandafter{%
9204   \Hy@temp
9205   pdfmark=/DOCINFO,%
9206   Title=\@pdftitle,%
9207   Subject=\@pdfsubject,%
9208   Creator=\@pdfcreator,%
9209   Author=\@pdfauthor,%
9210   Keywords=\@pdfkeywords
9211 }%
9212 \Hy@DisableOption{pdfauthor}%
9213 \Hy@DisableOption{pdftitle}%
9214 \Hy@DisableOption{pdfsubject}%
9215 \Hy@DisableOption{pdfcreator}%
9216 \Hy@DisableOption{pdfcreationdate}%
9217 \Hy@DisableOption{pdfmoddate}%
9218 \Hy@DisableOption{pdfproducer}%
9219 \Hy@DisableOption{pdfkeywords}%
9220 }
9221 \def\PDF@SetupDoc{%
9222   \def\Hy@temp{}%
9223   \ifx\@pdfstartpage\@empty
9224   \else
9225     \ifx\@pdfstartview\@empty
9226     \else
9227       \edef\Hy@temp{%
9228         ,Page=\@pdfstartpage
9229         ,View=\@pdfstartview
9230       }%
9231     \fi
9232   \fi
9233   \edef\Hy@temp{%
9234     \noexpand\pdfmark{%
9235       pdfmark=/DOCVIEW,%
9236       PageMode=/\@pdfpagemode
9237     }\Hy@temp
9238   }%

```

```

9239 }%
9240 \Hy@temp
9241 \ifx\@pdfpagescrop\@empty
9242 \else
9243   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9244 \fi
9245 \edef\Hy@temp{%
9246   \ifHy@toolbar\else /HideToolbar true\fi
9247   \ifHy@menubar\else /HideMenubar true\fi
9248   \ifHy>windowui\else /HideWindowUI true\fi
9249   \ifHy@fitwindow /FitWindow true\fi
9250   \ifHy@centerwindow /CenterWindow true\fi
9251   \ifHy@displaydoctitle /DisplayDocTitle true\fi
9252   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9253   \Hy@UseNameKey{Direction}\@pdfdirection
9254   \Hy@UseNameKey{ViewArea}\@pdfviewarea
9255   \Hy@UseNameKey{ViewClip}\@pdfviewclip
9256   \Hy@UseNameKey{PrintArea}\@pdfprintarea
9257   \Hy@UseNameKey{PrintClip}\@pdfprintclip
9258   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9259   \Hy@UseNameKey{Duplex}\@pdfduplex
9260   \ifx\@pdfpicktraybypdfsize\@empty
9261   \else
9262     /PickTrayByPDFSize \@pdfpicktraybypdfsize
9263   \fi
9264   \ifx\@pdfprintpagerange\@empty
9265   \else
9266     /PrintPageRange[\@pdfprintpagerange]%
9267   \fi
9268   \ifx\@pdfnumcopies\@empty
9269   \else
9270     /NumCopies \@pdfnumcopies
9271   \fi
9272 }%
9273 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9274 \pdfmark{%
9275   pdfmark=/PUT,%
9276   Raw={%
9277     \string{Catalog\string}<<%
9278     \ifx\Hy@temp\@empty
9279     \else
9280       /ViewerPreferences<<\Hy@temp>>%
9281     \fi
9282     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9283     \ifx\@pdflang\@empty
9284     \else
9285       /Lang(\@pdflang)%
9286     \fi
9287     \ifx\@baseurl\@empty
9288     \else
9289       /URI<</Base(\Hy@pstringB)>>%
9290     \fi
9291   >>%
9292 }%
9293 }%
9294 }
9295 \pdfmark

```


9296 `\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.

```

9297 \newif\ifHy@pdfmarkerror
9298 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
9299 \def\pdfmark@[#1]#2{%
9300   \Hy@pdfmarkerrorfalse
9301   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9302   \@processme
9303   \let\pdf@type\relax
9304   \setkeys{PDF}{#2}%
9305   \ifHy@pdfmarkerror
9306   \else
9307     \ifx\pdf@type\relax
9308       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9309       \ifx\#1\%
9310         \else
9311           \pdf@rect{#1}%
9312         \fi
9313       \else
9314         \ifx\#1\%
9315           \literalps@out{%
9316             [\the\pdf@toks\space\pdf@type\space pdfmark%
9317             ]%
9318           \else
9319             \@ifundefined{@\pdf@linktype color}{%
9320               \Hy@colorlink\@linkcolor
9321             }{%
9322               \expandafter\Hy@colorlink
9323               \csname @\pdf@linktype color\endcsname
9324             }%
9325             \pdf@rect{#1}%
9326             \literalps@out{%
9327               [\the\pdf@toks\space\pdf@type\space pdfmark%
9328               ]%
9329               \Hy@endcolorlink
9330             \fi
9331           \fi
9332         \fi
9333 }

```

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}

```

```
9334 \newsavebox{\pdf@box}
```

```

9335 \providecommand*{\Hy@setouterhbox}{\sbox}
9336 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
9337 \def\Hy@DEST{/DEST}
9338 \def\pdf@rect#1{%
9339   \leavevmode
9340   \ifHy@breaklinks
9341     \Hy@setouterhbox\pdf@box{#1}%
9342   \else
9343     \sbox\pdf@box{#1}%
9344   \fi
9345   \dimen@ht\pdf@box
9346   \ifdim\dp\pdf@box=\z@
9347     \literalps@out{H.S}%
9348   \else
9349     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9350   \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...).

```

9351   \ifHy@breaklinks
9352     \expandafter\Hy@breaklinksunhbox
9353   \else
9354     \expandafter\box
9355   \fi
9356   \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

9357   \ifdim\dimen@=\z@
9358     \literalps@out{H.R}%
9359   \else
9360     \raise\dimen@\hbox{\literalps@out{H.R}}%
9361   \fi
9362   \ifx\pdf@type\Hy@DEST
9363   \else
9364     \pdf@addtoksx{H.B}%
9365   \fi
9366 }

```

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.

```

9367 \newtoks\pdf@toks
9368 \newtoks\pdf@defaulttoks
9369 \pdf@defaulttoks={}
9370 \def\pdf@addtoks#1#2{%
9371   \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9372   \@processme
9373 }
9374 \def\pdf@addtoksx#1{%
9375   \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9376   \@processme
9377 }
9378 \def\PDFdefaults#1{%
9379   \pdf@defaulttoks={#1}%
9380 }

```

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

```

9381 % what is the type of pdfmark?
9382 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9383 % what is the link type?
9384 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
9385 \def\pdf@linktype{link}
9386 % parameter is a stream of PDF
9387 \define@key{PDF}{Raw}{\pdf@addtoks{#1}}
9388 % parameter is a name
9389 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9390 % parameter is a array
9391 \define@key{PDF}{Border}{%
9392   \edef\Hy@temp{#1}%
9393   \ifx\Hy@temp\@empty
9394   \else
9395     \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
9396   \fi
9397 }
9398 \let\Hy@BorderArrayPatch\@empty
9399 % parameter is a dictionary
9400 \define@key{PDF}{BorderStyle}{%
9401   \edef\Hy@temp{#1}%
9402   \ifx\Hy@temp\@empty
9403   \else
9404     \pdf@addtoks{<<#1>>}{BS}%
9405   \fi
9406 }
9407 % parameter is a array
9408 \define@key{PDF}{Color}{%
9409   \ifx\relax#1\relax
9410   \else
9411     \pdf@addtoks{[#1]}{Color}% hash-ok
9412   \fi
9413 }
9414 % parameter is a string
9415 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9416 % parameter is a integer
9417 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9418 % parameter is a array
9419 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9420 % parameter is a string
9421 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9422 % parameter is a string or file
9423 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9424 % parameter is a destination
9425 \define@key{PDF}{Dest}{%
9426   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9427   \ifx\Hy@pstringDest\@empty
9428     \Hy@pdfmarkerrortrue
9429     \Hy@Warning{Destination with empty name ignored}%
9430   \else
9431     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9432   \fi
9433 }
9434 \define@key{PDF}{DestAnchor}{%
9435   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9436   \ifx\Hy@pstringDest\@empty

```

```

9437 \Hy@pdfmarkerrortrue
9438 \Hy@Warning{Destination with empty name ignored}%
9439 \else
9440 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9441 \fi
9442 }
9443 % parameter is a string
9444 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9445 % parameter is a string
9446 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9447 % parameter is a int
9448 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9449 \define@key{PDF}{PDFAFlags}{%
9450 \ifHy@pdfa
9451 \pdf@addtoks{#1}{F}%
9452 \fi
9453 }
9454 % parameter is a name
9455 \define@key{PDF}{AcroHighlight}{%
9456 \begingroup
9457 \edef\x{#1}%
9458 \expandafter\endgroup\ifx\x\@empty
9459 \else
9460 \pdf@addtoks{#1}{H}%
9461 \fi
9462 }
9463 % parameter is a string
9464 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9465 % parameter is a string
9466 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9467 % parameter is a string
9468 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9469 % parameter is a string
9470 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9471 % parameter is a Boolean
9472 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9473 % parameter is a integer or name
9474 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9475 % parameter is a name
9476 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9477 % parameter is a string
9478 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9479 % parameter is a array
9480 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9481 % parameter is a integer
9482 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9483 % parameter is a name
9484 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9485 % parameter is a string
9486 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9487 % parameter is a string
9488 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9489 % parameter is a string
9490 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9491 % parameter is an array
9492 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9493 % parameter is a string

```

```
9494 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}
```

These are the keys used in the DOCINFO section.

```
9495 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9496 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9497 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9498 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9499 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
9500 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9501 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9502 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9503 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9504 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
9505 \pdfmarkbase
9506 (*pdfmark)
9507 \def\Acrobatmenu#1#2{%
9508   \Hy@Acrobatmenu{#1}{#2}{%
9509     \pdfmark[{#2}]{%
9510       linktype=menu,%
9511       pdfmark=/ANN,%
9512       AcroHighlight=\pdfhighlight,%
9513       Border=\pdfborder,%
9514       BorderStyle=\pdfborderstyle,%
9515       Action={<< /Subtype /Named /N /#1 >>},%
9516       Subtype=/Link,%
9517       PDFAFlags=4%
9518     }%
9519   }%
9520 }
```

And now for some useful examples:

```
9521 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9522 \def\PDFNextPage@[#1]#2{%
9523   \pdfmark[{#2}]{%
9524     #1,%
9525     Border=\pdfborder,%
9526     BorderStyle=\pdfborderstyle,%
9527     Color=.2 .1 .5,%
9528     pdfmark=/ANN,%
9529     Subtype=/Link,%
9530     PDFAFlags=4,%
9531     Page=/Next%
9532   }%
9533 }
9534 \def\PDFPreviousPage{%
9535   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9536 }
9537 \def\PDFPreviousPage@[#1]#2{%
9538   \pdfmark[{#2}]{%
9539     #1,%
9540     Border=\pdfborder,%
9541     BorderStyle=\pdfborderstyle,%
9542     Color=.4 .4 .1,%
9543     pdfmark=/ANN,%
9544     Subtype=/Link,%
9545     PDFAFlags=4,%
9546     Page=/Prev%
9547   }%
9548 }
```

```

9548 }
9549 \def\PDFOpen#1{%
9550   \pdfmark{#1,pdfmark=/DOCVIEW}%
9551 }

```

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

```

9552 \def\hyper@linkurl#1#2{%
9553   \begingroup
9554     \Hy@pstringdef\Hy@pstringURI{#2}%
9555     \hyper@chars
9556     \leavevmode
9557     \pdfmark[{#1}]{%
9558       pdfmark=/ANN,%
9559       linktype=url,%
9560       AcroHighlight=\@pdfhighlight,%
9561       Border=\@pdfborder,%
9562       BorderStyle=\@pdfborderstyle,%
9563       Color=\@urlbordercolor,%
9564       Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9565       Subtype=/Link,%
9566       PDFAFlags=4%
9567     }%
9568   \endgroup
9569 }
9570 \def\hyper@linkfile#1#2#3{%
9571   \begingroup
9572     \Hy@pstringdef\Hy@pstringF{#2}%
9573     \Hy@pstringdef\Hy@pstringD{#3}%
9574     \leavevmode
9575     \pdfmark[{#1}]{%
9576       pdfmark=/ANN,%
9577       Subtype=/Link,%
9578       PDFAFlags=4,%
9579       AcroHighlight=\@pdfhighlight,%
9580       Border=\@pdfborder,%
9581       BorderStyle=\@pdfborderstyle,%
9582       linktype=file,%
9583       Color=\@filebordercolor,%
9584       Action={%
9585         <<%
9586           /S/GoToR%
9587           \Hy@SetNewWindow
9588           /F(\Hy@pstringF)%
9589           /D\ifx\#3\[O \@pdfstartview]\else(\Hy@pstringD)cvn\fi
9590         >>%
9591       }%
9592     }%
9593   \endgroup
9594 }
9595 \def\@hyper@launch run:#1\#2#3{%
9596   \begingroup
9597     \Hy@pstringdef\Hy@pstringF{#1}%
9598     \Hy@pstringdef\Hy@pstringP{#3}%
9599     \leavevmode
9600     \pdfmark[{#2}]{%
9601       pdfmark=/ANN,%
9602       Subtype=/Link,%
9603       PDFAFlags=4,%

```

```

9604     AcroHighlight=\@pdfhighlight,%
9605     Border=\@pdfborder,%
9606     BorderStyle=\@pdfborderstyle,%
9607     linktype=run,%
9608     Color=\@runbordercolor,%
9609     Action={%
9610         <<%
9611             /S/Launch%
9612             \Hy@SetNewWindow
9613             /F(\Hy@pstringF)%
9614             \ifx\#3\%
9615             \else
9616                 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9617             \fi
9618         >>%
9619     }%
9620 }%
9621 \endgroup
9622 }
9623 \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.

```

9624 (*dvips)
9625 \providecommand*\XR@ext}{pdf}
9626 \def\Hy@raisedlink{}
9627 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9628 \def\headerps@out#1{\special{! #1}}%
9629 \input{pdfmark.def}%
9630 \ifx\@pdfproducer\relax
9631   \def\@pdfproducer{dvips + Distiller}%
9632 \fi
9633 \providecommand*\@pdfborder{0 0 1}
9634 \providecommand*\@pdfborderstyle{}
9635 \providecommand*\@pdfview{XYZ}
9636 \providecommand*\@pdfviewparams{ H.V}
9637 \def\Hy@BorderArrayPatch{BorderArrayPatch}
9638 \g@addto@macro\Hy@FirstPageHook{%
9639   \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.

```
9640    /DvipsToPDF{72.27 mul Resolution div} def%
9641    /PDFToDvips{72.27 div Resolution mul} def%
9642    /BPToDvips{72 div Resolution mul}def%
```

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

```
9643    /BorderArrayPatch{%
9644        [exch{%
9645            dup dup type/integertype eq exch type/realtype eq or%
9646            {BPToDvips}if%
9647        }forall]%
9648    }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.

```
9649    /HyperBorder {1 PDFToDvips} def%
9650    /H.V {pdf@hoff pdf@voff null} def%
9651    /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

```
9652    /H.S {%
9653        currentpoint %
9654        HyperBorder add /pdf@lly exch def %
9655        dup DvipsToPDF 72 add /pdf@hoff exch def %
9656        HyperBorder sub /pdf@llx exch def%
9657    } def%
```

The calculation of upper left y is done without raising the point in \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`

```
9658    /H.L {%
9659        2 sub dup%
9660        /HyperBasePt exch def %
9661        PDFToDvips /HyperBaseDvips exch def %
9662        currentpoint %
9663        HyperBaseDvips sub /pdf@ury exch def%
9664        /pdf@urx exch def%
9665    } def%
9666    /H.A {%
9667        H.L %
9668    % |pdf@voff| = the distance from the top of the page to a point
9669    % |baselineskip| above the current point in PDF coordinates
9670        currentpoint exch pop %
9671        vsize 72 sub exch DvipsToPDF %
9672        HyperBasePt sub % baseline skip
9673        sub /pdf@voff exch def%
9674    } def%
9675    /H.R {%
9676        currentpoint %
9677        HyperBorder sub /pdf@ury exch def %
```



```

9678      HyperBorder add /pdf@urx exch def %
9679 % | /pdf@voff| = the distance from the top of the page to the current point, in
9680 % PDF coordinates
9681      currentpoint exch pop vsize 72 sub %
9682      exch DvipsToPDF sub /pdf@voff exch def%
9683  } def%
9684  }%
9685 }
9686 \AtBeginShipoutFirst{%
9687   \ifHy@setpagesize
9688     \begingroup
9689       \ifundefined{stockwidth}{%
9690         \ifx\special@paper\@empty
9691           \special{papersize=\the\paperwidth,\the\paperheight}%
9692         \else
9693           \special{papersize=\special@paper}%
9694         \fi
9695       }{%
9696         \ifdim\stockwidth=\z@
9697         \else
9698           \special{papersize=\the\stockwidth,\the\stockheight}%
9699         \fi
9700       }%
9701     \endgroup
9702   \fi
9703   \Hy@DisableOption{setpagesize}%
9704 }
9705 </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.

```

9706 <*vtexpdfmark>
9707 \providecommand*{\XR@ext}{pdf}
9708 \def\Hy@raisedlink{}
9709 \def\literalps@out#1{\special{pS:#1}}%
9710 \def\headerps@out#1{\immediate\special{pS:#1}}%
9711 \input{pdfmark.def}%
9712 \ifx\@pdfproducer\relax
9713   \ifnum\OpMode=\@ne
9714     \def\@pdfproducer{VTeX}%
9715   \else
9716     \def\@pdfproducer{VTeX + Distiller}%
9717   \fi
9718 \fi
9719 \providecommand*\@pdfborder{0 0 1}
9720 \providecommand*\@pdfborderstyle{}
9721 \providecommand*\@pdfview{XYZ}
9722 \providecommand*\@pdfviewparams{ H.V}
9723 \g@addto@macro\Hy@FirstPageHook{%
9724   \headerps@out{%
9725     /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.

```

9726    /HyperBorder {1} def%
9727    /H.V {pdf@hoff pdf@voff null} def%
9728    /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9729    /H.S {%
9730        currentpoint %
9731        HyperBorder sub%
9732        /pdf@lly exch def %
9733        dup 72 add /pdf@hoff exch def %
9734        HyperBorder sub%
9735        /pdf@llx exch def%
9736    } def%

```

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

```

9737    /H.L {%
9738        2 sub%
9739        /HyperBasePt exch def %
9740        currentpoint %
9741        HyperBasePt add HyperBorder add%
9742        /pdf@ury exch def %
9743        HyperBorder add%
9744        /pdf@urx exch def%
9745    } def%
9746    /H.A {%
9747        H.L %
9748        currentpoint exch pop %
9749        vsize 72 sub exch %
9750        HyperBasePt add add%
9751        /pdf@voff exch def%
9752    } def%

```

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

```

9753    /H.R {%
9754        currentpoint %
9755        HyperBorder add%
9756        /pdf@ury exch def %
9757        HyperBorder add%
9758        /pdf@urx exch def %
9759        currentpoint exch pop vsize 72 sub add%
9760        /pdf@voff exch def%
9761    } def%
9762    }%
9763 }
9764 </vtxpdfmark>

```

46.11 Textures

```

9765 <*textures>
9766 \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.

```
9767 \begingroup
9768   \obeylines %
9769   \gdef\Hy@ps@CR{\noexpand
9770     }%
9771 \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`.

```
9772 \def\literalps@out#1{%
9773   \special{postscript 0 0 transform}%
9774   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9775 }%
9776 %
```

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.

```
9777 \def\headerps@out#1{%
9778   \special{%
9779     prepostscript TeXdict begin\Hy@ps@CR
9780       #1\Hy@ps@CR
9781     end%
9782   }%
9783 }%
9784 %
```

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.

```
9785 \g@addto@macro\Hy@FirstPageHook{%
9786   \headerps@out{%
9787     /betterpdfmark {%
9788       systemdict begin %
9789         dup /BP eq%
9790         {cleartomark gsave nulldevice []}%
9791         {dup /EP eq%
9792           {cleartomark cleartomark grestore}%
9793           {cleartomark}}%
9794         ifelse%
9795       }ifelse %
9796     end%
9797   }def\Hy@ps@CR
9798   __pdfmark__ not{/pdfmark /betterpdfmark load def}if%
```

```

9799 }% end of \headerps@out
9800}% end of \AtBeginShipoutFirst
9801%
9802\input{pdfmark.def}%
9803%
9804\ifx\@pdfproducer\relax
9805 \def\@pdfproducer{Textures + Distiller}%
9806\fi
9807\providecommand*\@pdfborder{0 0 1}
9808\providecommand*\@pdfborderstyle{}
9809\providecommand*\@pdfview{XYZ}
9810\providecommand*\@pdfviewparams{ H.V}
9811%

```

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 .

```

9812\headerps@out{%

```

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

```

9813 /vsize {\Hy@pageheight} def%
9814 /DvipsToPDF {} def%
9815 /PDFToDvips {} def%
9816 /BPToDvips {} def%
9817 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9818 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9819 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9820 /H.S {%
9821   currentpoint %
9822   HyperBorder add /pdf@lly exch def %
9823   dup DvipsToPDF 72 add /pdf@hoff exch def %
9824   HyperBorder sub /pdf@llx exch def%
9825 } def\Hy@ps@CR
9826 /H.L {%
9827   2 sub %
9828   PDFToDvips /HyperBase exch def %
9829   currentpoint %
9830   HyperBase sub /pdf@ury exch def%
9831   /pdf@urx exch def%
9832 } def\Hy@ps@CR
9833 /H.A {%
9834   H.L %
9835   currentpoint exch pop %
9836   vsize 72 sub exch DvipsToPDF %
9837   HyperBase sub % baseline skip
9838   sub /pdf@voff exch def%
9839 } def\Hy@ps@CR
9840 /H.R {%
9841   currentpoint %
9842   HyperBorder sub /pdf@ury exch def %
9843   HyperBorder add /pdf@urx exch def %
9844   currentpoint exch pop vsize 72 sub %
9845   exch DvipsToPDF sub /pdf@voff exch def%
9846 } def\Hy@ps@CR
9847 }

```

```

9848 \AfterBeginDocument{%
9849   \ifHy@colorlinks
9850     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9851   \fi
9852 }

```

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.

```

9853 \expandafter\let\expandafter\keepPDF@SetupDoc
9854 \csname PDF@SetupDoc\endcsname
9855 \def\PDF@SetupDoc{%
9856   \ifx\@baseurl\@empty
9857   \else
9858     \special{html:<base href="\@baseurl">}%
9859   \fi
9860   \keepPDF@SetupDoc
9861 }
9862 \def\hyper@anchor#1{%
9863   \Hy@SaveLastskip
9864   \begingroup
9865     \let\protect=\string
9866     \special{html:<a name=%
9867       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9868   \endgroup
9869   \Hy@activeanchortrue
9870   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9871   \special{html:</a>}%
9872   \Hy@activeanchorfalse
9873   \Hy@RestoreLastskip
9874 }
9875 \def\hyper@anchorstart#1{%
9876   \Hy@SaveLastskip
9877   \begingroup
9878     \hyper@chars
9879     \special{html:<a name=%
9880       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9881   \endgroup
9882   \Hy@activeanchortrue
9883 }
9884 \def\hyper@anchorend{%
9885   \special{html:</a>}%
9886   \Hy@activeanchorfalse
9887   \Hy@RestoreLastskip
9888 }
9889 \def\@urltype{url}
9890 \def\hyper@linkstart#1#2{%
9891   \expandafter\Hy@colorlink\csname @#1color\endcsname
9892   \def\Hy@tempa{#1}%
9893   \ifx\Hy@tempa\@urltype
9894     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9895   \else
9896     \begingroup
9897       \hyper@chars
9898       \special{html:<a href=%
9899         \hyper@quote\#HyperDestNameFilter{#2}\hyper@quote>}%
9900     \endgroup
9901   \fi
9902 }

```

```

9903 \def\hyper@linkend{%
9904   \special{html:</a>}%
9905   \Hy@endcolorlink
9906 }
9907 \def\hyper@linkfile#1#2#3{%
9908   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9909 }
9910 \def\hyper@linkurl#1#2{%
9911   \leavevmode
9912   \ifHy@raiselinks
9913     \setbox\@tempboxa=\color@hbox #1\color@endbox
9914     \@linkdim\dp\@tempboxa
9915     \lower\@linkdim\hbox{%
9916       \hyper@chars
9917       \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9918   }%
9919   \Hy@colorlink\@urlcolor#1%
9920   \@linkdim\ht\@tempboxa
9921   \advance\@linkdim by -6.5\p@
9922   \raise\@linkdim\hbox{\special{html:</a>}}%
9923   \Hy@endcolorlink
9924 \else
9925   \begingroup
9926     \hyper@chars
9927     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9928     \Hy@colorlink\@urlcolor#1%
9929     \special{html:</a>}}%
9930     \Hy@endcolorlink
9931   \endgroup
9932 \fi
9933 }

```

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

```

9934 \def\hyper@link#1#2#3{%
9935   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}}%
9936 }
9937 \def\hyper@image#1#2{%
9938   \begingroup
9939     \hyper@chars
9940     \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
9941   \endgroup
9942 }
9943 </textures>

```

46.12 dvipsone

```

9944 % \subsection{dvipsone driver}
9945 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
9946 % |\special| commands.
9947 < *dvipsone>
9948 \providecommand*\XR@ext}{pdf}
9949 \def\Hy@raisedlink{}
9950 \providecommand*\@pdfborder{0 0 1}
9951 \providecommand*\@pdfborderstyle{}
9952 \def\literalps@out#1{\special{ps:#1}}%
9953 \def\headerps@out#1{\special{headertext=#1}}%
9954 \input{pdfmark.def}%
9955 \ifx\@pdfproducer\relax

```

```

9956 \def\@pdfproducer{dvipsone + Distiller}%
9957 \fi
9958 \def\PDF@FinishDoc{%
9959   \Hy@UseMaketitleInfos
9960   \special{PDF: Keywords \@pdfkeywords}%
9961   \special{PDF: Title \@pdftitle}%
9962   \special{PDF: Creator \@pdfcreator}%
9963   \ifx\@pdfcreationdate\@empty
9964   \else
9965     \special{PDF: CreationDate \@pdfcreationdate}%
9966   \fi
9967   \ifx\@pdfmoddate\@empty
9968   \else
9969     \special{PDF: ModDate \@pdfmoddate}%
9970   \fi
9971   \special{PDF: Author \@pdfauthor}%
9972   \ifx\@pdfproducer\relax
9973   \else
9974     \special{PDF: Producer \@pdfproducer}%
9975   \fi
9976   \special{PDF: Subject \@pdfsubject}%
9977   \Hy@DisableOption{pdfauthor}%
9978   \Hy@DisableOption{pdftitle}%
9979   \Hy@DisableOption{pdfsubject}%
9980   \Hy@DisableOption{pdfcreator}%
9981   \Hy@DisableOption{pdfcreationdate}%
9982   \Hy@DisableOption{pdfmoddate}%
9983   \Hy@DisableOption{pdfproducer}%
9984   \Hy@DisableOption{pdfkeywords}%
9985 }
9986 \def\PDF@SetupDoc{%
9987   \def\Hy@temp{%
9988     \ifx\@pdfstartpage\@empty
9989     \else
9990       \ifx\@pdfstartview\@empty
9991       \else
9992         \edef\Hy@temp{%
9993           ,Page=\@pdfstartpage
9994           ,View=\@pdfstartview
9995         }%
9996       \fi
9997     \fi
9998     \edef\Hy@temp{%
9999       \noexpand\pdfmark{%
10000         pdfmark=/DOCVIEW,%
10001         PageMode=/\@pdfpagemode
10002         \Hy@temp
10003       }%
10004     }%
10005     \Hy@temp
10006     \ifx\@pdfpagescrop\@empty
10007     \else
10008       \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10009     \fi
10010     \edef\Hy@temp{%
10011       \ifHy@toolbar\else /HideToolbar true\fi
10012       \ifHy@menubar\else /HideMenubar true\fi

```

```

10013 \ifHy@windowui\else /HideWindowUI true\fi
10014 \ifHy@fitwindow /FitWindow true\fi
10015 \ifHy@centerwindow /CenterWindow true\fi
10016 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10017 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10018 \Hy@UseNameKey{Direction}\@pdfdirection
10019 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10020 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10021 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10022 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10023 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10024 \Hy@UseNameKey{Duplex}\@pdfduplex
10025 \ifx\@pdfpicktraybypdfsize\@empty
10026 \else
10027 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10028 \fi
10029 \ifx\@pdfprintpagerange\@empty
10030 \else
10031 /PrintPageRange[\@pdfprintpagerange]%
10032 \fi
10033 \ifx\@pdfnumcopies\@empty
10034 \else
10035 /NumCopies \@pdfnumcopies
10036 \fi
10037 }%
10038 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10039 \pdfmark{%
10040 pdfmark=/PUT,%
10041 Raw={%
10042 \string{Catalog\string}<<%
10043 \ifx\Hy@temp\@empty
10044 \else
10045 /ViewerPreferences<<\Hy@temp>>%
10046 \fi
10047 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10048 \ifx\@pdflang\@empty
10049 \else
10050 /Lang(\@pdflang)%
10051 \fi
10052 \ifx\@baseurl\@empty
10053 \else
10054 /URI<</Base(\Hy@pstringB)>>%
10055 \fi
10056 >>%
10057 }%
10058 }%
10059 }
10060 \providecommand*\@pdfview{XYZ}
10061 \providecommand*\@pdfviewparams{ %
10062 gsave revscl currentpoint grestore %
10063 72 add exch pop null exch null%
10064 }
10065 \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 .

```
10066 \g@addto@macro\Hy@FirstPageHook{%
10067   \headerps@out{%
```

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

```
10068   /DvipsToPDF { 65781 div } def%
10069   /PDFToDvips { 65781 mul } def%
10070   /BPToDvips{65781 mul}def%
10071   /HyperBorder { 1 PDFToDvips } def%
10072   /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.

```
10073   /BorderArrayPatch{%
10074     [exch{%
10075       dup dup type/integertype eq exch type/realtype eq or%
10076       {BPToDvips}if%
10077     }forall]%
10078   }def%

10079   /H.S {%
10080     currentpoint %
10081     HyperBorder add /pdf@lly exch def %
10082     dup DvipsToPDF 72 add /pdf@hoff exch def %
10083     HyperBorder sub /pdf@llx exch def%
10084   } def%

10085   /H.L {%
10086     2 sub %
10087     PDFToDvips /HyperBase exch def %
10088     currentpoint %
10089     HyperBase sub /pdf@ury exch def%
10090     /pdf@urx exch def%
10091   } def%

10092   /H.A {%
10093     H.L %
10094     currentpoint exch pop %
10095     HyperBase sub % baseline skip
10096     DvipsToPDF /pdf@voff exch def%
10097   } def%

10098   /H.R {%
10099     currentpoint %
10100     HyperBorder sub /pdf@ury exch def %
10101     HyperBorder add /pdf@urx exch def %
10102     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
10103   } def%

10104   }%
10105 }
10106 </dvipsone>
```

46.13 TeX4ht

```
10107 <*tex4ht>
10108 \providecommand*\XR@ext}{html}
10109 \def\Hy@raisedlink{}
10110 \@ifpackageloaded{tex4ht}{%
10111   \typeout{hyperref tex4ht: tex4ht already loaded}%
10112 }{%
10113   \RequirePackage[htex4ht]{tex4ht}%
10114 }
```

```

10115 \hyperlinkfileprefix{}
10116 \def\PDF@FinishDoc{}
10117 \def\PDF@SetupDoc{%
10118   \ifx\@baseurl\@empty
10119   \else
10120     \special{t4ht=<base href="\@baseurl">}%
10121   \fi
10122 }
10123 \def\hyper@anchor#1{%
10124   \Hy@SaveLastskip
10125   \begingroup
10126     \let\protect=\string
10127     \special{t4ht=<a name=%
10128       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10129   \endgroup
10130   \Hy@Activeanchortrue
10131   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10132   \special{t4ht=</a>}%
10133   \Hy@Activeanchorfalse
10134   \Hy@RestoreLastskip
10135 }
10136 \def\hyper@anchorstart#1{%
10137   \Hy@SaveLastskip
10138   \begingroup
10139     \hyper@chars\special{t4ht=<a name=%
10140       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10141   \endgroup
10142   \Hy@Activeanchortrue
10143 }
10144 \def\hyper@anchorend{%
10145   \special{t4ht=</a>}%
10146   \Hy@Activeanchorfalse
10147   \Hy@RestoreLastskip
10148 }
10149 \def\@urlltype{url}
10150 \def\hyper@linkstart#1#2{%
10151   \expandafter\Hy@colorlink\csname @#1color\endcsname
10152   \def\Hy@tempa{#1}%
10153   \ifx\Hy@tempa\@urlltype
10154     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10155   \else
10156     \begingroup
10157       \hyper@chars
10158       \special{t4ht=<a href=%
10159         \hyper@quote\#HyperDestNameFilter{#2}\hyper@quote>}%
10160     \endgroup
10161   \fi
10162 }
10163 \def\hyper@linkend{%
10164   \special{t4ht=</a>}%
10165   \Hy@endcolorlink
10166 }
10167 \def\hyper@linkfile#1#2#3{%
10168   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
10169 }
10170 \def\hyper@linkurl#1#2{%
10171   \leavevmode

```

```

10172 \ifHy@raiselinks
10173   \setbox\@tempboxa=\color@hbox #1\color@endbox
10174   \@linkdim\dp\@tempboxa
10175   \lower\@linkdim\hbox{%
10176     \begingroup
10177       \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
10178     \endgroup
10179   }%
10180   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10181   \@linkdim\ht\@tempboxa
10182   \advance\@linkdim by -6.5\p@
10183   \raise\@linkdim\hbox{\special{t4ht=</a>}}%
10184 \else
10185   \begingroup
10186     \hyper@chars
10187     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
10188     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10189     \special{t4ht=</a>}}%
10190   \endgroup
10191 \fi
10192 }

```

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

```

10193 \def\hyper@link#1#2#3{%
10194   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
10195 }
10196 \def\hyper@image#1#2{%
10197   \begingroup
10198     \hyper@chars
10199     \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}}%
10200   \endgroup
10201 }
10202 \let\autoref\ref
10203 \ifx \rEfLiNK \UnDef
10204   \def\rEfLiNK #1#2{#2}%
10205 \fi
10206 \def\backref#1{}
10207 </tex4ht>
10208 <*tex4htcfg>
10209 \IfFileExists{\jobname.cfg}{\endinput}{}
10210 \Preamble{html}
10211   \begin{document}%
10212 \EndPreamble
10213 \def\TeX{TeX}
10214 \def\OMEGA{\Omega}
10215 \def\LaTeX{LaTeX}
10216 \def\LaTeXe{\LaTeX2e}
10217 \def\eTeX{e-TeX}
10218 \def\MF{Metafont}
10219 \def\MP{MetaPost}
10220 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

10221 <*pdfmark>
10222 \long\def\@Form[#1]{%

```

```

10223 \g@addto@macro\Hy@FirstPageHook{%
10224 \headerps@out{%
10225 [%
10226   /_objdef{pdfDocEncoding}%
10227   /type/dict%
10228 /OBJ pdfmark%
10229 [%
10230   {pdfDocEncoding}%
10231   <<%
10232     /Type/Encoding%
10233     /Differences[%
10234       24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
10235       /tilde %
10236       39/quotesingle %
10237       96/grave %
10238       128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10239       /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10240       /quotedblbase/quotedblleft/quotedblright/quoteleft%
10241       /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
10242       /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10243       164/currency %
10244       166/brokenbar %
10245       168/dieresis/copyright/ordfeminine %
10246       172/logicalnot/.notdef/registered/macron/degree/plusminus%
10247       /twosuperior/threesuperior/acute/mu %
10248       183/periodcentered/cedilla/onesuperior/ordmasculine %
10249       188/onequarter/onehalf/threequarters %
10250       192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10251       /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10252       /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10253       /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10254       /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10255       /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10256       /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10257       /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
10258       /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
10259       /ucircumflex/udieresis/yacute/thorn/ydieresis%
10260     ]%
10261   >>%
10262 /PUT pdfmark%
10263 [%
10264   /_objdef{ZaDb}%
10265   /type/dict%
10266 /OBJ pdfmark%
10267 [%
10268   {ZaDb}%
10269   <<%
10270     /Type/Font%
10271     /Subtype/Type1%
10272     /Name/ZaDb%
10273     /BaseFont/ZapfDingbats%
10274   >>%
10275 /PUT pdfmark%
10276 [%
10277   /_objdef{Helv}%
10278   /type/dict%
10279 /OBJ pdfmark%

```

```

10280 [%
10281   {Helv}%
10282   <<%
10283     /Type/Font%
10284     /Subtype/Type1%
10285     /Name/Helv%
10286     /BaseFont/Helvetica%
10287     /Encoding{pdfDocEncoding}%
10288   >>%
10289 /PUT pdfmark%
10290 [%
10291   /_objdef{aform}%
10292   /type/dict%
10293 /OBJ pdfmark%
10294 [%
10295   /_objdef{afields}%
10296   /type/array%
10297 /OBJ pdfmark%
10298 {%
10299   [%
10300     /BBox[0 0 100 100]%
10301     /_objdef{Check}%
10302   /BP pdfmark %
10303   1 0 0 setrgbcolor%
10304   /ZapfDingbats 80 selectfont %
10305   20 20 moveto%
10306   (4)show%
10307 [/EP pdfmark%
10308 [%
10309   /BBox[0 0 100 100]%
10310   /_objdef{Cross}%
10311 /BP pdfmark %
10312 1 0 0 setrgbcolor%
10313 /ZapfDingbats 80 selectfont %
10314 20 20 moveto%
10315 (8)show%
10316 [/EP pdfmark%
10317 [%
10318   /BBox[0 0 250 100]%
10319   /_objdef{Submit}%
10320 /BP pdfmark %
10321 0.6 setgray %
10322 0 0 250 100 rectfill %
10323 1 setgray %
10324 2 2 moveto %
10325 2 98 lineto %
10326 248 98 lineto %
10327 246 96 lineto %
10328 4 96 lineto %
10329 4 4 lineto %
10330 fill %
10331 0.34 setgray %
10332 248 98 moveto %
10333 248 2 lineto %
10334 2 2 lineto %
10335 4 4 lineto %
10336 246 4 lineto %

```

```

10337 246 96 lineto %
10338 fill%
10339 /Helvetica 76 selectfont %
10340 0 setgray %
10341 8 22.5 moveto%
10342 (Submit)show%
10343 [/EP pdfmark%
10344 [%
10345   /BBox[0 0 250 100]%
10346   /_objdef{SubmitP}%
10347 /BP pdfmark %
10348 0.6 setgray %
10349 0 0 250 100 rectfill %
10350 0.34 setgray %
10351 2 2 moveto %
10352 2 98 lineto %
10353 248 98 lineto %
10354 246 96 lineto %
10355 4 96 lineto %
10356 4 4 lineto %
10357 fill %
10358 1 setgray %
10359 248 98 moveto %
10360 248 2 lineto %
10361 2 2 lineto %
10362 4 4 lineto %
10363 246 4 lineto %
10364 246 96 lineto %
10365 fill%
10366 /Helvetica 76 selectfont %
10367 0 setgray %
10368 10 20.5 moveto%
10369 (Submit)show%
10370 [/EP pdfmark%
10371 } ?pdfmark%
10372 [%
10373 {aform}%
10374 <<%
10375   /Fields{afields}%
10376   /DR<<%
10377     /Font<<%
10378       /ZaDb{ZaDb}%
10379       /Helv{Helv}%
10380     >>%
10381   >>%
10382   /DA(/Helv 10 Tf 0 g)%
10383   /CO{corder}%
10384   \ifHy@pdfa
10385   \else
10386     /NeedAppearances true%
10387   \fi
10388 >>%
10389 /PUT pdfmark%
10390 [%
10391 {Catalog}%
10392 <<%
10393   /AcroForm{aform}%

```

```

10394 >>%
10395 /PUT pdfmark%
10396 [%
10397   /_objdef{corder}%
10398   /type/array%
10399 /OBJ pdfmark% dps
10400 }}%
10401   \setkeys{Form}{#1}%
10402 }
10403 \def\@endForm{}
10404 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10405   \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10406 }
10407 \def\@TextField[#1]#2{% parameters, label
10408   \def\Fld@name{#2}%
10409   \def\Fld@default{}%
10410   \let\Fld@value\@empty
10411   \def\Fld@width{\DefaultWidthofText}%
10412   \def\Fld@height{%
10413     \ifFld@multiline
10414       \DefaultHeightofTextMultiline
10415     \else
10416       \DefaultHeightofText
10417     \fi
10418   }%
10419   \begingroup
10420     \Fld@toks={ }%
10421     \expandafter\HyField@SetKeys\expandafter{%
10422       \DefaultOptionsofText,#1%
10423     }%
10424     \HyField@FlagsText
10425     \ifFld@hidden\def\Fld@width{1sp}\fi
10426     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10427     \LayoutTextField{#2}{%
10428       \Hy@escapeform\PDFForm@Text
10429       \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10430         pdfmark=/ANN,Raw={\PDFForm@Text}%
10431       }%
10432     }%
10433   \endgroup
10434 }
10435 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10436   \def\Fld@name{#2}%
10437   \let\Fld@default\relax
10438   \let\Fld@value\relax
10439   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10440   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10441   \begingroup
10442     \Fld@menulength=0 %
10443     \@tempdima\z@
10444     \@for\@curropt:=#3\do{%
10445       \expandafter\Fld@checkequals\@curropt==\%
10446       \Hy@StepCount\Fld@menulength
10447       \settowidth{\@tempdimb}{\@currDisplay}%
10448       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10449     }%
10450     \advance\@tempdima by 15\p@

```

```

10451 \Field@toks={ }%
10452 \begingroup
10453 \HyField@SetKeys{#1}%
10454 \edef\x{\endgroup
10455 \noexpand\expandafter
10456 \noexpand\HyField@SetKeys
10457 \noexpand\expandafter{%
10458 \expandafter\noexpand\csname DefaultOptionsof%
10459 \ifFld@radio
10460 Radio%
10461 \else
10462 \ifFld@combo
10463 \ifFld@popdown
10464 PopdownBox%
10465 \else
10466 ComboBox%
10467 \fi
10468 \else
10469 ListBox%
10470 \fi
10471 \fi
10472 \endcsname
10473 }%
10474 } \x
10475 \HyField@SetKeys{#1}%
10476 \ifFld@hidden\def\Fld@width{1sp}\fi
10477 \ifx\Fld@value\relax
10478 \let\Fld@value\Fld@default
10479 \fi
10480 \LayoutChoiceField{#2}{%
10481 \ifFld@radio
10482 \HyField@FlagsRadioButton
10483 \@@Radio{#3}%
10484 \else
10485 \begingroup
10486 \HyField@FlagsChoice
10487 \ifdim\Fld@width<\@tempdima
10488 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10489 \edef\Fld@width{\the\@tempdima}%
10490 \fi
10491 \ifFld@combo
10492 \else
10493 \@tempdima=\the\Fld@menulength\Fld@charsize
10494 \advance\@tempdima by \Fld@borderwidth bp %
10495 \advance\@tempdima by \Fld@borderwidth bp %
10496 \edef\Fld@height{\the\@tempdima}%
10497 \fi
10498 \@@Listbox{#3}%
10499 \endgroup
10500 \fi
10501 }%
10502 \endgroup
10503 }
10504 \def\@@Radio#1{%
10505 \Fld@listcount=0 %
10506 \@for\@curropt:=#1\do{%
10507 \expandafter\Fld@checkequals\@curropt==\%

```



```

10508 \Hy@StepCount\Fld@listcount
10509 \@currDisplay\space
10510 \Hy@escapeform\PDFForm@Radio
10511 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10512 pdfmark=/ANN,%
10513 Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
10514 } % deliberate space between radio buttons
10515 }%
10516 }
10517 \newcount\Fld@listcount
10518 \def\@@ListBox#1{%
10519 \HyField@PDFChoices{#1}%
10520 \Hy@escapeform\PDFForm@List
10521 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10522 pdfmark=/ANN,Raw={\PDFForm@List}%
10523 }%
10524 }
10525 \def\@PushButton[#1]#2{% parameters, label
10526 \def\Fld@name{#2}%
10527 \begingroup
10528 \Field@toks={}%
10529 \expandafter\HyField@SetKeys\expandafter{%
10530 \DefaultOptionsofPushButton,#1%
10531 }%
10532 \ifHy@pdfa
10533 \PackageError{hyperref}{%
10534 PDF/A: Push button with JavaScript is prohibited%
10535 }{\@ehc
10536 \LayoutPushButtonField{%
10537 \leavevmode
10538 \MakeButtonField{#2}%
10539 }%
10540 \else
10541 \HyField@FlagsPushButton
10542 \ifFld@hidden\def\Fld@width{1sp}\fi
10543 \LayoutPushButtonField{%
10544 \leavevmode
10545 \Hy@escapeform\PDFForm@Push
10546 \pdfmark[\MakeButtonField{#2}]{%
10547 pdfmark=/ANN,Raw={\PDFForm@Push}%
10548 }%
10549 }%
10550 \fi
10551 \endgroup
10552 }
10553 \def\@Submit[#1]#2{%
10554 \Field@toks={}%
10555 \def\Fld@width{\DefaultWidthofSubmit}%
10556 \def\Fld@height{\DefaultHeightofSubmit}%
10557 \begingroup
10558 \expandafter\HyField@SetKeys\expandafter{%
10559 \DefaultOptionsofSubmit,#1%
10560 }%
10561 \HyField@FlagsPushButton
10562 \HyField@FlagsSubmit
10563 \ifFld@hidden\def\Fld@width{1sp}\fi
10564 \Hy@escapeform\PDFForm@Submit

```

```

10565 \pdfmark[\MakeButtonField{#2}]{%
10566 pdfmark=/ANN,%
10567 Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10568 }%
10569 \endgroup
10570 }
10571 \def\@Reset[#1]#2{%
10572 \Field@toks={ }%
10573 \def\Fld@width{\DefaultWidthofReset}%
10574 \def\Fld@height{\DefaultHeightofReset}%
10575 \begingroup
10576 \expandafter\HyField@SetKeys\expandafter{%
10577 \DefaultOptionsofReset,#1%
10578 }%
10579 \leavevmode
10580 \ifHy@pdfa
10581 \PackageError{hyperref}{%
10582 PDF/A: Reset action is prohibited%
10583 }\@ehc
10584 \MakeButtonField{#2}%
10585 \else
10586 \HyField@FlagsPushButton
10587 \ifFld@hidden\def\Fld@width{1sp}\fi
10588 \Hy@escapeform\PDFForm@Reset
10589 \pdfmark[\MakeButtonField{#2}]{%
10590 pdfmark=/ANN,Raw={\PDFForm@Reset}%
10591 }%
10592 \fi
10593 \endgroup
10594 }%
10595 \def\@CheckBox[#1]#2{% parameters, label
10596 \def\Fld@name{#2}%
10597 \def\Fld@default{0}%
10598 \begingroup
10599 \def\Fld@width{\DefaultWidthofCheckBox}%
10600 \def\Fld@height{\DefaultHeightofCheckBox}%
10601 \Field@toks={ }%
10602 \expandafter\HyField@SetKeys\expandafter{%
10603 \DefaultOptionsofCheckBox,#1%
10604 }%
10605 \HyField@FlagsCheckBox
10606 \ifFld@hidden\def\Fld@width{1sp}\fi
10607 \LayoutCheckField{#2}{%
10608 \Hy@escapeform\PDFForm@Check
10609 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10610 pdfmark=/ANN,Raw={\PDFForm@Check}%
10611 }%
10612 }%
10613 \endgroup
10614 }
10615 \pdfmark>

```

47.2 HyperTeX

```

10616 \hypertex
10617 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10618 \def\@endForm{}
10619 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum

```

```

10620 \typeout{Sorry, HyperTeX does not support FORM gauges}%
10621 }
10622 \def\@TextField[#1]#2{% parameters, label
10623 \typeout{Sorry, HyperTeX does not support FORM text fields}%
10624 }
10625 \def\@CheckBox[#1]#2{% parameters, label
10626 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10627 }
10628 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10629 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10630 }
10631 \def\@PushButton[#1]#2{% parameters, label
10632 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10633 }
10634 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10635 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10636 \end{hypertex}

```

47.3 TeX4ht

```

10637 \begin{tex4ht}
10638 \def\@Form[#1]{%
10639 \setkeys{Form}{#1}%
10640 \HCode{<form action="\Form@action" method="\Form@method">}%
10641 }
10642 \def\@endForm{\HCode{</form>}}
10643 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10644 \typeout{Sorry, TeX4ht does not support gauges}%
10645 }
10646 \def\@TextField[#1]#2{% parameters, label
10647 \let\Hy@reserved@a\@empty
10648 \def\Fld@name{#2}%
10649 \def\Fld@default{}%
10650 \bgroup
10651 \Field@toks={ }%
10652 \setkeys{Field}{#1}%
10653 \HCode{<label for="\Fld@name">#2</label>}%
10654 \ifFld@password
10655 \@@PasswordField
10656 \else
10657 \@@TextField
10658 \fi
10659 \egroup
10660 }
10661 \def\@@PasswordField{%
10662 \HCode{%
10663 <input type="password" %
10664 id="\Fld@name" %
10665 name="\Fld@name" %
10666 \ifFld@hidden type="hidden" \fi
10667 value="\Fld@default" %
10668 \the\Field@toks
10669 >%
10670 }%
10671 }
10672 \def\@@TextField{%
10673 \ifFld@multiline
10674 \HCode{<textarea %

```

```

10675     \ifFld@readonly readonly \fi
10676     id="\Fld@name" %
10677     name="\Fld@name" %
10678     \ifFld@hidden type="hidden" \fi
10679     \the\Field@toks>%
10680 }%
10681 \Fld@default
10682 \HCode{</textarea>}%
10683 \else
10684 \HCode{<input type="textbox" %
10685     \ifFld@readonly readonly \fi
10686     id="\Fld@name" %
10687     name="\Fld@name" %
10688     \ifFld@hidden type="hidden" \fi
10689     value="\Fld@default" %
10690     \the\Field@toks>%
10691 }%
10692 \fi
10693 }
10694 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10695     \def\Fld@name{#2}%
10696     \def\Fld@default{}%
10697     \let\Hy@reserved@a\relax
10698     \begingroup
10699         \expandafter\Fld@findlength#3\\%
10700         \Field@toks={ }%
10701         \setkeys{Field}{#1}%
10702         #2%
10703         \ifFld@radio
10704             \expandafter\@@Radio#3\\%
10705         \else
10706             \expandafter\@@Menu#3\\%
10707         \fi
10708     \endgroup
10709 }
10710 \def\Fld@findlength#1\\{%
10711     \Fld@menulength=0 %
10712     \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10713 }
10714 \def\@@Menu#1\\{%
10715     \HCode{<select size="\the\Fld@menulength" %
10716         name="\Fld@name" %
10717         \the\Field@toks>%
10718     }%
10719     \@for\@curropt:=#1\do{%
10720         \expandafter\Fld@checkequals\@curropt==\\%
10721         \HCode{<option %
10722             \ifx\@curropt\Fld@default selected \fi
10723             value="\@currValue">\@currDisplay</option>%
10724         }%
10725     }%
10726     \HCode{</select>}%
10727 }
10728 \def\@@Radio#1\\{%
10729     \@for\@curropt:=#1\do{%
10730         \expandafter\Fld@checkequals\@curropt==\\%
10731         \HCode{<input type="radio" %

```

```

10732     \ifx\@curropt\Fld@default checked \fi
10733     name="\Fld@name" %
10734     value="\@currValue" %
10735     \the\Fld@toks>%
10736   }%
10737   \@currDisplay
10738 }%
10739 }
10740 \def\@PushButton[#1]#2{% parameters, label
10741   \def\Fld@name{#2}%
10742   \bgroup
10743     \Fld@toks={ }%
10744     \setkeys{Field}{#1}%
10745     \HCode{<input type="button" %
10746       name="\Fld@name" %
10747       value="#2" %
10748       \the\Fld@toks>%
10749     }%
10750     \HCode{</button>}%
10751   \egroup
10752 }
10753 \def\@Submit[#1]#2{%
10754   \HCode{<button type="submit">#2</button>}%
10755 }
10756 \def\@Reset[#1]#2{%
10757   \HCode{<button type="reset">#2</button>}%
10758 }
10759 \def\@CheckBox[#1]#2{% parameters, label
10760   \let\Hy@reserved@a\@empty
10761   \def\Fld@name{#2}%
10762   \def\Fld@default{0}%
10763   \bgroup
10764     \Fld@toks={ }%
10765     \setkeys{Field}{#1}%
10766     \HCode{<input type="checkbox" %
10767       \ifFld@checked checked \fi
10768       \ifFld@disabled disabled \fi
10769       \ifFld@readonly readonly \fi
10770       name="\Fld@name" %
10771       \ifFld@hidden type="hidden" \fi
10772       value="\Fld@default" %
10773       \the\Fld@toks>%
10774     #2%
10775   }%
10776   \egroup
10777 }
10778 </tex4ht>

```

47.4 pdfTeX

```

10779 <*pdftex>
10780 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10781   \typeout{Sorry, pdftex does not support FORM gauges}%
10782 }
10783 \def\MakeFieldObject#1#2{\sbox0{#1}%
10784   \immediate\pdfxform0 %
10785   \expandafter\edef\csname #2object\endcsname{%
10786     \the\pdflastxform\space 0 R%

```

```

10787 }%
10788 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
10789 }%
10790 \def\HyField@afields{}
10791 \begingroup\expandafter\expandafter\expandafter\endgroup
10792 \expandafter\ifx\csname pdflastlink\endcsname\relax
10793   \let\HyField@AddToFields\relax
10794   \PackageInfo{hyperref}{%
10795     You need pdfTeX 1.40.0 for setting the /Fields entry.\MessageBreak
10796     Adobe Reader/Acrobat accepts an empty /Field array,\MessageBreak
10797     but other PDF viewers might complain%
10798   }%
10799 \else
10800   \def\HyField@AddToFields{%
10801     \xdef\HyField@afields{%
10802       \ifx\HyField@afields\empty
10803       \else
10804         \HyField@afields
10805         \space
10806       \fi
10807       \the\pdflastlink\space 0 R%
10808     }%
10809   }%
10810 \fi
10811 \def\@Form[#1]{%
10812   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10813   \setkeys{Form}{#1}%
10814   \Hy@FormObjects
10815   \ifnum\pdftexversion>13 %
10816     \pdfrefobj\OBJ@pdfdocencoding
10817     \pdfrefobj\OBJ@ZaDb
10818     \pdfrefobj\OBJ@Helv
10819   \fi
10820   \AtEndDocument{%
10821     \immediate\pdfobj{%
10822       <<%
10823         /Fields[\HyField@afields]%
10824         /DR<<%
10825           /Font<<%
10826             /ZaDb \OBJ@ZaDb\space 0 R%
10827             /Helv \OBJ@Helv\space 0 R%
10828           >>%
10829         >>%
10830         /DA(/Helv 10 Tf 0 g)%
10831         \ifHy@pdfa
10832         \else
10833           /NeedAppearances true%
10834         \fi
10835       >>%
10836     }%
10837     \edef\OBJ@acroform{\the\pdflastobj}%
10838     \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10839   }%
10840   \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

10841   \begingroup
10842     \fontfamily{pzd}%

```

```

10843     \fontencoding{U}%
10844     \fontseries{m}%
10845     \fontshape{n}%
10846     \selectfont
10847     \char123 %
10848   \endgroup
10849 }{Ding}%
10850 \MakeFieldObject{%
10851   \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10852 }{Submit}%
10853 \MakeFieldObject{%
10854   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10855 }{SubmitP}%
10856 }
10857 \def\@endForm{}
10858 \def\@TextField[#1]#2{% parameters, label
10859   \def\Fld@name{#2}%
10860   \def\Fld@default{}%
10861   \let\Fld@value\@empty
10862   \def\Fld@width{\DefaultWidthofText}%
10863   \def\Fld@height{%
10864     \ifFld@multiline
10865       \DefaultHeightofTextMultiline
10866     \else
10867       \DefaultHeightofText
10868     \fi
10869   }%
10870   \begingroup
10871     \Field@toks={ }%
10872     \expandafter\HyField@SetKeys\expandafter{%
10873       \DefaultOptionsofText,#1%
10874     }%
10875     \PDFForm@Name
10876     \HyField@FlagsText
10877     \ifFld@hidden\def\Fld@width{1sp}\fi
10878     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10879     \LayoutTextField{#2}{%
10880       \Hy@escapeform\PDFForm@Text
10881       \pdfstartlink user {\PDFForm@Text}\relax
10882       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
10883       \HyField@AddToFields
10884     }%
10885   \endgroup
10886 }
10887 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10888   \def\Fld@name{#2}%
10889   \let\Fld@default\relax
10890   \let\Fld@value\relax
10891   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10892   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10893   \begingroup
10894     \Fld@menulength=0 %
10895     \@tempdima\z@
10896     \for\@curropt:=#3\do{%
10897       \expandafter\Fld@checkequals\@curropt==\%
10898       \Hy@StepCount\Fld@menulength
10899       \settowidth{\@tempdimb}{\@currDisplay}%

```

```

10900     \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10901 }%
10902 \advance\@tempdima by 15\p@
10903 \Field@toks={ }%
10904 \begingroup
10905   \HyField@SetKeys{#1}%
10906 \edef\x{\endgroup
10907   \noexpand\expandafter
10908   \noexpand\HyField@SetKeys
10909   \noexpand\expandafter{%
10910     \expandafter\noexpand\csname DefaultOptionsof%
10911       \ifFld@radio
10912         Radio%
10913       \else
10914         \ifFld@combo
10915           \ifFld@popdown
10916             PopdownBox%
10917           \else
10918             ComboBox%
10919           \fi
10920         \else
10921           ListBox%
10922         \fi
10923       \fi
10924     \endcsname
10925   }%
10926 }\x
10927 \HyField@SetKeys{#1}%
10928 \PDFForm@Name
10929 \ifFld@hidden\def\Fld@width{1sp}\fi
10930 \ifx\Fld@value\relax
10931   \let\Fld@value\Fld@default
10932 \fi
10933 \LayoutChoiceField{#2}{%
10934   \ifFld@radio
10935     \HyField@FlagsRadioButton
10936     \@@Radio{#3}%
10937   \else
10938     \begingroup
10939     \HyField@FlagsChoice
10940     \ifdim\Fld@width<\@tempdima
10941       \ifdim\@tempdima<1cm\@tempdima1cm\fi
10942       \edef\Fld@width{\the\@tempdima}%
10943     \fi
10944     \ifFld@combo
10945     \else
10946       \@tempdima=\the\Fld@menulength\Fld@charsize
10947       \advance\@tempdima by \Fld@borderwidth bp %
10948       \advance\@tempdima by \Fld@borderwidth bp %
10949       \edef\Fld@height{\the\@tempdima}%
10950     \fi
10951     \@@ListBox{#3}%
10952   \endgroup
10953 \fi
10954 }%
10955 \endgroup
10956 }

```



```

10957 \def\@@Radio#1{%
10958   \Fld@listcount=0 %
10959   \@for\@curropt:=#1\do{%
10960     \expandafter\Fld@checkequals\@curropt==\\%
10961     \Hy@StepCount\Fld@listcount
10962     \@currDisplay\space
10963     \leavevmode
10964     \Hy@escapeform\PDFForm@Radio
10965     \pdfstartlink user {%
10966       \PDFForm@Radio
10967       /AP<<%
10968       /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.

```

10969       /\@currValue\space \DingObject
10970       >>%
10971       >>%
10972     }%
10973     \relax
10974     \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10975     \ifnum\Fld@listcount=1 %
10976       \HyField@AddToFields
10977     \fi
10978     \space % deliberate space between radio buttons
10979   }%
10980 }
10981 \newcount\Fld@listcount
10982 \def\@@ListBox#1{%
10983   \HyField@PDFChoices{#1}%
10984   \leavevmode
10985   \Hy@escapeform\PDFForm@List
10986   \pdfstartlink user {\PDFForm@List}\relax
10987   \MakeChoiceField{\Fld@width}{\Fld@height}%
10988   \pdfendlink
10989   \HyField@AddToFields
10990 }
10991 \def\@PushButton[#1]#2{% parameters, label
10992   \def\Fld@name{#2}%
10993   \begingroup
10994     \Field@toks={ }%
10995     \expandafter\HyField@SetKeys\expandafter{%
10996       \DefaultOptionsofPushButton,#1%
10997     }%
10998     \PDFForm@Name
10999     \ifHy@pdfa
11000       \PackageError{hyperref}{%
11001         PDF/A: Push button with JavaScript is prohibited%
11002       }\@ehc
11003       \LayoutPushButtonField{%
11004         \leavevmode
11005         \MakeButtonField{#2}%
11006       }%
11007     \else
11008       \HyField@FlagsPushButton
11009       \ifFld@hidden\def\Fld@width{1sp}\fi
11010       \LayoutPushButtonField{%

```

```

11011         \leavevmode
11012         \Hy@escapeform\PDFForm@Push
11013         \pdfstartlink user {\PDFForm@Push}\relax
11014         \MakeButtonField{#2}%
11015         \pdfendlink
11016         \HyField@AddToFields
11017     }%
11018     \fi
11019 \endgroup
11020 }
11021 \def\@Submit[#1]#2{%
11022     \Field@toks={ }%
11023     \def\Fld@width{\DefaultWidthofSubmit}%
11024     \def\Fld@height{\DefaultHeightofSubmit}%
11025     \begingroup
11026         \expandafter\HyField@SetKeys\expandafter{%
11027             \DefaultOptionsofSubmit,#1%
11028         }%
11029         \HyField@FlagsPushButton
11030         \HyField@FlagsSubmit
11031         \ifFld@hidden\def\Fld@width{1sp}\fi
11032         \leavevmode
11033         \Hy@escapeform\PDFForm@Submit
11034         \pdfstartlink user {%
11035             \PDFForm@Submit
11036             /AP<</N \SubmitObject/D \SubmitPObject>>%
11037         }%
11038         \relax
11039         \MakeButtonField{#2}%
11040         \pdfendlink
11041         \HyField@AddToFields
11042     \endgroup
11043 }
11044 \def\@Reset[#1]#2{%
11045     \Field@toks={ }%
11046     \def\Fld@width{\DefaultWidthofReset}%
11047     \def\Fld@height{\DefaultHeightofReset}%
11048     \begingroup
11049         \expandafter\HyField@SetKeys\expandafter{%
11050             \DefaultOptionsofReset,#1%
11051         }%
11052         \leavevmode
11053         \ifHy@pdfa
11054             \PackageError{hyperref}{%
11055                 PDF/A: Reset action is prohibited%
11056             }\@ehc
11057             \MakeButtonField{#2}%
11058         \else
11059             \HyField@FlagsPushButton
11060             \ifFld@hidden\def\Fld@width{1sp}\fi
11061             \Hy@escapeform\PDFForm@Reset
11062             \pdfstartlink user {\PDFForm@Reset}\relax
11063             \MakeButtonField{#2}%
11064             \pdfendlink
11065             \HyField@AddToFields
11066         \fi
11067     \endgroup

```

```

11068 }
11069 \def\@CheckBox[#1]#2{% parameters, label
11070   \def\Fld@name{#2}%
11071   \def\Fld@default{0}%
11072   \begingroup
11073     \def\Fld@width{\DefaultWidthofCheckBox}%
11074     \def\Fld@height{\DefaultHeightofCheckBox}%
11075     \Field@toks={ }%
11076     \expandafter\HyField@SetKeys\expandafter{%
11077       \DefaultOptionsofCheckBox,#1%
11078     }%
11079     \PDFForm@Name
11080     \HyField@FlagsCheckBox
11081     \ifFld@hidden\def\Fld@width{1sp}\fi
11082     \LayoutCheckField{#2}{%
11083       \Hy@escapeform\PDFForm@Check
11084       \pdfstartlink user {\PDFForm@Check}\relax
11085       \MakeCheckField{\Fld@width}{\Fld@height}%
11086       \pdfendlink
11087       \HyField@AddToFields
11088     }%
11089   \endgroup
11090 }
11091 \def\Hy@FormObjects{%
11092   \pdfobj {%
11093     <<%
11094       /Type/Encoding%
11095       /Differences[%
11096         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
11097         /ring/tilde %
11098         39/quotesingle %
11099         96/grave %
11100         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11101         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11102         /quotedblbase/quotedblleft/quotedblright/quoteleft%
11103         /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
11104         /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11105         164/currency %
11106         166/brokenbar %
11107         168/dieresis/copyright/ordfeminine %
11108         172/logicalnot/.notdef/registered/macron/degree/plusminus%
11109         /twosuperior/threesuperior/acute/mu %
11110         183/periodcentered/cedilla/onesuperior/ordmasculine %
11111         188/onequarter/onehalf/threequarters %
11112         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11113         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11114         /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11115         /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11116         /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11117         /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11118         /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11119         /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
11120         /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
11121         /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
11122       ]%
11123     >>%
11124   }%

```

```

11125 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
11126 \pdfobj{%
11127   <<%
11128     /Type/Font%
11129     /Subtype/Type1%
11130     /Name/ZaDb%
11131     /BaseFont/ZapfDingbats%
11132   >>%
11133 }%
11134 \xdef\OBJ@ZaDb{\the\pdflastobj}%
11135 \pdfobj{%
11136   <<%
11137     /Type/Font%
11138     /Subtype/Type1%
11139     /Name/Helv%
11140     /BaseFont/Helvetica%
11141     /Encoding \OBJ@pdfdocencoding\space 0 R%
11142   >>%
11143 }%
11144 \xdef\OBJ@Helv{\the\pdflastobj}%
11145 \global\let\Hy@FormObjects\relax
11146 }
11147 </pdfTeX>

```

47.5 dvipdfm

D. P. Story adapted the pdfTeX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

11148 < *dvipdfm>

```

\@Gauge

```

11149 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11150 \typeout{Sorry, dvipdfm does not support FORM gauges}%
11151 }

```

\@Form

```

11152 \def\@Form[#1]{%
11153   \@ifundefined{textcolor}{\let\textcolor@gobble}{}%
11154   \setkeys{Form}{#1}%
11155   \Hy@FormObjects
11156   \@pdfm@mark{obj @afields []}%
11157   \@pdfm@mark{obj @corder []}%
11158   \@pdfm@mark{%
11159     obj @aform <<%
11160       /Fields @afields%
11161       /DR<<%
11162         /Font<<%
11163         /ZaDb @OBJZaDb%
11164         /Helv @OBJHelv%
11165       >>%
11166     >>%
11167     /DA(/Helv 10 Tf 0 g)%
11168     /CO @corder%
11169     \ifHy@pdfa
11170     \else
11171       /NeedAppearances true%
11172     \fi

```

```

11173    >>%
11174    }%
11175    \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
11176 }

\@endForm

11177 \def\@endForm{}

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
11178 \def\dvipdfm@setdim{%
11179   height \the\ht\pdfm@box\space
11180   width \the\wd\pdfm@box\space
11181   depth \the\dp\pdfm@box\space
11182 }

\HyField@AnnotCount
11183 \newcount\HyField@AnnotCount
11184 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
11185 \def\HyField@AdvanceAnnotCount{%
11186   \global\advance\HyField@AnnotCount\@ne
11187 }

\HyField@TheAnnotCount
11188 \def\HyField@TheAnnotCount{%
11189   \the\HyField@AnnotCount
11190 }

\@TextField
11191 \def\@TextField[#1]#2{% parameters, label
11192   \def\Fld@name{#2}%
11193   \def\Fld@default{}%
11194   \let\Fld@value\@empty
11195   \def\Fld@width{\DefaultWidthofText}%
11196   \def\Fld@height{%
11197     \ifFld@multiline
11198       \DefaultHeightofTextMultiline
11199     \else
11200       \DefaultHeightofText
11201     \fi
11202   }%
11203   \begingroup
11204     \Field@toks={ }%
11205     \expandafter\HyField@SetKeys\expandafter{%
11206       \DefaultOptionsofText,#1%
11207     }%
11208     \PDFForm@Name
11209     \HyField@FlagsText
11210     \ifFld@hidden\def\Fld@width{1sp}\fi
11211     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11212     \setbox\pdfm@box=\hbox{%
11213       \MakeTextField{\Fld@width}{\Fld@height}%
11214     }%
11215     \HyField@AdvanceAnnotCount
11216     \LayoutTextField{#2}{%

```

```

11217 \Hy@escapeform\PDFForm@Text
11218 \@pdfm@mark{%
11219 ann @text\HyField@TheAnnotCount\space
11220 \dvipdfm@setdim << \PDFForm@Text >>%
11221 }%
11222 }%
11223 \unhbox\pdfm@box
11224 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
11225 % record in @afields array
11226 \endgroup
11227 }

```

\@ChoiceMenu

```

11228 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11229 \def\Fld@name{#2}%
11230 \let\Fld@default\relax
11231 \let\Fld@value\relax
11232 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11233 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11234 \begingroup
11235 \Fld@menulength=0 %
11236 \@tempdima\z@
11237 \@for\@curropt:=#3\do{%
11238 \expandafter\Fld@checkequals\@curropt==\%
11239 \Hy@StepCount\Fld@menulength
11240 \settowidth{\@tempdimb}{\@currDisplay}%
11241 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11242 }%
11243 \advance\@tempdima by 15\p@
11244 \Field@toks={ }%
11245 \begingroup
11246 \HyField@SetKeys{#1}%
11247 \edef\x{\endgroup
11248 \noexpand\expandafter
11249 \noexpand\HyField@SetKeys
11250 \noexpand\expandafter{%
11251 \expandafter\noexpand\cename DefaultOptionsof%
11252 \ifFld@radio
11253 Radio%
11254 \else
11255 \ifFld@combo
11256 \ifFld@popdown
11257 PopdownBox%
11258 \else
11259 ComboBox%
11260 \fi
11261 \else
11262 ListBox%
11263 \fi
11264 \fi
11265 \endcsname
11266 }%
11267 }\x
11268 \HyField@SetKeys{#1}%
11269 \PDFForm@Name
11270 \ifFld@hidden\def\Fld@width{1sp}\fi
11271 \ifx\Fld@value\relax

```

```

11272     \let\Fld@value\Fld@default
11273   \fi
11274   \LayoutChoiceField{#2}{%
11275     \ifFld@radio
11276       \HyField@FlagsRadioButton
11277       \@@Radio{#3}%
11278     \else
11279       \beginngroup
11280         \HyField@FlagsChoice
11281         \ifdim\Fld@width<\@tempdima
11282           \ifdim\@tempdima<1cm\@tempdima1cm\fi
11283           \edef\Fld@width{\the\@tempdima}%
11284         \fi
11285         \ifFld@combo
11286         \else
11287           \@tempdima=\the\Fld@menulength\Fld@charsize
11288           \advance\@tempdima by \Fld@borderwidth bp %
11289           \advance\@tempdima by \Fld@borderwidth bp %
11290           \edef\Fld@height{\the\@tempdima}%
11291         \fi
11292         \@@ListBox{#3}%
11293       \endgroup
11294     \fi
11295   }%
11296 \endgroup
11297 }

```

\@@Radio

```

11298 \def\@@Radio#1{%
11299   \Fld@listcount=0 %
11300   \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
11301   \@for\@curropt:=#1\do{%
11302     \expandafter\Fld@checkequals\@curropt==\%
11303     \Hy@StepCount\Fld@listcount
11304     \@currDisplay\space
11305     \leavevmode
11306     \Hy@escapeform\PDFForm@Radio
11307     \ifnum\Fld@listcount=1 %
11308       \HyField@AdvanceAnnotCount
11309     \fi
11310     \@pdfm@mark{%
11311       ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi
11312       \dvi pdfm@setdim
11313       <<%
11314         \PDFForm@Radio
11315         /AP<</N<</\@currValue /null>>>>%
11316       >>%
11317     }%
11318     \unhcopy\pdfm@box\space% deliberate space between radio buttons
11319     \ifnum\Fld@listcount=1 %
11320       \@pdfm@mark{put @afields @radio\HyField@TheAnnotCount}%
11321     \fi
11322   }%
11323 }

```

\Fld@listcount

```

11324 \newcount\Fld@listcount

```

\@@Listbox

```
11325 \def\@@Listbox#1{%
11326   \HyField@PDFChoices{#1}%
11327   \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
11328   \leavevmode
11329   \Hy@escapeform\PDFForm@List
11330   \HyField@AdvanceAnnotCount
11331   \@pdfm@mark{%
11332     ann @list\HyField@TheAnnotCount\space
11333     \dvipdfm@setdim
11334     <<\PDFForm@List>>%
11335   }%
11336   \unhbox\pdfm@box
11337   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
11338 }
```

\@PushButton

```
11339 \def\@PushButton[#1]#2{% parameters, label
11340   \def\Fld@name{#2}%
11341   \begingroup
11342     \Field@toks={ }%
11343     \expandafter\HyField@SetKeys\expandafter{%
11344       \DefaultOptionsofPushButton,#1%
11345     }%
11346     \PDFForm@Name
11347     \ifHy@pdfa
11348       \PackageError{hyperref}{%
11349         PDF/A: Push button with JavaScript is prohibited%
11350       }\@ehc
11351     \LayoutPushButtonField{%
11352       \leavevmode
11353       \MakeButtonField{#2}%
11354     }%
11355   \else
11356     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11357     \HyField@FlagsPushButton
11358     \ifFld@hidden\def\Fld@width{1sp}\fi
11359     \HyField@AdvanceAnnotCount
11360     \LayoutPushButtonField{%
11361       \leavevmode
11362       \Hy@escapeform\PDFForm@Push
11363       \@pdfm@mark{%
11364         ann @push\HyField@TheAnnotCount\space
11365         \dvipdfm@setdim
11366         <<\PDFForm@Push>>%
11367       }%
11368     }%
11369     \unhbox\pdfm@box
11370     \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
11371   \fi
11372 \endgroup
11373 }
```

\@Submit

```
11374 \def\@Submit[#1]#2{%
11375   \Field@toks={ }%
11376   \def\Fld@width{\DefaultWidthofSubmit}%

```



```

11377 \def\Fld@height{\DefaultHeightofSubmit}%
11378 \begingroup
11379   \expandafter\HyField@SetKeys\expandafter{%
11380     \DefaultOptionsofSubmit,#1%
11381   }%
11382   \HyField@FlagsPushButton
11383   \HyField@FlagsSubmit
11384   \ifFld@hidden\def\Fld@width{1sp}\fi
11385   \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11386   \leavevmode
11387   \Hy@escapeform\PDFForm@Submit
11388   \HyField@AdvanceAnnotCount
11389   \@pdfm@mark{%
11390     ann @submit\HyField@TheAnnotCount\space
11391     \dvi pdfm@setdim
11392     <<\PDFForm@Submit>>%
11393   }%
11394   \unhbox\pdfm@box%
11395   \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
11396 \endgroup
11397 }

```

\@Reset

```

11398 \def\@Reset[#1]#2{%
11399   \Field@toks={ }%
11400   \def\Fld@width{\DefaultWidthofReset}%
11401   \def\Fld@height{\DefaultHeightofReset}%
11402   \begingroup
11403     \expandafter\HyField@SetKeys\expandafter{%
11404       \DefaultOptionsofReset,#1%
11405     }%
11406     \leavevmode
11407     \ifHy@pdfa
11408       \PackageError{hyperref}{%
11409         PDF/A: Reset action is prohibited%
11410       }\@ehc
11411       \MakeButtonField{#2}%
11412     \else
11413       \HyField@FlagsPushButton
11414       \ifFld@hidden\def\Fld@width{1sp}\fi
11415       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11416       \Hy@escapeform\PDFForm@Reset
11417       \HyField@AdvanceAnnotCount
11418       \@pdfm@mark{%
11419         ann @reset\HyField@TheAnnotCount\space
11420         \dvi pdfm@setdim
11421         <<\PDFForm@Reset>>%
11422       }%
11423       \unhbox\pdfm@box
11424       \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11425     \fi
11426   \endgroup
11427 }

```

\@CheckBox

```

11428 \def\@CheckBox[#1]#2{% parameters, label
11429   \def\Fld@name{#2}%

```

```

11430 \def\Fld@default{0}%
11431 \begingroup
11432   \def\Fld@width{\DefaultWidthofCheckBox}%
11433   \def\Fld@height{\DefaultHeightofCheckBox}%
11434   \Field@toks={ }%
11435   \expandafter\HyField@SetKeys\expandafter{%
11436     \DefaultOptionsofCheckBox,#1%
11437   }%
11438   \PDFForm@Name
11439   \HyField@FlagsCheckBox
11440   \ifFld@hidden\def\Fld@width{1sp}\fi
11441   \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
11442   \HyField@AdvanceAnnotCount
11443   \LayoutCheckField{#2}{%
11444     \Hy@escapeform\PDFForm@Check
11445     \@pdfm@mark{%
11446       ann @check\HyField@TheAnnotCount\space
11447       \dvipdfm@setdim
11448       <<\PDFForm@Check>>%
11449     }%
11450     \unhbox\pdfm@box
11451     \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11452   }%
11453 \endgroup
11454 }

11455 \def\Hy@FormObjects{%
11456   \@pdfm@mark{obj @OBJpdfdocencoding%
11457     <<%
11458       /Type/Encoding%
11459       /Differences[
11460         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11461         39/quotesingle %
11462         96/grave %
11463         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11464         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11465         /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11466         /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11467         /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11468         164/currency %
11469         166/brokenbar %
11470         168/dieresis/copyright/ordfeminine %
11471         172/logicalnot/.notdef/registered/macron/degree/plusminus%
11472         /twosuperior/threesuperior/acute/mu %
11473         183/periodcentered/cedilla/onesuperior/ordmasculine %
11474         188/onequarter/onehalf/threequarters %
11475         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11476         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11477         /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11478         /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11479         /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11480         /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11481         /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11482         /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
11483         /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11484         /thorn/ydieresis%
11485       ]%
11486     >>%

```

```

11487 }%
11488 \@pdfm@mark{obj @OBJZaDb%
11489 <<%
11490 /Type/Font%
11491 /Subtype/Type1%
11492 /Name/ZaDb%
11493 /BaseFont/ZapfDingbats%
11494 >>%
11495 }%
11496 \@pdfm@mark{obj @OBJHelv%
11497 <<%
11498 /Type/Font%
11499 /Subtype/Type1%
11500 /Name/Helv%
11501 /BaseFont/Helvetica%
11502 /Encoding @OBJpdfdocencoding%
11503 >>%
11504 }%
11505 \global\let\Hy@FormObjects\relax
11506 }
11507 </dvipdfm>

```

47.6 Common forms part

```

11508 <*pdfform>

```

\Hy@escapestring

```

11509 \begingroup\expandafter\expandafter\expandafter\endgroup
11510 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11511 \let\Hy@escapestring\@firstofone
11512 \def\Hy@escapeform#1{%
11513 \ifHy@escapeform
11514 \def\Hy@escapestring##1{%
11515 \noexpand\Hy@escapestring{\noexpand##1}%
11516 }%
11517 \edef\Hy@temp{#1}%
11518 \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
11519 \def\Hy@escapestring##1{%
11520 \@ifundefined{Hy@esc@\string##1}{%
11521 ##1%
11522 \ThisShouldNotHappen
11523 }{%
11524 \csname Hy@esc@\string##1\endcsname
11525 }%
11526 }%
11527 \else
11528 \let\Hy@escapestring\@firstofone
11529 \fi
11530 }%
11531 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11532 \ifx\\#3\\%
11533 \else
11534 \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11535 \Hy@ReturnAfterFi{%
11536 \Hy@@escapeform#3\@nil
11537 }%
11538 \fi

```

```

11539 }%
11540 \else
11541 \def\Hy@escapeform#1{%
11542 \ifHy@escapeform
11543 \let\Hy@escapestring\pdfescapestring
11544 \else
11545 \let\Hy@escapestring\@firstofone
11546 \fi
11547 }%
11548 \Hy@escapeform{}%
11549 \fi

```

\PDFForm@Name

```

11550 \def\PDFForm@Name{%
11551 \begingroup
11552 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11553 \ifHy@unicode
11554 \Hy@unicodedefalse
11555 \fi
11556 \fi
11557 \pdfstringdef\Hy@gtemp\Fld@name
11558 \endgroup
11559 \let\Fld@name\Hy@gtemp
11560 }

```

\PDFForm@Check

```

11561 \def\PDFForm@Check{%
11562 /Subtype/Widget%
11563 \Fld@annotflags
11564 /T(\Fld@name)%
11565 /FT/Btn%
11566 \Fld@flags
11567 /Q \Fld@align
11568 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11569 /MK<<%
11570 \ifnum\Fld@rotation=\z@
11571 \else
11572 /R \Fld@rotation
11573 \fi
11574 \ifx\Fld@bordercolor\relax
11575 \else
11576 /BC[\Fld@bordercolor]%
11577 \fi
11578 \ifx\Fld@bcolor\relax
11579 \else
11580 /BG[\Fld@bcolor]%
11581 \fi
11582 /CA(\Hy@escapestring{\Fld@cbsymbol})%
11583 >>%
11584 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11585 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11586 /H/P%
11587 \ifFld@checked /V/Yes\else /V/Off\fi
11588 }

```

\PDFForm@Push

```

11589 \ifHy@pdfa

```

```

11590 \else
11591   \def\PDFForm@Push{%
11592     /Subtype/Widget%
11593     \Fld@annotflags
11594     /T(\Fld@name)%
11595     /FT/Btn%
11596     \Fld@flags
11597     /H/P%
11598     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11599     \ifcase0\ifnum\Fld@rotation=\z@   \else 1\fi
11600       \ifx\Fld@bordercolor\relax\else 1\fi
11601       \space
11602     \else
11603       /MK<<%
11604         \ifnum\Fld@rotation=\z@
11605         \else
11606           /R \Fld@rotation
11607         \fi
11608         \ifx\Fld@bordercolor\relax
11609         \else
11610           /BC[\Fld@bordercolor]%
11611         \fi
11612       >>%
11613     \fi
11614     /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
11615   }%
11616 \fi

```

\Fld@additionalactions

```

11617 \def\Fld@@additionalactions{%
K input (keystroke) format
11618   \ifx\Fld@keystroke@code\@empty
11619   \else
11620     /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11621   \fi
F display format
11622   \ifx\Fld@format@code\@empty
11623   \else
11624     /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11625   \fi
V validation
11626   \ifx\Fld@validate@code\@empty
11627   \else
11628     /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11629   \fi
C calculation
11630   \ifx\Fld@calculate@code\@empty
11631   \else
11632     /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11633   \fi
Fo receiving the input focus
11634   \ifx\Fld@onfocus@code\@empty
11635   \else
11636     /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11637   \fi

```

Bl loosing the input focus (blurred)

```
11638 \ifx\Fld@onblur@code\@empty
11639 \else
11640 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11641 \fi
```

D pressing the mouse button (down)

```
11642 \ifx\Fld@onmousedown@code\@empty
11643 \else
11644 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11645 \fi
```

U releasing the mouse button (up)

```
11646 \ifx\Fld@onmouseup@code\@empty
11647 \else
11648 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11649 \fi
```

E cursor enters the annotation's active area.

```
11650 \ifx\Fld@onenter@code\@empty
11651 \else
11652 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11653 \fi
```

X cursor exits the annotation's active area.

```
11654 \ifx\Fld@onexit@code\@empty
11655 \else
11656 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11657 \fi
```

```
11658 }
11659 \def\Fld@additionalactions{%
11660 \if-\Fld@@additionalactions-%
11661 \else
11662 \ifHy@pdfa
11663 \else
11664 /AA<<\Fld@@additionalactions>>%
11665 \fi
11666 \fi
11667 }
```

\PDFForm@List

```
11668 \def\PDFForm@List{%
11669 /Subtype/Widget%
11670 \Fld@annotflags
11671 /T(\Fld@name)%
11672 /FT/Ch%
11673 \Fld@flags
11674 /Q \Fld@align
11675 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11676 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11677 \ifx\Fld@bordercolor\relax\else 1\fi
11678 \ifx\Fld@bcolor\relax \else 1\fi
11679 \space
11680 \else
11681 /MK<<%
11682 \ifnum\Fld@rotation=\z@
11683 \else
11684 /R \Fld@rotation
11685 \fi
```

```

11686     \ifx\Fld@bordercolor\relax
11687     \else
11688         /BC[\Fld@bordercolor]%
11689     \fi
11690     \ifx\Fld@bcolor\relax
11691     \else
11692         /BG[\Fld@bcolor]%
11693     \fi
11694     >>%
11695 \fi
11696 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11697     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11698 \Fld@choices
11699 \Fld@additionalactions
11700 }

```

\PDFForm@Radio

```

11701 \def\PDFForm@Radio{%
11702 /Subtype/Widget%
11703 \Fld@annotflags
11704 /T(\Fld@name)%
11705 /FT/Btn%
11706 \Fld@flags
11707 /H/P%
11708 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11709 /MK<<%
11710     \ifnum\Fld@rotation=\z@
11711     \else
11712         /R \Fld@rotation
11713     \fi
11714     \ifx\Fld@bordercolor\relax
11715     \else
11716         /BC[\Fld@bordercolor]%
11717     \fi
11718     \ifx\Fld@bcolor\relax
11719     \else
11720         /BG[\Fld@bcolor]%
11721     \fi
11722     /CA(\Fld@radiosymbol)%
11723 >>%
11724 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11725     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11726 \ifx\@currValue\Fld@default
11727     /V/\Fld@default
11728 \else
11729     /V/Off%
11730 \fi
11731 \Fld@additionalactions
11732 }

```

\PDFForm@Text

```

11733 \def\PDFForm@Text{%
11734 /Subtype/Widget%
11735 \Fld@annotflags
11736 /T(\Fld@name)%
11737 /FT/Tx%
11738 \Fld@flags

```

```

11739 /Q \Fld@align
11740 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11741 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11742 \ifx\Fld@bordercolor\relax\else 1\fi
11743 \ifx\Fld@bcolor\relax \else 1\fi
11744 \space
11745 \else
11746 /MK<<%
11747 \ifnum\Fld@rotation=\z@
11748 \else
11749 /R \Fld@rotation
11750 \fi
11751 \ifx\Fld@bordercolor\relax
11752 \else
11753 /BC[\Fld@bordercolor]%
11754 \fi
11755 \ifx\Fld@bcolor\relax
11756 \else
11757 /BG[\Fld@bcolor]%
11758 \fi
11759 >>%
11760 \fi
11761 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11762 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11763 /DV(\Hy@escapestring{\Fld@default})%
11764 /V(\Hy@escapestring{\Fld@value})%
11765 \Fld@additionalactions
11766 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11767 }

```

\PDFForm@Submit

```

11768 \def\PDFForm@Submit{%
11769 /Subtype/Widget%
11770 \Fld@annotflags
11771 /T(\Fld@name)%
11772 /FT/Btn%
11773 \Fld@flags
11774 /H/P%
11775 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11776 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11777 \ifx\Fld@bordercolor\relax\else 1\fi
11778 \space
11779 \else
11780 /MK<<%
11781 \ifnum\Fld@rotation=\z@
11782 \else
11783 /R \Fld@rotation
11784 \fi
11785 \ifx\Fld@bordercolor\relax
11786 \else
11787 /BC[\Fld@bordercolor]%
11788 \fi
11789 >>%
11790 \fi
11791 /A<<%
11792 /S/SubmitForm%
11793 /F<<%

```



```

11794      /FS/URL%
11795      /F(\Hy@escapestring{\Form@action})%
11796      >>%
11797      \Fld@submitflags
11798      >>%
11799  }

\PDFForm@Reset

11800 \ifHy@pdfa
11801 \else
11802   \def\PDFForm@Reset{%
11803     /Subtype/Widget%
11804     \Fld@annotflags
11805     /T(\Fld@name)%
11806     /FT/Btn%
11807     \Fld@flags
11808     /H/P%
11809     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11810     \ifcase0\ifnum\Fld@rotation=\z@   \else 1\fi
11811         \ifx\Fld@bordercolor\relax\else 1\fi
11812         \space
11813     \else
11814       /MK<<%
11815         \ifnum\Fld@rotation=\z@
11816         \else
11817           /R \Fld@rotation
11818         \fi
11819         \ifx\Fld@bordercolor\relax
11820         \else
11821           /BC[\Fld@bordercolor]%
11822         \fi
11823       /CA (Clear)
11824       /AC (Done)
11825       >>%
11826       \fi
11827       /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11828       /A<</S/ResetForm>>%
11829     }%
11830 \fi

11831 </pdfform>
11832 <*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`

```

11833 \def\phantomsection{%
11834   \Hy@GlobalStepCount\Hy@linkcounter

```

```

11835 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11836 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11837 }
11838 \end{package}

```

48.1 Bookmarks

```
11839 \begin{outlines}
```

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

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

When using the right-to-left typesetting based on ε -TeX, the order of the \BOOKMARK commands written to the \outlinefile could appear wrong, because of mis-feature of ε -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.

```

11840 \def\Hy@writebookmark#1#2#3#4#5{%
11841   % section number, text, label, level, file
11842   \ifx\WriteBookmarks\relax%
11843   \else
11844     \ifnum#4>\Hy@bookmarksdepth\relax
11845     \else
11846       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
11847     \fi
11848   \fi
11849 }
11850 \def\Hy@currentbookmarklevel{0}
11851 \def\Hy@numberline#1{#1 }
11852 \def\@@writetorep#1#2#3#4#5{%
11853   \begingroup
11854     \edef\Hy@tempa{#5}%
11855     \ifx\Hy@tempa\Hy@bookmarkstype
11856       \edef\Hy@level{#4}%
11857       \ifx\Hy@levelcheck Y%
11858         \@tempcnta\Hy@level\relax
11859         \advance\@tempcnta by -1 %
11860         \ifnum\Hy@currentbookmarklevel<\@tempcnta
11861           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
11862           \advance\@tempcnta by 1 %
11863           \Hy@Warning{%
11864             Difference (\the\@tempcnta) between bookmark levels is %
11865             greater \MessageBreak than one, level fixed%
11866           }%
11867           \@tempcnta\Hy@currentbookmarklevel
11868           \advance\@tempcnta by 1 %
11869           \edef\Hy@level{\the\@tempcnta}%
11870         \fi
11871       \else
11872         \global\let\Hy@levelcheck Y%
11873       \fi

```

```

11874 \global\let\Hy@currentbookmarklevel\Hy@level
11875 \@tempcnta\Hy@level\relax
11876 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
11877 \advance\@tempcnta by -1 %
11878 \edef\Hy@tempa{#3}%
11879 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
11880 \ifx\Hy@tempa\Hy@tempb
11881 \Hy@Warning{%
11882     The anchor of a bookmark and its parent's must not%
11883     \MessageBreak be the same. Added a new anchor%
11884 }%
11885 \phantomsection
11886 \fi
11887 \ifHy@bookmarksnumbered
11888 \let\numberline\Hy@numberline
11889 \let\partnumberline\Hy@numberline
11890 \let\chapternumberline\Hy@numberline
11891 \else
11892 \let\numberline\@gobble
11893 \let\partnumberline\@gobble
11894 \let\chapternumberline\@gobble
11895 \fi
11896 \pdfstringdef\Hy@tempa{#2}%
11897 \if@filesw
11898 \stepcounter{bookmark@seq@number}%
11899 \protected@write\@outlinefile{}{%
11900     \protect\BOOKMARK
11901     [\Hy@level] [\@bookmarkopenstatus{\Hy@level}]{#3}%
11902     {\Hy@tempa}{\Hy@tempb}%
11903     \@percentchar\space\thebookmark@seq@number
11904 }%
11905 \fi
11906 \fi
11907 \endgroup
11908 }
11909 \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] .

```

11910 \newcommand{\currentpdfbookmark}{%
11911 \pdfbookmark[\Hy@currentbookmarklevel]%
11912 }
11913 \newcommand{\subpdfbookmark}{%
11914 \@tempcnta\Hy@currentbookmarklevel
11915 \Hy@StepCount\@tempcnta
11916 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
11917 }
11918 \newcommand{\belowpdfbookmark}[2]{%
11919 \@tempcnta\Hy@currentbookmarklevel
11920 \Hy@StepCount\@tempcnta
11921 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
11922 \advance\@tempcnta by -1 %
11923 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
11924 }

```

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.

```

11925 \renewcommand\pdfbookmark[3][0]{%
11926   \Hy@writebookmark{}{#2}{#3.#1}{#1}{toc}%
11927   \hyper@anchorstart{#3.#1}\hyper@anchorend
11928 }
11929 \def\BOOKMARK{\ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}}
11930 \def\@BOOKMARK[#1]{\ifnextchar[{\@@BOOKMARK[#1]}{\@@@BOOKMARK[#1][-]}}

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the texinfopdf macros.

48.1.1 Rerun warning

\Hy@OutlineRerunCheck

```

11931 \RequirePackage{rerunfilecheck}[2009/12/10]
11932 \def\Hy@OutlineRerunCheck{%
11933   \RerunFileCheck{\jobname.out}{%
11934     \immediate\closeout\@outlinefile
11935   }{%
11936     Rerun to get outlines right\MessageBreak
11937     or use package 'bookmark'%
11938   }%
11939 }

```

48.1.2 Driver stuff

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

```

11940 <*vtx>
11941 \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.

```

11942 \begingroup
11943   \catcode'\'=12 %
11944   \ifnum\Hy@VTeXversion<650 %
11945     \catcode\'"=12 %
11946     \gdef\hv@pdf@char#1#2#3{%
11947       \char
11948       \ifcase'#1#2#3 %
11949         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
11950         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
11951         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
11952         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
11953         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
11954         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
11955         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
11956         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
11957         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
11958         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
11959         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
11960         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
11961         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
11962         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
11963         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%

```

```

11964 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
11965 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
11966 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
11967 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
11968 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
11969 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
11970 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
11971 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
11972 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
11973 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
11974 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
11975 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
11976 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
11977 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
11978 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
11979 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
11980 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
11981 \fi
11982 }%
11983 \else
11984 \gdef\hv@pdf@char{\char'}%
11985 \fi
11986 \endgroup

```

\@@BOOKMARK

```

11987 \def\@@BOOKMARK[#1][#2]#3#4#5{%
11988 \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
11989 \edef\@mycount{\the\@serial@counter}%
11990 \Hy@StepCount\@serial@counter
11991 \edef\@parcount{%
11992 \expandafter\ifx\csname @count@#5\endcsname\relax
11993 0%
11994 \else
11995 \csname @count@#5\endcsname
11996 \fi
11997 }%
11998 \immediate\special{%
11999 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
12000 s=\ifx#2-c\else o\fi,t=#4%
12001 }%
12002 }%

```

\ReadBookmarks

```

12003 \def\ReadBookmarks{%
12004 \begingroup
12005 \def\0{\hv@pdf@char 0}%
12006 \def\1{\hv@pdf@char 1}%
12007 \def\2{\hv@pdf@char 2}%
12008 \def\3{\hv@pdf@char 3}%
12009 \def\{({}%
12010 \def\)}{)%}%
12011 \def\do##1{%
12012 \ifnum\the\catcode'##1=\active
12013 \makeother##1%
12014 \fi
12015 }%
12016 \dospecials

```

```

12017 \InputIfFileExists{\jobname.out}{-}{-}%
12018 \endgroup
12019 \ifx\WriteBookmarks\relax
12020 \else
12021 \if@filesw
12022 \newwrite\@outlinefile
12023 \Hy@OutlineRerunCheck
12024 \immediate\openout\@outlinefile=\jobname.out\relax
12025 \ifHy@typexml
12026 \immediate\write\@outlinefile{<relaxxml>\relax}%
12027 \fi
12028 \fi
12029 \fi
12030 }

12031 </vtex>
12032 <!*vtex>
12033 \def\ReadBookmarks{%
12034 \begingroup
12035 \escapechar='\\%
12036 \let\escapechar\@gobble %
12037 \def\@BOOKMARK[##1][##2]###4##5{\calc@bm@number{##5}}%
12038 \InputIfFileExists{\jobname.out}{-}{-}%
12039 \ifx\WriteBookmarks\relax
12040 \global\let\WriteBookmarks\relax
12041 \fi
12042 \def\@BOOKMARK[##1][##2]###4##5{%
12043 \def\Hy@temp{##4}%
12044 <*pdftex>
12045 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12046 \Hy@OutlineName{}\Hy@pstringName{%
12047 ##2\check@bm@number{##3}}%
12048 }{%
12049 \expandafter\strip@prefix\meaning\Hy@temp
12050 }%
12051 </pdftex>
12052 <*pdfmark>
12053 \pdfmark{%
12054 pdfmark=/OUT,%
12055 Count={##2\check@bm@number{##3}},%
12056 Dest={##3},%
12057 Title=\expandafter\strip@prefix\meaning\Hy@temp
12058 }%
12059 </pdfmark>
12060 <*dvipdfm>
12061 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12062 \@pdfm@mark{%
12063 outline \ifHy@DvipdfmxOutlineOpen
12064 [%
12065 \ifnum##21>\z@
12066 \else
12067 -%
12068 \fi
12069 ] %
12070 \fi
12071 ##1<<%
12072 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
12073 /A<<%

```

```

12074          /S/GoTo%
12075          /D(\Hy@pstringName)%
12076          >>%
12077          >>%
12078      }%
12079 </dvipdfm>
12080 }%
12081 {%
12082     \def\WriteBookmarks{0}%
12083     \InputIfFileExists{\jobname.out}{\relax}%
12084 }%
12085 {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{\relax}%
12086     \ifx\WriteBookmarks\relax
12087     \else
12088         \if@filesw
12089             \newwrite\@outlinefile
12090             \Hy@OutlineRerunCheck
12091             \immediate\openout\@outlinefile=\jobname.out\relax
12092             \ifHy@typexml
12093                 \immediate\write\@outlinefile{<relaxxml>\relax}%
12094             \fi
12095         \fi
12096     \fi
12097     \endgroup
12098 }
12099 <*pdfTeX>
12100 \def\Hy@OutlineName#1#2#3#4{%
12101     \pdfoutline goto name{#2}count#3{#4}%
12102 }
12103 </pdfTeX>
12104 \def\check@bm@number#1{%
12105     \expandafter\ifx\csname B_#1\endcsname\relax
12106     0%
12107     \else
12108         \csname B_#1\endcsname
12109     \fi
12110 }
12111 \def\calc@bm@number#1{%
12112     \@tempcnta=\check@bm@number{#1}\relax
12113     \advance\@tempcnta by 1 %
12114     \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
12115 }
12116 </!vTeX>
12117 \ifHy@implicit
12118 \else
12119     \expandafter\endinput
12120 \fi
12121 </outlines>
12122 <*outlines | hypertex>
12123 \newlength\Hy@SectionHShift
12124 \def\Hy@SectionAnchor{%
12125     \ifx\protect\@typeset@protect
12126         \Hy@@SectionAnchor
12127     \fi
12128 }
12129 \DeclareRobustCommand*\Hy@SectionAnchor{%

```

```

12130 \leavevmode
12131 \hbox to Opt{%
12132   \kern-\Hy@SectionHShift
12133   \Hy@raisedlink{%
12134     \hyper@anchorstart{\@currentHref}\hyper@anchorend
12135   }%
12136   \hss
12137 }%
12138 }
12139 \let\H@old@ssect\@ssect
12140 \def\@ssect#1#2#3#4#5{%
12141   \Hy@GlobalStepCount\Hy@linkcounter
12142   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12143   \setlength{\Hy@SectionHShift}{#1}%
12144   \H@old@ssect{#1}{#2}{#3}{#4}{\Hy@SectionAnchor#5}%
12145 }
12146 \let\H@old@schapter\@schapter
12147 \def\@schapter#1{%
12148   \begingroup
12149     \let\@mkboth\@gobbletwo
12150     \Hy@GlobalStepCount\Hy@linkcounter
12151     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12152     \Hy@raisedlink{%
12153       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12154     }%
12155   \endgroup
12156   \H@old@schapter{#1}%
12157 }

```

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:

```

12158 \ifundefined{@chapter}{-}{-}%
12159 \let\Hy@org@chapter\@chapter
12160 \def\@chapter{%
12161   \def\Hy@next{%
12162     \Hy@GlobalStepCount\Hy@linkcounter
12163     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12164     \Hy@raisedlink{%
12165       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12166     }%
12167   }%
12168   \ifnum\c@secnumdepth>\m@ne
12169     \@ifundefined{if@mainmatter}%
12170     \iftrue{\csname if@mainmatter\endcsname}%
12171     \let\Hy@next\relax
12172   \fi
12173   \fi
12174   \Hy@next
12175   \Hy@org@chapter
12176 }%
12177 }
12178 \let\H@old@part\@part
12179 \begingroup\expandafter\expandafter\expandafter\endgroup
12180 \expandafter\ifx\csname chapter\endcsname\relax
12181   \let\Hy@secnum@part\z@
12182 \else

```



```

12183 \let\Hy@secnum@part\m@ne
12184 \fi
12185 \def\@part{%
12186   \ifnum\Hy@secnum@part>\c@secnumdepth
12187     \phantomsection
12188   \fi
12189   \H@old@part
12190 }

12191 \let\H@old@spart\@spart
12192 \def\@spart#1{%
12193   \Hy@GlobalStepCount\Hy@linkcounter
12194   \xdef\@currentHref{part*.\the\Hy@linkcounter}%
12195   \Hy@raisedlink{%
12196     \hyper@anchorstart{\@currentHref}\hyper@anchorend
12197   }%
12198   \H@old@spart{#1}%
12199 }

12200 \let\H@old@sect\@sect
12201 \def\@sect#1#2#3#4#5#6[#7]#8{%
12202   \ifnum #2>\c@secnumdepth
12203     \expandafter\@firstoftwo
12204   \else
12205     \expandafter\@secondoftwo
12206   \fi
12207   {%
12208     \Hy@GlobalStepCount\Hy@linkcounter
12209     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12210     \setlength{\Hy@SectionHShift}{#3}%
12211     \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[\@currentHref]{\Hy@SectionAnchor#8}%
12212   }{%
12213     \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[\@currentHref]{#8}%
12214   }%
12215 }

12216 </outlines | hypertex>
12217 <*outlines>

12218 \expandafter\def\csname Parent-4\endcsname{}
12219 \expandafter\def\csname Parent-3\endcsname{}
12220 \expandafter\def\csname Parent-2\endcsname{}
12221 \expandafter\def\csname Parent-1\endcsname{}
12222 \expandafter\def\csname Parent0\endcsname{}
12223 \expandafter\def\csname Parent1\endcsname{}
12224 \expandafter\def\csname Parent2\endcsname{}
12225 \expandafter\def\csname Parent3\endcsname{}
12226 \expandafter\def\csname Parent4\endcsname{}

12227 </outlines>

```

49 Compatibility with koma-script classes

```
12228 <*outlines | hypertex>
```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias.Isenberg@gmx.de. With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

12229 \def\Hy@tempa{%
12230   \def\@addchap[##1]##2{%

```

```

12231 \typeout{##2}%
12232 \if@twoside
12233 \mkboth{##1}{}%
12234 \else
12235 \mkboth{}{##1}%
12236 \fi
12237 \addtocontents{lof}{\protect\addvspace{10\p@}}%
12238 \addtocontents{lot}{\protect\addvspace{10\p@}}%
12239 \Hy@GlobalStepCount\Hy@linkcounter
12240 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12241 \Hy@raisedlink{%
12242 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12243 }%
12244 \if@twocolumn
12245 \topnewpage[\@makeschapterhead{##2}]%
12246 \else
12247 \makeschapterhead{##2}%
12248 \afterheading
12249 \fi
12250 \addcontentsline{toc}{chapter}{##1}%
12251 }%
12252 }
12253 \@ifclassloaded{scrbook}{%
12254 \ifclasslater{scrbook}{2001/01/01}{%
12255 \let\Hy@tempa\@empty
12256 }{}%
12257 }{%
12258 \@ifclassloaded{scrreprt}{%
12259 \ifclasslater{scrreprt}{2001/01/01}{%
12260 \let\Hy@tempa\@empty
12261 }{}%
12262 }{%
12263 \let\Hy@tempa\@empty
12264 }%
12265 }%
12266 \Hy@tempa
12267 </outlines | hypertex>

```

50 Encoding definition files for encodings of PDF strings

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50.1 PD1 encoding

```

12268 <*pd1enc>
12269 \DeclareFontEncoding{PD1}{}{}

```

Accents

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12270 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
12271 \DeclareTextAccent{\'}{PD1}{\textacute}
12272 \DeclareTextAccent{\`}{PD1}{\textasciicircum}
12273 \DeclareTextAccent{\~}{PD1}{\texttilde}
12274 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
12275 \DeclareTextAccent{\r}{PD1}{\textring}
12276 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
12277 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
12278 \DeclareTextAccent{\c}{PD1}{\textcedilla}

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12279 \DeclareTextAccent{=} {PD1}{\textasciimacron}
12280 \DeclareTextAccent{b} {PD1}{\textmacronbelow}
12281 \DeclareTextAccent{d} {PD1}{\textdotbelow}
12282 \DeclareTextCompositeCommand{' } {PD1}{\@empty}{\textasciigrave}
12283 \DeclareTextCompositeCommand{' } {PD1}{\@empty}{\textacute}
12284 \DeclareTextCompositeCommand{^} {PD1}{\@empty}{\textasciicircum}
12285 \DeclareTextCompositeCommand{~} {PD1}{\@empty}{\texttilde}
12286 \DeclareTextCompositeCommand{"} {PD1}{\@empty}{\textasciidieresis}
12287 \DeclareTextCompositeCommand{r} {PD1}{\@empty}{\textstring}
12288 \DeclareTextCompositeCommand{v} {PD1}{\@empty}{\textasciicaron}
12289 \DeclareTextCompositeCommand{.} {PD1}{\@empty}{\textdotaccent}
12290 \DeclareTextCompositeCommand{c} {PD1}{\@empty}{\textcedilla}
12291 \DeclareTextCompositeCommand{=} {PD1}{\@empty}{\textasciimacron}
12292 \DeclareTextCompositeCommand{b} {PD1}{\@empty}{\textmacronbelow}
12293 \DeclareTextCompositeCommand{d} {PD1}{\@empty}{\textdotbelow}
12294 \DeclareTextCompositeCommand{' } {PD1}{\ }{\textasciigrave}
12295 \DeclareTextCompositeCommand{' } {PD1}{\ }{\textacute}
12296 \DeclareTextCompositeCommand{^} {PD1}{\ }{\textasciicircum}
12297 \DeclareTextCompositeCommand{~} {PD1}{\ }{\texttilde}
12298 \DeclareTextCompositeCommand{"} {PD1}{\ }{\textasciidieresis}
12299 \DeclareTextCompositeCommand{r} {PD1}{\ }{\textstring}
12300 \DeclareTextCompositeCommand{v} {PD1}{\ }{\textasciicaron}
12301 \DeclareTextCompositeCommand{.} {PD1}{\ }{\textdotaccent}
12302 \DeclareTextCompositeCommand{c} {PD1}{\ }{\textcedilla}
12303 \DeclareTextCompositeCommand{=} {PD1}{\ }{\textasciimacron}
12304 \DeclareTextCompositeCommand{b} {PD1}{\ }{\textmacronbelow}
12305 \DeclareTextCompositeCommand{d} {PD1}{\ }{\textdotbelow}
12306 \DeclareTextCommand{k} {PD1}[1]{\TextSymbolUnavailable{k{#1}}#1}
12307 \DeclareTextCommand{t} {PD1}[1]{\TextSymbolUnavailable{t{#1}}#1}
12308 \DeclareTextCommand{newtie} {PD1}[1]{\TextSymbolUnavailable{newtie{#1}}#1}

```

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

```

12309 % U+0009 (CHARACTER TABULATION)
12310 \DeclareTextCommand{textHT} {PD1}{\011}% U+0009
12311 % U+000A (LINE FEED)
12312 \DeclareTextCommand{textLF} {PD1}{\012}% U+000A
12313 % U+000D (CARRIAGE RETURN)
12314 \DeclareTextCommand{textCR} {PD1}{\015}% U+000D

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Accent glyph names

```

12315 % U+02D8 BREVE; breve
12316 \DeclareTextCommand{textasciibreve} {PD1}{\030}% U+02D8
12317 % U+02C7 CARON; caron
12318 \DeclareTextCommand{textasciicaron} {PD1}{\031}% U+02C7
12319 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
12320 \DeclareTextCommand{textcircumflex} {PD1}{\032}% U+02C6
12321 % U+02D9 DOT ABOVE; dotaccent
12322 \DeclareTextCommand{textdotaccent} {PD1}{\033}% U+02D9
12323 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
12324 \DeclareTextCommand{texthungarumlaut} {PD1}{\034}% U+02DD
12325 % U+02DB OGONEK; ogonek
12326 \DeclareTextCommand{textogonek} {PD1}{\035}% U+02DB
12327 % U+02DA RING ABOVE; ring
12328 \DeclareTextCommand{textring} {PD1}{\036}% U+02DA
12329 % U+02DC SMALL TILDE; ilde, *tilde
12330 \DeclareTextCommand{texttilde} {PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; *space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

12331 % U+0022 QUOTATION MARK; quotedbl
 12332 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
 12333 % U+0023 NUMBER SIGN; numbersign
 12334 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
 12335 % U+0024 DOLLAR SIGN; dollar
 12336 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
 12337 % U+0025 PERCENT SIGN; percent
 12338 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
 12339 % U+0026 AMPERSAND; ampersand
 12340 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026
 \047: U+0027 APOSTROPHE; quotesingle

 12341 % U+0028 LEFT PARENTHESIS; parenleft
 12342 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028
 12343 % U+0029 RIGHT PARENTHESIS; parenright
 12344 \DeclareTextCommand{\textparenright}{PD1}{\string\)%}% \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
 12345 % U+002E FULL STOP; period
 12346 \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
 12347 % U+003C LESS-THAN SIGN; less
 12348 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
 \075: U+003D EQUALS SIGN; equal
 12349 % U+003E GREATER-THAN SIGN; greater
 12350 \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
 12351 % U+005C REVERSE SOLIDUS; backslash
 12352 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 12353 % U+005E CIRCUMFLEX ACCENT; asciicircum
 12354 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 12355 % U+005F LOW LINE; underscore
 12356 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 12357 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 12358 % U+0060 GRAVE ACCENT; grave
 12359 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h

12360 % U+0069 LATIN SMALL LETTER I; i
 12361 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 12362 % U+007B LEFT CURLY BRACKET; braceleft
 12363 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 12364 % U+007C VERTICAL LINE; *bar, verticalbar
 12365 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 12366 % U+007D RIGHT CURLY BRACKET; braceright
 12367 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 12368 % U+007E TILDE; asciitilde
 12369 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 12370 % U+2022 BULLET; bullet
 12371 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 12372 % U+2020 DAGGER; dagger
 12373 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 12374 % U+2021 DOUBLE DAGGER; daggerdbl
 12375 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 12376 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 12377 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 12378 % U+2014 EM DASH; emdash
 12379 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 12380 % U+2013 EN DASH; endash
 12381 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 12382 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 12383 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 12384 % U+2044 FRACTION SLASH; fraction
 12385 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 12386 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft
 12387 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039
 12388 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright
 12389 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A
 12390 % U+2212 MINUS SIGN; minus
 12391 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 12392 % U+2030 PER MILLE SIGN; perthousand
 12393 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 12394 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 12395 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 12396 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 12397 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 12398 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 12399 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
 12400 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 12401 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
 12402 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 12403 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
 12404 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 12405 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 12406 % U+2122 TRADE MARK SIGN; trademark
 12407 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 12408 % U+FB01 LATIN SMALL LIGATURE FI; fi
 12409 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
 12410 % U+FB02 LATIN SMALL LIGATURE FL; fl
 12411 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
 12412 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash

12413 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
12414 % U+0152 LATIN CAPITAL LIGATURE OE; OE
12415 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
12416 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
12417 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
12418 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
12419 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178
12420 \DeclareTextCommand{\IJ}{PD1}{\230}
12421 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
12422 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
12423 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
12424 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
12425 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
12426 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
12427 % U+0153 LATIN SMALL LIGATURE OE; oe
12428 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
12429 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
12430 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
12431 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
12432 \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.
12433 % U+20AC EURO SIGN; *Euro, euro
12434 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
12435 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
12436 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
12437 % U+00A2 CENT SIGN; cent
12438 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
12439 % U+00A3 POUND SIGN; sterling
12440 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
12441 % U+00A4 CURRENCY SIGN; currency
12442 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
12443 % U+00A5 YEN SIGN; yen
12444 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
12445 % U+00A6 BROKEN BAR; brokenbar
12446 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
12447 % U+00A7 SECTION SIGN; section
12448 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
12449 % U+00A8 DIAERESIS; dieresis
12450 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
12451 % U+00A9 COPYRIGHT SIGN; copyright
12452 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
12453 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
12454 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
12455 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
12456 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
12457 % U+00AC NOT SIGN; logicalnot
12458 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
12459 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not

No glyph \255 in PDFDocEncoding.
12460 % U+00AE REGISTERED SIGN; registered
12461 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
12462 % U+00AF MACRON; *macron, overscore
12463 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
12464 % U+00B0 DEGREE SIGN; degree
12465 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
12466 % U+00B1 PLUS-MINUS SIGN; plusminus

12467 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
12468 % U+00B2 SUPERSCRIPT TWO; twosuperior
12469 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
12470 % U+00B3 SUPERSCRIPT THREE; threesuperior
12471 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
12472 % U+00B4 ACUTE ACCENT; acute
12473 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
12474 % U+00B5 MICRO SIGN; mu, mu1
12475 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
12476 % U+00B6 PILCROW SIGN; paragraph
12477 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
12478 % U+00B7 MIDDLE DOT; middot, *periodcentered
12479 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
12480 % U+00B8 CEDILLA; cedilla
12481 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
12482 % U+00B9 SUPERSCRIPT ONE; onesuperior
12483 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
12484 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
12485 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
12486 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
12487 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
12488 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
12489 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
12490 % U+00BD VULGAR FRACTION ONE HALF; onehalf
12491 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
12492 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
12493 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
12494 % U+00BF INVERTED QUESTION MARK; questiondown
12495 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
12496 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
12497 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
12498 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
12499 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
12500 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
12501 \DeclareTextCompositeCommand{\`}{PD1}{A}{\302}% U+00C2
12502 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
12503 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
12504 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
12505 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
12506 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
12507 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
12508 % U+00C6 LATIN CAPITAL LETTER AE; AE
12509 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
12510 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
12511 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
12512 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
12513 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
12514 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
12515 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
12516 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
12517 \DeclareTextCompositeCommand{\`}{PD1}{E}{\312}% U+00CA
12518 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
12519 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
12520 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
12521 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
12522 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
12523 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD

12524 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
12525 \DeclareTextCompositeCommand{\`}{PD1}{I}{\316}% U+00CE
12526 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
12527 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
12528 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
12529 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
12530 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
12531 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
12532 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
12533 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
12534 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
12535 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
12536 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
12537 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
12538 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
12539 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
12540 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
12541 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
12542 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
12543 % U+00D7 MULTIPLICATION SIGN; multiply
12544 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
12545 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
12546 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
12547 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
12548 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
12549 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
12550 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
12551 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
12552 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
12553 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
12554 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
12555 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
12556 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
12557 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
12558 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
12559 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
12560 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
12561 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
12562 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
12563 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
12564 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
12565 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
12566 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
12567 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
12568 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
12569 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
12570 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
12571 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
12572 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
12573 % U+00E6 LATIN SMALL LETTER AE; ae
12574 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
12575 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
12576 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
12577 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
12578 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8
12579 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
12580 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9

12581 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
 12582 \DeclareTextCompositeCommand{\`}{PD1}{e}{\352}% U+00EA
 12583 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
 12584 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
 12585 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
 12586 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
 12587 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
 12588 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
 12589 \DeclareTextCompositeCommand{\`}{PD1}{i}{\355}% U+00ED
 12590 \DeclareTextCompositeCommand{\`}{PD1}{i}{\355}% U+00ED
 12591 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
 12592 \DeclareTextCompositeCommand{\`}{PD1}{i}{\356}% U+00EE
 12593 \DeclareTextCompositeCommand{\`}{PD1}{i}{\356}% U+00EE
 12594 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
 12595 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
 12596 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
 12597 % U+00F0 LATIN SMALL LETTER ETH; eth
 12598 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
 12599 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
 12600 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
 12601 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
 12602 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
 12603 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
 12604 \DeclareTextCompositeCommand{\`}{PD1}{o}{\363}% U+00F3
 12605 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
 12606 \DeclareTextCompositeCommand{\`}{PD1}{o}{\364}% U+00F4
 12607 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
 12608 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
 12609 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 12610 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
 12611 % U+00F7 DIVISION SIGN; divide
 12612 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
 12613 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 12614 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
 12615 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 12616 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
 12617 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 12618 \DeclareTextCompositeCommand{\`}{PD1}{u}{\372}% U+00FA
 12619 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 12620 \DeclareTextCompositeCommand{\`}{PD1}{u}{\373}% U+00FB
 12621 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 12622 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
 12623 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 12624 \DeclareTextCompositeCommand{\`}{PD1}{y}{\375}% U+00FD
 12625 % U+00FE LATIN SMALL LETTER THORN; thorn
 12626 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
 12627 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 12628 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
 12629 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

12630 \DeclareTextCommand{\SS}{PD1}{SS}
 12631 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

12632 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
 12633 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
 12634 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
 12635 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}

```

12636 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
12637 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
12638 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
12639 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

12640 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
12641 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
12642 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
12643 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
12644 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
12645 \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;

```

12646 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
12647 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
12648 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
12649 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
12650 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
12651 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
12652 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
12653 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
12654 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
12655 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
12656 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
12657 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
12658 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
12659 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

```

12660 </pdlenc>

```

50.2 PU encoding

```

12661 <*puenc>
12662 \DeclareFontEncoding{PU}{-}{-}

```

50.2.1 NFSS2 accents

```

12663 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
12664 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300
12665 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
12666 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
12667 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
12668 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
12669 % U+0303 COMBINING TILDE; tildecmb, *tildecomb
12670 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
12671 % U+0304 COMBINING MACRON; macroncmb
12672 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
12673 % U+0306 COMBINING BREVE; brevecmb
12674 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
12675 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
12676 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
12677 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
12678 % U+0308 COMBINING DIAERESIS; dieresiscmb
12679 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
12680 % U+030A COMBINING RING ABOVE; ringcmb
12681 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
12682 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
12683 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
12684 % U+030C COMBINING CARON; caroncmb

```

```

12685 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
12686 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
12687 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
12688 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
12689 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
12690 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
12691 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
12692 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
12693 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
12694 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
12695 % U+0327 COMBINING CEDILLA; cedillacmb
12696 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
12697 % U+0328 COMBINING OGONEK; ogonekcmb
12698 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
12699 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
12700 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
12701 % U+20DD COMBINING ENCLOSING CIRCLE
12702 \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.

```

12703 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}
12704 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12705 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciicircum}
12706 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
12707 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
12708 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12709 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
12710 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
12711 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12712 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
12713 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
12714 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
12715 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
12716 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
12717 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
12718 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
12719 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
12720 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
12721 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
12722 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
12723 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
12724 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciicircum}
12725 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
12726 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
12727 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
12728 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
12729 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
12730 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
12731 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
12732 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
12733 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
12734 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
12735 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
12736 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
12737 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
12738 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
12739 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}

```

12740 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

Accents for capitals (see encoding TS1)

12741 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
12742 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
12743 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
12744 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
12745 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
12746 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
12747 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
12748 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
12749 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
12750 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
12751 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
12752 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
12753 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1}}
12754 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
12755 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

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

Special white space escape characters.

12756 % U+0009 (CHARACTER TABULATION)
12757 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
12758 % U+000A (LINE FEED)
12759 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
12760 % U+000D (CARRIAGE RETURN)
12761 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

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

12762 % U+0022 QUOTATION MARK; quotedbl
12763 \DeclareTextCommand{\textquotedbl}{PU}{\string"% \80\042 U+0022
12764 % U+0023 NUMBER SIGN; numbersign
12765 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
12766 % U+0024 DOLLAR SIGN; dollar
12767 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
12768 % U+0025 PERCENT SIGN; percent
12769 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
12770 % U+0026 AMPERSAND; ampersand
12771 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
12772 % U+0027 APOSTROPHE; quotesingle
12773 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
12774 % U+0028 LEFT PARENTHESIS; parenleft
12775 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
12776 % U+0029 RIGHT PARENTHESIS; parenright
12777 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
12778 % U+002A ASTERISK; asterisk
12779 \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
 12780 % U+003C LESS-THAN SIGN; less
 12781 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
 \80\075: U+003D EQUALS SIGN; equal
 12782 % U+003E GREATER-THAN SIGN; greater
 12783 \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
 12784 % U+005C REVERSE SOLIDUS; backslash
 12785 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright
 12786 % U+005E CIRCUMFLEX ACCENT; asciicircum
 12787 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 12788 % U+005F LOW LINE; underscore
 12789 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 12790 % U+0060 GRAVE ACCENT; grave
 12791 \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
 12792 % U+0069 LATIN SMALL LETTER I; i
 12793 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069
 12794 \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
 12795 % U+007B LEFT CURLY BRACKET; braceleft
 12796 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 12797 % U+007C VERTICAL LINE; *bar, verticalbar
 12798 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 12799 % U+007D RIGHT CURLY BRACKET; braceright
 12800 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 12801 % U+007E TILDE; asciitilde
 12802 \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
 12803 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 12804 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 12805 % U+00A2 CENT SIGN; cent
 12806 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 12807 % U+00A3 POUND SIGN; sterling
 12808 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 12809 % U+00A4 CURRENCY SIGN; currency
 12810 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 12811 % U+00A5 YEN SIGN; yen
 12812 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5

12813 % U+00A6 BROKEN BAR; brokenbar
 12814 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
 12815 % U+00A7 SECTION SIGN; section
 12816 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 12817 % U+00A8 DIAERESIS; dieresis
 12818 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
 12819 % U+00A9 COPYRIGHT SIGN; copyright
 12820 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
 12821 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 12822 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 12823 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
 12824 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 12825 % U+00AC NOT SIGN; logicalnot
 12826 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 12827 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softhyphen
 12828 % U+00AE REGISTERED SIGN; registered
 12829 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
 12830 % U+00AF MACRON; *macron, overscore
 12831 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
 12832 % U+00B0 DEGREE SIGN; degree
 12833 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
 12834 % U+00B1 PLUS-MINUS SIGN; plusminus
 12835 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
 12836 % U+00B2 SUPERSCRIPT TWO; twosuperior
 12837 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
 12838 % U+00B3 SUPERSCRIPT THREE; threesuperior
 12839 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
 12840 % U+00B4 ACUTE ACCENT; acute
 12841 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
 12842 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
 12843 % U+00B5 MICRO SIGN; mu, mu1
 12844 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
 12845 % U+00B6 PILCROW SIGN; paragraph
 12846 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
 12847 % U+00B7 MIDDLE DOT; middot, *periodcentered
 12848 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
 12849 % U+00B8 CEDILLA; cedilla
 12850 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
 12851 % U+00B9 SUPERSCRIPT ONE; onesuperior
 12852 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
 12853 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 12854 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
 12855 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
 12856 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
 12857 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
 12858 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
 12859 % U+00BD VULGAR FRACTION ONE HALF; onehalf
 12860 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
 12861 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
 12862 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
 12863 % U+00BF INVERTED QUESTION MARK; questiondown
 12864 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
 12865 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
 12866 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
 12867 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
 12868 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1

12869 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
12870 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
12871 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
12872 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
12873 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
12874 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
12875 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
12876 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
12877 % U+00C6 LATIN CAPITAL LETTER AE; AE
12878 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
12879 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
12880 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
12881 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
12882 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
12883 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
12884 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
12885 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
12886 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
12887 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
12888 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
12889 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
12890 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
12891 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
12892 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
12893 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
12894 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
12895 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
12896 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
12897 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
12898 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
12899 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
12900 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
12901 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
12902 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
12903 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
12904 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
12905 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
12906 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
12907 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
12908 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
12909 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
12910 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
12911 % U+00D7 MULTIPLICATION SIGN; multiply
12912 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
12913 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
12914 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
12915 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
12916 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
12917 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
12918 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
12919 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
12920 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
12921 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
12922 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
12923 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
12924 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
12925 % U+00DE LATIN CAPITAL LETTER THORN; Thorn

12926 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
12927 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
12928 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
12929 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
12930 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
12931 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
12932 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
12933 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
12934 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
12935 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
12936 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
12937 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
12938 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
12939 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
12940 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
12941 % U+00E6 LATIN SMALL LETTER AE; ae
12942 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
12943 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
12944 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
12945 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
12946 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
12947 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
12948 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
12949 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
12950 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
12951 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
12952 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
12953 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
12954 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
12955 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
12956 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
12957 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
12958 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
12959 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
12960 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
12961 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
12962 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
12963 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
12964 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
12965 % U+00F0 LATIN SMALL LETTER ETH; eth
12966 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
12967 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
12968 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
12969 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
12970 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
12971 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
12972 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
12973 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
12974 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4
12975 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
12976 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
12977 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
12978 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
12979 % U+00F7 DIVISION SIGN; divide
12980 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
12981 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
12982 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8

12983 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 12984 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
 12985 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 12986 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 12987 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 12988 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
 12989 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 12990 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
 12991 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 12992 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 12993 % U+00FE LATIN SMALL LETTER THORN; thorn
 12994 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 12995 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 12996 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

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

12997 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 12998 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
 12999 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 13000 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
 13001 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 13002 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 13003 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 13004 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 13005 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 13006 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 13007 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
 13008 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
 13009 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
 13010 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
 13011 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
 13012 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
 13013 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
 13014 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
 13015 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
 13016 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
 13017 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
 13018 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
 13019 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
 13020 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
 13021 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
 13022 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
 13023 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
 13024 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
 13025 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
 13026 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
 13027 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
 13028 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
 13029 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
 13030 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
 13031 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
 13032 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
 13033 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
 13034 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
 13035 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
 13036 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113

13037 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
13038 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
13039 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
13040 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
13041 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
13042 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
13043 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
13044 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
13045 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
13046 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
13047 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
13048 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
13049 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
13050 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
13051 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
13052 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
13053 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
13054 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
13055 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
13056 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
13057 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
13058 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
13059 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
13060 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
13061 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
13062 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
13063 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
13064 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
13065 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent
13066 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
13067 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
13068 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
13069 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
13070 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
13071 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
13072 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
13073 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
13074 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
13075 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
13076 \DeclareTextCommand{\textHslash}{PU}{\81\047}% U+0127
13077 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
13078 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
13079 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
13080 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
13081 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
13082 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
13083 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
13084 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
13085 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
13086 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
13087 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
13088 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
13089 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
13090 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
13091 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
13092 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
13093 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E

```

13094 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
13095 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
13096 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
13097 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
13098 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
13099 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
13100 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
13101 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
13102 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
13103 % U+0133 LATIN SMALL LIGATURE IJ; ij
13104 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
13105 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
13106 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
13107 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
13108 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
13109 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
13110 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
13111 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
13112 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
13113 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

```

The canonical name of U+0138, small letter kra, would be `\textkgreenlandic`, following the glyph naming convention. However `latex/base/inputenc.dtx` has chosen `\textkra`.

```

13114 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
13115 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
13116 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
13117 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
13118 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
13119 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
13120 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent
13121 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
13122 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
13123 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
13124 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
13125 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
13126 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
13127 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E

```

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

```

13128 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
13129 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
13130 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
13131 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
13132 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
13133 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
13134 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
13135 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
13136 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
13137 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
13138 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
13139 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
13140 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
13141 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
13142 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
13143 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
13144 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron

```

13145 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
13146 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
13147 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
13148 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
13149 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
13150 % U+014A LATIN CAPITAL LETTER ENG; Eng
13151 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
13152 % U+014B LATIN SMALL LETTER ENG; eng
13153 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
13154 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
13155 \DeclareTextCompositeCommand{=} {PU}{O}{\81\114}% U+014C
13156 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
13157 \DeclareTextCompositeCommand{=} {PU}{o}{\81\115}% U+014D
13158 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
13159 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
13160 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
13161 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
13162 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
13163 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
13164 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
13165 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
13166 % U+0152 LATIN CAPITAL LIGATURE OE; OE
13167 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
13168 % U+0153 LATIN SMALL LIGATURE OE; oe
13169 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
13170 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
13171 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
13172 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
13173 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
13174 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
13175 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
13176 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
13177 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
13178 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
13179 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
13180 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
13181 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
13182 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
13183 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
13184 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
13185 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
13186 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
13187 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
13188 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
13189 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
13190 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
13191 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
13192 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
13193 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
13194 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
13195 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
13196 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
13197 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
13198 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent
13199 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
13200 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
13201 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163

13202 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
13203 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
13204 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
13205 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
13206 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
13207 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
13208 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
13209 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
13210 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
13211 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
13212 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
13213 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
13214 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
13215 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
13216 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
13217 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
13218 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
13219 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
13220 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
13221 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
13222 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
13223 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
13224 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
13225 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
13226 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut
13227 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
13228 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut
13229 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
13230 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
13231 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
13232 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
13233 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
13234 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
13235 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
13236 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
13237 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
13238 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
13239 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
13240 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
13241 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
13242 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
13243 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
13244 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
13245 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
13246 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
13247 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
13248 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdotaccent
13249 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
13250 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
13251 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
13252 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
13253 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
13254 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
13255 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
13256 % U+017F LATIN SMALL LETTER LONG S; longs, slong
13257 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

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

13258 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
13259 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
13260 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
13261 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
13262 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
13263 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
13264 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
13265 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
13266 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
13267 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
13268 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\320}% U+01D0
13269 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
13270 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
13271 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
13272 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
13273 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
13274 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
13275 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
13276 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
13277 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
13278 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
13279 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
13280 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
13281 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
13282 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
13283 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
13284 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
13285 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
13286 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
13287 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
13288 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
13289 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
13290 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
13291 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
13292 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
13293 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
13294 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
13295 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
13296 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
13297 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
13298 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
13299 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
13300 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
13301 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8
13302 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
13303 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9
13304 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
13305 \DeclareTextCompositeCommand{\'}{PU}{AE}{\81\374}% U+01FC
13306 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
13307 \DeclareTextCompositeCommand{\'}{PU}{ae}{\81\375}% U+01FD
13308 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslashacute, Ostrokeacut
13309 \DeclareTextCompositeCommand{\'}{PU}{O}{\81\376}% U+01FE
13310 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslashacute, ostrokeacute
13311 \DeclareTextCompositeCommand{\'}{PU}{o}{\81\377}% U+01FF
13312 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
13313 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200

13314 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
13315 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
13316 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
13317 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
13318 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
13319 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
13320 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
13321 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
13322 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
13323 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
13324 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
13325 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
13326 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
13327 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
13328 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
13329 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
13330 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
13331 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
13332 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
13333 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
13334 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
13335 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
13336 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
13337 % U+021E LATIN CAPITAL LETTER H WITH CARON
13338 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
13339 % U+021F LATIN SMALL LETTER H WITH CARON
13340 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
13341 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
13342 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
13343 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
13344 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
13345 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
13346 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
13347 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
13348 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
13349 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
13350 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
13351 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
13352 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
13353 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
13354 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
13355 % U+0233 LATIN SMALL LETTER Y WITH MACRON
13356 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
13357 % U+0237 LATIN SMALL LETTER DOTLESS J
13358 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

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

13359 % U+02C7 CARON; caron
13360 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
13361 % U+02D8 BREVE; breve
13362 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
13363 % U+02D9 DOT ABOVE; dotaccent
13364 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
13365 % U+02DA RING ABOVE; ring
13366 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
13367 % U+02DB OGONEK; ogonek
13368 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB

13369 % U+02DC SMALL TILDE; ilde, *tilde
 13370 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 13371 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 13372 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 13373 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 13374 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 13375 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 13376 % U+02F7 MODIFIER LETTER LOW TILDE
 13377 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

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

13378 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 13379 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 13380 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 13381 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 13382 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
 13383 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 13384 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 13385 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
 13386 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 13387 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

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

13388 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 13389 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
 13390 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
 13391 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
 13392 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos
 13393 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
 13394 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
 13395 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
 13396 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
 13397 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
 13398 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
 13399 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
 13400 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos
 13401 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
 13402 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos
 13403 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
 13404 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
 13405 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
 13406 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadieresis
 13407 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390
 13408 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
 13409 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
 13410 % U+0392 GREEK CAPITAL LETTER BETA; Beta
 13411 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
 13412 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
 13413 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
 13414 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
 13415 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
 13416 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
 13417 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
 13418 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
 13419 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
 13420 % U+0397 GREEK CAPITAL LETTER ETA; Eta
 13421 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397

13422 % U+0398 GREEK CAPITAL LETTER THETA; Theta
 13423 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
 13424 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
 13425 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
 13426 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
 13427 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
 13428 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
 13429 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
 13430 % U+039C GREEK CAPITAL LETTER MU; Mu
 13431 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
 13432 % U+039D GREEK CAPITAL LETTER NU; Nu
 13433 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
 13434 % U+039E GREEK CAPITAL LETTER XI; Xi
 13435 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
 13436 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
 13437 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
 13438 % U+03A0 GREEK CAPITAL LETTER PI; Pi
 13439 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
 13440 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
 13441 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
 13442 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
 13443 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
 13444 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
 13445 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
 13446 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
 13447 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
 13448 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
 13449 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
 13450 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
 13451 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
 13452 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
 13453 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
 13454 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
 13455 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
 13456 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
 13457 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
 13458 \DeclareTextCompositeCommand{\"}{PU}{\textIota}{\83\252}% U+03AA
 13459 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilondieresis
 13460 \DeclareTextCompositeCommand{\"}{PU}{\textUpsilon}{\83\253}% U+03AB
 13461 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
 13462 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}% U+03AC
 13463 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
 13464 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}% U+03AD
 13465 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
 13466 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE
 13467 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
 13468 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF
 13469 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilondieresis
 13470 \DeclareTextCompositeCommand{\"}{PU}{\textupsilon}{\83\260}% U+03B0
 13471 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
 13472 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
 13473 % U+03B2 GREEK SMALL LETTER BETA; beta
 13474 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
 13475 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
 13476 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
 13477 % U+03B4 GREEK SMALL LETTER DELTA; delta
 13478 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4

13479 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
13480 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
13481 % U+03B6 GREEK SMALL LETTER ZETA; zeta
13482 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
13483 % U+03B7 GREEK SMALL LETTER ETA; eta
13484 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
13485 % U+03B8 GREEK SMALL LETTER THETA; theta
13486 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
13487 % U+03B9 GREEK SMALL LETTER IOTA; iota
13488 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
13489 % U+03BA GREEK SMALL LETTER KAPPA; kappa
13490 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
13491 % U+03BB GREEK SMALL LETTER LAMDA; lambda
13492 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
13493 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
13494 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
13495 % U+03BD GREEK SMALL LETTER NU; nu
13496 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
13497 % U+03BE GREEK SMALL LETTER XI; xi
13498 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
13499 % U+03BF GREEK SMALL LETTEROMICRON; omicron
13500 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
13501 % U+03C0 GREEK SMALL LETTER PI; pi
13502 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
13503 % U+03C1 GREEK SMALL LETTER RHO; rho
13504 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
13505 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
13506 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
13507 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
13508 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
13509 % U+03C4 GREEK SMALL LETTER TAU; tau
13510 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
13511 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
13512 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
13513 % U+03C6 GREEK SMALL LETTER PHI; phi
13514 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
13515 % U+03C7 GREEK SMALL LETTER CHI; chi
13516 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
13517 % U+03C8 GREEK SMALL LETTER PSI; psi
13518 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
13519 % U+03C9 GREEK SMALL LETTER OMEGA; omega
13520 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
13521 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
13522 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
13523 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; upsilondieresis
13524 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
13525 % U+03CC GREEK SMALL LETTEROMICRON WITH TONOS; omicrontonos
13526 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
13527 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
13528 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
13529 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
13530 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
13531 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
13532 % U+03DA GREEK LETTER STIGMA; Stigmagreek
13533 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
13534 % U+03DB GREEK SMALL LETTER STIGMA
13535 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB

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13536 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
13537 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
13538 % U+03DD GREEK SMALL LETTER DIGAMMA
13539 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
13540 % U+03DE GREEK LETTER KOPPA; Koppagreek
13541 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
13542 % U+03DF GREEK SMALL LETTER KOPPA
13543 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
13544 % U+03E0 GREEK LETTER SAMPI; Sampigreek
13545 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
13546 % U+03E1 GREEK SMALL LETTER SAMPI
13547 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

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50.2.9 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

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13548 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
13549 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
13550 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
13551 \DeclareTextCommand{\CYRIO}{PU}{\84\001}% U+0401
13552 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???
13553 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
13554 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
13555 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
13556 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
13557 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
13558 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
13559 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
13560 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
13561 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, *afii10055
13562 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
13563 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
13564 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
13565 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
13566 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
13567 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
13568 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
13569 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
13570 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
13571 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
13572 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
13573 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
13574 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
13575 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
13576 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
13577 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D
13578 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
13579 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
13580 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
13581 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
13582 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
13583 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
13584 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
13585 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
13586 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
13587 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
13588 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412

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13589 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
13590 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
13591 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
13592 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
13593 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
13594 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
13595 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
13596 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
13597 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
13598 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
13599 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
13600 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
13601 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
13602 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
13603 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
13604 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
13605 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
13606 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
13607 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
13608 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
13609 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
13610 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
13611 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
13612 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
13613 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
13614 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
13615 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
13616 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
13617 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
13618 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
13619 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
13620 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
13621 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
13622 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
13623 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
13624 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
13625 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
13626 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
13627 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
13628 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
13629 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
13630 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
13631 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
13632 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
13633 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
13634 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
13635 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
13636 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
13637 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
13638 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
13639 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
13640 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
13641 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
13642 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
13643 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
13644 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
13645 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E

13646 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
13647 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
13648 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
13649 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
13650 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
13651 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
13652 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
13653 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
13654 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
13655 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
13656 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
13657 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
13658 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
13659 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
13660 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
13661 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436
13662 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
13663 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
13664 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
13665 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
13666 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
13667 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
13668 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
13669 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
13670 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
13671 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
13672 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B
13673 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
13674 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
13675 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
13676 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
13677 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
13678 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
13679 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
13680 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
13681 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
13682 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
13683 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
13684 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441
13685 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
13686 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
13687 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
13688 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
13689 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
13690 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
13691 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
13692 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
13693 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
13694 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
13695 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
13696 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
13697 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
13698 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
13699 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shhacyrillic
13700 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
13701 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
13702 \DeclareTextCommand{\cyhrdsn}{PU}{\84\112}% U+044A

13703 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
13704 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
13705 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
13706 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% U+044C
13707 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
13708 \DeclareTextCommand{\cyrrerev}{PU}{\84\115}% U+044D
13709 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
13710 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E
13711 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
13712 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F
13713 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
13714 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
13715 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
13716 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
13717 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
13718 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
13719 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
13720 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
13721 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
13722 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
13723 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
13724 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
13725 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
13726 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyrillic
13727 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
13728 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
13729 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457
13730 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457
13731 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
13732 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
13733 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
13734 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459
13735 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
13736 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
13737 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
13738 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
13739 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
13740 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
13741 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
13742 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
13743 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
13744 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
13745 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
13746 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
13747 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
13748 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
13749 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
13750 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
13751 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
13752 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
13753 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
13754 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
13755 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
13756 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
13757 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
13758 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
13759 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465

13760 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
13761 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
13762 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
13763 \DeclareTextCommand{\cyrlsus}{PU}{\84\147}% U+0467
13764 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleiotifiedcyrillic
13765 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
13766 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleiotifiedcyrillic
13767 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
13768 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
13769 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
13770 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
13771 \DeclareTextCommand{\cyrbysus}{PU}{\84\153}% U+046B
13772 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotifiedcyrillic
13773 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
13774 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyrillic
13775 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
13776 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
13777 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
13778 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
13779 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
13780 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
13781 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
13782 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
13783 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
13784 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
13785 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
13786 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
13787 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
13788 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
13789 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
13790 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
13791 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
13792 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; Izhitsadblgravecyrillic
13793 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
13794 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; izhitsadblgravecyrillic
13795 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
13796 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
13797 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
13798 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
13799 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
13800 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic
13801 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
13802 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
13803 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
13804 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic
13805 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
13806 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic
13807 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
13808 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
13809 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
13810 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
13811 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
13812 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
13813 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
13814 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
13815 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
13816 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic

13817 \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
 13818 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 13819 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 13820 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 13821 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 13822 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 13823 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 13824 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 13825 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 13826 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 13827 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 13828 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 13829 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 13830 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, *afii10050
 13831 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 13832 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, gheupturncyrillic
 13833 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 13834 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic
 13835 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 13836 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 13837 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 13838 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic
 13839 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 13840 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic
 13841 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 13842 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic
 13843 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 13844 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic
 13845 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 13846 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic
 13847 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 13848 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 13849 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic
 13850 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
 13851 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 13852 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic
 13853 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
 13854 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic
 13855 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
 13856 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kavertikalstrokecyrillic
 13857 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 13858 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kavertikalstrokecyrillic
 13859 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
 13860 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
 13861 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
 13862 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic

13863 \DeclareTextCommand{\cyrkhrs}{PU}{\84\237}% U+049F
13864 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
13865 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
13866 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
13867 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
13868 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
13869 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
13870 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic
13871 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
13872 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
13873 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
13874 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
13875 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
13876 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
13877 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
13878 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
13879 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
13880 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
13881 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
13882 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
13883 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
13884 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
13885 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
13886 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
13887 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
13888 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
13889 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
13890 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
13891 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
13892 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
13893 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD
13894 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
13895 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
13896 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
13897 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF
13898 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
13899 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
13900 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic
13901 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1
13902 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescendercyrillic
13903 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
13904 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
13905 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
13906 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
13907 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
13908 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
13909 \DeclareTextCommand{\cyrтетse}{PU}{\84\265}% U+04B5
13910 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic
13911 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
13912 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
13913 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7
13914 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Cheverticalstrokecyrillic
13915 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
13916 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; cheverticalstrokecyrillic
13917 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
13918 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
13919 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA

13920 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
13921 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
13922 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic
13923 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
13924 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
13925 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
13926 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic
13927 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
13928 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
13929 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic
13930 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
13931 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
13932 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
13933 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
13934 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
13935 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
13936 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
13937 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
13938 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
13939 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
13940 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
13941 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
13942 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
13943 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
13944 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
13945 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
13946 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
13947 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
13948 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
13949 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
13950 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic
13951 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
13952 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic
13953 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
13954 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
13955 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
13956 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
13957 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
13958 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
13959 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
13960 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
13961 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
13962 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic
13963 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2
13964 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
13965 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3
13966 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
13967 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
13968 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
13969 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
13970 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevecyrillic
13971 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
13972 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevecyrillic
13973 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
13974 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
13975 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8

13976 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
13977 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
13978 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadieresis Cyrillic
13979 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\332}% U+04DA
13980 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadieresis Cyrillic
13981 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB
13982 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresis Cyrillic
13983 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
13984 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis Cyrillic
13985 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\335}% U+04DD
13986 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis Cyrillic
13987 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
13988 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresis Cyrillic
13989 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
13990 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian Cyrillic
13991 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
13992 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasian Cyrillic
13993 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
13994 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacron Cyrillic
13995 \DeclareTextCompositeCommand{=}{PU}{\CYRI}{\84\342}% U+04E2
13996 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacron Cyrillic
13997 \DeclareTextCompositeCommand{=}{PU}{\cyri}{\84\343}% U+04E3
13998 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresis Cyrillic
13999 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
14000 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresis Cyrillic
14001 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
14002 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresis Cyrillic
14003 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
14004 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresis Cyrillic
14005 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
14006 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarred Cyrillic
14007 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
14008 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarred Cyrillic
14009 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
14010 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresis Cyrillic
14011 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
14012 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresis Cyrillic
14013 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
14014 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
14015 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
14016 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
14017 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
14018 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacron Cyrillic
14019 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE
14020 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacron Cyrillic
14021 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% U+04EF
14022 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresis Cyrillic
14023 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
14024 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresis Cyrillic
14025 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
14026 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlaut Cyrillic
14027 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
14028 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlaut Cyrillic
14029 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
14030 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresis Cyrillic
14031 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4
14032 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresis Cyrillic

14033 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
 14034 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 14035 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 14036 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
 14037 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 14038 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic
 14039 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
 14040 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic
 14041 \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
 14042 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 14043 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 14044 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 14045 \DeclareTextCommand{\cyrhkh}{PU}{\84\375}% U+04FD
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

50.2.10 Thai: U+0E00 to U+0E7F

14046 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 14047 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

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

14048 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 14049 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02
 14050 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 14051 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03
 14052 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
 14053 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
 14054 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
 14055 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
 14056 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
 14057 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A
 14058 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
 14059 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B
 14060 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
 14061 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
 14062 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
 14063 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
 14064 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
 14065 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
 14066 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
 14067 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
 14068 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
 14069 \DeclareTextCompositeCommand{.}{PU}{F}{\9036\036}% U+1E1E
 14070 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
 14071 \DeclareTextCompositeCommand{.}{PU}{f}{\9036\037}% U+1E1F
 14072 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
 14073 \DeclareTextCompositeCommand{=}{PU}{G}{\9036\040}% U+1E20
 14074 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
 14075 \DeclareTextCompositeCommand{=}{PU}{g}{\9036\041}% U+1E21
 14076 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
 14077 \DeclareTextCompositeCommand{.}{PU}{H}{\9036\042}% U+1E22
 14078 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
 14079 \DeclareTextCompositeCommand{.}{PU}{h}{\9036\043}% U+1E23

14080 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
14081 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26
14082 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
14083 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27
14084 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
14085 \DeclareTextCompositeCommand{c}{PU}{H}{\9036\050}% U+1E28
14086 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
14087 \DeclareTextCompositeCommand{c}{PU}{h}{\9036\051}% U+1E29
14088 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
14089 \DeclareTextCompositeCommand{'}{PU}{K}{\9036\060}% U+1E30
14090 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
14091 \DeclareTextCompositeCommand{'}{PU}{k}{\9036\061}% U+1E31
14092 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
14093 \DeclareTextCompositeCommand{b}{PU}{K}{\9036\064}% U+1E34
14094 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
14095 \DeclareTextCompositeCommand{b}{PU}{k}{\9036\065}% U+1E35
14096 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
14097 \DeclareTextCompositeCommand{b}{PU}{L}{\9036\072}% U+1E3A
14098 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
14099 \DeclareTextCompositeCommand{b}{PU}{l}{\9036\073}% U+1E3B
14100 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
14101 \DeclareTextCompositeCommand{'}{PU}{M}{\9036\076}% U+1E3E
14102 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
14103 \DeclareTextCompositeCommand{'}{PU}{m}{\9036\077}% U+1E3F
14104 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
14105 \DeclareTextCompositeCommand{.}{PU}{M}{\9036\100}% U+1E40
14106 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
14107 \DeclareTextCompositeCommand{.}{PU}{m}{\9036\101}% U+1E41
14108 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
14109 \DeclareTextCompositeCommand{.}{PU}{N}{\9036\104}% U+1E44
14110 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
14111 \DeclareTextCompositeCommand{.}{PU}{n}{\9036\105}% U+1E45
14112 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
14113 \DeclareTextCompositeCommand{b}{PU}{N}{\9036\110}% U+1E48
14114 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
14115 \DeclareTextCompositeCommand{b}{PU}{n}{\9036\111}% U+1E49
14116 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
14117 \DeclareTextCompositeCommand{'}{PU}{P}{\9036\124}% U+1E54
14118 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
14119 \DeclareTextCompositeCommand{'}{PU}{p}{\9036\125}% U+1E55
14120 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
14121 \DeclareTextCompositeCommand{.}{PU}{P}{\9036\126}% U+1E56
14122 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
14123 \DeclareTextCompositeCommand{.}{PU}{p}{\9036\127}% U+1E57
14124 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
14125 \DeclareTextCompositeCommand{.}{PU}{R}{\9036\130}% U+1E58
14126 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
14127 \DeclareTextCompositeCommand{.}{PU}{r}{\9036\131}% U+1E59
14128 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
14129 \DeclareTextCompositeCommand{b}{PU}{R}{\9036\136}% U+1E5E
14130 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
14131 \DeclareTextCompositeCommand{b}{PU}{r}{\9036\137}% U+1E5F
14132 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
14133 \DeclareTextCompositeCommand{.}{PU}{S}{\9036\140}% U+1E60
14134 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
14135 \DeclareTextCompositeCommand{.}{PU}{s}{\9036\141}% U+1E61
14136 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow

14137 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
14138 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
14139 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
14140 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
14141 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
14142 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
14143 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
14144 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
14145 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
14146 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
14147 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
14148 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
14149 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
14150 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
14151 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
14152 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
14153 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
14154 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
14155 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
14156 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
14157 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
14158 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
14159 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
14160 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
14161 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
14162 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
14163 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
14164 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
14165 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C
14166 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
14167 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D
14168 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
14169 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
14170 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
14171 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
14172 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
14173 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
14174 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
14175 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
14176 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
14177 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
14178 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
14179 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
14180 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
14181 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
14182 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
14183 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97
14184 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
14185 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
14186 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
14187 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
14188 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent
14189 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
14190 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
14191 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
14192 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
14193 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD

14194 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 14195 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2
 14196 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 14197 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3
 14198 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 14199 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 14200 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 14201 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

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

14202 % U+200C ZERO WIDTH NON-JOINER; *afii61664, zerowidthnonjoiner
 14203 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 14204 % U+2013 EN DASH; endash
 14205 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 14206 % U+2014 EM DASH; emdash
 14207 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 14208 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 14209 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 14210 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 14211 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 14212 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 14213 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 14214 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 14215 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 14216 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 14217 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 14218 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 14219 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 14220 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 14221 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 14222 % U+2020 DAGGER; dagger
 14223 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
 14224 % U+2021 DOUBLE DAGGER; daggerdbl
 14225 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 14226 % U+2022 BULLET; bullet
 14227 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
 14228 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14229 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 14230 % U+2030 PER MILLE SIGN; perthousand
 14231 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 14232 % U+2031 PER TEN THOUSAND SIGN
 14233 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 14234 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft
 14235 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
 14236 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright
 14237 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
 14238 % U+203B REFERENCE MARK; referencemark
 14239 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 14240 % U+203D INTERROBANG
 14241 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 14242 % U+2044 FRACTION SLASH; fraction
 14243 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 14244 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 14245 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 14246 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 14247 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 14248 % U+2052 COMMERCIAL MINUS SIGN

14249 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

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

14250 % U+2070 SUPERSCRIPT ZERO; zerosuperior
14251 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
14252 % U+2074 SUPERSCRIPT FOUR; foursuperior
14253 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
14254 % U+2075 SUPERSCRIPT FIVE; fivesuperior
14255 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
14256 % U+2076 SUPERSCRIPT SIX; sixsuperior
14257 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
14258 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
14259 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
14260 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
14261 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
14262 % U+2079 SUPERSCRIPT NINE; ninesuperior
14263 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
14264 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
14265 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
14266 % U+207B SUPERSCRIPT MINUS
14267 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
14268 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
14269 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}
14270 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
14271 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
14272 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
14273 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
14274 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
14275 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
14276 % U+2080 SUBSCRIPT ZERO; zeroinferior
14277 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
14278 % U+2081 SUBSCRIPT ONE; oneinferior
14279 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
14280 % U+2082 SUBSCRIPT TWO; twoinferior
14281 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
14282 % U+2083 SUBSCRIPT THREE; threeinferior
14283 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
14284 % U+2084 SUBSCRIPT FOUR; fourinferior
14285 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
14286 % U+2085 SUBSCRIPT FIVE; fiveinferior
14287 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
14288 % U+2086 SUBSCRIPT SIX; sixinferior
14289 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086
14290 % U+2087 SUBSCRIPT SEVEN; seveninferior
14291 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
14292 % U+2088 SUBSCRIPT EIGHT; eightinferior
14293 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
14294 % U+2089 SUBSCRIPT NINE; nineinferior
14295 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
14296 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
14297 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
14298 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
14299 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

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

14300 % U+20A1 COLON SIGN; *colonmonetary, colonsign
14301 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1

14302 % U+20A4 LIRA SIGN; afii08941, *lira
 14303 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 14304 % U+20A6 NAIRA SIGN
 14305 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 14306 % U+20A7 PESETA SIGN; peseta
 14307 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 14308 % U+20A9 WON SIGN; won
 14309 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 14310 % U+20AB DONG SIGN; dong
 14311 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 14312 % U+20AC EURO SIGN; *Euro, euro
 14313 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 14314 % U+20B1 PESO SIGN
 14315 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 14316 % U+20B2 GUARANI SIGN
 14317 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

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

14318 % U+2103 DEGREE CELSIUS; centigrade
 14319 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 14320 % U+2116 NUMERO SIGN; *afii61352, numero
 14321 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
 14322 % U+2117 SOUND RECORDING COPYRIGHT
 14323 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
 14324 % U+211E PRESCRIPTION TAKE; prescription
 14325 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
 14326 % U+2120 SERVICE MARK
 14327 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
 14328 % U+2122 TRADE MARK SIGN; trademark
 14329 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
 14330 % U+2126 OHM SIGN; Ohm, Omega
 14331 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
 14332 % U+2127 INVERTED OHM SIGN
 14333 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
 14334 % U+212B ANGSTROM SIGN; angstrom
 14335 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
 14336 % U+212E ESTIMATED SYMBOL; estimated
 14337 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
 14338 % U+2135 ALEF SYMBOL; aleph
 14339 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

14340 % U+2190 LEFTWARDS ARROW; arrowleft
 14341 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
 14342 % U+2191 UPWARDS ARROW; arrowup
 14343 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
 14344 % U+2192 RIGHTWARDS ARROW; arrowright
 14345 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
 14346 % U+2193 DOWNWARDS ARROW; arrowdown
 14347 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

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

14348 % U+2212 MINUS SIGN; minus
 14349 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
 14350 % U+221A SQUARE ROOT; radical
 14351 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

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

14352 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
14353 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
14354 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
14355 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

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

14356 % U+2422 BLANK SYMBOL
14357 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
14358 % U+2423 OPEN BOX; blank
14359 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

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

14360 % U+2460 CIRCLED DIGIT ONE; onecircle
14361 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
14362 % U+2461 CIRCLED DIGIT TWO; twocircle
14363 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
14364 % U+2462 CIRCLED DIGIT THREE; threecircle
14365 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
14366 % U+2463 CIRCLED DIGIT FOUR; fourcircle
14367 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
14368 % U+2464 CIRCLED DIGIT FIVE; fivecircle
14369 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
14370 % U+2465 CIRCLED DIGIT SIX; sixcircle
14371 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
14372 % U+2466 CIRCLED DIGIT SEVEN; sevencircle
14373 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
14374 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
14375 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
14376 % U+2468 CIRCLED DIGIT NINE; ninecircle
14377 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
14378 % U+2469 CIRCLED NUMBER TEN; tencircle
14379 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
14380 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
14381 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
14382 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
14383 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
14384 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
14385 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
14386 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
14387 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
14388 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
14389 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
14390 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
14391 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
14392 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
14393 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
14394 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
14395 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
14396 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
14397 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
14398 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
14399 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
14400 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
14401 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
14402 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
14403 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7

14404 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
14405 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
14406 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
14407 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
14408 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
14409 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
14410 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
14411 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
14412 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
14413 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
14414 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
14415 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
14416 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
14417 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
14418 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
14419 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
14420 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
14421 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
14422 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
14423 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
14424 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
14425 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
14426 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
14427 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
14428 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
14429 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
14430 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
14431 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
14432 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
14433 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
14434 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
14435 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
14436 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
14437 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
14438 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
14439 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
14440 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
14441 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
14442 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
14443 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
14444 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
14445 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
14446 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
14447 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
14448 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
14449 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
14450 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
14451 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
14452 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
14453 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
14454 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
14455 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
14456 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
14457 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
14458 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
14459 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
14460 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle

14461 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
 14462 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
 14463 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
 14464 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
 14465 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
 14466 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 14467 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 14468 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 14469 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
 14470 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
 14471 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 14472 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
 14473 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
 14474 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 14475 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 14476 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 14477 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 14478 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
 14479 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 14480 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 14481 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
 14482 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 14483 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 14484 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 14485 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 14486 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 14487 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 14488 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 14489 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 14490 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 14491 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 14492 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 14493 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 14494 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 14495 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 14496 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 14497 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 14498 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 14499 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
 14500 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 14501 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 14502 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 14503 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 14504 % U+24EA CIRCLED DIGIT ZERO
 14505 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

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

14506 % U+25E6 WHITE BULLET; *openbullet, whitebullet
 14507 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
 14508 % U+25EF LARGE CIRCLE; largecircle
 14509 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

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

14510 % U+266A EIGHTH NOTE; musicalnote
 14511 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
 14512 % U+26AD MARRIAGE SYMBOL
 14513 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD

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14514 % U+26AE DIVORCE SYMBOL
14515 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

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

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14516 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
14517 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
14518 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
14519 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

```

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

```

14520 % U+FB01 LATIN SMALL LIGATURE FI; fi
14521 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
14522 % U+FB02 LATIN SMALL LIGATURE FL; fl
14523 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

```

50.2.25 Miscellaneous

```

14524 \DeclareTextCommand{\SS}{PU}{SS}

```

50.2.26 Aliases

Aliases (german.sty)

```

14525 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
14526 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
14527 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
14528 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
14529 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
14530 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
14531 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
14532 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

14533 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
14534 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
14535 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
14536 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
14537 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
14538 </puenc>

```

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

14539 <*puvnenc>

14540 \DeclareTextCommand{\abreve}{PU}{\81\003}
14541 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
14542 \DeclareTextCommand{\dj}{PU}{\81\021}
14543 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
14544 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
14545 \DeclareTextCommand{\ohorn}{PU}{\81\241}
14546 \DeclareTextCommand{\uhorn}{PU}{\81\260}
14547 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
14548 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
14549 \DeclareTextCommand{\DJ}{PU}{\81\020}
14550 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
14551 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
14552 \DeclareTextCommand{\OHORN}{PU}{\81\240}
14553 \DeclareTextCommand{\UHORN}{PU}{\81\257}

```

14554 \DeclareTextCompositeCommand{'}{PU}{a}{\80\341}
14555 \DeclareTextCompositeCommand{d}{PU}{a}{\9036\241}
14556 \DeclareTextCompositeCommand{'}{PU}{a}{\80\340}
14557 \DeclareTextCompositeCommand{h}{PU}{a}{\9036\243}
14558 \DeclareTextCompositeCommand{~}{PU}{a}{\80\343}
14559 \DeclareTextCompositeCommand{'}{PU}{\abreve}{\9036\257}
14560 \DeclareTextCompositeCommand{d}{PU}{\abreve}{\9036\267}
14561 \DeclareTextCompositeCommand{'}{PU}{\abreve}{\9036\261}
14562 \DeclareTextCompositeCommand{h}{PU}{\abreve}{\9036\263}
14563 \DeclareTextCompositeCommand{~}{PU}{\abreve}{\9036\265}
14564 \DeclareTextCompositeCommand{'}{PU}{\acircumflex}{\9036\245}
14565 \DeclareTextCompositeCommand{d}{PU}{\acircumflex}{\9036\255}
14566 \DeclareTextCompositeCommand{'}{PU}{\acircumflex}{\9036\247}
14567 \DeclareTextCompositeCommand{h}{PU}{\acircumflex}{\9036\251}
14568 \DeclareTextCompositeCommand{~}{PU}{\acircumflex}{\9036\253}
14569 \DeclareTextCompositeCommand{'}{PU}{e}{\80\351}
14570 \DeclareTextCompositeCommand{d}{PU}{e}{\9036\271}
14571 \DeclareTextCompositeCommand{'}{PU}{e}{\80\350}
14572 \DeclareTextCompositeCommand{h}{PU}{e}{\9036\273}
14573 \DeclareTextCompositeCommand{~}{PU}{e}{\9036\275}
14574 \DeclareTextCompositeCommand{'}{PU}{\ecircumflex}{\9036\277}
14575 \DeclareTextCompositeCommand{d}{PU}{\ecircumflex}{\9036\307}
14576 \DeclareTextCompositeCommand{'}{PU}{\ecircumflex}{\9036\301}
14577 \DeclareTextCompositeCommand{h}{PU}{\ecircumflex}{\9036\303}
14578 \DeclareTextCompositeCommand{~}{PU}{\ecircumflex}{\9036\305}
14579 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}
14580 \DeclareTextCompositeCommand{d}{PU}{i}{\9036\313}
14581 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}
14582 \DeclareTextCompositeCommand{h}{PU}{i}{\9036\311}
14583 \DeclareTextCompositeCommand{~}{PU}{i}{\81\051}
14584 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}
14585 \DeclareTextCompositeCommand{d}{PU}{o}{\9036\315}
14586 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362}
14587 \DeclareTextCompositeCommand{h}{PU}{o}{\9036\317}
14588 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365}
14589 \DeclareTextCompositeCommand{'}{PU}{\ocircumflex}{\9036\321}
14590 \DeclareTextCompositeCommand{d}{PU}{\ocircumflex}{\9036\331}
14591 \DeclareTextCompositeCommand{'}{PU}{\ocircumflex}{\9036\323}
14592 \DeclareTextCompositeCommand{h}{PU}{\ocircumflex}{\9036\325}
14593 \DeclareTextCompositeCommand{~}{PU}{\ocircumflex}{\9036\327}
14594 \DeclareTextCompositeCommand{'}{PU}{\ohorn}{\9036\333}
14595 \DeclareTextCompositeCommand{d}{PU}{\ohorn}{\9036\343}
14596 \DeclareTextCompositeCommand{'}{PU}{\ohorn}{\9036\335}
14597 \DeclareTextCompositeCommand{h}{PU}{\ohorn}{\9036\337}
14598 \DeclareTextCompositeCommand{~}{PU}{\ohorn}{\9036\341}
14599 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}
14600 \DeclareTextCompositeCommand{d}{PU}{u}{\9036\345}
14601 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371}
14602 \DeclareTextCompositeCommand{h}{PU}{u}{\9036\347}
14603 \DeclareTextCompositeCommand{~}{PU}{u}{\81\151}
14604 \DeclareTextCompositeCommand{'}{PU}{\uhorn}{\9036\351}
14605 \DeclareTextCompositeCommand{d}{PU}{\uhorn}{\9036\361}
14606 \DeclareTextCompositeCommand{'}{PU}{\uhorn}{\9036\353}
14607 \DeclareTextCompositeCommand{h}{PU}{\uhorn}{\9036\355}
14608 \DeclareTextCompositeCommand{~}{PU}{\uhorn}{\9036\357}
14609 \DeclareTextCompositeCommand{'}{PU}{y}{\80\375}
14610 \DeclareTextCompositeCommand{d}{PU}{y}{\9036\365}

14611 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}
14612 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
14613 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}
14614 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
14615 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
14616 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
14617 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
14618 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
14619 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
14620 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
14621 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
14622 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
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14626 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
14627 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}
14628 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}
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14632 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
14633 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}
14634 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}
14635 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
14636 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}
14637 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
14638 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
14639 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}
14640 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
14641 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
14642 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
14643 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
14644 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
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14647 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
14648 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
14649 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
14650 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
14651 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
14652 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
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14656 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
14657 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
14658 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
14659 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
14660 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
14661 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
14662 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
14663 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
14664 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
14665 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
14666 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
14667 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}

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14668 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
14669 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
14670 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
14671 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
14672 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
14673 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
14674 </puvnc>

```

50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

14675 <*puarenc>
14676 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
14677 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA A
14678 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA A
14679 \DeclareTextCommand{\wawhamza}{PU}{\86\044} % 0624;afii57412;ARABIC LETTER WAW WITH HAMZA AE
14680 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HA
14681 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
14682 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
14683 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
14684 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
14685 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
14686 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
14687 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
14688 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
14689 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
14690 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
14691 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
14692 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
14693 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
14694 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
14695 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
14696 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
14697 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
14698 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
14699 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
14700 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
14701 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN
14702 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
14703 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
14704 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
14705 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
14706 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
14707 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
14708 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
14709 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
14710 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
14711 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA
14712 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH
14713 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
14714 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
14715 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
14716 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
14717 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
14718 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
14719 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA

```



```
14720 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN
```

Farsi

```
14721 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
```

```
14722 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
```

```
14723 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
```

```
14724 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii?????;FARSI LETTER KAF
```

```
14725 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
```

```
14726 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii?????;FARSI LETTER YEH
```

```
14727 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
```

```
14728 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ
```

```
14729 </puarenc>
```

51 End of file hycheck.tex

```
14730 <*check>
```

```
14731 \typeout{}
```

```
14732 \begin{document}
```

```
14733 \end{document}
```

```
14734 </check>
```

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