

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 hyccheck.tex

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

```

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

\checklatex Optional argument: release date of  $\LaTeX$ .
4 \newcommand*{\checklatex}[1][]{\%
5 \typeout{}}\%
6 \typeout{* Format: 'LaTeX2e' #1}\%
7 \typeout{\space\space Loaded: '\fmtname' \fmtversion}\%
8 }\%
```

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

```

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

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

```

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

`\HyC@checkPackage`

```

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

`\checkcommand` The macro `\checkcommand` parses the next tokens as a \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{hyccheck}{%
62       Unknown command '\expandafter\strip@prefix\meaning\HyC@cmd'%
63     }\@ehd
64     \expandafter\endinput
65   \fi
66   \@ifstar{%
67     \def\HyC@star{*}%
68     \HyC@check
69   }{%
70     \let\HyC@star\@empty
71     \HyC@check
72   }%
73 }
```

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

```

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

`\HyC@noValue`

```

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

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


```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

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

```

4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```

231 \Hy@SetCatcodes

```

It needs the December 95 release of L^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{kvsetkeys}[2007/09/29]
234 \RequirePackage{pdfescape}[2007/11/11]
235 \RequirePackage{ifpdf}[2006/02/20]
236 \RequirePackage{ifvtex}
237 \RequirePackage{ifxetex}[2006/08/21]
238 \RequirePackage{hycolor}
239 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
240 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
241 \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`.

```

242 \ifundefined{AfterBeginDocument}{%
243   \def\AfterBeginDocument{\AtBeginDocument}%
244 }{%

```

4.3 Switches

```

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

```

```

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

```

Defaults for the switches are now set.

```

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

```

```

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

```

5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

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

```

5.1 Macros for recursions

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

```

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

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

```

5.2 Babel's protection of shorthand characters

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

```

340 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
341 \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).

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

```

pdfstartview={FitBH \hypercalscbp{\paperheight-\topmargin-1in}}

```

- It cannot be used inside `\usepackage`, because LaTeX expands the options before package `hyperref` is loaded and `\hypercaltcbp` is defined.
- With e-TeX extensions an expandable implementation is very easy; `\hypercaltcbp` can be used everywhere and is expanded at use.
- Without e-TeX's features `\hypercaltcbp` cannot be implemented expandable (practically) and have to be supported by `\hypercaltcbpdef`. Limitations:
 - Works only in options that use `\hypercaltcbpdef` (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 \hypercaltcbp{\paperheight-\topmargin-1in
    -\headheight-\headsep}
}

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

```

```

376 }%
377 \else
378 \def\hypercalcbp#1{%
379 \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
380 }%
381 \def\hypercalcbpdef{\def}%
382 \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.

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

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

```
384 \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 (vtext 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.

```
385 \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.

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

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

```
401 \@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).

```
402 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
403 \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.

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

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

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

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

```

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

```

Package color.

```

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

```

Upper- and lowercase.

```

463 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
464 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

465 \let\textlatin\@firstofone
466 \@ifundefined{language@group}{-}{%
467   \csname HyPsd@babel@\language@group\endcsname
468 }%
469 \HyPsd@GreekPatch
470 \HyPsd@SpanishPatch

```

```

471 \HyPsd@BabelPatch
472 \let\@safe@activestrue\relax
473 \let\@safe@activesfalse\relax

  Disable \cyr, used in russian.ldf.
474 \let\cyr\relax

  Redefine \es@roman, used in spanish.ldf.
475 \let\es@roman\@Roman

```

Package german.

```

476 \let\glqq\textglqq
477 \let\grqq\textgrqq
478 \let\glq\textglq
479 \let\grq\textgrq
480 \let\flqq\textflqq
481 \let\frqq\textfrqq
482 \let\flq\textflq
483 \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}

484 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

485 \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.

```

486 \let\hspace\HyPsd@hspace

```

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

```

487 \let\label\@gobble
488 \let\index\@gobble
489 \let\glossary\@gobble
490 \let\href\@secondoftwo
491 \let\@mkboth\@gobbletwo

```

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

```

492 \let\ref\HyPsd@ref
493 \let\pageref\HyPsd@pageref
494 \let\nameref\HyPsd@nameref
495 \let\autoref\HyPsd@autoref

```

Miscellaneous commands.

```
496 \let\leavevmode\@empty
497 \let\mbox\@empty
```

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

```
498 \def\halign{\pdfstringdefWarn\halign\@gobble}%
499 \let\ignorespaces\HyPsd@ignorespaces
500 \let\Hy@SectionAnchorHref\@gobble
```

Patch for cjk bookmarks.

```
501 \ifHy@CJKbookmarks
502   \HyPsd@CJKhook
503 \fi
```

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

```
504 \Hy@pdfstringtrue
505 \pdfstringdefPreHook
```

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

```
506 \HyPsd@LetUnexpandableSpace\space
507 \HyPsd@LetUnexpandableSpace\ %
508 \HyPsd@LetUnexpandableSpace~%
509 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package xspace.

```
510 \@ifundefined{@xspace}{%
511   \let\xspace\HyPsd@ITALCORR
512 }{%
513   \let\xspace\HyPsd@XSPACE
514 }%
515 \let\/\HyPsd@ITALCORR
516 \let\bgroup\/%
517 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
518 \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:

```
519 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
520 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
521 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
522 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package ‘xargs’:

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

6.2.2 Expansion

There are several possibilities to expand tokens within \LaTeX :

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

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

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

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

```
524 \begingroup
525 \let\GenericError\@gobblefour
526 \let\GenericWarning\@gobbletwo
527 \let\GenericInfo\@gobbletwo
```

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

```
528 \ifx\nofrenchguillemets\@undefined
529 \else
530 \nofrenchguillemets
531 \fi
```

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

```
532 \let\Hy@temp\xdef
533 \let\def\HyPsd@DefCommand
534 \let\gdef\HyPsd@DefCommand
535 \let\edef\HyPsd@DefCommand
536 \let\xdef\HyPsd@DefCommand
537 \let\futurelet\HyPsd@LetCommand
538 \let\let\HyPsd@LetCommand
539 \Hy@temp#1{#2}%
540 \endgroup
```

6.2.3 Postprocessing

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

```
541 \ifx#1\@empty
542 \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.

```
543 \HyPsd@ProtectSpaces#1%
544 \let\HyPsd@String\@empty
545 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
546 \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.

```

547 \let\HyPsd@SPACEOPTI\relax
548 {%
549 \let\HyPsd@String\@empty
550 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@end
551 \global\let#1\HyPsd@String
552 }%
553 \expandafter\HyPsd@RemoveMask\expandafter
554 |\expandafter\@empty#1\HyPsd@end#1%
```

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

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

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

```

555 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
556 \let\HyPsd@String\@empty
557 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
558 \global\let#1\HyPsd@String
```

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

```
559 \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.

```

560 \ifHy@unicode
561 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
562 \HyPsd@SPACEOPTI#1%
563 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
```



```

564 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
565 {\HyPsd@SPACEOPTI\80\273}#1%
566 \else
567 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
568 \expandafter\HyPsd@Subst\expandafter{%
569 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
570 \string\273}{\HyPsd@SPACEOPTI\273}#1%
571 \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.

```

572 \ifHy@unicode
573 \HyPsd@StringSubst{\)}{\80\051}#1%
574 \HyPsd@Subst){\80\051}#1%
575 \let\HyPsd@empty\relax
576 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
577 {\HyPsd@empty\80\051}#1%
578 \else
579 \HyPsd@StringSubst{\)}{\051}#1%
580 \HyPsd@Subst){\051}#1%
581 \let\HyPsd@empty\relax
582 \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
583 \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`.

```

584 \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
585 \@ifundefined{@xspace}{%
586 }{%
587 \let\HyPsd@xspace\relax
588 \expandafter\HyPsd@Subst\expandafter
589 {\HyPsd@XSPACE}\HyPsd@xspace#1%
590 \let\HyPsd@xspace\HyPsd@doxspace
591 }%
592 \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.

```
593 \HyPsd@Subst{---}\textemdash#1%
594 \HyPsd@Subst{--}\textendash#1%
595 % \HyPsd@Subst{fi}\textfi#1%
596 % \HyPsd@Subst{fl}\textfl#1%
597 \HyPsd@Subst{!'}\textexclamdown#1%
598 \HyPsd@Subst{?'}\textquestiondown#1%
```

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

```
599 \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.

```
600 \ifHy@unicode
601 \HyPsd@StringSubst{\textparenleft#1%
602 \HyPsd@Subst{\textparenleft#1%
603 \else
604 \HyPsd@StringSubst\({\050}#1%
605 \HyPsd@Subst({\050}#1%
606 \HyPsd@StringSubst{\050}{\string\{ }#1%
607 \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.

```
608 \ifHy@unicode
609 \edef\HyPsd@SPACEOPTI{\80\040}%
610 \else
611 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
612 \fi
613 \xdef#1{#1\@empty}%
614 \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.

```
615 \endgroup
616 \begingroup
617 \ifHy@unicode
618 \HyPsd@ConvertToUnicode#1%
```

Try conversion back to PDFDocEncoding.

```
619 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
620 \@ifundefined{StringEncodingConvertTest}{%
621 }{%
622 \EdefUnescapeString\HyPsd@temp#1%
```

```

623 \ifxetex
624 \let\HyPsd@UnescapedString\HyPsd@temp
625 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
626 {utf16be}{ascii-print}{-%
627 \EdefEscapeString\HyPsd@temp\HyPsd@temp
628 \global\let#1\HyPsd@temp
629 \Hy@unicodfalse
630 }{-%
631 \HyPsd@ToBigChars#1%
632 }%
633 \else
634 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
635 {utf16be}{pdfdoc}{-%
636 \EdefEscapeString\HyPsd@temp\HyPsd@temp
637 \global\let#1\HyPsd@temp
638 \Hy@unicodfalse
639 }{ }%
640 \fi
641 }%
642 \fi
643 \fi
644 \HyPsd@XeTeXBigCharsfalse

```

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

```

645 \pdfstringdefPostHook#1%
646 \endgroup
647 }

```

`\Hy@pdfstringdef`

```

648 \def\Hy@pdfstringdef#1#2{%
649 \pdfstringdef\Hy@gtemp{#2}%
650 \let#1\Hy@gtemp
651 }

```

6.3 Encodings

6.3.1 XeTeX

```

652 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
653 \catcode\z@=12 %
654 \ifxetex
655 \expandafter\@firstofone
656 \else
657 \let\HyPsd@XeTeXBigCharstrue\@empty
658 \let\HyPsd@XeTeXBigCharsfalse\@empty
659 \expandafter\@gobble
660 \fi
661 {%
662 \newif\ifHyPsd@XeTeXBigChars
663 \def\HyPsd@XeTeXBigCharsfalse{%
664 \global\let\ifHyPsd@XeTeXBigChars\iffalse
665 }%
666 \def\HyPsd@XeTeXBigCharstrue{%
667 \global\let\ifHyPsd@XeTeXBigChars\iffalse
668 }%
669 \def\HyPsd@ToBigChars#1{%

```

```

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

```

6.3.2 Workaround for package linguex

```

725 \@ifpackageloaded{linguex}{%
726   \let\HyLinguex@OrgB\b
727   \let\HyLinguex@OrgC\c
728   \let\HyLinguex@OrgD\d
729   \def\HyLinguex@Restore{%
730     \let\b\HyLinguex@OrgB
731     \let\c\HyLinguex@OrgC
732     \let\d\HyLinguex@OrgD
733   }%
734   \AtEndOfPackage{%
735     \pdfstringdefDisableCommands{%
736       \@ifundefined{oldb}{\let\b\oldb}%
737       \@ifundefined{oldc}{\let\c\oldc}%
738       \@ifundefined{oldd}{\let\d\oldd}%
739     }%
740   }%
741 }{%
742   \let\HyLinguex@Restore\relax
743 }%

```

6.3.3 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.

```

744 \@ifundefined{T@PD1}{%
745   \input{pdlenc.def}%
746   \HyLinguex@Restore
747 }{}
748 \DeclareFontFamily{PD1}{pdf}{}
749 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
750 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

6.3.4 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`.

```

751 \def\HyPsd@InitUnicode{%
752   \@ifundefined{T@PU}{%
753     \input{puenc.def}%
754     \HyLinguex@Restore
755   }{}%
756   \DeclareFontFamily{PU}{pdf}{}%
757   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
758   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
759   \let\HyPsd@InitUnicode\relax
760 }

```

6.4 Additional user commands

6.4.1 `\texorpdfstring`

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

```

761 \def\texorpdfstring{%
762   \ifHy@pdfstring
763     \expandafter\@secondoftwo
764   \else
765     \expandafter\@firstoftwo
766   \fi
767 }
```

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`.

```

768 \@ifundefined{pdfstringdefPreHook}{%
769   \let\pdfstringdefPreHook\empty
770 }{}
771 \@ifundefined{pdfstringdefPostHook}{%
772   \let\pdfstringdefPostHook\@gobble
773 }{}
```

`\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`.

```

774 \def\pdfstringdefDisableCommands{%
775   \begingroup
776     \makeatletter
777     \HyPsd@DisableCommands
778 }
```

`\HyPsd@DisableCommands`

```

779 \long\def\HyPsd@DisableCommands#1{%
780   \toks0=\expandafter{\pdfstringdefPreHook}%
781   \toks1={#1}%
782   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
783 \endgroup
784 }
```

`\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`.

```
785 \def\pdfstringdefWarn#1{%
786   \expandafter\noexpand\csname<>-string#1\endcsname
787 }
```

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.

```
788 \begingroup
789   \catcode0=12 %
790   \def\x{\endgroup
791     \def\HyPsd@ignorespaces{%
792       \romannumeral\expandafter'\expandafter^^@%
793       \romannumeral'^^@%
794     }%
795   }%
796 \x
```

6.5.2 Babel languages

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

```
\pdfstringdefDisableCommands{%
\languageshorthands{system}%
}
```

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

```
797 \def\HyPsd@BabelPatch{%
798   \let\HyOrg@languageshorthands\languageshorthands
799   \let\languageshorthands\HyPsd@LanguageShorthands
800 }
801 \RequirePackage{pdftexcmds}[2009/04/10]
802 \begingroup\expandafter\expandafter\expandafter\endgroup
803 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
804   \let\HyPsd@langshort@system\@empty
805   \def\HyPsd@LanguageShorthands#1{%
806     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
807       \HyPsd@langshort@system
808     \expandafter\@gobble
809   \else
```

```

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

Nothing to do for english.
842 \@ifundefined{danish@sh@"@sel}{-}{%
843 \def\HyPsd@babel@danish{%
844 \declare@shorthand{danish}{-}{-}%
845 \declare@shorthand{danish}{-}{-}%
846 }%
847 }
848 \@ifundefined{dutch@sh@"@sel}{-}{%
849 \def\HyPsd@babel@dutch{%
850 \declare@shorthand{dutch}{-}{-}%
851 \declare@shorthand{dutch}{-}{-}%
852 }%
853 }
854 \@ifundefined{finnish@sh@"@sel}{-}{%
855 \def\HyPsd@babel@finnish{%
856 \declare@shorthand{finnish}{-}{-}%
857 }%
858 }
859 \@ifundefined{french@sh@:@sel}{-}{%
860 \def\HyPsd@babel@frenchb{%
861 \def\guill@spacing{ }%
862 }%
863 }
864 \@ifundefined{german@sh@"@sel}{-}{%

```



```

865 \def\HyPsd@babel@german{%
866   \declare@shorthand{german}{f}{f}%
867   \declare@shorthand{german}{"}{|}%
868   \declare@shorthand{german}{"}{~}{-}%
869 }%
870 }
871 \@ifundefined{macedonian@sh@"@sel}{}{%
872 \def\HyPsd@babel@macedonian{%
873   \declare@shorthand{macedonian}{"}{|}%
874   \declare@shorthand{macedonian}{"}{~}{-}%
875 }%
876 }{}
877 \@ifundefined{ngerman@sh@"@sel}{}{%
878 \def\HyPsd@babel@ngerman{%
879   \declare@shorthand{ngerman}{"}{|}%
880   \declare@shorthand{ngerman}{"}{~}{-}%
881 }%
882 }
883 \@ifundefined{portuges@sh@"@sel}{}{%
884 \def\HyPsd@babel@portuges{%
885   \declare@shorthand{portuges}{"}{|}%
886 }%
887 }
888 \@ifundefined{russian@sh@"@sel}{}{%
889 \def\HyPsd@babel@russian{%
890   \declare@shorthand{russian}{"}{|}%
891   \declare@shorthand{russian}{"}{~}{-}%
892 }%
893 }
894 \@ifundefined{slovene@sh@"@sel}{}{%
895 \def\HyPsd@babel@slovene{%
896   \declare@shorthand{slovene}{"}{|}%
897 }%
898 }

```

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

```

899 \@ifundefined{spanish@sh@>@sel}{}{%
900 \def\HyPsd@babel@spanish{%
901   \declare@shorthand{spanish}{<<}{\guillemotleft}%
902   \declare@shorthand{spanish}{>>}{\guillemotright}%
903   \declare@shorthand{spanish}{=}{-}%
904   \declare@shorthand{spanish}{"}{~}{-}%
905   \declare@shorthand{spanish}{!}{\textexclamdown}%
906   \declare@shorthand{spanish}{?}{\textquestiondown}%
907 }%
908 }
909 \@ifundefined{swedish@sh@"@sel}{}{%
910 \def\HyPsd@babel@swedish{%
911   \declare@shorthand{swedish}{"}{|}%
912   \declare@shorthand{swedish}{"}{~}{-}%
913 }%
914 }
915 \@ifundefined{ukrainian@sh@"@sel}{}{%
916 \def\HyPsd@babel@ukrainian{%
917   \declare@shorthand{ukrainian}{"}{|}%
918   \declare@shorthand{ukrainian}{"}{~}{-}%
919 }%
920 }

```

```

921 \@ifundefined{usorbian@sh@{sel}}{}{}%
922 \def\HyPsd@babel@usorbian{%
923 \declare@shorthand{usorbian}{f}{f}%
924 \declare@shorthand{usorbian}{|}{|}%
925 }%
926 }

927 \@ifundefined{greek@sh@{string~@sel}}{}{}%
928 \let\HyPsd@GreekPatch\@empty
929 {}{}%
930 \def\HyPsd@GreekPatch{%
931 \let\greeknumeral\HyPsd@greeknumeral
932 \let\Greeknnumeral\HyPsd@Greeknnumeral
933 }%
934 }

935 \def\HyPsd@greeknumeral#1{%
936 \HyPsd@GreekNum\@firstoftwo{#1}%
937 }

938 \def\HyPsd@Greeknnumeral#1{%
939 \HyPsd@GreekNum\@secondoftwo{#1}%
940 }

941 \def\HyPsd@GreekNum#1#2{%
942 \ifHy@unicode
943 \ifnum#2<\@ne
944 \@arabic{#2}%
945 \else
946 \ifnum#2<1000000 %
947 \HyPsd@@GreekNum#1{#2}%
948 \else
949 \@arabic{#2}%
950 \fi
951 \fi
952 \else
953 \@arabic{#2}%
954 \fi
955 }

956 \def\HyPsd@@GreekNum#1#2{%
957 \ifnum#2<\@m
958 \ifnum#2<10 %
959 \expandafter\HyPsd@GreekNumI
960 \expandafter\@gobble\expandafter#1\number#2%
961 \else
962 \ifnum#2<100 %
963 \expandafter\HyPsd@GreekNumII
964 \expandafter\@gobble\expandafter#1\number#2%
965 \else
966 \expandafter\HyPsd@GreekNumIII
967 \expandafter\@gobble\expandafter#1\number#2%
968 \fi
969 \fi
970 \ifnum#2>\z@
971 \textnumeralsigngreek
972 \fi
973 \else
974 \ifnum#2<\@M
975 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
976 \else
977 \ifnum#2<100000 %

```

```

978     \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
979     \else
980     \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
981     \fi
982     \fi
983     \fi
984 }
985 \def\HyPsd@GreekNumI#1#2#3{%
986   #1{%
987     \ifnum#3>\z@
988       \textnumeralsignlowergreek
989       \fi
990   }%
991   \expandafter#2%
992   \ifcase#3 %
993     {}{}%
994     \or\textalpha\textAlpha
995     \or\textbeta\textBeta
996     \or\textgamma\textGamma
997     \or\textdelta\textDelta
998     \or\textepsilon\textEpsilon
999     \or\textstigmagreek\textStigmagreek
1000    \or\textzeta\textZeta
1001    \or\texteta\textEta
1002    \or\texttheta\textTheta
1003    \else
1004      {}{}%
1005    \fi
1006 }
1007 \def\HyPsd@GreekNumII#1#2#3#4{%
1008   #1{%
1009     \ifnum#3>\z@
1010       \textnumeralsignlowergreek
1011       \fi
1012   }%
1013   \expandafter#2%
1014   \ifcase#3 %
1015     {}{}%
1016     \or\textiota\textIota
1017     \or\textkappa\textKappa
1018     \or\textlambda\textLambda
1019     \or\textmu\textMu
1020     \or\textnu\textNu
1021     \or\textxi\textXi
1022     \or\textomicron\textOmicron
1023     \or\textpi\textPi
1024     \or\textkoppagreek\textKoppagreek
1025     \else
1026       {}{}%
1027     \fi
1028   \HyPsd@GreekNumI#1#2#4%
1029 }
1030 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1031   #1{%
1032     \ifnum#3>\z@
1033       \textnumeralsignlowergreek
1034       \fi

```

```

1035 }%
1036 \expandafter#2%
1037 \ifcase#3 %
1038 {}{}%
1039 \or\textrho\textRho
1040 \or\textsigma\textSigma
1041 \or\texttau\textTau
1042 \or\textupsilon\textUpsilon
1043 \or\textphi\textPhi
1044 \or\textchi\textChi
1045 \or\textpsi\textPsi
1046 \or\textomega\textOmega
1047 \or\textsampigreek\textSampigreek
1048 \else
1049 {}{}%
1050 \fi
1051 \HyPsd@GreekNumII#1#2#4#5%
1052 }
1053 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1054 \HyPsd@GreekNumI\@firstofone#1#2%
1055 \HyPsd@@GreekNum#1{#3#4#5}%
1056 }
1057 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1058 \HyPsd@GreekNumII\@firstofone#1#2#3%
1059 \HyPsd@@GreekNum#1{#4#5#6}%
1060 }
1061 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1062 \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1063 \HyPsd@@GreekNum#1{#5#6#7}%
1064 }
1065 \def\HyPsd@SpanishPatch{%
1066 \begingroup\expandafter\expandafter\expandafter\endgroup
1067 \expandafter\ifx\csname es@save@dot\endcsname\relax
1068 \else
1069 \let\.\es@save@dot
1070 \fi
1071 }

```

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 ($\geq 0x40$).

```

1072 \begingroup
1073 \catcode"7F=\active
1074 \toks@{%
1075 \let\CJK@ignorespaces\empty
1076 \def\CJK@char#1{\@gobbletwo}%
1077 \let\CJK@charx\@gobblefour
1078 \let\CJK@punctchar\@gobblefour

```

```

1079 \def\CJK@punctcharx#1{\@gobblefour}%
1080 \catcode"7F=\active
1081 \def^^7f#1^^7f#2^^7f{%
1082   \string #1\HyPsd@DecimalToOctal{#2}%
1083 }%
1084 % ... ?
1085 \ifHy@unicode
1086   \def\Hy@cjkpu{\80}%
1087 \else
1088   \let\Hy@cjkpu\@empty
1089 \fi
1090 \HyPsd@CJKActiveChars
1091 }%
1092 \count@=127 %
1093 \@whilenum\count@<255 \do{%
1094   \advance\count@ by 1 %
1095   \lccode'\~=\count@
1096   \lowercase{%
1097     \toks@\expandafter{\the\toks@ ~}%
1098   }%
1099 }%
1100 \toks@\expandafter{\the\toks@ !}%
1101 \xdef\HyPsd@CJKhook{\the\toks@}%
1102 \endgroup

```

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

```

1103 \def\HyPsd@CJKActiveChars#1{%
1104   \ifx#1!%
1105     \let\HyPsd@CJKActiveChars\relax
1106   \else
1107     \edef#1{\noexpand\Hy@cjkpu\string#1}%
1108   \fi
1109   \HyPsd@CJKActiveChars
1110 }

```

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

```

1111 \def\HyPsd@DecimalToOctal#1{%
1112   \ifcase #1 %
1113     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1114     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1115     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1116     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1117     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1118     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1119     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1120     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1121     \or @\or A\or B\or C\or D\or E\or F\or G%
1122     \or H\or I\or J\or K\or L\or M\or N\or O%
1123     \or P\or Q\or R\or S\or T\or U\or V\or W%
1124     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1125     \or \140\or a\or b\or c\or d\or e\or f\or g%
1126     \or h\or i\or j\or k\or l\or m\or n\or o%
1127     \or p\or q\or r\or s\or t\or u\or v\or w%
1128     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1129     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1130     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%

```

```

1131 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1132 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1133 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1134 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1135 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1136 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1137 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1138 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1139 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1140 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1141 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1142 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1143 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1144 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1145 \fi
1146 }

```

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 \LaTeX 2_ε 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 (\LaTeX 2_ε release [1998/12/01]). In the normal case `\pdfstringdef` is executed in a context where `\protect` has the meaning of `\@typesetprotect` (`=\relax`).

```

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

```

```

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

1147 \def\HyPsd@inmathwarn#1#2{%
1148   \ifx#2\expandafter
1149     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1150       \HyPsd@GLYPHERR
1151     \expandafter\@gobble\string#1%
1152     >%
1153     \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1154   \else
1155     \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1156   \fi
1157 \else
1158   \expandafter#2%
1159 \fi
1160 }
1161 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1162 \def\HyPsd@EndWithElse#1\else{\else}

```

\HyPsd@add@accent

```

1163 \def\HyPsd@add@accent#1#2{%
1164   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1165   #2%
1166 }%

```

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.

```

1167 \def\HyPsd@LetUnexpandableSpace#1{%
1168   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1169 }

```

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

```

1170 \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.

```

1171 \edef\HyPsd@XSPACE{\string#\string X}
1172 \edef\HyPsd@ITALCORR{\string#\string I}
1173 \edef\HyPsd@GLYPHERR{\string#\string G}

```

6.5.7 \hspace fix

\HyPsd@hspace

```
1174 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1175 \def\HyPsd@@hspace#1*#2\END{%
1176   \ifx\#2\%
1177     \HyPsd@hspacetest{#1}%
1178   \else
1179     \expandafter\HyPsd@hspacetest
1180   \fi
1181 }
```

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

```
1182 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

6.5.8 Fix for AMS classes

```
1183 \@ifundefined{tocsection}{%
1184   \let\HyPsd@AMSclassfix\relax
1185 }{%
1186   \def\HyPsd@AMSclassfix{%
1187     \let\tocpart\HyPsd@tocsection
1188     \let\tocchapter\HyPsd@tocsection
1189     \let\tocappendix\HyPsd@tocsection
1190     \let\tocsection\HyPsd@tocsection
1191     \let\tocsubsection\HyPsd@tocsection
1192     \let\tocsubsubsection\HyPsd@tocsection
1193     \let\tocparagraph\HyPsd@tocsection
1194   }%
1195   \def\HyPsd@tocsection#1#2#3{%
1196     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1197     #3%
1198   }%
1199 }
```

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.

```
1200 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1201 \def\HyPsd@@ref#1*#2\END{%
1202   \ifx\#2\%
1203     \HyPsd@@@ref{#1}%
1204   \else
1205     \expandafter\HyPsd@@@ref
1206   \fi
1207 }
```

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

```
1208 \def\HyPsd@@@ref#1{%
1209   \expandafter\ifx\csname r@#1\endcsname\relax
1210     ??%
```



```

1211 \else
1212   \expandafter\expandafter\expandafter
1213   \@car\csname r@#1\endcsname\@nil
1214 \fi
1215 }

```

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

```

1216 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

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

```

1217 \def\HyPsd@@pageref#1*#2\END{%
1218   \ifx\#2\%
1219     \HyPsd@@@pageref{#1}%
1220   \else
1221     \expandafter\HyPsd@@@pageref
1222   \fi
1223 }

```

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

```

1224 \def\HyPsd@@@pageref#1{%
1225   \expandafter\ifx\csname r@#1\endcsname\relax
1226     ??%
1227   \else
1228     \expandafter\expandafter\expandafter\expandafter
1229     \expandafter\expandafter\expandafter\@car
1230     \expandafter\expandafter\expandafter\@gobble
1231     \csname r@#1\endcsname{}\@nil
1232   \fi
1233 }

```

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

```

1234 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

1235 \def\HyPsd@@nameref#1*#2\END{%
1236   \ifx\#2\%
1237     \HyPsd@@@nameref{#1}%
1238   \else
1239     \expandafter\HyPsd@@@nameref
1240   \fi
1241 }

```

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

```

1242 \def\HyPsd@@@nameref#1{%
1243   \expandafter\ifx\csname r@#1\endcsname\relax
1244     ??%
1245   \else
1246     \expandafter\expandafter\expandafter\expandafter
1247     \expandafter\expandafter\expandafter\@car
1248     \expandafter\expandafter\expandafter\@gobbletwo
1249     \csname r@#1\endcsname{}\@nil
1250   \fi
1251 }

```

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

1252 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

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

1253 \def\HyPsd@@autoref#1*#2\END{%

1254 \ifx\|#2\%

1255 \HyPsd@@@autoref{#1}%

```
1256 \else
```

1257 \expandafter\HyPsd@@@autoref

1258 \fi

1259 }

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

1260 \def\HyPsd@@@autoref#1{%

```
1261 \expandafter\ifx\csize r@#1\endcsize\relax
```

1262 ??%

```
1263 \else
```

1264 \expandafter\expandafter\expandafter\HyPsd@autorefname

```
1265 \csname r@#1\endcsname{}{}{}{} \@nil
```

1266 \expandafter\expandafter\expandafter

```
1267 \@car\csname r@#1\endcsname\@nil
```

1268 \fi

1269 }

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

1270 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%

1271 \ifx\\#4\\%

```
1272 \else
```

1273 \HyPsd@@autorefname#4.\@nil

1274 \fi

1275 }

\HyPsd@@autorefname

1276 \def\HyPsd@@autorefname#1.#2\@nil{%

1277 \@ifundefined{#1autorefname}{%

```
1278 \@ifundefined{#1name}{%
```

1279 }{\%

1280 \csname#1name\endcsname\space

1281 }%

1282 }{ %

1283 \csname#1autorefname\endcsname\space

1284 }%

1285 }

6.5.10 Redefining the defining commands

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

Active characters cannot be defined with this trick. It is possible to define all undefined active characters (perhaps that they have the meaning of `\relax`). To avoid side effects this should be done in `\pdfstringdef` shortly before the `\xdef` job. But checking

and defining all possible active characters of the full range (0 until 255) would take a while. `\pdfstringdef` is slow enough, so this isn't done.

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

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

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

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

```
\HyPsd@DefCommand
\HyPsd@LetCommand
1286 \begingroup
1287   \def\x#1#2{%
1288     \endgroup
1289     \let#1\def
1290     \def\HyPsd@DefCommand##1##2##{%
1291       #1%
1292       \expandafter\noexpand
1293       \csname\expandafter\@gobble\string##1\@empty\endcsname
1294       \@gobble
1295     }%
1296     \let#2\let
1297     \def\HyPsd@@LetCommand##1{%
1298       \expandafter\ifx\csname##1\expandafter\endcsname
1299         \csname iftrue\endcsname
1300         \pdfstringdefWarn\let
1301         \expandafter\@gobble
1302       \else
1303         \expandafter\ifx\csname##1\expandafter\endcsname
1304           \csname iffalse\endcsname
1305           \pdfstringdefWarn\let
1306           \expandafter\expandafter\expandafter\@gobble
1307         \else
1308           #2%
1309           \expandafter\noexpand
1310           \csname##1\expandafter\expandafter\expandafter\endcsname
1311         \fi
1312       \fi
1313     }%
1314   }%
1315   \expandafter\x\csname <def>-command\expandafter\endcsname
1316     \csname <let>-command\endcsname
1317   \def\HyPsd@LetCommand#1{%
1318     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1319     \expandafter\expandafter\expandafter{%
1320       \expandafter\@gobble\string#1\@empty
1321     }%
```

1322 }

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).

```
1323 \def\HyPsd@ifnextchar#1{%
1324   \pdfstringdefWarn#1%
1325   \expandafter\@gobbletwo\@gobble
1326 }
```

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.

```
1327 \def\HyPsd@protected@testopt#1{%
1328   \pdfstringdefWarn#1%
1329   \@gobbletwo
1330 }
```

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:

```
1331 \def\HyPsd@Warning#1{%
1332   \begingroup
1333   \def\space{ }%
1334   \Hy@Warning{#1}%
1335   \endgroup
1336 }
```

6.6.2 Protecting spaces

```
1337 \RequirePackage{etexcmds}[2007/09/09]
1338 \ifetex@unexpanded
1339   \expandafter\@secondoftwo
1340 \else
1341   \expandafter\@firstoftwo
1342 \fi
1343 {%
```

\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`.

```

1344 \def\HyPsd@ProtectSpaces#1{%
1345   \iftrue
1346     \expandafter\HyPsd@@ProtectSpacesFi
1347     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1348   \fi
1349 }%
```

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

```

1350 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1351   \fi
1352   \ifx\scrollmode#2\scrollmode
1353     \HyPsd@RemoveMask#1\HyPsd@End#3%
1354   \else
1355     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1356     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1357   \fi
1358 }%
```

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.

```

1359 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1360   \toks@{\expandafter{#1}}%
1361   \xdef#2{\the\toks@}%
1362 }%

1363 }{%
1364   \let\HyPsd@fi\fi
1365   \def\HyPsd@ProtectSpaces#1{%
1366     \xdef#1{%
1367       \iftrue
1368         \expandafter\HyPsd@@ProtectSpacesFi
1369         \expandafter|\expandafter\@empty#1| %
1370       \HyPsd@fi
1371     }%
1372     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1373   }%
1374   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1375     \fi
1376     \etex@unexpanded{#1}%
1377     \ifx\scrollmode#2\scrollmode
1378     \else
1379       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1380     \HyPsd@fi
1381   }%
1382   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1383     \xdef#2{\etex@unexpanded\expandafter{#1}}%
1384   }%
1385 }
```

6.6.3 Remove grouping braces

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

```

1386 \def\HyPsd@RemoveBraces#1{%
1387   \ifx\scrollmode#1\scrollmode
1388   \else
1389     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1390   \fi
1391 }

```

`\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`.

```

1392 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1393   \fi
1394   \def\Hy@temp@A{#1#2}%
1395   \def\Hy@temp@B{#3}%
1396   \ifx\Hy@temp@A\Hy@temp@B
1397     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1398       \HyPsd@String#1%
1399     }%
1400     \ifx\scrollmode#2\scrollmode
1401     \else
1402       \Hy@ReturnAfterFiFiEnd{%
1403         \HyPsd@RemoveBraces{#2}%
1404       }%
1405     \fi
1406   \else
1407     \def\Hy@temp@A{#1}%
1408     \HyPsd@AppendItalcorr\HyPsd@String
1409     \ifx\Hy@temp@A\@empty
1410       \Hy@ReturnAfterElseFiFiEnd{%
1411         \HyPsd@RemoveBraces{#2}%
1412       }%
1413     \else
1414       \HyPsd@ProtectSpaces\Hy@temp@A
1415       \HyPsd@AppendItalcorr\Hy@temp@A
1416       \Hy@ReturnAfterFiFiEnd{%
1417         \expandafter\HyPsd@RemoveBraces\expandafter
1418           {\Hy@temp@A#2}%
1419       }%
1420     \fi
1421   \fi
1422   \Hy@ReturnEnd
1423 }

```

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

```

1424 \def\HyPsd@AppendItalcorr#1{%
1425   \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1%
1426 }
1427 \def\HyPsd@@AppendItalcorr#1#2{%
1428   \expandafter\def\expandafter#2\expandafter{#2#1}%
1429 }

```

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`).

```

1430 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1431   \global\let\HyPsd@Rest\relax
1432   \ifcat\relax\noexpand#1\relax
1433     \ifx#1\protect
1434       \else
1435         \ifx#1\penalty
1436           \setbox\z@=\hbox{%
1437             \afterassignment\HyPsd@AfterCountRemove
1438             \count@=#2\HyPsd@End
1439           }%
1440         \else
1441           \ifx#1\kern
1442             \setbox\z@=\hbox{%
1443               \afterassignment\HyPsd@AfterDimenRemove
1444               \dimen@=#2\HyPsd@End
1445             }%
1446           \else
1447             \ifx#1\hskip
1448               \setbox\z@=\hbox{%
1449                 \afterassignment\HyPsd@AfterSkipRemove
1450                 \skip@=#2\HyPsd@End
1451               }%
1452             \else
1453               \HyPsd@CatcodeWarning{#1}%
1454             \fi
1455           \fi
1456         \fi
1457       \fi
1458     \else
1459       \ifcat#1A% letter
1460         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1461           \HyPsd@String#1%
1462         }%
1463       \else
1464         \ifcat#1 % SPACE
1465           \expandafter\def\expandafter\HyPsd@String\expandafter{%
1466             \HyPsd@String\HyPsd@SPACEOPTI
1467           }%
1468         \else
1469           \ifcat$#1%
1470             \HyPsd@CatcodeWarning{math shift}%
1471           \else
1472             \ifcat&#1%
1473               \HyPsd@CatcodeWarning{alignment tab}%

```

```

1474     \else
1475     \ifcat^#1%
1476     \HyPsd@CatcodeWarning{superscript}%
1477     \else
1478     \ifcat_#1%
1479     \HyPsd@CatcodeWarning{subscript}%
1480     \else
1481     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1482     \HyPsd@String#1%
1483     }%
1484     \fi
1485     \fi
1486     \fi
1487     \fi
1488     \fi
1489     \fi
1490 \fi
1491 \ifx\HyPsd@Rest\relax
1492 \ifx\scrollmode#2\scrollmode
1493 \else
1494 \Hy@ReturnAfterFiFiEnd{%
1495 \HyPsd@CheckCatcodes#2\HyPsd@End
1496 }%
1497 \fi
1498 \else
1499 \ifx\HyPsd@Rest\@empty
1500 \else
1501 \Hy@ReturnAfterFiFiEnd{%
1502 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1503 }%
1504 \fi
1505 \fi
1506 \Hy@ReturnEnd
1507 }

```

Remove counts, dimens, skips.

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

```

1508 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1509 \gdef\HyPsd@Rest{#1}%
1510 }

```

\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.

```

1511 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1512 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@\fi>1ex %
1513 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1514 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1515 \else
1516 \ifdim\dimen@=\z@
1517 \else
1518 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1519 \fi
1520 \gdef\HyPsd@Rest{#1}%
1521 \fi

```


1522 }

\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).

```
1523 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1524   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@<1ex %
1525     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1526     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1527   \else
1528     \ifdim\skip@=\z@
1529     \else
1530       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1531     \fi
1532     \gdef\HyPsd@Rest{#1}%
1533   \fi
1534 }
```

Catcode warnings.

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

```
1535 \def\HyPsd@CatcodeWarning#1{%
1536   \HyPsd@Warning{%
1537     Token not allowed in a PDF string (%
1538     \ifHy@unicode
1539       Unicode%
1540     \else
1541       PDFDocEncoding%
1542     \fi
1543   ):%
1544   \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
1545   }%
1546 }
1547 \begingroup
1548 \catcode'\|=0 %
1549 \catcode'\|=12 %
1550 \gdef\HyPsd@RemoveCmdPrefix#1{%
1551   \expandafter\HyPsd@@RemoveCmdPrefix
1552     \string#1\@empty\<>\@empty\@empty
1553   }%
1554   \gdef\HyPsd@@RemoveCmdPrefix#1\<>#2\@empty#3\@empty{#1#2}%
1555 \endgroup
```

\HyPsd@RemoveSpaceWarning

```
1556 \def\HyPsd@RemoveSpaceWarning#1{%
1557   \HyPsd@Warning{%
1558     Token not allowed in a PDF string (%
1559     \ifHy@unicode
1560       Unicode%
1561     \else
1562       PDFDocEncoding%
1563     \fi
1564   ):%
1565   \MessageBreak #1\MessageBreak
1566   removed%
1567   }%
1568 }
```

\HyPsd@ReplaceSpaceWarning

```
1569 \def\HyPsd@ReplaceSpaceWarning#1{%
1570 \HyPsd@Warning{%
1571   Token not allowed in a PDF string (%
1572   \ifHy@unicode
1573     Unicode%
1574   \else
1575     PDFDocEncoding%
1576   \fi
1577   }:%
1578   \MessageBreak #1\MessageBreak
1579   replaced by space%
1580 }%
1581 }
```

6.6.5 Check for wrong glyphs

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

```
1582 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1583 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1584 \HyPsd@String#1%
1585 }%
1586 \ifx\#2\%
1587 \else
1588 \Hy@ReturnAfterFi{%
1589 \HyPsd@GlyphProcessWarning#2\@empty
1590 }%
1591 \fi
1592 }
1593 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1594 \HyPsd@@@GlyphProcessWarning#1++>%
1595 \HyPsd@GlyphProcess#2\@empty
1596 }
1597 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
1598 \ifx\#2\%
1599 \HyPsd@Warning{%
1600   Glyph not defined in %
1601   P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1602   removing '@backslashchar#1'%
1603 }%
1604 \else
1605 \HyPsd@Warning{%
1606   Composite letter '@backslashchar#1+#2'\MessageBreak
1607   not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1608   \MessageBreak
1609   removing '@backslashchar#1'%
1610 }%
1611 \fi
1612 }
```

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.

```

1613 \def\HyPsd@spaceopti#1{ % first space
1614   \ifx\HyPsd@spaceopti#1%
1615     \040%
1616   \else
1617     #1%
1618   \fi
1619 }%

```

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.

```

1620 \def\HyPsd@Subst#1#2#3{%
1621   \def\HyPsd@@ReplaceFi##1##2\END\fi{%
1622     \fi
1623     ##1%
1624     \ifx\scrollmode##2\scrollmode
1625       \else
1626         #2%
1627       \HyPsd@@ReplaceFi##2\END
1628     \fi
1629   }%
1630   \xdef#3{%
1631     \iftrue
1632       \expandafter\HyPsd@@ReplaceFi#3#1\END
1633     \fi
1634   }%
1635 }

```

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

```

1636 \def\HyPsd@StringSubst#1{%
1637   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1638 }

```

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.

```

1639 \def\HyPsd@doxspace#1{%
1640   \ifx#1\relax\else
1641     \ifx#1.\else
1642       \ifx#1:\else
1643         \ifx#1,\else
1644           \ifx#1;\else
1645             \ifx#1!\else
1646               \ifx#1?\else
1647                 \ifx#1/\else
1648                   \ifx#1-\else
1649                     \ifx#1'\else
1650                       \HyPsd@SPACEOPTI

```

```

1651      \fi
1652      \fi
1653      \fi
1654      \fi
1655      \fi
1656      \fi
1657      \fi
1658      \fi
1659      \fi
1660      \fi
1661      #1%
1662 }%

```

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.

```

1663 \begingroup
1664 \catcode'\|=0 %
1665 \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

1666 |gdef|HyPsd@ConvertToUnicode#1{%
1667 |xdef#1{%
1668 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1669 }%
1670 |ifx#1|@empty
1671 |else
1672 |xdef#1{%
1673 \376\377%
1674 #1%
1675 }%
1676 |fi
1677 }%

```

\HyPsd@DoConvert

```

1678 |gdef|HyPsd@DoConvert#1{%
1679 |ifx#1|@empty
1680 |else
1681 |Hy@ReturnAfterFi{%
1682 |ifx#1\%%
1683 \%%
1684 |expandafter|HyPsd@DoEscape
1685 |else
1686 |HyPsd@Char{#1}%
1687 |expandafter|HyPsd@DoConvert
1688 |fi
1689 }%
1690 |fi
1691 }%

```

\HyPsd@DoEscape

```

1692 |gdef|HyPsd@DoEscape#1{%
1693 |ifx#19%
1694 |expandafter|HyPsd@GetTwoBytes

```

```

1695 | else
1696 | Hy@ReturnAfterFi{%
1697 | ifx#18%
1698 | 00%
1699 | expandafter HyPsd@GetTwoBytes
1700 | else
1701 | #1%
1702 | expandafter HyPsd@GetOneByte
1703 | fi
1704 }%
1705 | fi
1706 }%

```

\HyPsd@GetTwoBytes

```

1707 | gdef HyPsd@GetTwoBytes#1\#2#3#4{%
1708 | #1\#2#3#4%
1709 | HyPsd@DoConvert
1710 }%

```

\HyPsd@GetOneByte

```

1711 | gdef HyPsd@GetOneByte#1#2{%
1712 | #1#2%
1713 | HyPsd@DoConvert
1714 }%
1715 | endgroup

```

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

```

1716 \def HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1717 \xdef#4{#4#1#2}%
1718 \HyPsd@@ConvertToUnicode#3\END#4%
1719 }

```

\HyPsd@Char

```

1720 \RequirePackage{intcalc}[2007/09/27]
1721 \begingroup
1722 \catcode0=9 %
1723 \catcode'\^=7 %
1724 \catcode'\^^=12 %
1725 \def\x{^^^^0000}%
1726 \expandafter\endgroup
1727 \ifx\x\@empty
1728 \def HyPsd@Char#1{%
1729 \ifnum'#1<128 %
1730 \backslashchar 000#1%
1731 \else
1732 \ifnum'#1<65536 %
1733 \expandafter HyPsd@CharTwoByte\number'#1!%
1734 \else
1735 \expandafter\expandafter\expandafter HyPsd@CharSurrogate
1736 \intcalcSub{'#1}{65536}!%
1737 \fi
1738 \fi
1739 }%
1740 \def HyPsd@CharTwoByte#1!{%
1741 \expandafter\expandafter\expandafter HyPsd@CharOctByte
1742 \IntCalcDiv#1!256!!%
1743 \expandafter\expandafter\expandafter HyPsd@CharOctByte

```

```

1744 \IntCalcMod#1!256!!%
1745 }%
1746 \def\HyPsd@CharOctByte#1!{%
1747 \@backslashchar
1748 \IntCalcDiv#1!64!%
1749 \intcalcDiv{\IntCalcMod#1!64!}{8}%
1750 \IntCalcMod#1!8!%
1751 }%
1752 \def\HyPsd@CharSurrogate#1!{%
1753 \@backslashchar 33%
1754 \IntCalcDiv#1!262144!%
1755 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1756 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1757 \@backslashchar 33%
1758 \expandafter\expandafter\expandafter\IntCalcAdd
1759 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1760 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1761 \IntCalcMod#1!256!!%
1762 }%
1763 \else
1764 \def\HyPsd@Char#1{%
1765 \@backslashchar 000#1%
1766 }%
1767 \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`

```

1768 \begingroup\expandafter\expandafter\expandafter\endgroup
1769 \expandafter\ifx\csname numexpr\endcsname\relax
1770 \let\HyPsd@UTFviii\relax
1771 \else
1772 \begingroup
1773 \lccode'\~='^^f4\relax
1774 \lowercase{\endgroup
1775 \def\HyPsd@UTFviii{%
1776 \let\UTFviii@two@octets\HyPsd@UTFviii@two
1777 \let\UTFviii@three@octets\HyPsd@UTFviii@three
1778 \let\UTFviii@four@octets\HyPsd@UTFviii@four
1779 \ifx~\HyPsd@UTFviii@ccxliv@undef
1780 \let~\HyPsd@UTFviii@ccxliv@def
1781 \fi
1782 \let\unichar\HyPsd@unichar
1783 }%
1784 }%
1785 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1786 \edef\HyPsd@UTFviii@ccxliv@def{%

```

```

1787 \noexpand\UTFviii@four@octets\string ^f4%
1788 }%

```

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.

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

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

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

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

$$(5)$$

```

1789 \def\HyPsd@UTFviii@two#1#2{%
1790 \expandafter\HyPsd@UTFviii@@two
1791 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
1792 \number'#1\expandafter| %
1793 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
1794 \number'#2 \@nil
1795 }%
1796 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1797 \expandafter\8%
1798 \number\numexpr #1-48\expandafter\relax
1799 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1800 \number\numexpr #3-8*%
1801 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1802 \number\numexpr #4-8*#3\relax
1803 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1804 \def\HyPsd@UTFviii@three#1#2#3{%
1805 \expandafter\HyPsd@UTFviii@@three
1806 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
1807 \number'#1\expandafter| %
1808 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
1809 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
1810 \number'#2\expandafter| %
1811 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
1812 \number'#3 \@nil
1813 }%
1814 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1815 \expandafter\9%
1816 \number\numexpr #1-56\expandafter\relax
1817 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1818 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax

```

```

1819 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1820 \number\numexpr #6-16\expandafter\relax
1821 \number\numexpr #7-8*#6\relax
1822 }%

```

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

```

```

1823 \def\HyPsd@UTFviii@four#1#2{%
1824 \expandafter\HyPsd@@UTFviii@four\number
1825 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1826 \expandafter|\number
1827 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
1828 }%
1829 \def\HyPsd@@UTFviii@four#1|#2|#3{%
1830 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1831 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1832 \ifodd#2 %
1833 \number\numexpr(#2-1)/2\relax
1834 \else
1835 \number\numexpr#2/2\relax
1836 \fi
1837 \number\numexpr\ifodd#2 4+\fi
1838 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1839 \933%
1840 \expandafter\HyPsd@@@UTFviii@four\number
1841 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
1842 }%
1843 \def\HyPsd@@@UTFviii@four#1|#2{%
1844 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1845 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1846 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1847 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1848 }%

```

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

```

1849 \def\HyPsd@unichar#1{%
1850 \ifHy@unicode
1851 \ifnum#1>"10FFFF %
1852 \HyPsd@UnicodeReplacementCharacter % illegal
1853 \else
1854 \ifnum#1>"FFFF %

```

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

```

1855 \expandafter\HyPsd@unichar\expandafter{%
1856 \number\numexpr 55296+%
1857 \dimexpr.0009765625\dimexpr\number#1sp-\p@
1858 \relax\relax\relax
1859 }%

```

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

```

1860 \expandafter\HyPsd@unichar\expandafter{%
1861 \number\numexpr#1-9216%

```



```

1862         -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1863         \relax\relax\relax
1864     }%
1865     \else
1866         \ifnum#1>"7FF %
1867             \9%
1868             \expandafter\HyPsd@unichar@first@byte\expandafter{%
1869             \number
1870             \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1871             }%
1872         \else
1873             \8%
1874             \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1875         \fi
1876         \expandafter\HyPsd@unichar@second@byte\expandafter{%
1877         \number
1878         \numexpr#1-256*\number
1879         \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1880     }%
1881     \fi
1882     \fi
1883     \else
1884         .% unsupported (Unicode -> PDF Doc Encoding)
1885     \fi
1886 }%
1887 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1888 \def\HyPsd@unichar@first@byte#1{%
1889     \number\dimexpr.015625\dimexpr#1sp\relax\relax
1890     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1891     \number
1892     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1893     \relax\relax\relax
1894     }%
1895 }%
1896 \def\HyPsd@unichar@second@byte#1{%
1897     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1898     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1899     \number
1900     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1901     \relax\relax\relax
1902     }%
1903 }%
1904 \def\HyPsd@unichar@octtwo#1{%
1905     \number\dimexpr.125\dimexpr#1sp\relax\relax
1906     \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1907     \relax\relax\relax
1908     }%
1909 \fi

```

7 Support of other packages

7.1 Class memoir

```

1910 \@ifclassloaded{memoir}{%
1911     \AtEndOfPackage{\RequirePackage{memhfixc}}}%
1912 }{}

```

7.2 Package subfigure

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

```
1913 \@ifpackageloaded{subfigure}{%
1914   \@ifundefined{sub@label}{%
1915     \Hy@hypertexnamesfalse
1916   }{%
1917     \renewcommand*{\sub@label}[1]{%
1918       \@bsphack
1919       \subfig@oldlabel{#1}%
1920       \if@filesw
1921         \begingroup
1922           \edef\@currentlabstr{%
1923             \expandafter\strip@prefix\meaning\@currentlabelname
1924           }%
1925           \protected@write\@auxout{}{%
1926             \string\newlabel{sub@#1}{%
1927               {\@nameuse{\@thesub\@capttype}}%
1928               {\thepage}%
1929             }%
1930             \expandafter\strip@period\@currentlabstr
1931             \relax.\relax\@@@%
1932           }%
1933           {\@currentHref}%
1934           {}%
1935         }%
1936       }%
1937     \endgroup
1938   \fi
1939   \@esphack
1940 }%
1941 \@ifpackagelater{subfigure}{2002/03/26}{%
1942   \providecommand*{\toclevel@subfigure}{1}%
1943   \providecommand*{\toclevel@subtable}{1}%
1944 }%
1945 }%
1946 }
```

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:

```
1947 \@ifundefined{XR@addURL}{%
1948 }{%
```

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.

```
1949 \def\xr@addURL#1{\xr@dURL#1{}{}{}\\}%
1950 \def\xr@dURL#1#2#3#4#5\\{%
1951   {#1}{#2}%
1952   \if!#4!%
1953     \else
1954       {#3}{#4}{\xr@URL}%
1955     \fi
1956 }%
1957 }
1958 \def\Hy@true{true}
```

```
1959 \def\Hy@false{false}
```

Providing dummy definitions.

```
1960 \let\literalps@out\@gobble
1961 \newcommand\pdfbookmark[3][]{ }
1962 \def\Acrobatmenu#1#2{\leavevmode#2}
1963 \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

```
1964 \let\HyperRaiseLinkHook\@empty
1965 \def\HyperRaiseLinkDefault{\baselineskip}
```

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

```
1966 \def\Hy@raisedlink#1{%
1967   \ifvmode
1968     #1%
1969   \else
1970     \penalty\@M
1971     \smash{%
1972       \begingroup
1973         \let\HyperRaiseLinkLength\@tempdima
1974         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1975         \HyperRaiseLinkHook
1976       \expandafter\endgroup
1977       \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
1978     }%
1979   \fi
1980 }
```

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

```
1981 \def\Hy@SaveLastskip{%
1982   \let\Hy@RestoreLastskip\relax
1983   \ifvmode
1984     \ifdim\lastskip=\z@
1985       \let\Hy@RestoreLastskip\nobreak
1986     \else
1987       \begingroup
1988         \skip@=-\lastskip
1989       \edef\x{%
1990         \endgroup
1991       \def\noexpand\Hy@RestoreLastskip{%
1992         \noexpand\ifvmode
1993         \noexpand\nobreak
1994         \vskip\the\skip@
```

```

1995         \vskip\the\lastskip\relax
1996         \noexpand\fi
1997     }%
1998 }%
1999 \x
2000 \fi
2001 \else
2002 \ifhmode
2003     \ifdim\lastskip=\z@
2004         \let\Hy@RestoreLastskip\nobreak
2005     \else
2006         \begingroup
2007             \skip@=-\lastskip
2008             \edef\x{%
2009                 \endgroup
2010                 \def\noexpand\Hy@RestoreLastskip{%
2011                     \noexpand\ifhmode
2012                     \noexpand\nobreak
2013                     \hskip\the\skip@
2014                     \hskip\the\lastskip\relax
2015                     \noexpand\fi
2016                 }%
2017             }%
2018         \x
2019     \fi
2020 \fi
2021 \fi
2022 }%

```

9 Options

9.1 Help macros

\Hy@boolkey

```

2023 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
2024 \def\Hy@@boolkey[#1]#2#3{%
2025     \edef\Hy@tempa{#3}%
2026     \lowercase\expandafter{%
2027         \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2028     }%
2029     \ifx\Hy@tempa\@empty
2030         \let\Hy@tempa\Hy@true
2031     \fi
2032     \ifx\Hy@tempa\Hy@true
2033     \else
2034         \ifx\Hy@tempa\Hy@false
2035         \else
2036             \let\Hy@tempa\relax
2037         \fi
2038     \fi
2039     \ifx\Hy@tempa\relax
2040         \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
2041     \else
2042         \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2043         \csname Hy@#2\Hy@tempa\endcsname
2044     \fi

```

2045 }

\Hy@WarnOptionValue

```
2046 \def\Hy@WarnOptionValue#1#2#3{%
2047   \Hy@Warning{%
2048     Unexpected value '#1'\MessageBreak
2049     of option '#2' instead of\MessageBreak
2050     #3%
2051   }%
2052 }
```

\Hy@DisableOption

```
2053 \def\Hy@DisableOption#1{%
2054   \@ifundefined{KV@Hyp@#1@default}{%
2055     \define@key{Hyp}{#1}%
2056   }{%
2057     \define@key{Hyp}{#1}[]%
2058   }%
2059   {\Hy@WarnOptionDisabled{#1}}%
2060 }
```

\Hy@WarnOptionDisabled

```
2061 \def\Hy@WarnOptionDisabled#1{%
2062   \Hy@Warning{%
2063     Option '#1' has already been used,\MessageBreak
2064     setting the option has no effect%
2065   }%
2066 }
```

\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.

```
2067 \def\Hy@CheckOptionValue#1#2#3{%
2068   \begingroup
2069   \edef\x{#1}%
2070   \@onelevel@sanitize\x
2071   \let\y=y%
2072   \def\do##1##2{%
2073     \def\z{##1}%
2074     \@onelevel@sanitize\z
2075     \ifx\x\z
2076       \let\y=n%
2077     \let\do\@gobbletwo
2078   }%
2079   \y%
2080   #3%
2081   \ifx\y y%
2082     \def\do##1##2{%
2083       * '##1'%
2084       \ifx\##2\\\else\space(##2)\fi
2085     }%
2086   }%
2087   \Hy@Warning{%
2088     Values of option '#2':\MessageBreak
2089     #3%
2090     * An empty value disables the option.\MessageBreak
2091     Unknown value '\x'%
2092   }%
```

```

2093   \fi
2094   \endgroup
2095 }

```

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

```

2096 \def\Hy@DefNameKey#1{%
2097   \expandafter\Hy@@@DefNameKey\csname @#1\endcsname{#1}%
2098 }

```

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

```

2099 \def\Hy@@@DefNameKey#1#2#3{%
2100   \define@key{Hyp}{#2}{%
2101     \edef#1{##1}%
2102     \ifx#1\@empty
2103     \else
2104       \Hy@CheckOptionValue{##1}{#2}{#3}%
2105     \fi
2106   }%
2107   \let#1\@empty
2108 }

```

`\Hy@UseNameKey`

```

2109 \def\Hy@UseNameKey#1#2{%
2110   \ifx#2\@empty
2111   \else
2112     /#1/#2%
2113   \fi
2114 }

```

9.2 Defining the options

```

2115 \define@key{Hyp}{implicit}[true]{%
2116   \Hy@boolkey{implicit}{#1}%
2117 }
2118 \define@key{Hyp}{draft}[true]{%
2119   \Hy@boolkey{draft}{#1}%
2120 }
2121 \define@key{Hyp}{final}[true]{%
2122   \Hy@boolkey{final}{#1}%
2123 }
2124 \let\KV@Hyp@nolinks\KV@Hyp@draft
2125 \def\Hy@ObsoletePaperOption#1{%
2126   \Hy@WarningNoLine{%
2127     Option ‘#1’ is no longer used%
2128   }%
2129   \define@key{Hyp}{#1}[true]{}%
2130 }
2131 \def\Hy@temp#1{%
2132   \define@key{Hyp}{#1}[true]{%
2133     \Hy@ObsoletePaperOption{#1}%
2134   }%
2135 }

```

```

2136 \Hy@temp{a4paper}
2137 \Hy@temp{a5paper}
2138 \Hy@temp{b5paper}
2139 \Hy@temp{letterpaper}
2140 \Hy@temp{legalpaper}
2141 \Hy@temp{executivepaper}

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

```

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.

```

2185 \define@key{Hyp}{raiselinks}[true]{%
2186   \Hy@boolkey{raiselinks}{#1}%
2187 }

```

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

```
2188 \def\Hy@setbreaklinks#1{%
2189   \csname breaklinks#1\endcsname
2190 }
2191 \def\Hy@breaklinks@unsupported{%
2192   \ifx\Hy@setbreaklinks\@gobble
2193     \ifHy@breaklinks
2194       \Hy@WarningNoLine{%
2195         You have enabled option 'breaklinks'.\MessageBreak
2196         But driver '\Hy@driver.def' does not support this.\MessageBreak
2197         Expect trouble with the link areas of broken links%
2198       }%
2199     \fi
2200   \fi
2201 }
2202 \define@key{Hyp}{breaklinks}[true]{%
2203   \Hy@boolkey{breaklinks}{#1}%
2204   \let\Hy@setbreaklinks\@gobble
2205 }
```

Determines whether an automatic anchor is put on each page

```
2206 \define@key{Hyp}{pageanchor}[true]{%
2207   \Hy@boolkey{pageanchor}{#1}%
2208 }
```

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.

```
2209 \define@key{Hyp}{plainpages}[true]{%
2210   \Hy@boolkey{plainpages}{#1}%
2211 }
```

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

```
2212 \define@key{Hyp}{naturalnames}[true]{%
2213   \Hy@boolkey{naturalnames}{#1}%
2214 }
```

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

```
2215 \define@key{Hyp}{hypertexnames}[true]{%
2216   \Hy@boolkey{hypertexnames}{#1}%
2217 }
```

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

```
2218 \define@key{Hyp}{nesting}[true]{%
2219   \Hy@boolkey{nesting}{#1}%
2220 }
2221 \define@key{Hyp}{unicode}[true]{%
2222   \Hy@boolkey{unicode}{#1}%
2223   \ifHy@unicode
2224     \def\HyPsd@pdfencoding{unicode}%
2225   \else
2226     \def\HyPsd@pdfencoding{pdfdoc}%
2227   \fi
2228   \HyPsd@LoadUnicode
2229 }
2230 \def\HyPsd@LoadUnicode{%
2231   \@ifundefined{T@PU}{%
2232     \input{puenc.def}%
2233   }
```



```

2233 \HyLinguex@Restore
2234 }{}%
2235 \DeclareFontFamily{PU}{pdf}{}%
2236 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
2237 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2238 \global\let\HyPsd@LoadUnicode\relax
2239 }
2240 \AtBeginDocument{%
2241 \ifx\HyPsd@LoadUnicode\relax
2242 \else
2243 \def\HyPsd@LoadUnicode{%
2244 \PackageError{hyperref}{}%
2245 Unicode support for bookmarks is not available.\MessageBreak
2246 Activate unicode support by using one of the options\MessageBreak
2247 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2248 in the preamble%
2249 }\@ehc
2250 \global\let\HyPsd@LoadUnicode\relax
2251 \global\Hy@unicodedefalse
2252 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2253 }%
2254 \fi
2255 }

2256 \define@key{Hyp}{pdfencoding}{%
2257 \edef\HyPsd@temp{#1}%
2258 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2259 \let\HyPsd@pdfencoding\HyPsd@temp
2260 \Hy@unicodedefalse
2261 \else
2262 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2263 \z@
2264 \else
2265 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2266 \z@
2267 \else
2268 \@ne
2269 \fi
2270 \fi
2271 \let\HyPsd@pdfencoding\HyPsd@temp
2272 \hypersetup{unicode}%
2273 \ifHy@unicode
2274 \def\HyPsd@pdfencoding{#1}%
2275 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2276 \HyPsd@LoadStringEncoding
2277 \fi
2278 \else
2279 \Hy@Warning{Cannot switch to unicode bookmarks}%
2280 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2281 \fi
2282 \else
2283 \@onelevel@sanitize\HyPsd@temp
2284 \Hy@Warning{%
2285 Values of option 'pdfencoding':\MessageBreak
2286 'pdfdoc', 'unicode', 'auto'.\MessageBreak
2287 Ignoring unknown value '\HyPsd@temp'%
2288 }%
2289 \fi

```

```

2290 \fi
2291 }
2292 \def\HyPsd@pdfencoding@auto{auto}
2293 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2294 \def\HyPsd@pdfencoding@unicode{unicode}
2295 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2296 \def\HyPsd@LoadStringEnc{%
2297   \RequirePackage{stringenc}[2009/12/15]%
2298   \let\HyPsd@LoadStringEnc\relax
2299 }
2300 \AtBeginDocument{%
2301   \ifpackageloaded{stringenc}{%
2302     \let\HyPsd@LoadStringEnc\relax
2303   }{%
2304     \def\HyPsd@LoadStringEnc{%
2305       \Hy@WarningNoLine{%
2306         Missing package ‘stringenc’. Use ‘pdfencoding=auto’\MessageBreak
2307         in the preamble or load the package there%
2308       }%
2309     }%
2310   }%
2311 }
2312 \newif\ifHy@setpdfversion
2313 \define@key{Hyp}{pdfversion}{%
2314   \ifundefined{Hy@pdfversion@#1}{%
2315     \PackageWarning{hyperref}{%
2316       Unsupported PDF version ‘#1’\MessageBreak
2317       Valid values: 1.2 until 1.9%
2318     }%
2319   }{%
2320     \Hy@setpdfversiontrue
2321     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2322   }%
2323 }
2324 \@namedef{Hy@pdfversion@1.2}{2}%
2325 \@namedef{Hy@pdfversion@1.3}{3}%
2326 \@namedef{Hy@pdfversion@1.4}{4}%
2327 \@namedef{Hy@pdfversion@1.5}{5}%
2328 \@namedef{Hy@pdfversion@1.6}{6}%
2329 \@namedef{Hy@pdfversion@1.7}{7}%
2330 \@namedef{Hy@pdfversion@1.8}{8}%
2331 \@namedef{Hy@pdfversion@1.9}{9}%
2332 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2333 \define@key{Hyp}{hyperref}[true]{}
2334 \define@key{Hyp}{tex4ht}[true]{%
2335   \Hy@texhttrue
2336   \setkeys{Hyp}{colorlinks=true}%
2337   \def\BeforeTeXIVht{\usepackage{color}}}%
2338 \def\Hy@driver{htex4ht}%
2339 \def\MaybeStopEarly{%
2340   \typeout{Hyperref stopped early}%
2341   \AfterBeginDocument{%
2342     \PDF@FinishDoc
2343     \gdef\PDF@FinishDoc{}%

```

```

2344 }%
2345 \endinput
2346 }%
2347 }
2348 \define@key{Hyp}{pdftex}[true]{%
2349 \def\Hy@driver{hpdftex}%
2350 }
2351 \define@key{Hyp}{nativepdf}[true]{%
2352 \def\Hy@driver{hdvips}%
2353 }
2354 \define@key{Hyp}{dvipdfm}[true]{%
2355 \def\Hy@driver{hdvipdfm}%
2356 }
2357 \define@key{Hyp}{dvipdfmx}[true]{%
2358 \def\Hy@driver{hdvipdfm}%
2359 }
2360 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2361 \expandafter\ifx\csname if#1\expandafter\endcsname
2362 \csname iftrue\endcsname
2363 \chardef\SpecialDvipdfmxOutlineOpen\@ne
2364 \else
2365 \chardef\SpecialDvipdfmxOutlineOpen\z@
2366 \fi
2367 }
2368 \define@key{Hyp}{xetex}[true]{%
2369 \def\Hy@driver{hxetex}%
2370 }
2371 \define@key{Hyp}{pdfmark}[true]{%
2372 \def\Hy@driver{hdvips}%
2373 }
2374 \define@key{Hyp}{dvips}[true]{%
2375 \def\Hy@driver{hdvips}%
2376 }
2377 \define@key{Hyp}{hypertex}[true]{%
2378 \def\Hy@driver{hypertex}%
2379 }
2380 \let\Hy@MaybeStopNow\relax
2381 \define@key{Hyp}{vtex}[true]{%
2382 \begingroup\expandafter\expandafter\expandafter\endgroup
2383 \expandafter\ifx\csname OpMode\endcsname\relax
2384 \@latex@error{Non-VTeX processor}{}%
2385 \global\let\Hy@MaybeStopNow\endinput
2386 \endinput
2387 \else
2388 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2389 \def\Hy@driver{hvtex}%
2390 \else
2391 \ifnum\OpMode=10\relax
2392 \def\Hy@driver{hvtexhtm}%
2393 \def\MaybeStopEarly{%
2394 \typeout{Hyperref stopped early}%
2395 \AfterBeginDocument{%
2396 \PDF@FinishDoc
2397 \gdef\PDF@FinishDoc{}}%
2398 }%
2399 \endinput
2400 }%

```

```

2401 \else
2402 \latexerror{Mode (\the\OpMode) has no hyperref driver}{}%
2403 \global\let\Hy@MaybeStopNow\endinput
2404 \endinput
2405 \fi
2406 \fi
2407 \fi
2408 }
2409 \define@key{Hyp}{vtexpdfmark}[true]{%
2410 \begingroup\expandafter\expandafter\expandafter\endgroup
2411 \expandafter\ifx\csname OpMode\endcsname\relax
2412 \latexerror{Non-VTeX processor}{}%
2413 \let\Hy@MaybeStopNow\endinput
2414 \endinput
2415 \else
2416 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2417 \def\Hy@driver{hvtexmrk}%
2418 \else
2419 \latexerror{Mode (\the\OpMode) has no hyperref driver}{}%
2420 \let\Hy@MaybeStopNow\endinput
2421 \endinput
2422 \fi
2423 \fi
2424 }
2425 \define@key{Hyp}{dviwindo}[true]{%
2426 \def\Hy@driver{hdviwind}%
2427 \setkeys{Hyp}{colorlinks}%
2428 \ifpdf
2429 \else
2430 \ifxetex
2431 \else
2432 \PassOptionsToPackage{dviwindo}{color}%
2433 \fi
2434 \fi
2435 }
2436 \define@key{Hyp}{dvipsone}[true]{%
2437 \def\Hy@driver{hdvipson}%
2438 }
2439 \define@key{Hyp}{textures}[true]{%
2440 \def\Hy@driver{htexture}%
2441 }
2442 \define@key{Hyp}{latex2html}[true]{%
2443 \AtBeginDocument{\@@latextohtmlX}%
2444 }

```

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

```

2445 \define@key{Hyp}{ps2pdf}[true]{%
2446 \def\Hy@driver{hdvips}%
2447 \providecommand*\pdfborder{0 0 1}%
2448 }

```

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.

```

2449 \define@key{Hyp}{hyperfigures}[true]{%
2450 \Hy@boolkey[hyperfigures]{figures}{#1}%
2451 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```
2452 \define@key{Hyp}{hyperfootnotes}[true]{%
2453   \Hy@boolkey{hyperfootnotes}{#1}%
2454 }
```

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

```
2455 \def\back@none{none}
2456 \def\back@section{section}
2457 \def\back@page{page}
2458 \def\back@slide{slide}
2459 \define@key{Hyp}{backref}[section]{%
2460   \lowercase{\def\Hy@tempa{#1}}%
2461   \ifx\Hy@tempa\@empty
2462     \let\Hy@tempa\back@section
2463   \fi
2464   \ifx\Hy@tempa\Hy@false
2465     \let\Hy@tempa\back@none
2466   \fi
2467   \ifx\Hy@tempa\back@slide
2468     \let\Hy@tempa\back@section
2469   \fi
2470   \ifx\Hy@tempa\back@page
2471     \PassOptionsToPackage{hyperpageref}{backref}%
2472     \Hy@backreftrue
2473   \else
2474     \ifx\Hy@tempa\back@section
2475       \PassOptionsToPackage{hyperref}{backref}%
2476       \Hy@backreftrue
2477     \else
2478       \ifx\Hy@tempa\back@none
2479         \Hy@backreffalse
2480       \else
2481         \Hy@WarnOptionValue{#1}{backref}{%
2482           'section', 'slide', 'page', 'none',\MessageBreak
2483           or 'false'}%
2484       \fi
2485     \fi
2486   \fi
2487 }
2488 \define@key{Hyp}{pagebackref}[true]{%
2489   \edef\Hy@tempa{#1}%
2490   \lowercase\expandafter{%
2491     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2492   }%
2493   \ifx\Hy@tempa\@empty
2494     \let\Hy@tempa\Hy@true
2495   \fi
2496   \ifx\Hy@tempa\Hy@true
2497     \PassOptionsToPackage{hyperpageref}{backref}%
2498     \Hy@backreftrue
2499   \else
2500     \ifx\Hy@tempa\Hy@false
2501       \Hy@backreffalse
2502     \else
2503       \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
2504     \fi
2505   \fi
2506 }
```

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

```
2507 \define@key{Hyp}{hyperindex}[true]{%
2508   \Hy@boolkey{hyperindex}{#1}%
2509 }
```

Configuration of encap char.

```
2510 \define@key{Hyp}{encap}[|]{%
2511   \def\HyInd@EncapChar{#1}%
2512 }
```

12 Language options

The `\autoref` feature depends on the language.

```
2513 \def\HyLang@afrikaans{%
2514   \def\equationautorefname{Vergelyking}%
2515   \def\footnoteautorefname{Voetnota}%
2516   \def\itemautorefname{Item}%
2517   \def\figureautorefname{Figuur}%
2518   \def\tableautorefname{Tabel}%
2519   \def\partautorefname{Deel}%
2520   \def\appendixautorefname{Bylae}%
2521   \def\chapterautorefname{Hoofstuk}%
2522   \def\sectionautorefname{Afdeling}%
2523   \def\subsectionautorefname{Subafdeling}%
2524   \def\subsubsectionautorefname{Subsubafdeling}%
2525   \def\paragraphautorefname{Paragraaf}%
2526   \def\subparagraphautorefname{Subparagraaf}%
2527   \def\FancyVerbLineautorefname{Lyn}%
2528   \def\theoremautorefname{Teorema}%
2529   \def\pageautorefname{Bladsy}%
2530 }
2531 \def\HyLang@english{%
2532   \def\equationautorefname{Equation}%
2533   \def\footnoteautorefname{footnote}%
2534   \def\itemautorefname{item}%
2535   \def\figureautorefname{Figure}%
2536   \def\tableautorefname{Table}%
2537   \def\partautorefname{Part}%
2538   \def\appendixautorefname{Appendix}%
2539   \def\chapterautorefname{chapter}%
2540   \def\sectionautorefname{section}%
2541   \def\subsectionautorefname{subsection}%
2542   \def\subsubsectionautorefname{subsubsection}%
2543   \def\paragraphautorefname{paragraph}%
2544   \def\subparagraphautorefname{subparagraph}%
2545   \def\FancyVerbLineautorefname{line}%
2546   \def\theoremautorefname{Theorem}%
2547   \def\pageautorefname{page}%
2548 }
2549 \def\HyLang@french{%
2550   \def\equationautorefname{'Equation}%
2551   \def\footnoteautorefname{note}%
2552   \def\itemautorefname{item}%
2553   \def\figureautorefname{Figure}%
2554   \def\tableautorefname{Tableau}%

```

```

2555 \def\partautorefname{Partie}%
2556 \def\appendixautorefname{Appendice}%
2557 \def\chapterautorefname{chapitre}%
2558 \def\sectionautorefname{section}%
2559 \def\subsectionautorefname{sous-section}%
2560 \def\subsubsectionautorefname{sous-sous-section}%
2561 \def\paragraphautorefname{paragraphe}%
2562 \def\subparagraphautorefname{sous-paragraphe}%
2563 \def\FancyVerbLineautorefname{ligne}%
2564 \def\theoremautorefname{Th\'eor\'eme}%
2565 \def\pageautorefname{page}%
2566 }
2567 \def\HyLang@german{%
2568 \def\equationautorefname{Gleichung}%
2569 \def\footnoteautorefname{Fu\ss note}%
2570 \def\itemautorefname{Punkt}%
2571 \def\figureautorefname{Abbildung}%
2572 \def\tableautorefname{Tabelle}%
2573 \def\partautorefname{Teil}%
2574 \def\appendixautorefname{Anhang}%
2575 \def\chapterautorefname{Kapitel}%
2576 \def\sectionautorefname{Abschnitt}%
2577 \def\subsectionautorefname{Unterabschnitt}%
2578 \def\subsubsectionautorefname{Unterunterabschnitt}%
2579 \def\paragraphautorefname{Absatz}%
2580 \def\subparagraphautorefname{Unterabsatz}%
2581 \def\FancyVerbLineautorefname{Zeile}%
2582 \def\theoremautorefname{Theorem}%
2583 \def\pageautorefname{Seite}%
2584 }
2585 \def\HyLang@italian{%
2586 \def\equationautorefname{Equazione}%
2587 \def\footnoteautorefname{nota}%
2588 \def\itemautorefname{punto}%
2589 \def\figureautorefname{Figura}%
2590 \def\tableautorefname{Tabella}%
2591 \def\partautorefname{Parte}%
2592 \def\appendixautorefname{Appendice}%
2593 \def\chapterautorefname{Capitolo}%
2594 \def\sectionautorefname{sezione}%
2595 \def\subsectionautorefname{sottosezione}%
2596 \def\subsubsectionautorefname{sottosottosezione}%
2597 \def\paragraphautorefname{paragrafo}%
2598 \def\subparagraphautorefname{sottoparagrafo}%
2599 \def\FancyVerbLineautorefname{linea}%
2600 \def\theoremautorefname{Teorema}%
2601 \def\pageautorefname{Pag.\@}%
2602 }
2603 \def\HyLang@magyar{%
2604 \def\equationautorefname{Egyenlet}%
2605 \def\footnoteautorefname{l\'abjegyzet}%
2606 \def\itemautorefname{Elem}%
2607 \def\figureautorefname{\`A bra}%
2608 \def\tableautorefname{T\'abl\'azat}%
2609 \def\partautorefname{R\'esz}%
2610 \def\appendixautorefname{F\'uggel\'ek}%
2611 \def\chapterautorefname{fejezet}%

```

```

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

```

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.

```

2639 \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?

```

2640 \def\equationautorefname{\cyr\cyrv\cyrery\cyr.}%

```

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

```

2641 % \def\equationautorefname{%
2642 %   \cyr\cyrv\cyrery\cyr\cyra\cyrzh\cyre\cyrn\cyri\cyre
2643 % }%

```

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

```

2644 \def\footnoteautorefname{%
2645   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyr.\ \cyrp\cyr\cyri\cyr.m.%
2646 }%

```

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}”

```

2647 % \def\footnoteautorefname{%

```


2648 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
 2649 % \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
 2650 % }%

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

2651 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
 2652 % \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.

2653 \def\itemautorefname{\cyr\cyrp.}%
 2654 % \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.

2655 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
 2656 \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.

2657 \def\partautorefname{\cyr\cyrch.}%
 2658 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
 2659 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%

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

2660 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
 2661 % \def\appendixautorefname{%
 2662 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre
 2663 % }%

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.

2664 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
 2665 \def\subsubsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%

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

2666 \def\paragraphautorefname{\cyr\cyrp.}%
 2667 \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.

2668 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
 2669 % \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.

2670 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%

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

```
2671 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
2672 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
2673 % \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 ...

```
2674 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2675 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
2676 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2677 \def\pageautorefname{\cyr\cyrs.}%
2678 }
```

```
2679 \def\HyLang@spanish{%
2680 \def\equationautorefname{Ecuaci\'on}%
2681 \def\footnoteautorefname{Nota a pie de p\'agina}%
2682 \def\itemautorefname{Elemento}%
2683 \def\figureautorefname{Figura}%
2684 \def\tableautorefname{Tabla}%
2685 \def\partautorefname{Parte}%
2686 \def\appendixautorefname{Ap\'endice}%
2687 \def\chapterautorefname{Cap\'itulo}%
2688 \def\sectionautorefname{Secci\'on}%
2689 \def\subsectionautorefname{Subsecci\'on}%
2690 \def\subsubsectionautorefname{Subsubsecci\'on}%
2691 \def\paragraphautorefname{P\'arrafo}%
2692 \def\subparagraphautorefname{Subp\'arrafo}%
2693 \def\FancyVerbLineautorefname{L\'inea}%
2694 \def\theoremautorefname{Teorema}%
2695 \def\pageautorefname{P\'agina}%
2696 }
2697 \def\HyLang@vietnamese{%
2698 \def\equationautorefname{Ph\uhorn{}\ohorn{}}ng tr\`inh}%
2699 \def\footnoteautorefname{Ch\`u th\`ich}%
2700 \def\itemautorefname{m\`d\`u\`c}%
2701 \def\figureautorefname{H\`inh}%
2702 \def\tableautorefname{B\`h\`a\`ng}%
2703 \def\partautorefname{Ph\`'\acircumflex{}n}%
2704 \def\appendixautorefname{Ph\`d\`u\` l\`d\`u\`c}%
2705 \def\chapterautorefname{ch\uhorn{}\ohorn{}}ng}%
2706 \def\sectionautorefname{m\`d\`u\`c}%
2707 \def\subsectionautorefname{m\`d\`u\`c}%
2708 \def\subsubsectionautorefname{m\`d\`u\`c}%
2709 \def\paragraphautorefname{\dj{}}o\`d\`a\`n}%
2710 \def\subparagraphautorefname{\dj{}}o\`d\`a\`n}%
2711 \def\FancyVerbLineautorefname{d\`ong}%
2712 \def\theoremautorefname{DJ{}}\d{i}nh l\`y}%
2713 \def\pageautorefname{Trang}%
2714 }
```

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

```

2715 \def\HyLang@addto#1#2{%
2716   #2%
2717   \@temptokena{#2}%
2718   \ifx#1\relax
2719     \let#1\@empty
2720   \fi
2721   \ifx#1\undefined
2722     \edef#1{\the\@temptokena}%
2723   \else
2724     \toks@\expandafter{#1}%
2725     \edef#1{\the\toks@\the\@temptokena}%
2726   \fi
2727   \@temptokena{}\toks@\@temptokena
2728 }

2729 \def\HyLang@DeclareLang#1#2#3{%
2730   \begingroup
2731   \edef\x##1##2{%
2732     \noexpand\ifx##2\relax
2733       \errmessage{No definitions for language #2' found!}%
2734     \noexpand\fi
2735   \endgroup
2736   \noexpand\define@key{Hyp}{#1}[]{%
2737     \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2738     #3%
2739   }%
2740   }%
2741   \expandafter\x\csname extras#1\expandafter\endcsname
2742     \csname HyLang@#2\endcsname
2743 }

2744 \HyLang@DeclareLang{english}{english}{}
2745 \HyLang@DeclareLang{UKenglish}{english}{}
2746 \HyLang@DeclareLang{british}{english}{}
2747 \HyLang@DeclareLang{USenglish}{english}{}
2748 \HyLang@DeclareLang{american}{english}{}
2749 \HyLang@DeclareLang{german}{german}{}
2750 \HyLang@DeclareLang{austrian}{german}{}
2751 \HyLang@DeclareLang{ngerman}{german}{}
2752 \HyLang@DeclareLang{naustrian}{german}{}
2753 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
2754 \HyLang@DeclareLang{brazil}{portuges}{}
2755 \HyLang@DeclareLang{brazilian}{portuges}{}
2756 \HyLang@DeclareLang{portuguese}{portuges}{}
2757 \HyLang@DeclareLang{spanish}{spanish}{}
2758 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
2759 \HyLang@DeclareLang{french}{french}{}
2760 \HyLang@DeclareLang{frenchb}{french}{}
2761 \HyLang@DeclareLang{français}{french}{}
2762 \HyLang@DeclareLang{acadian}{french}{}
2763 \HyLang@DeclareLang{canadien}{french}{}
2764 \HyLang@DeclareLang{italian}{italian}{}
2765 \HyLang@DeclareLang{magyar}{magyar}{}
2766 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

2767 \define@key{Hyp}{vietnamese}[]{}%

```

```

2768 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2769 \AtEndOfPackage{%
2770 \ifundefined{T@PU}{-}{%
2771 \input{puvnenc.def}%
2772 }%
2773 }%
2774 }
2775 \define@key{Hyp}{vietnam}[]{}%
2776 \HyLang@addto\extrasvietnam\HyLang@vietnamese
2777 \AtEndOfPackage{%
2778 \ifundefined{T@PU}{-}{%
2779 \input{puvnenc.def}%
2780 }%
2781 }%
2782 }

```

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

```

2783 \define@key{Hyp}{arabic}[]{}%
2784 \AtEndOfPackage{%
2785 \ifundefined{T@PU}{-}{%
2786 \input{puarenc.def}%
2787 }%
2788 }%
2789 }

```

13 Options to change appearance of links

Colouring links at the L^AT_EX level is useful for debugging, perhaps.

```

2790 \define@key{Hyp}{colorlinks}[true]{}%
2791 \Hy@boolkey{colorlinks}{#1}%
2792 }
2793 \define@key{Hyp}{ocgcolorlinks}[true]{}%
2794 \Hy@boolkey{ocgcolorlinks}{#1}%
2795 }
2796 \AtBeginDocument{%
2797 \begingroup
2798 \ifundefined{OBJ@OCG@view}{%
2799 \ifHy@ocgcolorlinks
2800 \Hy@Warning{%
2801 Driver does not support ‘ocgcolorlinks’,\MessageBreak
2802 using ‘colorlinks’ instead%
2803 }%
2804 \fi
2805 }{}%
2806 \endgroup
2807 }
2808 \define@key{Hyp}{frenchlinks}[true]{}%
2809 \Hy@boolkey{frenchlinks}{#1}%
2810 }

```

14 Bookmarking

```

2811 \begingroup\expandafter\expandafter\expandafter\endgroup
2812 \expandafter\ifx\csname chapter\endcsname\relax
2813 \def\toclevel@part{0}%

```

```

2814 \else
2815   \def\toclevel@part{-1}%
2816 \fi
2817 \def\toclevel@chapter{0}
2818 \def\toclevel@section{1}
2819 \def\toclevel@subsection{2}
2820 \def\toclevel@subsubsection{3}
2821 \def\toclevel@paragraph{4}
2822 \def\toclevel@subparagraph{5}
2823 \def\toclevel@figure{0}
2824 \def\toclevel@table{0}
2825 \ifpackageloaded{listings}{%
2826   \providecommand*\theHlstlisting{\thelstlisting}%
2827   \providecommand*\toclevel@lstlisting{0}%
2828 }{}
2829 \ifpackageloaded{listing}{%
2830   \providecommand*\theHlisting{\thelisting}%
2831   \providecommand*\toclevel@listing{0}%
2832 }{}

2833 \define@key{Hyp}{bookmarks}[true]{%
2834   \Hy@boolkey{bookmarks}{#1}%
2835 }

2836 \define@key{Hyp}{bookmarksopen}[true]{%
2837   \Hy@boolkey{bookmarksopen}{#1}%
2838 }

```

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.

```

2839 \let\Hy@bookmarksdepth\c@tocdepth
2840 \define@key{Hyp}{bookmarksdepth}[]{%
2841   \begingroup
2842     \edef\x{#1}%
2843     \ifx\x\empty
2844       \global\let\Hy@bookmarksdepth\c@tocdepth
2845     \else
2846       \ifundefined{toclevel@\x}{%
2847         \@onelevel@sanitize\x
2848         \edef\y{\expandafter\@car\x\@nil}%
2849         \ifcase 0\expandafter\ifx\y-1\fi
2850           \expandafter\ifnum\expandafter\y>47 %
2851             \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
2852           \Hy@Warning{Unknown document division name (\x)}%
2853         \else
2854           \setbox\z@=\hbox{%
2855             \count@=\x
2856             \xdef\Hy@bookmarksdepth{\the\count@}%
2857           }%
2858         \fi

```

```

2859   }{%
2860     \setbox\z@=\hbox{%
2861       \count@=\csname toplevel@\x\endcsname
2862       \xdef\Hy@bookmarksdepth{\the\count@}%
2863     }%
2864   }%
2865   \fi
2866   \endgroup
2867 }

```

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

```

2868 \define@key{Hyp}{bookmarksopenlevel}{%
2869   \def\@bookmarksopenlevel{#1}%
2870 }
2871 \def\@bookmarksopenlevel{\maxdimen}
2872 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
2873 \define@key{Hyp}{bookmarkstype}{%
2874   \def\Hy@bookmarkstype{#1}%
2875 }
2876 \def\Hy@bookmarkstype{toc}

```

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

```

2877 \define@key{Hyp}{bookmarksnumbered}[true]{%
2878   \Hy@boolkey{bookmarksnumbered}{#1}%
2879 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

2880 \define@key{Hyp}{CJKbookmarks}[true]{%
2881   \Hy@boolkey{CJKbookmarks}{#1}%
2882 }
2883 \def\Hy@temp#1{%
2884   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2885 }
2886 \def\Hy@@temp#1#2#3{%
2887   \define@key{Hyp}{#2color}{%
2888     \HyColor@HyperrefColor{##1}#1%
2889   }%
2890   \def#1{#3}%
2891 }
2892 \Hy@temp{link}{red}
2893 \Hy@temp{anchor}{black}
2894 \Hy@temp{cite}{green}
2895 \Hy@temp{file}{cyan}
2896 \Hy@temp{url}{magenta}
2897 \Hy@temp{menu}{red}
2898 \Hy@temp{run}{\@filecolor}
2899 \define@key{Hyp}{pagecolor}{%
2900   \Hy@WarningPageColor
2901 }
2902 \def\Hy@WarningPageColor{%
2903   \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
2904   \global\let\Hy@WarningPageColor\relax
2905 }
2906 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2907 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2908 \let\@baseurl\@empty
2909 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}

```

```

2910 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2911 \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.

```

2912 \let\@pdfpagetransition\relax
2913 \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.

```

2914 \let\@pdfpageduration\relax
2915 \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.

```

2916 \newif\ifHy@useHidKey
2917 \Hy@useHidKeyfalse
2918 \define@key{Hyp}{pdfpagehidden}[true]{%
2919   \Hy@boolkey{pdfpagehidden}{#1}%
2920   \ifHy@pdfpagehidden
2921     \global\Hy@useHidKeytrue
2922   \fi
2923 }

```

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).

```

2924 \def\Hy@ColorList{cite,file,link,menu,run,url}
2925 \@for\Hy@temp:=\Hy@ColorList\do{%
2926   \edef\Hy@temp{%
2927     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2928       \noexpand\HyColor@HyperrefBorderColor
2929       {#1}%
2930       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2931       {hyperref}%
2932       {\Hy@temp bordercolor}%
2933     }%
2934   }%
2935   \Hy@temp
2936 }
2937 \define@key{Hyp}{pagebordercolor}{%
2938   \Hy@WarningPageBorderColor
2939 }
2940 \def\Hy@WarningPageBorderColor{%
2941   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2942   \global\let\Hy@WarningPageBorderColor\relax
2943 }

```

```

2944 \define@key{Hyp}{pdfhighlight}{\def\pdfhighlight{#1}}
2945 \Hy@DefNameKey{pdfhighlight}{%
2946   \do{/I}{Invert}%
2947   \do{/N}{None}%
2948   \do{/O}{Outline}%
2949   \do{/P}{Push}%
2950 }
2951 \define@key{Hyp}{pdfborder}{\def\pdfborder{#1}}
2952 \define@key{Hyp}{pdfborderstyle}{\def\pdfborderstyle{#1}}
2953 \def\Hy@setpdfborder{%
2954   \ifx\pdfborder\@empty
2955     \else
2956       /Border[\pdfborder]%
2957     \fi
2958     \ifx\pdfborderstyle\@empty
2959       \else
2960         /BS<<\pdfborderstyle>>%
2961       \fi
2962 }
2963 \Hy@DefNameKey{pdfpagemode}{%
2964   \do{UseNone}{}%
2965   \do{UseOutlines}{}%
2966   \do{UseThumbs}{}%
2967   \do{FullScreen}{}%
2968   \do{UseOC}{PDF 1.5}%
2969   \do{UseAttachments}{PDF 1.6}%
2970 }
2971 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2972   \do{UseNone}{}%
2973   \do{UseOutlines}{}%
2974   \do{UseThumbs}{}%
2975   \do{FullScreen}{}%
2976   \do{UseOC}{PDF 1.5}%
2977   \do{UseAttachments}{PDF 1.6}%
2978 }
2979 \Hy@DefNameKey{pdfdirection}{%
2980   \do{L2R}{Left to right}%
2981   \do{R2L}{Right to left}%
2982 }
2983 \Hy@DefNameKey{pdfviewarea}{%
2984   \do{MediaBox}{}%
2985   \do{CropBox}{}%
2986   \do{BleedBox}{}%
2987   \do{TrimBox}{}%
2988   \do{ArtBox}{}%
2989 }
2990 \Hy@DefNameKey{pdfviewclip}{%
2991   \do{MediaBox}{}%
2992   \do{CropBox}{}%
2993   \do{BleedBox}{}%
2994   \do{TrimBox}{}%
2995   \do{ArtBox}{}%
2996 }
2997 \Hy@DefNameKey{pdfprintarea}{%
2998   \do{MediaBox}{}%
2999   \do{CropBox}{}%
3000   \do{BleedBox}{}%

```



```

3001 \do{TrimBox}{}%
3002 \do{ArtBox}{}%
3003 }
3004 \Hy@DefNameKey{pdfprintclip}{%
3005 \do{MediaBox}{}%
3006 \do{CropBox}{}%
3007 \do{BleedBox}{}%
3008 \do{TrimBox}{}%
3009 \do{ArtBox}{}%
3010 }
3011 \Hy@DefNameKey{pdfprintscaling}{%
3012 \do{AppDefault}{}%
3013 \do{None}{}%
3014 }
3015 \Hy@DefNameKey{pdfduplex}{%
3016 \do{Simplex}{}%
3017 \do{DuplexFlipShortEdge}{}%
3018 \do{DuplexFlipLongEdge}{}%
3019 }
3020 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3021 \do{true}{}%
3022 \do{false}{}%
3023 }
3024 \define@key{Hyp}{pdfprintpagerange}{%
3025 \def\@pdfprintpagerange{#1}%
3026 }
3027 \Hy@DefNameKey{pdfnumcopies}{%
3028 \do{2}{two copies}%
3029 \do{3}{three copies}%
3030 \do{4}{four copies}%
3031 \do{5}{five copies}%
3032 }
3033 \define@key{Hyp}{pdfusetitle}[true]{%
3034 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3035 }
3036 \def\HyXeTeX@CheckUnicode{%
3037 \ifxetex
3038 \ifHy@unicode
3039 \else
3040 \Hy@WarningNoLine{%
3041 XeTeX driver only supports unicode.\MessageBreak
3042 Enabling option 'unicode'%
3043 }%
3044 \setkeys{Hyp}{unicode}%
3045 \fi
3046 \else
3047 \let\HyXeTeX@CheckUnicode\relax
3048 \fi
3049 }
3050 \define@key{Hyp}{pdftitle}{%
3051 \HyXeTeX@CheckUnicode
3052 \HyPsd@XeTeXBigCharstrue
3053 \pdfstringdef\@pdftitle{#1}%
3054 }
3055 \define@key{Hyp}{pdfauthor}{%
3056 \HyXeTeX@CheckUnicode
3057 \HyPsd@XeTeXBigCharstrue

```

```

3058 \pdfstringdef\@pdfauthor{#1}%
3059 }
3060 \define@key{Hyp}{pdfproducer}{%
3061 \HyXeTeX@CheckUnicode
3062 \HyPsd@XeTeXBigCharstrue
3063 \pdfstringdef\@pdfproducer{#1}%
3064 }
3065 \define@key{Hyp}{pdfcreator}{%
3066 \HyXeTeX@CheckUnicode
3067 \HyPsd@XeTeXBigCharstrue
3068 \pdfstringdef\@pdfcreator{#1}%
3069 }
3070 \define@key{Hyp}{pdfcreationdate}{%
3071 \begingroup
3072 \Hy@unicodedefalse
3073 \pdfstringdef\@pdfcreationdate{#1}%
3074 \endgroup
3075 }
3076 \define@key{Hyp}{pdfmoddate}{%
3077 \begingroup
3078 \Hy@unicodedefalse
3079 \pdfstringdef\@pdfmoddate{#1}%
3080 \endgroup
3081 }
3082 \define@key{Hyp}{pdfsubject}{%
3083 \HyXeTeX@CheckUnicode
3084 \HyPsd@XeTeXBigCharstrue
3085 \pdfstringdef\@pdfsubject{#1}%
3086 }
3087 \define@key{Hyp}{pdfkeywords}{%
3088 \HyXeTeX@CheckUnicode
3089 \HyPsd@XeTeXBigCharstrue
3090 \pdfstringdef\@pdfkeywords{#1}%
3091 }
3092 \define@key{Hyp}{pdftrapped}{%
3093 \lowercase{\edef\Hy@temp{#1}}%
3094 \ifx\Hy@temp\HyInfo@trapped@true
3095 \def\@pdftrapped{True}%
3096 \else
3097 \ifx\Hy@temp\HyInfo@trapped@false
3098 \def\@pdftrapped{False}%
3099 \else
3100 \ifx\Hy@temp\HyInfo@trapped@unknown
3101 \def\@pdftrapped{Unknown}%
3102 \else
3103 \ifx\Hy@temp\@empty
3104 \else
3105 \Hy@Warning{%
3106     Unsupported value '#1'\MessageBreak
3107     for option 'pdftrapped'%
3108 }%
3109 \fi
3110 \def\@pdftrapped{}%
3111 \fi
3112 \fi
3113 \fi
3114 }

```

```

3115 \def\HyInfo@trapped@true{true}
3116 \def\HyInfo@trapped@false{false}
3117 \def\HyInfo@trapped@unknown{unknown}
3118 \def\HyInfo@TrappedUnsupported{%
3119   \ifx\@pdftrapped\@empty
3120   \else
3121     \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3122     \gdef\HyInfo@TrappedUnsupported{}%
3123   \fi
3124 }
3125 \define@key{Hyp}{pdfinfo}{%
3126   \kvsetkeys{pdfinfo}{#1}%
3127 }
3128 \def\Hy@temp#1{%
3129   \lowercase{\Hy@temp@A{#1}}{#1}%
3130 }
3131 \def\Hy@temp@A#1#2{%
3132   \define@key{pdfinfo}{#2}{%
3133     \hypersetup{pdf#1={##1}}%
3134   }%
3135 }
3136 \Hy@temp{Title}
3137 \Hy@temp{Author}
3138 \Hy@temp{Keywords}
3139 \Hy@temp{Subject}
3140 \Hy@temp{Creator}
3141 \Hy@temp{Producer}
3142 \Hy@temp{CreationDate}
3143 \Hy@temp{ModDate}
3144 \Hy@temp{Trapped}
3145 \newif\ifHyInfo@AddonUnsupported
3146 \kv@set@family@handler{pdfinfo}{%
3147   \HyInfo@AddonHandler{#1}{#2}%
3148 }
3149 \let\HyInfo@do\relax
3150 \def\HyInfo@AddonHandler#1#2{%
3151   \ifx\kv@value\relax
3152     \Hy@Warning{%
3153       Option 'pdfinfo': ignoring key '\kv@key' without value%
3154     }%
3155   \else
3156     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3157     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3158     \expandafter\ifx\curname KV@pdfinfo@\HyInfo@Key\endcurname\relax
3159     \ifHyInfo@AddonUnsupported
3160       \Hy@Warning{%
3161         This driver does not support additional\MessageBreak
3162         information entries, therefore\MessageBreak
3163         '\kv@key' is ignored%
3164       }%
3165     \else
3166       \define@key{pdfinfo}{\HyInfo@Key}{%
3167         \HyXeTeX@CheckUnicode
3168         \HyPsd@XeTeXBigChartrue
3169         \pdfstringdef\HyInfo@Value{##1}%
3170         \expandafter\let\curname HyInfo@Value@\HyInfo@Key\endcurname
3171         \HyInfo@Value

```

```

3172 }%
3173 \edef\HyInfo@AddonList{%
3174   \HyInfo@AddonList
3175   \HyInfo@do{\HyInfo@Key}%
3176 }%
3177 \kv@parse@normalized{%
3178   \HyInfo@Key={#2}%
3179 }{%
3180   \kv@processor@default{pdfinfo}%
3181 }%
3182 \fi
3183 \else
3184   \kv@parse@normalized{%
3185     \HyInfo@Key={#2}%
3186   }{%
3187     \kv@processor@default{pdfinfo}%
3188   }%
3189 \fi
3190 \fi
3191 }
3192 \def\HyInfo@GenerateAddons{%
3193   \ifHyInfo@AddonUnsupported
3194     \def\HyInfo@Addons{}%
3195   \else
3196     \begingroup
3197     \toks@{}%
3198     \def\HyInfo@do##1{%
3199       \EdefEscapeName\HyInfo@Key{##1}%
3200       \edef\x{%
3201         \toks@{%
3202           \the\toks@
3203           /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3204         }%
3205       }%
3206       \x
3207     }%
3208     \HyInfo@AddonList
3209     \edef\x{\endgroup
3210       \def\noexpand\HyInfo@Addons{\the\toks@}%
3211     }%
3212     \x
3213   \fi
3214 }
3215 \def\HyInfo@AddonList{}
3216 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3217 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3218 \let\setpdfinkmargin\@gobble
3219 \def\calculate@pdfview#1 #2\{%
3220   \def\@pdfview{#1}%
3221   \ifx\@#2\%
3222     \def\@pdfviewparams{-32768}%
3223   \else
3224     \def\@pdfviewparams{#2}%
3225   \fi
3226 }
3227 \begingroup\expandafter\expandafter\expandafter\endgroup
3228 \expandafter\ifx\csname numexpr\endcsname\relax

```

```

3229 \def\Hy@number#1{%
3230 \expandafter\@firstofone\expandafter{\number#1}%
3231 }%
3232 \else
3233 \def\Hy@number#1{%
3234 \the\numexpr#1\relax
3235 }%
3236 \fi
3237 \define@key{Hyp}{pdfstartpage}{%
3238 \ifx\#1\%
3239 \def\@pdfstartpage{%
3240 \else
3241 \edef\@pdfstartpage{\Hy@number{#1}}%
3242 \fi
3243 }%
3244 \define@key{Hyp}{pdfstartview}{%
3245 \ifx\#1\%
3246 \def\@pdfstartview{%
3247 \else
3248 \hypercalcbpdef\@pdfstartview{ /#1 }%
3249 \fi
3250 }
3251 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3252 \define@key{Hyp}{pdftoolbar}[true]{%
3253 \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3254 }
3255 \define@key{Hyp}{pdfmenubar}[true]{%
3256 \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3257 }
3258 \define@key{Hyp}{pdfwindowui}[true]{%
3259 \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3260 }
3261 \define@key{Hyp}{pdffitwindow}[true]{%
3262 \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3263 }
3264 \define@key{Hyp}{pdfcenterwindow}[true]{%
3265 \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3266 }
3267 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3268 \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3269 }
3270 \define@key{Hyp}{pdfa}[true]{%
3271 \Hy@boolkey[pdfa]{#1}%
3272 }
3273 \define@key{Hyp}{pdfnewwindow}[true]{%
3274 \def\Hy@temp{#1}%
3275 \ifx\Hy@temp\@empty
3276 \Hy@newwindowsetfalse
3277 \else
3278 \Hy@newwindowsettrue
3279 \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3280 \fi
3281 }
3282 \def\Hy@SetNewWindow{%
3283 \ifHy@newwindowset
3284 /NewWindow %
3285 \ifHy@newwindow true\else false\fi

```

```

3286 \fi
3287 }
3288 \Hy@DefNameKey{pdfpagelayout}{}%
3289 \do{SinglePage}{}%
3290 \do{OneColumn}{}%
3291 \do{TwoColumnLeft}{}%
3292 \do{TwoColumnRight}{}%
3293 \do{TwoPageLeft}{PDF 1.5}%
3294 \do{TwoPageRight}{PDF 1.5}%
3295 }
3296 \define@key{Hyp}{pdflang}{}%
3297 \def\@pdflang{#1}%
3298 }
3299 \define@key{Hyp}{pdfpagelabels}[true]{}%
3300 \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
3301 }
3302 \define@key{Hyp}{pdfescapeform}[true]{}%
3303 \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
3304 }

```

Default values:

```

3305 \def\@linkbordercolor{1 0 0}
3306 \def\@urlbordercolor{0 1 1}
3307 \def\@menubordercolor{1 0 0}
3308 \def\@filebordercolor{0 .5 .5}
3309 \def\@runbordercolor{0 .7 .7}
3310 \def\@citebordercolor{0 1 0}
3311 \def\@pdfhighlight{/I}
3312 \def\@pdftitle{}
3313 \def\@pdfauthor{}
3314 \let\@pdfproducer\relax
3315 \def\@pdfcreator{LaTeX with hyperref package}
3316 \def\@pdfcreationdate{}
3317 \def\@pdfmoddate{}
3318 \def\@pdfsubject{}
3319 \def\@pdfkeywords{}
3320 \def\@pdftrapped{}
3321 \def\@pdfpagescrop{}
3322 \def\@pdfstartview{/Fit }
3323 \def\@pdfstartpage{1}
3324 \def\@pdfprintpagerange{}
3325 \def\@pdflang{}
3326 \let\PDF@SetupDoc\@empty
3327 \let\PDF@FinishDoc\@empty
3328 \let\phantomsection\@empty
3329 \let\special@paper\@empty
3330 \def\HyperDestNameFilter#1{#1}
3331 \AtBeginDocument{%
3332   \begingroup
3333     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
3334     \dimen@=\x\relax
3335     \ifdim\dimen@>\z@
3336     \else
3337       \dimen@=11in\relax
3338       \Hy@WarningNoLine{%
3339         Height of page (\expandafter\string\x) %
3340         is invalid (\the\x),\MessageBreak
3341         using 11in%

```

```

3342 }%
3343 \fi
3344 \dimen@=0.99626401\dimen@
3345 \xdef\Hy@pageheight{\strip@pt\dimen@}%
3346 \endgroup
3347 }
3348 \def\HyInd@EncapChar{\|}
3349 \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.

```

3350 \let\hyper@normalise\ExecuteOptions
3351 \let\ExecuteOptions\hypersetup
3352 \Hy@RestoreCatcodes
3353 \InputIfFileExists{hyperref.cfg}{\{}}
3354 \Hy@SetCatcodes
3355 \let\ExecuteOptions\hyper@normalise
3356 \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`.

```

3357 \RequirePackage{kvoptions}[2009/07/21]
3358 \SetupKeyvalOptions{family=Hyp}
3359 \DeclareLocalOptions{%
3360   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
3361 }

```

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

```

3362 \@ifpackageloaded{tex4ht}{%
3363   \ifpackagewith{hyperref}{tex4ht}{\{}}{%
3364     \PassOptionsToPackage{tex4ht}{hyperref}%
3365   }%
3366 }{}

3367 \let\ReadBookmarks\relax
3368 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

3369 \AtBeginDocument{%
3370   \ifHy@draft
3371     \let\hyper@@anchor\@gobble
3372     \gdef\hyper@link#1#2#3{#3}%
3373     \let\hyper@anchorstart\@gobble
3374     \let\hyper@anchorend\@empty
3375     \let\hyper@linkstart\@gobbletwo
3376     \let\hyper@linkend\@empty
3377     \def\hyper@linkurl#1#2{#1}%
3378     \def\hyper@linkfile#1#2#3{#1}%
3379     \def\hyper@link@{#1}#2#3{}%
3380     \def\Acrobatmenu#1#2{\leavevmode#2}%
3381     \let\PDF@SetupDoc\@empty
3382     \let\PDF@FinishDoc\@empty
3383     \let\@fifthoffive\@secondoftwo
3384     \let\@secondoffive\@secondoftwo
3385     \let\ReadBookmarks\relax

```

```

3386 \let\WriteBookmarks\relax
3387 \Hy@WarningNoLine{ draft mode on}%
3388 \fi
3389 \Hy@DisableOption{draft}%
3390 \Hy@DisableOption{nolinks}%
3391 \Hy@DisableOption{final}%
3392 }

```

15.1 PDF/A

```

3393 \Hy@DisableOption{pdfa}
3394 \ifHy@pdfa
3395 \setkeys{Hyp}{pdfversion=1.4}%
3396 \def\Hy@Acrobatmenu#1#2{%
3397 \leavevmode
3398 \begingroup
3399 \edef\x{#1}%
3400 \@onelevel@sanitize\x
3401 \ifx\x\Hy@NextPage
3402 \let\y=Y%
3403 \else
3404 \ifx\x\Hy@PrevPage
3405 \let\y=Y%
3406 \else
3407 \ifx\x\Hy@FirstPage
3408 \let\y=Y%
3409 \else
3410 \ifx\x\Hy@LastPage
3411 \let\y=Y%
3412 \else
3413 \let\y=N%
3414 \fi
3415 \fi
3416 \fi
3417 \fi
3418 \expandafter\endgroup
3419 \ifx\y Y%
3420 \else
3421 \PackageError{hyperref}{%
3422 PDF/A: Named action ‘#1’ is not permitted%
3423 }\@ehc
3424 {#2}%
3425 \expandafter\@gobble
3426 \fi
3427 }%
3428 \def\Hy@temp#1{%
3429 \expandafter\def\csname Hy@#1\endcsname{#1}%
3430 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3431 }%
3432 \Hy@temp{NextPage}%
3433 \Hy@temp{PrevPage}%
3434 \Hy@temp{FirstPage}%
3435 \Hy@temp{LastPage}%
3436 \else
3437 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3438 \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.

```
3439 \Hy@nextfalse
3440 \ifundefined{spanish@sh@}{"@sel}{\Hy@nexttrue}
3441 \ifundefined{galician@sh@}{"@sel}{\Hy@nexttrue}
3442 \ifundefined{estonian@sh@}{"@sel}{\Hy@nexttrue}
3443 \ifHy@next
3444   \let\texttilde\~%
3445 \fi

3446 \ifHy@figures
3447   \Hy@Info{Hyper figures ON}%
3448 \else
3449   \Hy@Info{Hyper figures OFF}%
3450 \fi

3451 \ifHy@nesting
3452   \Hy@Info{Link nesting ON}%
3453 \else
3454   \Hy@Info{Link nesting OFF}%
3455 \fi

3456 \ifHy@hyperindex
3457   \Hy@Info{Hyper index ON}%
3458 \else
3459   \Hy@Info{Hyper index OFF}%
3460 \fi

3461 \ifHy@plainpages
3462   \Hy@Info{Plain pages ON}%
3463 \else
3464   \Hy@Info{Plain pages OFF}%
3465 \fi

3466 \ifHy@backref
3467   \Hy@Info{Backreferencing ON}%
3468 \else
3469   \Hy@Info{Backreferencing OFF}%
3470 \fi

3471 \ifHy@typexml
3472   \AtEndOfPackage{%
3473     \RequirePackage{color}%
3474     \RequirePackage{nameref}%
3475   }%
3476 \fi

3477 \Hy@DisableOption{typexml}
3478 \ifHy@implicit
3479   \typeout{Implicit mode ON; LaTeX internals redefined}%
3480 \else
3481   \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3482   \def\MaybeStopEarly{%
3483     \typeout{Hyperref stopped early}%
3484     \AfterBeginDocument{%
3485       \PDF@FinishDoc
3486       \gdef\PDF@FinishDoc{}%
3487     }%
3488     \endinput
3489   }%
3490   \AtBeginDocument{%
3491     \let\autoref\ref
```

```

3492 \let\autopageref\pageref
3493 \ifx\@pdfpagemode\@empty
3494   \gdef\@pdfpagemode{UseNone}%
3495 \fi
3496 \global\Hy@backreffalse
3497 }%
3498 \AtEndOfPackage{%
3499   \global\let\ReadBookmarks\relax
3500   \global\let\WriteBookmarks\relax
3501 }%
3502 \fi
3503 \Hy@DisableOption{implicit}

```

15.2.1 Driver loading

```

3504 \AtEndOfPackage{%
3505   \ifpackageloaded{tex4ht}{%
3506     \def\Hy@driver{htex4ht}%
3507     \Hy@texhttrue
3508   }{}%

```

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.

```

3509 \ifx\Hy@driver\@empty
3510 \else
3511   \def\Hy@temp{hpdfTeX}%
3512   \ifpdf
3513     \ifx\Hy@driver\Hy@temp
3514     \else
3515       \Hy@WarningNoLine{%
3516         Wrong driver ‘\Hy@driver.def’;\MessageBreak
3517         pdfTeX is running in PDF mode.\MessageBreak
3518         Forcing driver ‘\Hy@temp.def’%
3519       }%
3520     \let\Hy@driver\Hy@temp
3521   \fi
3522 \else
3523   \ifx\Hy@driver\Hy@temp
3524   \Hy@WarningNoLine{%
3525     Wrong driver ‘\Hy@driver.def’;\MessageBreak
3526     pdfTeX is not running in PDF mode.\MessageBreak
3527     Using default driver%
3528   }%
3529   \let\Hy@driver\@empty
3530 \fi
3531 \fi
3532 \fi
3533 \ifx\Hy@driver\@empty
3534 \else
3535   \def\Hy@temp{hXeTeX}%
3536   \ifXeTeX
3537     \ifx\Hy@driver\Hy@temp
3538     \else
3539       \Hy@WarningNoLine{%
3540         Wrong driver ‘\Hy@driver.def’;\MessageBreak
3541         XeTeX is running.\MessageBreak
3542         Forcing driver ‘\Hy@temp.def’ for XeTeX%
3543       }%

```

```

3544     \let\Hy@driver\Hy@temp
3545     \fi
3546   \fi
3547 \fi
3548 \ifx\Hy@driver\@empty
3549 \else
3550   \def\Hy@temp{hvtexhtm}%
3551   \ifvtexhtml
3552     \ifx\Hy@driver\Hy@temp
3553     \else
3554       \Hy@WarningNoLine{%
3555         Wrong driver '\Hy@driver.def';\MessageBreak
3556         VTeX is running in HTML mode.\MessageBreak
3557         Forcing driver '\Hy@temp.def'%
3558       }%
3559     \let\Hy@driver\Hy@temp
3560   \fi
3561 \else
3562   \ifx\Hy@driver\Hy@temp
3563     \Hy@WarningNoLine{%
3564       Wrong driver '\Hy@driver.def';\MessageBreak
3565       VTeX is not running in HTML mode.\MessageBreak
3566       Using default driver%
3567     }%
3568   \let\Hy@driver\@empty
3569 \fi
3570 \fi
3571 \fi

```

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

```

3572 \ifx\Hy@driver\@empty
3573   \providecommand*{\Hy@defaultdriver}{hypertex}%
3574   \ifpdf
3575     \def\Hy@driver{hpdfTeX}%
3576   \else
3577     \ifxetex
3578       \def\Hy@driver{hxetex}%
3579     \else
3580       \ifvtexhtml
3581         \def\Hy@driver{hvtexhtm}%
3582         \def\MaybeStopEarly{%
3583           \typeout{Hyperref stopped early}%
3584           \AfterBeginDocument{%
3585             \PDF@FinishDoc
3586             \gdef\PDF@FinishDoc{}%
3587           }%
3588         \endinput
3589       }%
3590     \else
3591       \ifvtexpdf
3592         \def\Hy@driver{hvtex}%
3593       \else
3594         \ifvtexps
3595           \def\Hy@driver{hvtex}%
3596         \else
3597           \let\Hy@driver\Hy@defaultdriver
3598         \fi
3599       \fi

```

```

3600     \fi
3601   \fi
3602 \fi
3603 \ifx\Hy@driver\Hy@defaultdriver
3604   \def\Hy@temp{hdvwind}%
3605   \ifx\Hy@temp\Hy@driver
3606     \setkeys{Hyp}{colorlinks}%
3607     \PassOptionsToPackage{dviwindo}{color}%
3608   \fi
3609 \fi
3610 \typeout{*hyperref using default driver \Hy@driver*}%
3611 \else
3612   \typeout{*hyperref using driver \Hy@driver*}%
3613 \fi
3614 \input{\Hy@driver.def}%
3615 \let\@unprocessedoptions\relax
3616 \Hy@RestoreCatcodes
3617 }

```

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

```

3618 \newif\ifHy@DvipdfmxOutlineOpen
3619 \ifxetex
3620   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
3621   \else
3622     \Hy@DvipdfmxOutlineOpenttrue
3623   \fi
3624 \fi
3625 \begingroup\expandafter\expandafter\expandafter\endgroup
3626 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3627 \else
3628   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3629     \Hy@DvipdfmxOutlineOpenttrue
3630   \fi
3631 \fi
3632 \Hy@DisableOption{tex4ht}
3633 \Hy@DisableOption{pdftex}
3634 \Hy@DisableOption{nativepdf}
3635 \Hy@DisableOption{dvipdfm}
3636 \Hy@DisableOption{dvipdfmx}
3637 \Hy@DisableOption{dvipdfmx-outline-open}
3638 \Hy@DisableOption{pdfmark}
3639 \Hy@DisableOption{dvips}
3640 \Hy@DisableOption{hypertex}
3641 \Hy@DisableOption{vtex}
3642 \Hy@DisableOption{vtxpdfmark}
3643 \Hy@DisableOption{dviwindo}
3644 \Hy@DisableOption{dvipsone}
3645 \Hy@DisableOption{textures}
3646 \Hy@DisableOption{latex2html}
3647 \Hy@DisableOption{ps2pdf}
3648 \Hy@DisableOption{xetex}
3649 \AtEndOfPackage{%
3650   \Hy@DisableOption{pdfversion}%
3651 }

```

15.2.2 Bookmarks

```

3652 \def\WriteBookmarks{0}
3653 \def\@bookmarkopenstatus#1{%
3654   \ifHy@bookmarksopen

```

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

```

3655   \ifnum#1<\expandafter\@firstofone\expandafter
3656     {\number\@bookmarkopenlevel} % explicit space
3657   \else
3658     -%
3659   \fi
3660 \else
3661   -%
3662 \fi
3663 }
3664 \ifHy@bookmarks
3665   \Hy@Info{Bookmarks ON}%
3666   \ifx\@pdfpagemode\@empty
3667     \def\@pdfpagemode{UseOutlines}%
3668   \fi
3669 \else
3670   \def\@bookmarkopenstatus#1{%
3671     \Hy@Info{Bookmarks OFF}%
3672     \AtEndOfPackage{%
3673       \global\let\ReadBookmarks\relax
3674       \global\let\WriteBookmarks\relax
3675     }%
3676     \ifx\@pdfpagemode\@empty
3677       \def\@pdfpagemode{UseNone}%
3678     \fi
3679   \fi
3680 \Hy@DisableOption{bookmarks}

```

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

```

3681 \def\Hy@CatcodeWrapper#1{%
3682   \def\Hy@EndWrap{}%
3683   \def\TMP@EnsureCode##1##2{%
3684     \edef\Hy@EndWrap{%
3685       \Hy@EndWrap
3686       \catcode##1 \the\catcode##1\relax
3687     }%
3688     \catcode##1 ##2\relax
3689   }%
3690   \TMP@EnsureCode{10}{12}% ^^J
3691   \TMP@EnsureCode{33}{12}% !
3692   \TMP@EnsureCode{34}{12}% "
3693   \TMP@EnsureCode{36}{3}% $ (math)
3694   \TMP@EnsureCode{38}{4}% & (alignment)
3695   \TMP@EnsureCode{39}{12}% '
3696   \TMP@EnsureCode{40}{12}% (
3697   \TMP@EnsureCode{41}{12}% )
3698   \TMP@EnsureCode{42}{12}% *
3699   \TMP@EnsureCode{43}{12}% +
3700   \TMP@EnsureCode{44}{12}% ,
3701   \TMP@EnsureCode{45}{12}% -
3702   \TMP@EnsureCode{46}{12}% .
3703   \TMP@EnsureCode{47}{12}% /
3704   \TMP@EnsureCode{58}{12}% :
3705   \TMP@EnsureCode{59}{12}% ;

```

```

3706 \TMP@EnsureCode{60}{12}% <
3707 \TMP@EnsureCode{61}{12}% =
3708 \TMP@EnsureCode{62}{12}% >
3709 \TMP@EnsureCode{63}{12}% ?
3710 \TMP@EnsureCode{91}{12}% [
3711 \TMP@EnsureCode{93}{12}% ]
3712 \TMP@EnsureCode{94}{7}% ^ (superscript)
3713 \TMP@EnsureCode{95}{8}% _ (subscript)
3714 \TMP@EnsureCode{96}{12}% '
3715 \TMP@EnsureCode{124}{12}% |
3716 \TMP@EnsureCode{126}{13}% ~ (active)
3717 #1\relax
3718 \Hy@endWrap
3719 }

```

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

```

3720 \AtBeginDocument{%
3721   \ifHy@ocgcolorlinks
3722     \setkeys{Hyp}{colorlinks}%
3723   \ifHy@pdfa
3724     \Hy@Warning{%
3725       PDF/A: Optional Content Groups are prohibited,\MessageBreak
3726       using 'colorlinks' instead of 'ocgcolorlinks'%
3727     }%
3728     \Hy@ocgcolorlinksfalse
3729   \fi
3730 \fi
3731 \ifHy@ocgcolorlinks
3732 \else
3733   \Hy@DisableOption{ocgcolorlinks}%
3734 \fi
3735 \ifHy@colorlinks
3736   \def\@pdfborder{0 0 0}%
3737   \let\@pdfborderstyle\@empty
3738   \ifHy@typexml
3739   \else
3740     \Hy@CatcodeWrapper{%
3741       \RequirePackage{color}%
3742     }%
3743   \fi
3744   \def\Hy@colorlink#1{%
3745     \begingroup
3746     \HyColor@UseColor#1%
3747   }%
3748   \def\Hy@endcolorlink{\endgroup}%
3749   \Hy@Info{Link coloring ON}%
3750 \else
3751   \ifHy@frenchlinks
3752     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3753     \def\Hy@endcolorlink{\endgroup}%
3754     \Hy@Info{French linking ON}%
3755   \else

```

for grouping consistency:

```

3756   \def\Hy@colorlink#1{\begingroup}%
3757   \def\Hy@endcolorlink{\endgroup}%
3758   \Hy@Info{Link coloring OFF}%
3759 \fi

```

```

3760 \fi
3761 \Hy@DisableOption{colorlinks}%
3762 \Hy@DisableOption{frenchlinks}%
3763 \ifHy@texht
3764 \long\def\@firstoffive#1#2#3#4#5{#1}%
3765 \long\def\@secondoffive#1#2#3#4#5{#2}%
3766 \long\def\@thirdoffive#1#2#3#4#5{#3}%
3767 \long\def\@fourthoffive#1#2#3#4#5{#4}%
3768 \long\def\@fifthoffive#1#2#3#4#5{#5}%
3769 \providecommand*\@safe@activestruet{}%
3770 \providecommand*\@safe@activesfalse{}%
3771 \def\T@ref#1{%
3772 \Hy@safe@activestruet
3773 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3774 \Hy@safe@activesfalse
3775 }%
3776 \def\T@pageref#1{%
3777 \Hy@safe@activestruet
3778 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3779 \Hy@safe@activesfalse
3780 }%
3781 \else
3782 \ifHy@typexml
3783 \else
3784 \Hy@CatcodeWrapper{%
3785 \RequirePackage{nameref}%
3786 }%
3787 \fi
3788 \fi
3789 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3790 \DeclareRobustCommand\pageref{%
3791 \@ifstar\@pagerefstar\T@pageref
3792 }%
3793 }
3794 \AfterBeginDocument{%
3795 \ifHy@texht
3796 \else
3797 \Hy@CatcodeWrapper{%
3798 \ReadBookmarks
3799 }%
3800 \fi
3801 }
3802 \ifHy@backref
3803 \RequirePackage{backref}%
3804 \else
3805 \let\Hy@backout\@gobble
3806 \fi
3807 \Hy@DisableOption{backref}
3808 \Hy@DisableOption{pagebackref}
3809 \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`.

```

3810 \begingroup
3811 \endlinechar=-1 %
3812 \catcode'\^^A=14 %
3813 \catcode'\^^M\active
3814 \catcode'\%\active
3815 \catcode'\#\active
3816 \catcode'\_\active
3817 \catcode'\$\active
3818 \catcode'\&\active
3819 \gdef\hyper@normalise{^^A
3820 \begingroup
3821 \catcode'\^^M\active
3822 \def^^M{ }^^A
3823 \catcode'\%\active
3824 \let%\@percentchar
3825 \let%\@percentchar
3826 \catcode'\#\active
3827 \def#{\hyper@hash}^^A
3828 \def\#{\hyper@hash}^^A
3829 \@makeother\&^^A
3830 \edef&{\string&}^^A
3831 \edef&{\string&}^^A
3832 \edef\textunderscore{\string_}^^A
3833 \let\_ \textunderscore
3834 \catcode'\_\active
3835 \let\_ \textunderscore
3836 \let~\hyper@tilde
3837 \let~\hyper@tilde
3838 \let\textasciitilde\hyper@tilde
3839 \let\\ \@backslashchar
3840 \edef${\string$}^^A
3841 \Hy@safe@activetrue
3842 \hyper@n@rmalise
3843 }^^A
3844 \catcode'\#=6 ^^A
3845 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3846 \gdef\hyper@n@rmalise#1#2{^^A
3847 \def\Hy@tempa{#2}^^A
3848 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3849 \Hy@ReturnAfterElseFi{^^A
3850 \hyper@@normalise{#1}^^A
3851 }^^A
3852 \else
3853 \Hy@ReturnAfterFi{^^A
3854 \hyper@@normalise{#1}{#2}^^A
3855 }^^A
3856 \fi
3857 }^^A
3858 \gdef\hyper@@normalise#1#2{^^A
3859 \edef\Hy@tempa{^^A
3860 \endgroup
3861 \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
3862 }^^A
3863 \Hy@tempa
3864 }^^A

```



```

3865 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
3866   #1^^A
3867   \ifx\limits#2\limits
3868   \else
3869     \Hy@ReturnAfterFi{^^A
3870     \Hy@RemovePercentCr #2\@nil
3871   }^^A
3872   \fi
3873 }^^A
3874 \endgroup
3875 \providecommand*{\hyper@chars{%
3876   \let\#\hyper@hash
3877   \let\%\@percentchar
3878   \Hy@safe@activetrue
3879 }

3880 \def\hyperlink#1#2{%
3881   \hyper@@link{}{#1}{#2}%
3882 }

3883 \DeclareRobustCommand*{\href}{%
3884   \@ifnextchar\bgrouph\Hy@href{\hyper@normalise\href@}%
3885 }
3886 \def\Hy@href#{%
3887   \hyper@normalise\href@
3888 }
3889 \begingroup
3890   \catcode'\$=6 %
3891   \catcode'\#=12 %
3892   \gdef\href$1{\expandafter\href@split$1##\}%
3893   \gdef\href@split$1#$2#$3\{%
3894     \hyper@@link{$1}{$2}%
3895   }%
3896 \endgroup

```

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

```

3897 \RequirePackage{url}
3898 \let\HyOrg@url\url
3899 \def\Hurl{\begingroup \Url}
3900 \DeclareRobustCommand*{\nolinkurl}{\hyper@normalise\nolinkurl@}
3901 \def\nolinkurl@#1{\Hurl{#1}}
3902 \DeclareRobustCommand*{\url}{\hyper@normalise\url@}
3903 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
3904 \DeclareRobustCommand*{\hyperimage}{\hyper@normalise\hyper@image}
3905 \providecommand\hyper@image[2]{#2}

3906 \def\hypertarget#1#2{%
3907   \ifHy@nesting
3908     \hyper@@anchor{#1}{#2}%
3909   \else
3910     \hyper@@anchor{#1}{\relax}#2%
3911   \fi
3912 }

```

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

```

3913 \DeclareRobustCommand*{\hyperref}{%
3914   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3915 }
3916 \def\Hy@babelnormalise#1[#2]{%
3917   \begingroup
3918     \Hy@safe@activetrue
3919     \edef\Hy@tempa{%
3920       \endgroup
3921       \noexpand#1[#2]}%
3922   }%
3923   \Hy@tempa
3924 }
3925 \def\@hyperref{\hyper@normalise\@hyperref}
3926 \def\@hyperref#1#2#3{%
3927   \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
3928   \expandafter\tryhyper@link\ref@one\{#1}%
3929 }
3930 \def\tryhyper@link#1\#2{%
3931   \hyper@@link{#2}{#1}%
3932 }
3933 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}}
3934 \def\@hyperdef#1#2#3{%, category, name, text
3935   \ifx\#1\%
3936     \def\Hy@AnchorName{#2}%
3937   \else
3938     \def\Hy@AnchorName{#1.#2}%
3939   \fi
3940   \ifHy@nesting
3941     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
3942   \else
3943     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}{#3}%
3944   \fi
3945 }

```

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

```

3946 \def\label@hyperref[#1]{%
3947   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
3948 }%
3949 \def\label@@hyperref#1#2#3{%
3950   \ifx#1\relax
3951     \protect\G@refundefinedtrue
3952     \@latex@warning{%
3953       Hyper reference ‘#2’ on page \thepage \space undefined%
3954     }%
3955     \hyper@@link{}{??}{#3}%
3956   \else
3957     \hyper@@link{\expandafter\@fifthoffive#1}%
3958     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3959   \fi
3960 }
3961 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3962                               % anchor text
3963   \@bsphack
3964   \ifx\#2\%

```

```

3965 \def\Hy@AnchorName{#3}%
3966 \else
3967 \def\Hy@AnchorName{#2.#3}%
3968 \fi
3969 \if@filesw
3970 \protected@write\@auxout{}\{
3971 \string\newlabel{#1}\{ \} \} \{ \Hy@AnchorName \} \} %
3972 \}%
3973 \fi
3974 \@esphack
3975 \ifHy@nesting
3976 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
3977 \else
3978 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
3979 \fi
3980 }

```

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.

```

3981 \def\hyper@@link{\let\Hy@reserved@a\relax
3982 \@ifnextchar{\hyper@link@}{\hyper@link@[link]}%
3983 }
3984 \def\hyper@link@[#1]#2#3#4{%
3985 \begingroup
3986 \protected@edef\Hy@tempa{#2}%
3987 \Hy@safe@activetrue
3988 \edef\x{#3}%
3989 \ifx\Hy@tempa\@empty
3990 \toks0{\hyper@link{#1}}%
3991 \else
3992 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3993 \fi
3994 \toks2{%
3995 \Hy@safe@activesfalse
3996 #4%
3997 }%
3998 \edef\Hy@tempa{\the\toks2}%
3999 \edef\x{\endgroup
4000 \ifx\Hy@tempa\@empty
4001 \noexpand\Hy@Warning{Suppressing empty link}%
4002 \else
4003 \the\toks0 {\x}{\the\toks2}%
4004 \fi
4005 }%
4006 \x
4007 }

```

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.

```

4008 \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.

```
4009 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%  
4010 }
```

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

```
4011 \def\@pdftempwordfile{file}%  
4012 \def\@pdftempwordrun{run}%  
4013 \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:

```
4014 \ifx\{#6\}%  
4015 \expandafter\@hyper@linkfile file:#7\{#3}{#2}%  
4016 \else  
4017 \ifx\{#4\}%  
4018 \expandafter\@hyper@linkfile file:#7\{#3}{#2}%  
4019 \else
```

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

```
4020 \def\@pdftempa{#4}%  
4021 \ifx\@pdftempa\@pdftempwordfile  
4022 \expandafter\@hyper@linkfile#7\{#3}{#2}%  
4023 \else
```

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

```
4024 \ifx\@pdftempa\@pdftempwordrun  
4025 \ifHy@pdfa  
4026 \PackageError{hyperref}{%  
4027 PDF/A: Launch action is prohibited%  
4028 }\@ehc  
4029 \begingroup  
4030 \leavevmode  
4031 #2%  
4032 \endgroup  
4033 \else  
4034 \expandafter\@hyper@launch#7\{#3}{#2}%  
4035 \fi  
4036 \else
```

otherwise its a URL

```
4037 \hyper@linkurl{#3}{#7\ifx\{#2\}\else\hyper@hash#2\fi}%  
4038 \fi  
4039 \fi  
4040 \fi  
4041 \fi  
4042 }
```

By default, turn run: into file:

```

4043 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text, linkname
4044 \hyper@linkurl{#2}{%
4045 \Hy@linkfileprefix
4046 #1%
4047 \ifx\|#3\|%
4048 \else
4049 \hyper@hash
4050 #3%
4051 \fi
4052 }%
4053 }

```

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

```

4054 \def\@hyper@linkfile file:#1\|#2#3{%
4055 %file url,link string, name
4056 \filename@parse{#1}%
4057 \ifx\filename@ext\relax
4058 \edef\filename@ext{\XR@ext}%
4059 \fi
4060 \def\use@file{\filename@area\filename@base.\filename@ext}%
4061 \ifx\filename@ext\XR@ext
4062 \hyper@linkfile{#2}{\use@file}{#3}%
4063 \else
4064 \ifx\@baseurl\@empty
4065 \hyper@linkurl{#2}{%
4066 \Hy@linkfileprefix\use@file\ifx\|#3\| \else\hyper@hash#3\fi
4067 }%
4068 \else
4069 \hyper@linkurl{#2}{\use@file\ifx\|#3\| \else\hyper@hash#3\fi}%
4070 \fi
4071 \fi
4072 }

```

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.

```

4073 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
4074 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
4075 \ifx\|#1\|%
4076 #2\Hy@WarningNoLine{empty link? #1: #2#3}%
4077 \else
4078 \def\anchor@spot{#2#3}%
4079 \let\put@me@back\@empty
4080 \ifx\relax#2\relax
4081 \else
4082 \ifHy@nesting
4083 \else
4084 \ifcat a\noexpand#2\relax
4085 \else
4086 \ifcat 0\noexpand#2 \relax
4087 \else

```

```

4088 %      \typeout{Anchor start is not alphanumeric %
4089 %      on input line\the\inputlineno%
4090 %      }%
4091      \let\anchor@spot\@empty
4092      \def\put@me@back{#2#3}%
4093      \fi
4094      \fi
4095      \fi
4096      \fi
4097      \ifHy@activeanchor
4098      \anchor@spot
4099      \else
4100      \hyper@anchor{#1}%
4101      \fi
4102      \expandafter\put@me@back
4103      \fi
4104      \let\anchor@spot\@empty
4105 }

```

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.

```

4106 \let\htmladdimg\hyperimage
4107 \def\htmladdnormallink#1#2{\href{#2}{#1}}
4108 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
4109 \def\htmlref#1#2{% anchor text, label
4110   \label@hyperref[{#2}]{#1}%
4111 }

```

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.

```

4112 \def\@@latextohtmlX{%
4113   \let\hyperref\hyperref
4114   \def\hyperref##1##2##3##4{% anchor text for HTML
4115     % text to print before label in print
4116     % label
4117     % post-label text in print
4118     ##2\ref{##4}##3%
4119   }%
4120 }

```

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.

```
4121 \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

```
4122 \def\HyField@NewFlag#1#2{%  
4123 \lowercase{\HyField@NewOption{#2}}%  
4124 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%  
4125 }
```

\HyField@NewFlagOnly

```
4126 \def\HyField@NewFlagOnly#1#2{%  
4127 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%  
4128 }
```

\HyField@NewOption #1: option name

```
4129 \def\HyField@NewOption#1{%  
4130 \expandafter\newif\csname ifFld@#1\endcsname  
4131 \define@key{Field}{#1}[true]{%  
4132 \lowercase{\Field@boolkey{##1}}{#1}%  
4133 }%  
4134 }
```

\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

```
4135 \def\HyField@NewBitsetFlag#1#2#3#4{%  
4136 \begingroup  
4137 \count@=#4\relax  
4138 \advance\count@\m@ne  
4139 \def\x##1{%  
4140 \endgroup  
4141 \expandafter\def\csname HyField@#3@#1\endcsname{##1}%  
4142 \expandafter\ifx\csname HyField@#3@##1\endcsname\relax  
4143 \expandafter\edef\csname HyField@#3@##1\endcsname{%  
4144 (\number#4) #2%  
4145 }%  
4146 \else  
4147 \expandafter\edef\csname HyField@#3@##1\endcsname{%  
4148 \csname HyField@#3@##1\endcsname  
4149 /#2%  
4150 }%  
4151 \fi  
4152 }%  
4153 \expandafter\x\expandafter{\the\count@}%  
4154 }
```

```

\HyField@UseFlag The bit set is HyField@#1
4155 \def\HyField@UseFlag#1#2{%
4156 \lowercase{\HyField@@UseFlag{#2}}{#1}%
4157 }

\HyField@@UseFlag
4158 \def\HyField@@UseFlag#1#2{%
4159 \bitsetSetValue{HyField@#2}{%
4160 \csname HyField@#2@#1\endcsname
4161 }{%
4162 \csname ifFld@#1\endcsname 1\else 0\fi
4163 }%
4164 }

\HyField@SetFlag The bit set is HyField@#1
4165 \def\HyField@SetFlag#1#2{%
4166 \lowercase{\HyField@@SetFlag{#2}}{#1}%
4167 }

\HyField@@SetFlag
4168 \def\HyField@@SetFlag#1#2{%
4169 \bitsetSetValue{HyField@#2}{%
4170 \csname HyField@#2@#1\endcsname
4171 }{1}%
4172 }

\HyField@PrintFlags
4173 \def\HyField@PrintFlags#1#2{%
4174 \ifHy@verbose
4175 \begingroup
4176 \let\Hy@temp\@empty
4177 \let\MessageBreak\relax
4178 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
4179 \bitsetGetSetBitList{HyField@#1}\do{%
4180 \edef\Hy@temp{%
4181 \Hy@temp
4182 \csname HyField@#1@\x\endcsname\MessageBreak
4183 }%
4184 }%
4185 \edef\x{\endgroup
4186 \noexpand\Hy@Info{%
4187 Field flags: %
4188 \expandafter\ifx\@car#1\@nil S\else/\fi
4189 #1 %
4190 \bitsetGetDec{HyField@#1} %
4191 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
4192 \Hy@temp
4193 for #2%
4194 }%
4195 }\x
4196 \fi
4197 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”


```

4198 \HyField@NewFlag{Ff}{ReadOnly}{1}
4199 \HyField@NewFlag{Ff}{Required}{2}
4200 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

4201 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
4202 \HyField@NewFlag{Ff}{Radio}{16}
4203 \HyField@NewFlag{Ff}{Pushbutton}{17}
4204 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

4205 \HyField@NewFlag{Ff}{Multiline}{13}
4206 \HyField@NewFlag{Ff}{Password}{14}
4207 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
4208 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4209 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
4210 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
4211 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

4212 \HyField@NewFlag{Ff}{Combo}{18}
4213 \HyField@NewFlag{Ff}{Edit}{19}
4214 \HyField@NewFlag{Ff}{Sort}{20}
4215 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
4216 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4217 \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.

```

4218 \newif\iffld@popdown
4219 \define@key{Field}{popdown}[true]{%
4220   \lowercase{\Field@boolkey{#1}}{popdown}%
4221 }

```

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.

```

4222 \HyField@NewFlag{F}{Invisible}{1}
4223 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
4224 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
4225 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
4226 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
4227 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
4228 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
4229 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
4230 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

4231 \ifHy@pdfa
4232   \def\HyField@PDFAFlagWarning#1#2{%
4233     \Hy@Warning{%
4234       PDF/A: Annotation flag ‘#1’ must\MessageBreak
4235       be set to ‘#2’%
4236     }%
4237   }%
4238   \Fld@invisiblefalse
4239   \def\Fld@invisibletrue{%

```

```

4240 \HyField@PDFAFIagWarning{invisible}{false}%
4241 }%
4242 \Fld@hiddenfalse
4243 \def\Fld@hiddentrue{%
4244 \HyField@PDFAFIagWarning{hidden}{false}%
4245 }%
4246 \Fld@printrtrue
4247 \def\Fld@printfalse{%
4248 \HyField@PDFAFIagWarning{print}{true}%
4249 }%
4250 \Fld@nozoomtrue
4251 \def\Fld@nozoomfalse{%
4252 \HyField@PDFAFIagWarning{nozoom}{true}%
4253 }%
4254 \Fld@norotatetrue
4255 \def\Fld@norotatefalse{%
4256 \HyField@PDFAFIagWarning{norotate}{true}%
4257 }%
4258 \Fld@noviewfalse
4259 \def\Fld@noviewtrue{%
4260 \HyField@PDFAFIagWarning{noview}{false}%
4261 }%
4262 \fi

```

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

```

4263 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
4264 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
4265 \HyField@NewFlag{Submit}{GetMethod}{4}
4266 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
4267 \HyField@NewFlagOnly{Submit}{XFDF}{6}
4268 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
4269 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
4270 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
4271 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
4272 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
4273 \HyField@NewFlag{Submit}{ExclFKey}{12}
4274 \HyField@NewFlag{Submit}{EmbedForm}{14}

4275 \define@key{Field}{export}{%
4276 \lowercase{\def\Hy@temp{#1}}%
4277 \@ifundefined{Fld@export@\Hy@temp}{%
4278 \@onelevel@sanitize\Hy@temp
4279 \PackageError{hyperref}{%
4280 Unknown export format '\Hy@temp'.\MessageBreak
4281 Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
4282 }\@ehc
4283 }{%
4284 \let\Fld@export\Hy@temp
4285 }%
4286 }
4287 \def\Fld@export{fdf}
4288 \@namedef{Fld@export@fdf}{0}%
4289 \@namedef{Fld@export@html}{1}%
4290 \@namedef{Fld@export@xdf}{2}%
4291 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```
4292 \def\HyField@FlagsSubmit{%
4293   \bitsetReset{HyField@Submit}%
4294   \ifcase\@nameuse{Fld@export@\Fld@export} %
4295     % FDF
4296     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4297     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4298     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
4299     \HyField@UseFlag{Submit}{IncludeAnnotations}%
4300     \HyField@UseFlag{Submit}{CanonicalFormat}%
4301     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
4302     \HyField@UseFlag{Submit}{ExclFKey}%
4303     \HyField@UseFlag{Submit}{EmbedForm}%
4304   \or % HTML
4305     \HyField@SetFlag{Submit}{ExportFormat}%
4306     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4307     \HyField@UseFlag{Submit}{GetMethod}%
4308     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4309     \HyField@UseFlag{Submit}{CanonicalFormat}%
4310   \or % XFDF
4311     \HyField@SetFlag{Submit}{XFDF}%
4312     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4313     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4314     \HyField@UseFlag{Submit}{CanonicalFormat}%
4315   \or % PDF
4316     \HyField@SetFlag{Submit}{SubmitPDF}%
4317     \HyField@UseFlag{Submit}{GetMethod}%
4318   \fi
4319   \HyField@PrintFlags{Submit}{submit button field}%
4320   \bitsetIsEmpty{HyField@Submit}{%
4321     \def\Fld@submitflags{%
4322     }{%
4323     \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
4324     }%
4325 }
```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```
4326 \def\HyField@FlagsAnnot#1{%
4327   \bitsetReset{HyField@F}%
4328   \HyField@UseFlag{F}{Invisible}%
4329   \HyField@UseFlag{F}{Hidden}%
4330   \HyField@UseFlag{F}{Print}%
4331   \HyField@UseFlag{F}{NoZoom}%
4332   \HyField@UseFlag{F}{NoRotate}%
4333   \HyField@UseFlag{F}{NoView}%
4334   \HyField@UseFlag{F}{Locked}%
4335   \HyField@UseFlag{F}{ToggleNoView}%
4336   \HyField@UseFlag{F}{LockedContents}%
4337   \HyField@PrintFlags{F}{#1}%
4338   \bitsetIsEmpty{HyField@F}{%
4339     \def\Fld@annotflags{%
4340     }{%
4341     \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%

```

```

4342 }%
4343 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

4344 \def\HyField@FlagsPushButton{%
4345 \HyField@FlagsAnnot{push button field}%
4346 \bitsetReset{HyField@Ff}%
4347 \HyField@UseFlag{Ff}{ReadOnly}%
4348 \HyField@UseFlag{Ff}{Required}%
4349 \HyField@UseFlag{Ff}{NoExport}%
4350 \HyField@SetFlag{Ff}{Pushbutton}%
4351 \HyField@PrintFlags{Ff}{push button field}%
4352 \bitsetIsEmpty{HyField@Ff}{%
4353 \def\Fld@flags{%
4354 }{%
4355 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4356 }%
4357 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

4358 \def\HyField@FlagsCheckBox{%
4359 \HyField@FlagsAnnot{check box field}%
4360 \bitsetReset{HyField@Ff}%
4361 \HyField@UseFlag{Ff}{ReadOnly}%
4362 \HyField@UseFlag{Ff}{Required}%
4363 \HyField@UseFlag{Ff}{NoExport}%
4364 \HyField@PrintFlags{Ff}{check box field}%
4365 \bitsetIsEmpty{HyField@Ff}{%
4366 \def\Fld@flags{%
4367 }{%
4368 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4369 }%
4370 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

4371 \def\HyField@FlagsRadioButton{%
4372 \HyField@FlagsAnnot{radio button field}%
4373 \bitsetReset{HyField@Ff}%
4374 \HyField@UseFlag{Ff}{ReadOnly}%
4375 \HyField@UseFlag{Ff}{Required}%
4376 \HyField@UseFlag{Ff}{NoExport}%
4377 \HyField@UseFlag{Ff}{NoToggleToOff}%
4378 \HyField@SetFlag{Ff}{Radio}%
4379 \HyField@UseFlag{Ff}{RadiosInUnison}%
4380 \HyField@PrintFlags{Ff}{radio button field}%
4381 \bitsetIsEmpty{HyField@Ff}{%
4382 \def\Fld@flags{%
4383 }{%
4384 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4385 }%

```

4386 }

19.1.7 Text fields

\HyField@FlagsText

```
4387 \def\HyField@FlagsText{%
4388   \HyField@FlagsAnnot{text field}%
4389   \bitsetReset{HyField@Ff}%
4390   \HyField@UseFlag{Ff}{ReadOnly}%
4391   \HyField@UseFlag{Ff}{Required}%
4392   \HyField@UseFlag{Ff}{NoExport}%
4393   \HyField@UseFlag{Ff}{Multiline}%
4394   \HyField@UseFlag{Ff}{Password}%
4395   \HyField@UseFlag{Ff}{FileSelect}%
4396   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4397   \HyField@UseFlag{Ff}{DoNotScroll}%
4398   \ifFld@comb
4399     \ifcase0\ifFld@multiline
4400       \else\ifFld@password
4401       \else\ifFld@fileselect
4402       \else 1\fi\fi\fi\relax
4403     \PackageError{hyperref}{%
4404       Field option ‘comb’ cannot used together with\MessageBreak
4405       ‘multiline’, ‘password’, or ‘fileselect’%
4406     }\@ehc
4407   \else
4408     \HyField@UseFlag{Ff}{Comb}%
4409   \fi
4410 \fi
4411 \HyField@UseFlag{Ff}{RichText}%
4412 \HyField@PrintFlags{Ff}{text field}%
4413 \bitsetIsEmpty{HyField@Ff}{%
4414   \def\Fld@flags{%
4415   }{%
4416     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4417   }%
4418 }
```

19.1.8 Choice fields

\HyField@FlagsChoice

```
4419 \def\HyField@FlagsChoice{%
4420   \HyField@FlagsAnnot{choice field}%
4421   \bitsetReset{HyField@Ff}%
4422   \HyField@UseFlag{Ff}{ReadOnly}%
4423   \HyField@UseFlag{Ff}{Required}%
4424   \HyField@UseFlag{Ff}{NoExport}%
4425   \HyField@UseFlag{Ff}{Combo}%
4426   \ifFld@combo
4427     \HyField@UseFlag{Ff}{Edit}%
4428   \fi
4429   \HyField@UseFlag{Ff}{Sort}%
4430   \HyField@UseFlag{Ff}{MultiSelect}%
4431   \ifFld@combo
4432     \ifFld@edit
4433       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4434     \fi
4435   \fi
4436 }
```

```

4434 \fi
4435 \fi
4436 \HyField@UseFlag{Ff}{CommitOnSelChange}%
4437 \HyField@PrintFlags{Ff}{choice field}%
4438 \bitsetIsEmpty{HyField@Ff}{%
4439 \def\Fld@flags{%
4440 }{%
4441 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4442 }%
4443 }

```

19.2 Choice field

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

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

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

```

4444 \def\HyField@PDFChoices#1{%
4445 \begingroup
4446 \gdef\Fld@choices{%
4447 \def\HyTmp@optlist{%
4448 \let\HyTmp@optitem\relax
4449 \count@=0 %
4450 \kv@parse{#1}{%
4451 \Hy@pdfstringdef\kv@key\kv@key
4452 \ifx\kv@value\relax
4453 \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4454 \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4455 \else
4456 \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4457 \fi
4458 \else
4459 \Hy@pdfstringdef\kv@value\kv@value
4460 \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
4461 \fi
4462 \edef\HyTmp@optlist{%
4463 \HyTmp@optlist
4464 \HyTmp@optitem{\the\count@}{\kv@key}0%
4465 }%
4466 \advance\count@ by 1 %
4467 \@gobbletwo
4468 }%
4469 \xdef\Fld@choices{/Opt[\Fld@choices]}%
4470 \ifFld@multiselect
4471 \HyField@@PDFChoices{DV}\Fld@default
4472 \HyField@@PDFChoices{V}\Fld@value
4473 \else
4474 \ifx\Fld@default\relax
4475 \else
4476 \pdfstringdef\Hy@gtemp\Fld@default
4477 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4478 \fi
4479 \ifx\Fld@value\relax
4480 \else
4481 \pdfstringdef\Hy@gtemp\Fld@value
4482 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4483 \fi
4484 \fi

```

```

4485 \endgroup
4486 }

```

\HyField@@PDFChoices

```

4487 \def\HyField@@PDFChoices#1#2{%
4488   \ifx#2\relax
4489   \else
4490     \count@=0 %
4491     \def\HyTmp@optitem##1##2##3{%
4492       \def\HyTmp@key{##2}%
4493       \ifx\HyTmp@key\Hy@gtemp
4494         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4495           \HyTmp@optlist
4496           \HyTmp@optitem{##1}{##2}1%
4497         }%
4498         \let\HyTmp@found=Y%
4499       \else
4500         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4501           \HyTmp@optlist
4502           \HyTmp@optitem{##1}{##2}##3%
4503         }%
4504       \fi
4505     }%
4506     \expandafter\comma@parse\expandafter{#2}{%
4507       \pdfstringdef\Hy@gtemp\comma@entry
4508       \let\HyTmp@found=N %
4509       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4510       \HyTmp@optlist
4511       \ifx\HyTmp@found Y%
4512         \advance\count@ by 1 %
4513       \else
4514         \@onelevel@sanitize\comma@entry
4515         \PackageWarning{hyperref}{%
4516           \string\ChoiceBox: Ignoring value '\comma@entry',%
4517           \MessageBreak
4518           it cannot be found in the choices%
4519         }%
4520       \fi
4521       \@gobble
4522     }%
4523     \def\HyTmp@optitem##1##2##3{%
4524       \ifnum##3=1 %
4525         (##2)%
4526       \fi
4527     }%
4528     \ifcase\count@
4529     \or
4530       \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4531     \else
4532       \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4533       \ifx#1V%
4534         \def\HyTmp@optitem##1##2##3{%
4535           \ifnum##3=1 %
4536             \@firstofone{ ##1}%
4537           \fi
4538         }%
4539       \edef\HyTmp@optlist{\HyTmp@optlist}%

```

```

4540     \xdef\Fld@choices{%
4541         \Fld@choices
4542         /I[\expandafter\@firstofone\HyTmp@optlist]%
4543     }%
4544     \fi
4545     \fi
4546     \fi
4547 }

```

19.3 Forms

\HyField@SetKeys

```

4548 \def\HyField@SetKeys{%
4549     \setkeys{Field}%
4550 }

4551 \newif\ifFld@checked
4552 \newif\ifFld@disabled
4553 \Fld@checkedfalse
4554 \Fld@disabledfalse
4555 \newcount\Fld@menulength
4556 \newdimen\Fld@Width
4557 \newdimen\Fld@charsize
4558 \Fld@charsize=10\p@
4559 \def\Fld@maxlen{0}
4560 \def\Fld@align{0}
4561 \def\Fld@color{0 0 0 rg}
4562 \def\Fld@bcolor{1 1 1}
4563 \def\Fld@bordercolor{1 0 0}
4564 \def\Fld@bordersep{1\p@}
4565 \def\Fld@borderwidth{1}
4566 \def\Fld@borderstyle{S}
4567 \def\Fld@cbsymbol{4}
4568 \def\Fld@radiosymbol{H}
4569 \def\Fld@rotation{0}
4570 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4571 \def\endForm{\@endForm}
4572 \newif\ifForm@html
4573 \Form@htmlfalse
4574 \def\Form@boolkey#1#2{%
4575     \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4576 }
4577 \define@key{Form}{action}{%
4578     \hyper@normalise\Hy@DefFormAction{#1}%
4579 }
4580 \def\Hy@DefFormAction{\def\Form@action}
4581 \def\enc@html{html}
4582 \define@key{Form}{encoding}{%
4583     \def\Hy@tempa{#1}%
4584     \ifx\Hy@tempa\enc@html
4585         \Form@htmltrue
4586         \def\Fld@export{html}%
4587     \else
4588         \typeout{hyperref: form 'encoding' key set to #1 %
4589             -- unknown type%
4590     }%
4591     \Form@htmlfalse

```



```

4592 \fi
4593 }
4594 \define@key{Form}{method}{%
4595 \lowercase{\def\Hy@temp{#1}}%
4596 \@ifundefined{Form@method@Hy@temp}{%
4597 \onelevel@sanitize\Hy@temp
4598 \PackageError{hyperref}{%
4599   Unknown method '\Hy@temp'.\MessageBreak
4600   Known values are 'post' and 'get'%
4601 }\@ehc
4602 }{%
4603 \let\Form@method\Hy@temp
4604 \ifcase\@nameuse{Form@method@Hy@temp} %
4605 \Fld@getmethodfalse
4606 \else
4607 \Fld@getmethodtrue
4608 \fi
4609 }%
4610 }
4611 \def\Form@method{}
4612 \@namedef{Form@method@post}{0}
4613 \@namedef{Form@method@get}{1}
4614 \def\Fld@boolkey#1#2{%
4615 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4616 }
4617 \newtoks\Fld@toks
4618 \Fld@toks={ }%
4619 \def\Fld@addtoks#1#2{%
4620 \edef\@processme{\Fld@toks{the\Fld@toks\space #1="#2"}}%
4621 \@processme
4622 }
4623 \def\Fld@checkequals#1=#2=#3\\{%
4624 \def\@currDisplay{#1}%
4625 \ifx\\#2\\%
4626 \def\@currValue{#1}%
4627 \else
4628 \def\@currValue{#2}%
4629 \fi
4630 }
4631 \define@key{Field}{loc}{%
4632 \def\Fld@loc{#1}%
4633 }
4634 \define@key{Field}{checked}[true]{%
4635 \lowercase{\Field@boolkey{#1}}{checked}%
4636 }
4637 \define@key{Field}{disabled}[true]{%
4638 \lowercase{\Field@boolkey{#1}}{disabled}%
4639 }
4640 \define@key{Field}{accesskey}{%
4641 \Field@addtoks{accesskey}{#1}%
4642 }
4643 \define@key{Field}{tabkey}{%
4644 \Field@addtoks{tabkey}{#1}%
4645 }
4646 \define@key{Field}{name}{%
4647 \def\Fld@name{#1}%
4648 }

```

```

4649 \define@key{Field}{width}{%
4650   \def\Fld@width{#1}%
4651   \Field@Width#1\setbox0=\hbox{m}%
4652 }
4653 \define@key{Field}{maxlen}{%
4654   \def\Fld@maxlen{#1}%
4655 }
4656 \define@key{Field}{menulength}{%
4657   \Fld@menulength=#1\relax
4658 }
4659 \define@key{Field}{height}{%
4660   \def\Fld@height{#1}%
4661 }
4662 \define@key{Field}{charsize}{%
4663   \Fld@charsize#1%
4664 }
4665 \define@key{Field}{borderwidth}{%
4666   \def\Fld@borderwidth{#1}%
4667 }
4668 \define@key{Field}{borderstyle}{%
4669   \def\Fld@borderstyle{#1}%
4670 }
4671 \define@key{Field}{bordersep}{%
4672   \def\Fld@bordersep{#1}%
4673 }
4674 \define@key{Field}{default}{%
4675   \def\Fld@default{#1}%
4676 }
4677 \define@key{Field}{align}{%
4678   \def\Fld@align{#1}%
4679 }
4680 \define@key{Field}{value}{%
4681   \def\Fld@value{#1}%
4682 }
4683 \define@key{Field}{checkboxsymbol}{%
4684   \Fld@DingDef\Fld@cbsymbol{#1}%
4685 }
4686 \define@key{Field}{radiosymbol}{%
4687   \Fld@DingDef\Fld@radiosymbol{#1}%
4688 }
4689 \def\Fld@DingDef#1#2{%
4690   \def\Fld@temp{}%
4691   \Fld@@DingDef#2\ding{}\@nil
4692   \let#1\Fld@temp
4693 }
4694 \def\Fld@@DingDef#1\ding#2#3\@nil{%
4695   \expandafter\def\expandafter\Fld@temp\expandafter{%
4696     \Fld@temp
4697     #1%
4698   }%
4699   \ifx\#3\%
4700     \expandafter\@gobble
4701   \else
4702     \begingroup
4703       \lccode'0=#2\relax
4704       \lowercase{\endgroup
4705       \expandafter\def\expandafter\Fld@temp\expandafter{%

```

```

4706     \Fld@temp
4707     0%
4708   }%
4709 }%
4710 \expandafter\@firstofone
4711 \fi
4712 {%
4713   \Fld@@DingDef#3\@nil
4714 }%
4715 }

4716 \define@key{Field}{rotation}{%
4717   \def\Fld@rotation{#1}%
4718 }

4719 \define@key{Field}{backgroundcolor}{%
4720   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4721 }
4722 \define@key{Field}{bordercolor}{%
4723   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4724 }
4725 \define@key{Field}{color}{%
4726   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4727 }

4728 \def\Fld@onclick@code{}
4729 \def\Fld@format@code{}
4730 \def\Fld@validate@code{}
4731 \def\Fld@calculate@code{}
4732 \def\Fld@keystroke@code{}
4733 \def\Fld@onfocus@code{}
4734 \def\Fld@onblur@code{}
4735 \def\Fld@onmousedown@code{}
4736 \def\Fld@onmouseup@code{}
4737 \def\Fld@onenter@code{}
4738 \def\Fld@onexit@code{}
4739 \def\Hy@temp#1{%
4740   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4741 }
4742 \def\Hy@@temp#1#2{%
4743   \ifHy@pdfa
4744     \define@key{Field}{#2}{%
4745       \PackageError{hyperref}{%
4746         PDF/A: Additional action ‘#2’ is prohibited%
4747       }\@ehc
4748     }%
4749   \else
4750     \define@key{Field}{#2}{%
4751       \def#1{##1}%
4752     }%
4753   \fi
4754 }
4755 \Hy@temp{keystroke}
4756 \Hy@temp{format}
4757 \Hy@temp{validate}
4758 \Hy@temp{calculate}
4759 \Hy@temp{onfocus}
4760 \Hy@temp{onblur}
4761 \Hy@temp{onenter}

```

```

4762 \Hy@temp{onexit}
4763 \def\Hy@temp#1{%
4764   \define@key{Field}{#1}{%
4765     \Field@addtoks{#1}{##1}%
4766   }%
4767 }
4768 \Hy@temp{onselect}
4769 \Hy@temp{onchange}
4770 \Hy@temp{ondblclick}
4771 \Hy@temp{onmousedown}
4772 \Hy@temp{onmouseup}
4773 \Hy@temp{onmouseover}
4774 \Hy@temp{onmousemove}
4775 \Hy@temp{onmouseout}
4776 \Hy@temp{onkeypress}
4777 \Hy@temp{onkeydown}
4778 \Hy@temp{onkeyup}
4779 \ifHy@pdfa
4780   \define@key{Field}{onclick}{%
4781     \PackageError{hyperref}{%
4782       PDF/A: Action 'onclick' is prohibited%
4783     }\@ehc
4784   }%
4785 \else
4786   \define@key{Field}{onclick}{%
4787     \def\Fld@onclick@code{#1}%
4788     \Field@addtoks{onclick}{#1}%
4789   }%
4790 \fi

4791 \DeclareRobustCommand\TextField{%
4792   \@ifnextchar[{\@TextField}{\@TextField[]}%
4793 }
4794 \DeclareRobustCommand\ChoiceMenu{%
4795   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4796 }
4797 \DeclareRobustCommand\CheckBox{%
4798   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4799 }
4800 \DeclareRobustCommand\PushButton{%
4801   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4802 }
4803 \DeclareRobustCommand\Gauge{%
4804   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4805 }
4806 \DeclareRobustCommand\Submit{%
4807   \@ifnextchar[{\@Submit}{\@Submit[]}%
4808 }
4809 \DeclareRobustCommand\Reset{%
4810   \@ifnextchar[{\@Reset}{\@Reset[]}%
4811 }
4812 \def\LayoutTextField#1#2{% label, field
4813   #1 #2%
4814 }
4815 \def\LayoutChoiceField#1#2{% label, field
4816   #1 #2%
4817 }
4818 \def\LayoutCheckField#1#2{% label, field

```

```

4819 #1 #2%
4820 }
4821 \def\LayoutPushButtonField#1{% button
4822 #1%
4823 }
4824 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4825 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4826 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4827 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4828 \def\MakeButtonField#1{%
4829 \sbox0{%
4830 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4831 }%
4832 \@tempdima\ht0 %
4833 \advance\@tempdima by \Fld@borderwidth bp %
4834 \advance\@tempdima by \Fld@borderwidth bp %
4835 \ht0\@tempdima
4836 \@tempdima\dp0 %
4837 \advance\@tempdima by \Fld@borderwidth bp %
4838 \advance\@tempdima by \Fld@borderwidth bp %
4839 \dp0\@tempdima
4840 \box0\relax
4841 }
4842 \def\DefaultHeightofSubmit{14pt}
4843 \def\DefaultWidthofSubmit{2cm}
4844 \def\DefaultHeightofReset{14pt}
4845 \def\DefaultWidthofReset{2cm}
4846 \def\DefaultHeightofCheckBox{\baselineskip}
4847 \def\DefaultWidthofCheckBox{\baselineskip}
4848 \def\DefaultHeightofChoiceMenu{\baselineskip}
4849 \def\DefaultWidthofChoiceMenu{\baselineskip}
4850 \def\DefaultHeightofText{\baselineskip}
4851 \def\DefaultHeightofTextMultiline{4\baselineskip}
4852 \def\DefaultWidthofText{3cm}
4853 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4854 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4855 \def\DefaultOptionsofPushButton{print}
4856 \def\DefaultOptionsofCheckBox{print}
4857 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

4858 \def\DefaultOptionsofListBox{print}
4859 \def\DefaultOptionsofComboBox{print,edit,sort}
4860 \def\DefaultOptionsofPopdownBox{print}
4861 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

4862 \ifHy@figures
4863 \Hy@Info{Hyper figures ON}%
4864 \else
4865 \Hy@Info{Hyper figures OFF}%
4866 \fi
4867 \ifHy@nesting
4868 \Hy@Info{Link nesting ON}%
4869 \else
4870 \Hy@Info{Link nesting OFF}%

```

```

4871 \fi
4872 \ifHy@hyperindex
4873   \Hy@Info{Hyper index ON}%
4874 \else
4875   \Hy@Info{Hyper index OFF}%
4876 \fi
4877 \ifHy@backref
4878   \Hy@Info{backreferencing ON}%
4879 \else
4880   \Hy@Info{backreferencing OFF}%
4881 \fi
4882 \ifHy@colorlinks
4883   \Hy@Info{Link coloring ON}%
4884 \else
4885   \Hy@Info{Link coloring OFF}%
4886 \fi
4887 \ifHy@ocgcolorlinks
4888   \Hy@Info{Link coloring with OCG ON}%
4889 \else
4890   \Hy@Info{Link coloring with OCG OFF}%
4891 \fi
4892 \ifHy@pdfa
4893   \Hy@Info{PDF/A mode ON}%
4894 \else
4895   \Hy@Info{PDF/A mode OFF}%
4896 \fi

```

21 Low-level utility macros

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

```

4897 \edef\hyper@hash{\string#}
4898 \edef\hyper@tilde{\string~}
4899 \edef\hyper@quote{\string"}
4900 \let\@currentHref\@empty
4901 \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.

```

4902 \AfterBeginDocument{%
4903   \Hy@pdfstringtrue
4904   \PDF@SetupDoc
4905   \let\PDF@SetupDoc\@empty
4906   \Hy@DisableOption{pdfpagescrop}%
4907   \Hy@DisableOption{pdfpagemode}%
4908   \Hy@DisableOption{pdfnonfullscreenpagemode}%
4909   \Hy@DisableOption{pdfdirection}%
4910   \Hy@DisableOption{pdfviewarea}%
4911   \Hy@DisableOption{pdfviewclip}%
4912   \Hy@DisableOption{pdfprintarea}%
4913   \Hy@DisableOption{pdfprintclip}%
4914   \Hy@DisableOption{pdfprintscaling}%
4915   \Hy@DisableOption{pdfduplex}%
4916   \Hy@DisableOption{pdfpicktraybypdfsize}%
4917   \Hy@DisableOption{pdfprintpagerange}%
4918   \Hy@DisableOption{pdfnumcopies}%
4919   \Hy@DisableOption{pdfstartview}%
4920   \Hy@DisableOption{pdfstartpage}%

```

```

4921 \Hy@DisableOption{pdftoolbar}%
4922 \Hy@DisableOption{pdfmenubar}%
4923 \Hy@DisableOption{pdfwindowui}%
4924 \Hy@DisableOption{pdffitwindow}%
4925 \Hy@DisableOption{pdfcenterwindow}%
4926 \Hy@DisableOption{pdfdisplaydoctitle}%
4927 \Hy@DisableOption{pdfpagelayout}%
4928 \Hy@DisableOption{pdflang}%
4929 \Hy@DisableOption{baseurl}%
4930 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4931 \Hy@pdfstringfalse
4932 }

```

Ignore star from referencing macros:

```

4933 \let\NoHy@OrgRef\ref
4934 \def\ref{%
4935   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
4936 }
4937 \let\NoHy@OrgPageRef\pageref
4938 \def\pageref{%
4939   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
4940 }

```

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.

```

4941 \def\NoHyper{%
4942   \def\hyper@link@{##1}##2##3##4{##4}%
4943   \def\hyper@@anchor##1{}%
4944   \global\let\hyper@livelink\hyper@link
4945   \gdef\hyper@link##1##2##3{##3}%
4946   \def\hyper@anchorstart##1{}%
4947   \let\hyper@anchorend\@empty
4948   \def\hyper@linkstart##1##2{}%
4949   \let\hyper@linkend\@empty
4950   \def\hyper@linkurl##1##2{##1}%
4951   \def\hyper@linkfile##1##2##3{##1}%
4952   \def\hyper@link@{##1}##2##3{}%
4953   \let\Hy@backout\@gobble
4954 }
4955 \def@stop@hyper{%
4956   \def\hyper@link@{##1}##2##3##4{##4}%
4957   \let\Hy@backout\@gobble
4958   \def\hyper@@anchor##1{}%
4959   \def\hyper@link##1##2##3{##3}%
4960   \def\hyper@anchorstart##1{}%
4961   \let\hyper@anchorend\@empty
4962   \def\hyper@linkstart##1##2{}%
4963   \let\hyper@linkend\@empty
4964   \def\hyper@linkurl##1##2{##1}%
4965   \def\hyper@linkfile##1##2##3{##1}%
4966   \def\hyper@link@{##1}##2##3{}%
4967 }

```

```

4968 \def\endNoHyper{%
4969   \global\let\hyper@link\hyper@livelink
4970 }
4971 \</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:

```

4972 \*nohyperref
4973 \let\hyper@@anchor\@gobble
4974 \def\hyper@link#1#2#3{#3}%
4975 \let\hyper@anchorstart\@gobble
4976 \let\hyper@anchorend\@empty
4977 \let\hyper@linkstart\@gobbletwo
4978 \let\hyper@linkend\@empty
4979 \def\hyper@linkurl#1#2{#1}%
4980 \def\hyper@linkfile#1#2#3{#1}%
4981 \def\hyper@link@{#1}#2#3{#1}%
4982 \let\PDF@SetupDoc\@empty
4983 \let\PDF@FinishDoc\@empty
4984 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

4985 \def\Acrobatmenu#1#2{\leavevmode#2}
4986 \let\pdfstringdefDisableCommands\@gobbletwo
4987 \let\texorpdfstring\@firstoftwo
4988 \let\pdfbookmark\@undefined
4989 \newcommand\pdfbookmark[3][]{ }
4990 \let\phantomsection\@empty
4991 \let\hypersetup\@gobble
4992 \let\hyperbaseurl\@gobble
4993 \let\href\@gobble
4994 \let\hyperdef\@gobbletwo
4995 \let\hyperlink\@gobble
4996 \let\hypertarget\@gobble
4997 \def\hyperref{%
4998   \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4999 }
5000 \long\def\@gobbleopt[#1]{ }
5001 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

5002 \let\NoHy@OrgRef\ref
5003 \def\ref{%
5004   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
5005 }
5006 \let\NoHy@OrgPageRef\pageref
5007 \def\pageref{%
5008   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5009 }
5010 \</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}`

```
5011 \langle*package\rangle
5012 \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.

```
5013 \if@files\w
5014 \ifHy@typexml
5015 \immediate\closeout\@mainaux
5016 \immediate\openout\@mainaux\jobname.aux\relax
5017 \immediate\write\@auxout{\relaxxml>\relax}%
5018 \fi
5019 \immediate\write\@auxout{%

5020 \string\ifx\string\hyper@anchor\string\@undefined^^J%

5021 \global\let\string\oldcontentsline\string\contentsline^^J%
5022 \gdef\string\contentsline%
5023 \string#1\string#2\string#3\string#4{%
5024 \string\oldcontentsline%
5025 {\string#1}{\string#2}{\string#3}}^^J%
5026 \global\let\string\oldnewlabel\string\newlabel^^J%
5027 \gdef\string\newlabel\string#1\string#2{%
5028 \string\newlabelxx{\string#1}\string#2}^^J%
5029 \gdef\string\newlabelxx%
5030 \string#1\string#2\string#3\string#4\string#5\string#6{%
5031 \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.

```
5032 \string\AtEndDocument{%
5033 \let\string\contentsline\string\oldcontentsline^^J%
5034 \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.

```
5035 \string\else^^J%
5036 \global\let\string\hyper@last\relax^^J%
5037 \string\fi^^J%
5038 }%
5039 \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.

```
5040 \ifx\hyper@last\@undefined
5041 \def\@starttoc#1{%
5042 \begingroup
5043 \makeatletter
5044 \IfFileExists{\jobname.#1}{%
5045 \Hy@WarningNoLine{%
5046 old #1 file detected, not used; run LaTeX again%
```

```

5047     }%
5048   }{}%
5049   \if@filesw
5050     \expandafter\newwrite\csname tf@#1\endcsname
5051     \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
5052   \fi
5053   \@nobreakfalse
5054 \endgroup
5055 }%
5056 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
5057 \fi
5058 }

```

25 Title strings

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

```

5059 \ifHy@usetitle
5060 \let\HyOrg@title\title
5061 \let\HyOrg@author\author
5062 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
5063 \def\Hy@scanopttitle[#1]{%
5064   \gdef\Hy@title{#1}%
5065   \HyOrg@title{#1}%
5066 }%
5067 \def\Hy@scantitle#1{%
5068   \gdef\Hy@title{#1}%
5069   \HyOrg@title{#1}%
5070 }%
5071 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
5072 \def\Hy@scanoptauthor[#1]{%
5073   \gdef\Hy@author{#1}%
5074   \HyOrg@author{#1}%
5075 }%
5076 \def\Hy@scanauthor#1{%
5077   \gdef\Hy@author{#1}%
5078   \HyOrg@author{#1}%
5079 }%

```

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.

```

5080 \begingroup
5081 \def\process@me#1\@nil#2{%
5082   \expandafter\let\expandafter\x\csname @#2\endcsname
5083   \edef\y{\expandafter\strip@prefix\meaning\x}%
5084   \def\c##1#1##2\@nil{%
5085     \ifx\\##1\\%
5086       \else
5087         \expandafter\gdef\csname Hy@#2\expandafter\endcsname
5088         \expandafter{\x}%
5089     \fi
5090   }%
5091   \expandafter\c\y\relax#1\@nil
5092 }%
5093 \expandafter\process@me\string\@latex@\@nil{title}%
5094 \expandafter\process@me\string\@latex@\@nil{author}%

```

```

5095 \endgroup
5096 \fi
5097 \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.

```

5098 \def\Hy@UseMaketitleString#1{%
5099 \ifundefined{Hy@#1}{}%
5100 \begin{group}
5101 \let\Hy@saved@hook\pdfstringdefPreHook
5102 \pdfstringdefDisableCommands{%
5103 \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
5104 \let\newline\\%
5105 }%
5106 \expandafter\ifx\csname @pdf#1\endcsname \@empty
5107 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
5108 \csname Hy@#1\endcsname \@empty
5109 }%
5110 \fi
5111 \global\let\pdfstringdefPreHook\Hy@saved@hook
5112 \endgroup
5113 }%
5114 }
5115 \def\Hy@newline@title#1{ #1}
5116 \def\Hy@newline@author#1{, #1}
5117 \def\Hy@UseMaketitleInfos{%
5118 \Hy@UseMaketitleString{title}%
5119 \Hy@UseMaketitleString{author}%
5120 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

5121 \RequirePackage{atbegshi}[2007/09/09]
5122 \def\Hy@EveryPageHook{}
5123 \def\Hy@EveryPageBoxHook{}
5124 \def\Hy@FirstPageHook{}
5125 \AtBeginShipout{%
5126 \Hy@EveryPageHook
5127 \ifx\Hy@EveryPageBoxHook \@empty
5128 \else
5129 \setbox\AtBeginShipoutBox=\vbox{%
5130 \offinterlineskip
5131 \Hy@EveryPageBoxHook
5132 \box\AtBeginShipoutBox

```

```

5133 }%
5134 \fi
5135 }
5136 \AtBeginShipoutFirst{%
5137 \Hy@FirstPageHook
5138 }
5139 \g@addto@macro\Hy@FirstPageHook{%
5140 \PDF@FinishDoc
5141 \gdef\PDF@FinishDoc{}}%
5142 }

```

27.1 PDF /PageLabels

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

```

5143 \ifHy@pagelabels
5144 \begingroup\expandafter\expandafter\expandafter\endgroup
5145 \expandafter\ifx\csname thepage\endcsname\relax
5146 \Hy@pagelabelsfalse
5147 \Hy@WarningNoLine{%
5148 Option 'pdfpagelabels' is turned off\MessageBreak
5149 because \string\thepage\space is undefined%
5150 }%
5151 \csname fi\endcsname
5152 \csname iffalse\expandafter\endcsname
5153 \fi

```

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

```

5154 \def\thispdfpagelabel#1{%
5155 \gdef\HyPL@thisLabel{#1}%
5156 }%
5157 \global\let\HyPL@thisLabel\relax

```

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

```

5158 \def\HyPL@Labels{}%

```

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

```

5159 \newcount\Hy@abspage
5160 \Hy@abspage=0 %

```

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

```

5161 \def\HyPL@LastType{init}%
5162 \def\HyPL@LastNumber{0}%
5163 \def\HyPL@LastPrefix{}%

```

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

```

5164 \def\HyPL@arabic{D}%
5165 \def\HyPL@Roman{R}%
5166 \def\HyPL@roman{r}%
5167 \def\HyPL@Alph{A}%
5168 \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.

```

5169 \def\HyPL@EveryPage{%
5170 \begingroup
5171 \ifx\HyPL@thisLabel\relax

```

```

5172     \let\HyPL@page\thepage
5173   \else
5174     \let\HyPL@page\HyPL@thisLabel
5175     \global\let\HyPL@thisLabel\relax
5176   \fi
5177   \let\HyPL@Type\relax
5178   \ifnum\the\c@page>0 %
5179     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
5180   \fi
5181   \let\Hy@temp Y%
5182   \ifx\HyPL@Type\HyPL@LastType
5183   \else
5184     \let\Hy@temp N%
5185   \fi
5186   \ifx\HyPL@Type\relax
5187     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
5188   \else
5189     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
5190   \fi
5191   \ifx\HyPL@Prefix\HyPL@LastPrefix
5192   \else
5193     \let\Hy@temp N%
5194   \fi
5195   \if Y\Hy@temp
5196     \advance\c@page by -1 %
5197     \ifnum\HyPL@LastNumber=\the\c@page\relax
5198   \else
5199     \let\Hy@temp N%
5200   \fi
5201   \Hy@StepCount\c@page
5202 \fi
5203 \if N\Hy@temp
5204   \ifx\HyPL@Type\relax
5205     \HyPL@storePageLabel{/P(\HyPL@Prefix)}%
5206   \else
5207     \HyPL@storePageLabel{%
5208       \ifx\HyPL@Prefix\@empty
5209       \else
5210         /P(\HyPL@Prefix)%
5211       \fi
5212       /S/\csname HyPL\HyPL@Type\endcsname
5213       \ifnum\the\c@page=1 %
5214       \else
5215         \space/St \the\c@page
5216       \fi
5217     }%
5218   \fi
5219 \fi
5220 \xdef\HyPL@LastNumber{\the\c@page}%
5221 \global\let\HyPL@LastType\HyPL@Type
5222 \global\let\HyPL@LastPrefix\HyPL@Prefix
5223 \endgroup
5224 \Hy@GlobalStepCount\Hy@abspage
5225 }%

```

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

```

5226 \def\HyPL@CheckThePage#1\@nil{%

```

```

5227 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
5228 }%

```

`\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`.

```

5229 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
5230 \def\Hy@tempa{#4}%
5231 \def\Hy@tempb{\csname\endcsname\c@page}%
5232 \ifx\Hy@tempa\Hy@tempb
5233 \expandafter\ifx\csname HyPL#3\endcsname\relax
5234 \else
5235 \def\HyPL@Type{#3}%
5236 \def\HyPL@Prefix{#2}%
5237 \fi
5238 \else
5239 \begingroup
5240 \let\Hy@next\endgroup
5241 \let\HyPL@found\@undefined
5242 \def\arabic{\HyPL@Format{arabic}}%
5243 \def\Roman{\HyPL@Format{Roman}}%
5244 \def\roman{\HyPL@Format{roman}}%
5245 \def\Alph{\HyPL@Format{Alph}}%
5246 \def\alph{\HyPL@Format{alph}}%
5247 \protected@edef\Hy@temp{#1}%
5248 \ifx\HyPL@found\relax
5249 \toks@{\expandafter{\Hy@temp}}%
5250 \edef\Hy@next{\endgroup
5251 \noexpand\HyPL@@@CheckThePage\the\toks@
5252 \noexpand\HyPL@found\relax\noexpand\@nil
5253 }%
5254 \fi
5255 \Hy@next
5256 \fi
5257 }%

```

`\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`.

```

5258 \def\HyPL@Format#1#2{%
5259 \ifx\HyPL@found\@undefined
5260 \expandafter\ifx\csname c@#2\endcsname\c@page
5261 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
5262 \else
5263 \expandafter\noexpand\csname#1\endcsname{#2}%
5264 \fi
5265 \else
5266 \expandafter\noexpand\csname#1\endcsname{#2}%
5267 \fi
5268 }%

```

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

```

5269 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
5270 \def\Hy@tempa{#3}%

```

```

5271 \def\Hy@tempb{\HyPL@found\relax}%
5272 \ifx\Hy@tempa\Hy@tempb
5273 \def\HyPL@Type{@#2}%
5274 \def\HyPL@Prefix{#1}%
5275 \fi
5276 }%

```

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

```

5277 \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`.

```

5278 \def\HyPL@Useless{0<</S/D>>}%
5279 \@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.

```

5280 \def\HyPL@SetPageLabels{%
5281 \@onelevel@sanitize\HyPL@Labels
5282 \ifx\HyPL@Labels\@empty
5283 \else
5284 \ifx\HyPL@Labels\HyPL@Useless
5285 \else
5286 \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
5287 \fi
5288 \fi
5289 }%

```

```

5290 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
5291 \fi

```

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

```

5292 \Hy@DisableOption{pdfpagelabels}
5293 </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`

```

5294 <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.

```

5295 <*vTeX>
5296 \providecommand*{\XR@ext}{pdf}
5297 \edef\Hy@VTeXversion{%
5298 \ifx\VTeXversion\@undefined
5299 \z@
5300 \else
5301 \ifx\VTeXversion\relax
5302 \z@
5303 \else

```

```

5304 \VTeXversion
5305 \fi
5306 \fi
5307 }
5308 \begingroup
5309 \ifnum\VTeXversion<660 %
5310 \gdef\Hy@PutCatalog#1{%
5311 \Hy@WarningNoLine{%
5312 VTeX 6.59g or above required for pdfpagelabels%
5313 }%
5314 }%
5315 \else
5316 \gdef\Hy@PutCatalog#1{%
5317 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
5318 }%
5319 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
5320 \ifx\#2\%
5321 \else
5322 \immediate\special{!pdfpagelabels #2}%
5323 \fi
5324 }%
5325 \fi
5326 \endgroup
5327 </vtex>

5328 <*pdfTeX | vtex>

```

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

```

5329 \ifHy@pagelabels
5330 \def\HyPL@StorePageLabel#1{%
5331 \toks@ \expandafter{\HyPL@Labels}%
5332 \xdef\HyPL@Labels{%
5333 \the\toks@
5334 \the\Hy@abspage<<#1>>%
5335 }%
5336 }%

```

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.

```

5337 \RequirePackage{atveryend}[2009/12/07]%
5338 \AtVeryEndDocument{%
5339 \HyPL@SetPageLabels
5340 }%

5341 \fi
5342 </pdfTeX | vtex>

```

27.1.2 xetex

```

5343 <*xetex>
5344 \HyPsd@LoadUnicode
5345 \Hy@unicodetrue
5346 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
5347 \else
5348 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
5349 \fi
5350 \HyPsd@LoadStringEncoding

```



```

5351 \define@key{Hyp}{unicode}[true]{%
5352   \Hy@boolkey{unicode}{#1}%
5353   \ifHy@unicode
5354   \else
5355     \Hy@Warning{%
5356       XeTeX driver only supports 'unicode=true'.\MessageBreak
5357       Ignoring option setting 'unicode=false'%
5358     }%
5359     \Hy@unicodetrue
5360   \fi
5361 }
5362 \define@key{Hyp}{pdfencoding}{%
5363   \edef\HyPsd@temp{#1}%
5364   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
5365     \let\HyPsd@pdfencoding\HyPsd@temp
5366   \else
5367     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
5368       \let\HyPsd@pdfencoding\HyPsd@temp
5369     \else
5370       \Hy@Warning{%
5371         XeTeX driver only supports 'pdfencoding=unicode|auto.%
5372         \MessageBreak
5373         Ignoring option setting 'pdfencoding=\HyPsd@temp'%
5374       }%
5375     \fi
5376   \fi
5377 }
5378 \let\HyXeTeX@CheckUnicode\relax
5379 \xetex

```

27.1.3 pdfmarkbase, dvipdfm, xetex

```

5380 <*pdfmarkbase>
5381 \begingroup
5382 \@ifundefined{headerps@out}{}{%
5383   \toks@ \expandafter{\Hy@FirstPageHook}%
5384   \xdef\Hy@FirstPageHook{%
5385     \noexpand\headerps@out{%
5386       systemdict /pdfmark known%
5387       {%
5388         userdict /?pdfmark systemdict /exec get put%
5389       }{%
5390         userdict /?pdfmark systemdict /pop get put %
5391         userdict /pdfmark systemdict /cleartomark get put%
5392       }%
5393       ifelse%
5394     }%
5395     \the\toks@
5396   }%
5397 }%
5398 \endgroup
5399 </pdfmarkbase>

```

\Hy@PutCatalog

```

5400 <dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
5401 <*pdfmarkbase>
5402 \def\Hy@PutCatalog#1{%
5403   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
5404 }

```

```
5405 </pdfmarkbase>
```

```
5406 <*pdfmarkbase | dvipdfm | xetex>
```

```
5407 \ifHy@pagelabels
```

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

```
5408 \def\HyPL@StorePageLabel#1{%
5409   \if@filesw
5410     \begingroup
5411       \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
5412       \immediate\write\@mainaux{%
5413         \string\HyPL@Entry{\Hy@tempa}%
5414       }%
5415     \endgroup
5416   \fi
5417 }%
```

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.

```
5418 \AfterBeginDocument{%
5419   \if@filesw
5420     \immediate\write\@mainaux{%
5421       \string\providecommand\string*\string\HyPL@Entry[1]{}%
5422     }%
5423   \fi
5424   \ifx\HyPL@Labels\@empty
5425     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
5426   \else
5427     \HyPL@SetPageLabels
5428   \fi
5429   \let\HyPL@Entry\@gobble
5430 }%
```

`\HyPL@Entry`

```
5431 \def\HyPL@Entry#1{%
5432   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
5433     \HyPL@Labels
5434     #1%
5435   }%
5436 }%

5437 \fi
5438 </pdfmarkbase | dvipdfm | xetex>

5439 <*package>

5440 \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

```

5441 \def\Hy@CounterExists#1{%
5442   \begingroup\expandafter\expandafter\expandafter\endgroup
5443   \expandafter\ifx\csname c@#1\endcsname\relax
5444     \expandafter\@gobble
5445   \else
5446     \begingroup\expandafter\expandafter\expandafter\endgroup
5447     \expandafter\ifx\csname the#1\endcsname\relax
5448       \expandafter\expandafter\expandafter\@gobble
5449     \else
5450       \expandafter\expandafter\expandafter\@firstofone
5451     \fi
5452   \fi
5453 }
5454 \Hy@CounterExists{section}{%
5455   \newcommand\theHequation{\theHsection.\arabic{equation}}}%
5456 }
5457 \Hy@CounterExists{part}{%
5458   \newcommand\theHpart{\arabic{part}}}%
5459 }
5460 \@ifundefined{thechapter}{%
5461   \newcommand\theHsection   {\arabic{section}}}%
5462   \newcommand\theHfigure    {\arabic{figure}}}%
5463   \newcommand\theHtable     {\arabic{table}}}%
5464 }{%
5465   \newcommand\theHchapter   {\arabic{chapter}}}%
5466   \newcommand\theHfigure    {\theHchapter.\arabic{figure}}}%
5467   \newcommand\theHtable     {\theHchapter.\arabic{table}}}%
5468   \newcommand\theHsection   {\theHchapter.\arabic{section}}}%
5469 }
5470 \newcommand\theHsubsection  {\theHsection.\arabic{subsection}}
5471 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5472 \newcommand\theHparagraph   {\theHsubsubsection.\arabic{paragraph}}
5473 \newcommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}
5474 \newcommand\theHtheorem     {\theHsection.\arabic{theorem}}
5475 \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.

```

5476 \let\H@item\item
5477 \newcounter{Item}
5478 \def\theHItem{\arabic{Item}}
5479 \def\item{%
5480   \@hyper@itemfalse
5481   \if@nmbrlist\@hyper@itemtrue\fi
5482   \H@item
5483 }

```

```

5484 \newcommand\theHenumi    {\theHItem}
5485 \newcommand\theHenumii   {\theHItem}
5486 \newcommand\theHenumiii  {\theHItem}
5487 \newcommand\theHenumiv   {\theHItem}
5488 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5489 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5490 \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.

```

5491 \let\H@refstepcounter\refstepcounter
5492 \edef\name@of@eq{equation}%
5493 \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.

```

5494 \newif\if@hyper@item
5495 \newif\if@skiphyperref
5496 \@hyper@itemfalse
5497 \@skiphyperreffalse
5498 \def\refstepcounter#1{%
5499   \ifHy@pdfstring
5500   \else
5501     \H@refstepcounter{#1}%
5502     \edef\This@name{#1}%
5503     \ifx\This@name\name@of@slide
5504     \else
5505       \if@skiphyperref
5506       \else
5507         \if@hyper@item
5508           \stepcounter{Item}%
5509           \hyper@refstepcounter{Item}%
5510           \@hyper@itemfalse
5511         \else
5512           \hyper@refstepcounter{#1}%
5513         \fi
5514       \fi
5515     \fi
5516   \fi
5517 }

```

AMS \LaTeX 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.

```

5518 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

5519 \def\hyper@refstepcounter#1{%
5520   \edef\This@name{#1}%
5521   \ifx\This@name\name@of@eq
5522     \@ifundefined{theHequation}{%
5523       \make@stripped@name{\theequation}%
5524       \let\theHequation\newname
5525     }{}%
5526   \fi
5527   \@ifundefined{theH#1}{%
5528     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%

```

```

5529 }{}%
5530 \hyper@makecurrent{#1}%
5531 \ifmeasuring@
5532 \else
5533 \Hy@raisedlink{%
5534   \hyper@anchorstart{\@currentHref}\hyper@anchorend
5535 }%
5536 \fi
5537 }

```

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`.

```

5538 \begingroup\expandafter\expandafter\expandafter\endgroup
5539 \expandafter\ifx\csname chapter\endcsname\relax
5540 \def\Hy@chapterstring{section}%
5541 \else
5542 \def\Hy@chapterstring{chapter}%
5543 \fi
5544 \def\Hy@appendixstring{appendix}
5545 \def\Hy@chapapp{\Hy@chapterstring}
5546 \let\HyOrg@appendix\appendix
5547 \def\appendix{%
5548   \@ifundefined{chapter}%
5549   {\gdef\theHsection{\Alph{section}}}%
5550   {\gdef\theHchapter{\Alph{chapter}}}%
5551   \xdef\Hy@chapapp{\Hy@appendixstring}%
5552   \HyOrg@appendix
5553 }

```

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

```

5554 \def\hyper@makecurrent#1{%
5555   \begingroup
5556   \edef\Hy@param{#1}%
5557   \ifx\Hy@param\Hy@chapterstring
5558     \let\Hy@param\Hy@chapapp
5559   \fi
5560   \ifHy@hypertexnames
5561     \let\@number\@firstofone
5562     \@ifundefined{latin@Alph}{}{%
5563       \ifx\@Alph\greek@Alph
5564         \def\@Alph{Alph\@arabic}%
5565       \fi
5566     }%
5567     \ifx\@Alph\@Alph@bul
5568       \def\@Alph{Alph\@arabic}%
5569     \fi
5570     \ifx\@alph\@alph@bul
5571       \def\@alph{alph\@arabic}%
5572     \fi
5573     \ifHy@naturalnames
5574       \let\textlatin\@firstofone
5575       \xdef\@currentHlabel{\csname the#1\endcsname}%

```

```

5576 \else
5577 \xdef\@currentHlabel{%
5578 \csname
5579 the%
5580 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
5581 #1%
5582 \endcsname
5583 }%
5584 \fi
5585 \xdef\@currentHref{%
5586 \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5587 }%
5588 \else
5589 \Hy@GlobalStepCount\Hy@linkcounter
5590 \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
5591 \fi
5592 \endgroup
5593 }

5594 \@ifpackageloaded{fancyvrb}{%
5595 \@ifpackagelater{fancyvrb}{1998/05/20}{-}{-}%
5596 \def\FV@StepLineNo{%
5597 \FV@SetLineNo
5598 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5599 \FV@StepLineNo
5600 }%
5601 }%
5602 }-}

```

29 Package lastpage support

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

`\lastpage@putlabel`

```

5603 \AtBeginDocument{%
5604 \ifclassloaded{revtex4}{%
5605 \@namedef{ver@lastpage.sty}{1994/06/25}%
5606 }-}%
5607 \@ifpackageloaded{lastpage}{%
5608 \ifHy@pageanchor
5609 \else
5610 \Hy@WarningNoLine{%
5611 The \string\pageref{LastPage} link doesn't work\MessageBreak
5612 with disabled option 'pageanchor'%
5613 }%
5614 \fi
5615 \def\lastpage@putlabel{%
5616 \addtocounter{page}{-1}%
5617 \if@files@w
5618 \begingroup

```

```

5619 \let\@number\@firstofone
5620 \ifHy@pageanchor
5621 \ifHy@hypertexnames
5622 \ifHy@plainpages
5623 \def\Hy@temp{\arabic{page}}}%
5624 \else
5625 \Hy@unicodedefalse
5626 \pdfstringdef\Hy@temp{\thepage}%
5627 \fi
5628 \else
5629 \def\Hy@temp{\the\Hy@pagecounter}%
5630 \fi
5631 \fi
5632 \immediate\write\@auxout{%
5633 \string\newlabel
5634 {LastPage}{\thepage}{\thepage}%
5635 \ifHy@pageanchor page.\Hy@temp\fi}{}}%
5636 }%
5637 \endgroup
5638 \fi
5639 \addtocounter{page}{1}%
5640 }%
5641 \@ifclassloaded{revtex4}{%
5642 \begingroup
5643 \toks@{\expandafter{\lastpage@putlabel}%
5644 \edef\x{\endgroup
5645 \def\noexpand\lastpage@putlabel{%
5646 \noexpand\stepcounter{page}%
5647 \the\toks@
5648 \noexpand\addtocounter{page}\noexpand\m@ne
5649 }%
5650 }%
5651 \x
5652 }{}%
5653 }{}%
5654 }
5655 \</package>
5656 \<*check>
5657 \checkpackage{lastpage}[1994/06/25]
5658 \checkcommand\def\lastpage@putlabel{%
5659 \addtocounter{page}{-1}%
5660 \immediate\write\@auxout{%
5661 \string\newlabel{LastPage}{\thepage}{\thepage}%
5662 }%
5663 \addtocounter{page}{1}%
5664 }
5665 \</check>
5666 \<*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.

```

5667 \def\hypergetref#1{\getrefbykeydefault{#1}{\{}}{??}}
5668 \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:

```
5669 \ifpackageloaded{titlesec}{%
5670   \def\ttl@Hy@steplink#1{%
5671     \Hy@GlobalStepCount\Hy@linkcounter
5672     \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5673     \def\ttl@Hy@saveanchor{%
5674       \Hy@raisedlink{%
5675         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5676       }%
5677     }%
5678   }%
5679   \def\ttl@Hy@refstepcounter#1{%
5680     \let\ttl@b\Hy@raisedlink
5681     \def\Hy@raisedlink##1{%
5682       \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5683     }%
5684     \refstepcounter{#1}%
5685     \let\Hy@raisedlink\ttl@b
5686   }%
5687 }
```

Package titletoc support:

```
5688 \ifpackageloaded{titletoc}{%
5689   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5690 }
```

32 Package varioref support

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

```
5691 \def\Hy@varioref@undefined{???}{?}{-}{-}}
5692 \ifpackageloaded{varioref}{%
5693   \def\vref@pagenum#1#2{%
5694     \ifundefined{r@#2}{%
5695       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5696     }{}%
5697     \edef#1{\getpagerefnumber{#2}}%
5698   }%
5699 }
```

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

```
5700 \ifpackageloaded{longtable}{%
5701   \begingroup
5702     \def\y{\LT@array}%
5703     \ifundefined{scr@LT@array}{\def\y{\scr@LT@array}}%
```



```

5704 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5705 \expandafter\endgroup
5706 \expandafter\def\y[##1]##2{%
5707 \H@refstepcounter{#1}%
5708 \hyper@makecurrent{table}%
5709 \let\Hy@LT@currentHlabel\@currentHlabel
5710 \let\Hy@LT@currentHref\@currentHref
5711 #2\@sharp####4%
5712 }%
5713 }%
5714 \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil
Patch of \LT@start: add anchor before first line after \vskip\LTpre
5715 \begingroup
5716 \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5717 \endgroup
5718 \def\LT@start{%
5719 #1%
5720 \let\@currentHlabel\Hy@LT@currentHlabel
5721 \let\@currentHref\Hy@LT@currentHref
5722 \Hy@raisedlink{%
5723 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5724 }%
5725 \ifvoid\LT@firsthead\copy
5726 #2%
5727 }%
5728 }%
5729 \expandafter\x\LT@start\@nil
5730 }{}

```

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.

```

5731 \let\new@refstepcounter\refstepcounter
5732 \let\H@equation\equation
5733 \let\H@endequation\endequation
5734 \@ifpackageloaded{amsmath}{%
5735 \long\def\Hy@temp{%
5736 \incr@eqnum
5737 \mathdisplay@push
5738 \st@rredfalse \global\@eqnswtrue
5739 \mathdisplay{equation}%
5740 }%
5741 \ifx\Hy@temp\equation
5742 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5743 \csname iftrue\endcsname
5744 \else
5745 \long\def\equation{%
5746 \mathdisplay@push
5747 \st@rredfalse \global\@eqnswtrue
5748 \mathdisplay{equation}%
5749 \incr@eqnum

```

```

5750 }%
5751 \fi
5752 \fi
5753 }{%
5754 \def\equation{%
5755 \let\refstepcounter\H@refstepcounter
5756 \H@equation
5757 \@ifundefined{theHequation}{%
5758 \make@stripped@name{\theequation}%
5759 \let\theHequation\newname
5760 }{}%
5761 \hyper@makecurrent{equation}%
5762 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5763 \let\refstepcounter\new@refstepcounter
5764 }%
5765 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5766 }

```

My goodness, why can't L^AT_EX 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.

```

5767 \newif\if@eqnstar
5768 \@eqnstarfalse
5769 \let\H@eqnarray\eqnarray
5770 \let\H@endeqnarray\endeqnarray
5771 \def\eqnarray{%
5772 \let\Hy@reserved@a\relax
5773 \def\@currentHref{}%
5774 \H@eqnarray
5775 \if@eqnstar
5776 \else
5777 \ifx\\\@currentHref\\%
5778 \else
5779 \@ifundefined{theHequation}{%
5780 \make@stripped@name{\theequation}%
5781 \let\theHequation\newname
5782 }{}%
5783 \hyper@makecurrent{equation}%
5784 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5785 \fi
5786 \fi
5787 }
5788 \def\endeqnarray{%
5789 \H@endeqnarray
5790 }

```

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.

```

5791 \@namedef{eqnarray*}{%
5792 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
5793 }
5794 \@namedef{endeqnarray*}{%
5795 \nonumber\endeqnarray\@eqnstarfalse
5796 }

```

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

```

5797 \@ifundefined{subeqnarray}{}{%
5798   \let\H@subeqnarray\subeqnarray
5799   \let\H@endsubeqnarray\endsubeqnarray
5800   \def\subeqnarray{%
5801     \let\Hy@reserved@a\relax
5802     \H@subeqnarray
5803     \@ifundefined{theHequation}{%
5804       \make@stripped@name{\theequation}%
5805       \let\theHequation\newname
5806     }{}%
5807     \hyper@makecurrent{equation}%
5808     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5809   }%
5810   \def\endsubeqnarray{%
5811     \H@endsubeqnarray
5812   }%
5813   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5814 }

```

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

```

5815 \def\make@stripped@name#1{%
5816   \begingroup
5817   \escapechar\m@ne
5818   \global\let\newname\@empty
5819   \protected@edef\Hy@tempa{#1}%
5820   \edef\@tempb{%
5821     \noexpand\@tfor\noexpand\Hy@tempa:=%
5822     \expandafter\strip@prefix\meaning\Hy@tempa
5823   }%
5824   \@tempb\do{%
5825     \if\Hy@tempa\else
5826       \if\Hy@tempa\else
5827         \xdef\newname{\newname\Hy@tempa}%
5828       \fi
5829     \fi
5830   }%
5831   \endgroup
5832 }

```

Support for amsmath's subequations:

```

5833 \begingroup\expandafter\expandafter\expandafter\endgroup
5834 \expandafter\ifx\csname subequations\endcsname\relax
5835 \else
5836   \let\HyOrg@subequations\subequations
5837   \def\subequations{%
5838     \stepcounter{equation}%
5839     \protected@edef\theHparentequation{%
5840       \@ifundefined{theHequation}\theequation\theHequation
5841     }%
5842     \addtocounter{equation}{-1}%
5843     \HyOrg@subequations
5844     \def\theHequation{\theHparentequation\alph{equation}}%
5845     \ignorespaces
5846   }%
5847 \fi

```

Support for package amsthm (Daniel Müllner):

```

5848 \@ifpackageloaded{amsthm}{%

```

```

5849 \def\@thm#1#2#3{%
5850   \ifhmode
5851     \unskip\unskip\par
5852   \fi
5853   \normalfont
5854   \trivlist
5855   \let\thmheadnl\relax
5856   \let\thm@swap\@gobble
5857   \thm@notefont{\fontseries\mddefault\upshape}%
5858   \thm@headpunct{.}% add period after heading
5859   \thm@headsep 5\p@ plus\p@ minus\p@\relax
5860   \thm@space@setup
5861   #1% style overrides
5862   \@topsep \thm@preskip           % used by thm head
5863   \@topsepadd \thm@postskip      % used by \@endparenv
5864   \def\dth@counter{#2}%
5865   \ifx\@empty\dth@counter
5866     \def\@tempa{%
5867       \@oparg{\@begintheorem{#3}{}}[]%
5868     }%
5869   \else
5870     \H@refstepcounter{#2}%
5871     \hyper@makecurrent{#2}%
5872     \def\@tempa{%
5873       \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
5874     }%
5875   \fi
5876   \@tempa
5877 }%
5878 \dth@everypar={%
5879   \@minipagefalse
5880   \global\@newlistfalse
5881   \@noparitemfalse
5882   \if@inlabel
5883     \global\@inlabelfalse
5884     \begingroup
5885     \setbox\z@\lastbox
5886     \ifvoid\z@
5887       \kern-\itemindent
5888     \fi
5889   \endgroup
5890   \ifx\@empty\dth@counter
5891   \else
5892     \Hy@raisedlink{%
5893       \hyper@anchorstart{\@currentHref}\hyper@anchorend
5894     }%
5895   \fi
5896   \unhbox\@labels
5897 \fi
5898 \if@nobreak
5899   \@nobreakfalse \clubpenalty\@M
5900 \else
5901   \clubpenalty\@clubpenalty \everypar{}%
5902 \fi
5903 }%
5904 }{}

```

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.

```

5905 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5906 \ifHy@hyperfootnotes
5907   \newcounter{Hfootnote}%
5908   \let\H@@footnotetext\@footnotetext
5909   \let\H@@footnotemark\@footnotemark
5910   \def\xfootnotenext[#1]{%
5911     \begingroup
5912       \csname c@\@mpfn\endcsname #1\relax
5913       \unrestored@protected@xdef\@thefnmark{\thempfn}%
5914     \endgroup
5915     \ifx\@footnotetext\@mpfootnotetext
5916       \expandafter\H@@mpfootnotetext
5917     \else
5918       \expandafter\H@@footnotetext
5919     \fi
5920   }%
5921   \def\@xfootnotemark[#1]{%
5922     \begingroup
5923       \c@footnote #1\relax
5924       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5925     \endgroup
5926     \H@@footnotemark
5927   }%
5928   \let\H@@mpfootnotetext\@mpfootnotetext
5929   \long\def\@mpfootnotetext#1{%
5930     \H@@mpfootnotetext{%
5931       \ifHy@nesting
5932         \expandafter\hyper@@anchor\expandafter{%
5933           \Hy@footnote@currentHref
5934         }{#1}%
5935       \else
5936         \Hy@raisedlink{%
5937           \expandafter\hyper@@anchor\expandafter{%
5938             \Hy@footnote@currentHref
5939           }{\relax}%
5940         }#1%
5941       \fi
5942     }%
5943   }%
5944   \long\def\@footnotetext#1{%
5945     \H@@footnotetext{%
5946       \ifHy@nesting
5947         \expandafter\hyper@@anchor\expandafter{%
5948           \Hy@footnote@currentHref
5949         }{#1}%
5950       \else
5951         \Hy@raisedlink{%
5952           \expandafter\hyper@@anchor\expandafter{%
5953             \Hy@footnote@currentHref
5954           }{\relax}%

```

```

5955 }%
5956 \let\@currentHlabel\Hy@footnote@currentHlabel
5957 \let\@currentHref\Hy@footnote@currentHref
5958 \let\@currentlabelname\@empty
5959 #1%
5960 \fi
5961 }%
5962 }%

```

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.

```

5963 \def\@footnotemark{%
5964   \leavevmode
5965   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
5966   \stepcounter{Hfootnote}%
5967   \global\let\Hy@saved@currentHlabel\@currentHlabel
5968   \global\let\Hy@saved@currentHref\@currentHref
5969   \hyper@makecurrent{Hfootnote}%
5970   \global\let\Hy@footnote@currentHlabel\@currentHlabel
5971   \global\let\Hy@footnote@currentHref\@currentHref
5972   \global\let\@currentHlabel\Hy@saved@currentHlabel
5973   \global\let\@currentHref\Hy@saved@currentHref
5974   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5975   \@makefnmark
5976   \hyper@linkend
5977   \ifhmode\spacefactor\x@sf\fi
5978   \relax
5979 }%

```

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

```

5980 \@ifpackageloaded{longtable}{%
5981   \CheckCommand*\LT@p@ftntext}[1]{%
5982     \edef\@tempa{%
5983       \the\LT@p@ftn
5984       \noexpand\footnotetext[\the\c@footnote]%
5985     }%
5986     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5987   }%
5988   \long\def\LT@p@ftntext#1{%
5989     \edef\@tempa{%
5990       \the\LT@p@ftn
5991       \begingroup
5992         \noexpand\c@footnote=\the\c@footnote\relax
5993         \noexpand\protected@xdef
5994           \noexpand\@thefnmark{\noexpand\thempfn}%
5995         \noexpand\protected@xdef\noexpand\@thefnmark{%
5996           \noexpand\thempfn
5997         }%
5998         \expandafter\expandafter\expandafter\noexpand
5999         \expandafter\expandafter\expandafter\Hy@LT@footnotetext
6000         \expandafter\expandafter\expandafter{%
6001           \expandafter\Hy@footnote@currentHref\expandafter
6002           \expandafter{\Hy@footnote@currentHlabel}%

```

```

6003 }%
6004 \global\LT@p@ftn\expandafter{%
6005   \@tempa{#1}%
6006   \endgroup
6007 }%
6008 }%
6009 \long\def\Hy@LT@footnotetext#1#2#3{%
6010   \H@@footnotetext{%
6011     \ifHy@nesting
6012       \hyper@@anchor{#1}{#3}%
6013     \else
6014       \Hy@raisedlink{%
6015         \hyper@@anchor{#1}{\relax}%
6016       }%
6017       \def\@currentHlabel{#2}%
6018       \def\@currentHref{#1}%
6019       \let\@currentlabelname\@empty
6020       #3%
6021     \fi
6022   }%
6023 }%
6024 }{}%

```

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

```

6025 \@ifpackageloaded{fancyvrb}{%
6026   \def\V@@footnotetext{%
6027     \insert\footins\bgroup
6028     \csname reset@font\endcsname
6029     \footnotesize
6030     \interlinepenalty\interfootnotelinepenalty
6031     \splittopskip\footnotesep
6032     \splitmaxdepth\dp\strutbox
6033     \floatingpenalty \@MM
6034     \hsize\columnwidth
6035     \@parboxrestore
6036     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
6037     \@makefnintext{}%
6038     \rule{\z@}{\footnotesep}%
6039     \bgroup
6040     \aftergroup\V@@@footnotetext
6041     \Hy@raisedlink{%
6042       \expandafter\hyper@@anchor\expandafter{%
6043         \Hy@footnote@currentHref
6044       }\relax}%
6045   }%
6046   \let\@currentHlabel\Hy@footnote@currentHlabel
6047   \let\@currentHref\Hy@footnote@currentHref
6048   \let\@currentlabelname\@empty
6049   \ignorespaces
6050 }%
6051 }{}%

```

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.

```

6052 \let\HyOrg@maketitle\maketitle
6053 \def\maketitle{%
6054   \let\Hy@saved@footnotemark\@footnotemark
6055   \let\Hy@saved@footnotetext\@footnotetext

```

```

6056 \let\@footnotemark\H@@footnotemark
6057 \let\@footnotetext\H@@footnotetext
6058 \@ifnextchar[\Hy@maketitle@optarg{% ]
6059 \HyOrg@maketitle
6060 \Hy@maketitle@end
6061 }%
6062 }%
6063 \def\Hy@maketitle@optarg[#1]{%
6064 \HyOrg@maketitle[{#1}]%
6065 \Hy@maketitle@end
6066 }%
6067 \def\Hy@maketitle@end{%
6068 \ifx\@footnotemark\H@@footnotemark
6069 \let\@footnotemark\Hy@saved@footnotemark
6070 \fi
6071 \ifx\@footnotetext\H@@footnotetext
6072 \let\@footnotetext\Hy@saved@footnotetext
6073 \fi
6074 }%

```

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

```

6075 \def\realfootnote{%
6076 \@ifnextchar[\@xfootnote{%
6077 \stepcounter{\@mpfn}%
6078 \protected@xdef\@thefnmark{\thempfn}%
6079 \H@@@footnotemark\H@@@footnotetext
6080 }%
6081 }%

6082 \fi
6083 \Hy@DisableOption{hyperfootnotes}

6084 \</package>
6085 \< *check>
6086 \checklatex
6087 \checkcommand\def\@xfootnotenext[#1]{%
6088 \begingroup
6089 \csname c@\@mpfn\endcsname #1\relax
6090 \unrestored@protected@xdef\@thefnmark{\thempfn}%
6091 \endgroup
6092 \@footnotetext
6093 }
6094 \checkcommand\def\@xfootnotemark[#1]{%
6095 \begingroup
6096 \c@footnote #1\relax
6097 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6098 \endgroup
6099 \@footnotemark
6100 }
6101 \checkcommand\def\@footnotemark{%
6102 \leavevmode
6103 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
6104 \@makefnmark
6105 \ifhmode\spacefactor\@x@sf\fi
6106 \relax
6107 }
6108 \</check>
6109 \< *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.

```

6110 \def\caption{%
6111   \ifx\@capttype\@undefined
6112     \@latex@error{\noexpand\caption outside float}\@ehd
6113     \expandafter\@gobble
6114   \else
6115     \H@refstepcounter\@capttype
6116     \let\Hy@tempa\@caption
6117     \ifundefined{float@caption}{%
6118       {%
6119         \expandafter\ifx\csname @float@c@\@capttype\endcsname
6120           \float@caption
6121           \let\Hy@tempa\Hy@float@caption
6122         \fi
6123       }%
6124     \expandafter\@firstofone
6125   \fi
6126   {\@dblarg{\Hy@tempa\@capttype}}%
6127 }
6128 \long\def\@caption#1[#2]#3{%
6129   \expandafter\ifx\csname if@capstart\expandafter\endcsname
6130     \csname iftrue\endcsname
6131     \global\let\@currentHref\hc@currentHref
6132   \else
6133     \hyper@makecurrent{\@capttype}%
6134   \fi
6135   \@ifundefined{NR@gettitle}{%
6136     \def\@currentlabelname{#2}%
6137   }{%
6138     \NR@gettitle{#2}%
6139   }%
6140   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
6141     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6142   }%
6143   \begingroup
6144     \@parboxrestore
6145     \if@minipage
6146       \@setminipage
6147     \fi
6148     \normalsize
6149     \expandafter\ifx\csname if@capstart\expandafter\endcsname
6150       \csname iftrue\endcsname
6151       \global\@capstartfalse
6152       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
6153     \else
6154       \@makecaption{\csname fnum@#1\endcsname}{%
6155         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

6156     \ifHy@nesting
6157       \expandafter\hyper@@@anchor\expandafter{\@currentHref}{#3}%
6158     \else
6159       \Hy@raisedlink{%
6160         \expandafter\hyper@@@anchor\expandafter{%
6161           \@currentHref

```

```

6162         }{\relax}%
6163     }%
6164     #3%
6165     \fi
6166 }%
6167 \fi
6168 \par
6169 \endgroup
6170 }

```

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.

```

6171 \let\Hy@float@caption\@caption
6172 \ifpackageloaded{float}{%
6173   \def\Hy@float@caption{%
6174     \ifx\Hy@float@currentHref\@undefined
6175       \hyper@makecurrent{\@capttype}%
6176       \global\let\Hy@float@currentHref\@currentHref
6177     \else
6178       \let\@currentHref\Hy@float@currentHref
6179     \fi
6180     \float@caption
6181   }%
6182   \let\HyOrg@float@makebox\float@makebox
6183   \renewcommand{\float@makebox}[1]{%
6184     \HyOrg@float@makebox{%
6185       #1\relax
6186       \ifx\Hy@float@currentHref\@undefined
6187         \else
6188           \expandafter\hyper@@anchor\expandafter{%
6189             \Hy@float@currentHref
6190           }{\relax}%
6191           \global\let\Hy@float@currentHref\@undefined
6192         \fi
6193       }%
6194     }%
6195   }{}
6196 }
6197 \ifcheck
6198 \checklatex[1999/06/01 - 2000/06/01]
6199 \checkcommand\def\caption{%
6200   \ifx\@capttype\@undefined
6201     \@latex@error{\noexpand\caption outside float}\@ehd
6202     \expandafter\@gobble
6203   \else
6204     \refstepcounter{\@capttype}
6205     \expandafter\@firstofone
6206     \fi
6207   {\@dblarg{\@caption\@capttype}}%
6208 }
6209 \checkcommand\long\def\@caption#1[#2]#3{%
6210   \par
6211   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
6212     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6213   }%
6214   \begingroup
6215     \@parboxrestore

```

```

6216 \if@minipage
6217 \setminipage
6218 \fi
6219 \normalsize
6220 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
6221 \endgroup
6222 }
6223 </check>
6224 <*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, let's make an attempt to get *natbib* right, because that's a powerful, important package. Patrick Daly (daly@linmpi.mpg.de) has provided hooks for us, so all we need to do is activate them.

```

6225 \def\hyper@natlinkstart#1{%
6226 \Hy@backout{#1}%
6227 \hyper@linkstart{cite}{cite.#1}%
6228 \def\hyper@nat@current{#1}%
6229 }
6230 \def\hyper@natlinkend{%
6231 \hyper@linkend
6232 }
6233 \def\hyper@natlinkbreak#1#2{%
6234 \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
6235 }
6236 \def\hyper@natanchorstart#1{%
6237 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
6238 }
6239 \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.

```

6240 \ifundefined{NAT@parse}{%
6241 \providecommand*\@extra@binfo{}%
6242 \providecommand*\@extra@b@citeb{}%
6243 \def\bibcite#1#2{%
6244 \@newlabel{b}{#1\@extra@binfo}{%
6245 \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
6246 }%
6247 }%
6248 \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.”.

```

6249 \let\Hy@bibcite\bibcite
6250 \begingroup
6251 \ifundefined{bbl@cite@choice}{-}%
6252 \g@addto@macro\bbl@cite@choice{%

```

```

6253     \let\bibcite\Hy@bibcite
6254   }%
6255 }%
6256 \endgroup
\@BIBLABEL is working around a ‘feature’ of RevTeX.
6257 \providecommand*{\@BIBLABEL}{\@biblabel}%
6258 \def\@lbibitem[#1]#2{%
6259   \@skiphyperreftrue
6260   \H@item{%
6261     \ifx\Hy@raisedlink\@empty
6262       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
6263       \@BIBLABEL{#1}%
6264       \hyper@anchorend
6265     \else
6266       \Hy@raisedlink{%
6267         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
6268       }%
6269       \@BIBLABEL{#1}%
6270     \fi
6271     \hfill
6272   }%
6273   \@skiphyperreffalse
6274   \if@filesw
6275     \begingroup
6276     \let\protect\noexpand
6277     \immediate\write\@auxout{%
6278       \string\bibcite{#2}{#1}%
6279     }%
6280     \endgroup
6281   \fi
6282   \ignorespaces
6283 }%

```

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

```

6284 \def\@bibitem#1{%
6285   \@skiphyperreftrue\H@item\@skiphyperreffalse
6286   \Hy@raisedlink{%
6287     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
6288   }%
6289   \if@filesw
6290     \begingroup
6291     \let\protect\noexpand
6292     \immediate\write\@auxout{%
6293       \string\bibcite{#1}{\the\value{\@listctr}}%
6294     }%
6295     \endgroup
6296   \fi
6297   \ignorespaces
6298 }%
6299 }{}

6300 </package>
6301 <*check>
6302 \checklatex
6303 \checkcommand\def\@lbibitem[#1]#2{%
6304   \item[\@biblabel{#1}\hfill]%
6305   \if@filesw

```

```

6306 {%
6307   \let\protect\noexpand
6308   \immediate\write\@auxout{%
6309     \string\bibcite{#2}{#1}%
6310   }%
6311 }%
6312 \fi
6313 \ignorespaces
6314 }
6315 \checkcommand\def\@bibitem#1{%
6316   \item
6317   \if@filesw
6318     \immediate\write\@auxout{%
6319       \string\bibcite{#1}{\the\value{\@listctr}}%
6320     }%
6321   \fi
6322   \ignorespaces
6323 }
6324 \</check>
6325 \<*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.

```

6326 \@ifclassloaded{revtex}{%
6327   \Hy@Info{*** compatibility with revtex **** }%
6328   \def\revtex@checking#1#2{%
6329     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
6330     \expandafter\def\csname b@#1\endcsname{#2}%
6331     \@SetMaxRnhefLabel{#1}%
6332     \expandafter\let\csname b@#1\endcsname\T@temp
6333   }%

```

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

```

6334 \@ifundefined{@CITE}{\def\@CITE{\@cite}}{}%
6335 \providecommand*\@extra@b@citeb{}%
6336 \def\@CITEX[#1]#2{%
6337   \let\@citea\@empty
6338   \leavevmode
6339   \unskip
6340   $^{}%
6341   \scriptstyle
6342   \@CITE{%
6343     \@for\@citeb:=#2\do{%
6344       \@citea
6345       \def\@citea{,\penalty\@m\ }%
6346       \edef\@citeb{\expandafter\@firstofone\@citeb}%
6347       \if@filesw
6348         \immediate\write\@auxout{\string\citation{\@citeb}}%
6349       \fi
6350       \@ifundefined{b@\@citeb\extra@b@citeb}{%
6351         \mbox{\reset@font\bfseries ?}%
6352         \G@refundefinedtrue
6353         \@latex@warning{%
6354           Citation ‘\@citeb’ on page \thepage \space undefined%
6355         }%
6356       }{}%

```

```

6357      {\csname b@\@citeb\@extra@b@citeb\endcsname}%
6358      }%
6359      }%
6360      }{#1}%
6361      }$%
6362      }%

```

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.

```

6363 \def\citex[#1]#2{%
6364   \let\@citea\@empty
6365   \@cite{%
6366     \for\@citeb:=#2\do{%
6367       \@citea
6368       \def\@citea{,\penalty\@m\ }%
6369       \edef\@citeb{\expandafter\@firstofone\@citeb}%
6370       \if@filesw
6371         \immediate\write\@auxout{\string\citation{\@citeb}}%
6372       \fi
6373       \ifundefined{b@\@citeb\@extra@b@citeb}{%
6374         \mbox{\reset@font\bfseries ?}%
6375         \G@refundefinedtrue
6376         \@latex@warning{%
6377           Citation '\@citeb' on page \thepage \space undefined%
6378         }%
6379       }{%
6380         \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
6381       }%
6382     }%
6383   }{#1}%
6384 }%
6385 }{}

```

37.1 Package harvard

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

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

```

6386 \ifpackageloaded{harvard}{%
6387   \AtBeginDocument{%
6388     \Hy@Info{*** compatibility with harvard **** }%
6389     \Hy@raiselinksfalse
6390     \def\harvardcite#1#2#3#4{%
6391       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite.#1}{#2}}%
6392       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite.#1}{#3}}%
6393       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite.#1}{#4}}%
6394       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
6395     }%
6396     \def\HAR@citetoaux#1{%
6397       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
6398       \ifHy@backref
6399         \ifx\@empty\@currentlabel
6400         \else
6401           \@bspack

```

```

6402     \if@filesw
6403     \protected@write\@auxout{}\{
6404     \string\@writefile{brf}\{
6405     \string\backcite{#1}\{
6406     {\thepage}\{\@currentlabel}\{\@currentHref}\}
6407     }\}
6408     }\}
6409     }\}
6410     \fi
6411     \@esphack
6412     \fi
6413     \fi
6414     }\}
6415     \def\harvarditem{%
6416     \ifnextchar[{\@harvarditem}\@harvarditem[\null]}\}
6417     }\}
6418     \def\@harvarditem[#1]#2#3#4#5\par{%
6419     \item[]%
6420     \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
6421     \if@filesw
6422     \begingroup
6423     \def\protect##1{\string ##1\space}%
6424     \ifthenelse{\equal{#1}\null}}%
6425     {\def\next{{#4}{#2}{#2}{#3}}}%
6426     {\def\next{{#4}{#2}{#1}{#3}}}%
6427     \immediate\write\@auxout{\string\harvardcite\codeof\next}%
6428     \endgroup
6429     \fi
6430     \protect\hspace*{-\labelwidth}%
6431     \protect\hspace*{-\labelsep}%
6432     \ignorespaces
6433     #5%
6434     \ifHy@backref
6435     \newblock
6436     \backref{\csname br@#4\endcsname}%
6437     \fi
6438     \par
6439     }\}

```

\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:

```

6440     \long\def\HAR@checkcitations#1#2#3#4{%
6441     \def\HAR@tempa{\hyper@@link[cite]\{cite.#1\}{#2}}%
6442     \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
6443     \def\HAR@tempa{\hyper@@link[cite]\{cite.#1\}{#3}}%
6444     \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
6445     \def\HAR@tempa{\hyper@@link[cite]\{cite.#1\}{#4}}%
6446     \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
6447     \else
6448     \@tempwattrue
6449     \fi
6450     \else
6451     \@tempwattrue
6452     \fi
6453     \else
6454     \@tempwattrue

```

```

6455     \fi
6456   }%
6457 }%

6458 }{}

```

37.2 Package chicago

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

```

6459 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

6460 \def\citeN{%
6461   \def\@citesep{-1000}%
6462   \def\@cite##1##2{##1}%
6463   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
6464   \@citedata@opt
6465 }%

```

`\shortciteN`

```

6466 \def\shortciteN{%
6467   \def\@citesep{-1000}%
6468   \def\@cite##1##2{##1}%
6469   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
6470   \@citedata@opt
6471 }%

```

`\@citedata@opt`

```

6472 \def\@citedata@opt{%
6473   \let\@cite@opt\@empty
6474   \@ifnextchar [{%
6475     \@tempwattrue
6476     \@citedatax@opt
6477   }{%
6478     \@tempwafalse
6479     \@citedatax[]%
6480   }%
6481 }%

```

`\@citedatax@opt`

```

6482 \def\@citedatax@opt[#1]{%
6483   \def\@cite@opt{, #1}%
6484   \@citedatax[{#1}]%
6485 }%

6486 }{}

```

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.

```

6487 \def\Hy@EveryPageAnchor{%
6488   \Hy@DistillerDestFix
6489   \ifHy@pageanchor
6490     \ifHy@hypertextnames
6491       \ifHy@plainpages
6492         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}}%
6493       \else
6494         \begingroup
6495           \let\@number\@firstofone
6496           \Hy@unicodfalse
6497           \pdfstringdef\@the\H@page{\thepage}%
6498         \endgroup
6499         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the\H@page}}}%
6500       \fi
6501     \else
6502       \Hy@GlobalStepCount\Hy@pagecounter
6503       \def\Hy@TempPageAnchor{%
6504         \hyper@@anchor{page.\the\Hy@pagecounter}%
6505       }%
6506     \fi
6507   \vbox to 0pt{%
6508     \kern\voffset
6509     \kern\topmargin
6510     \kern-1bp\relax
6511     \hbox to 0pt{%
6512       \kern\hoffset
6513       \kern\ifodd\value{page}%
6514         \oddsidemargin
6515       \else
6516         \evensidemargin
6517       \fi
6518       \kern-1bp\relax
6519       \Hy@TempPageAnchor
6520       \hss
6521     }%
6522   \vss
6523 }%
6524 \fi
6525 }
6526 \g@addto@macro\Hy@EveryPageBoxHook{%
6527   \Hy@EveryPageAnchor
6528 }

```

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.

```

6529 \def\addcontentsline#1#2#3{% toc extension, type, tag
6530   \begingroup
6531     \let\label\@gobble
6532     \ifx\@currentHref\@empty
6533       \Hy@Warning{%
6534         No destination for bookmark of \string\addcontentsline,%
6535         \MessageBreak destination is added%

```

```

6536 }%
6537 \phantomsection
6538 \fi
6539 \expandafter\ifx\csname toplevel@#2\endcsname\relax
6540 \begingroup
6541 \def\Hy@tempa{#1}%
6542 \ifx\Hy@tempa\Hy@bookmarkstype
6543 \Hy@WarningNoLine{%
6544     bookmark level for unknown #2 defaults to 0%
6545 }%
6546 \else
6547 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6548 \fi
6549 \endgroup
6550 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
6551 \fi
6552 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
6553 \Hy@writebookmark{\csname the#2\endcsname}%
6554 {#3}%
6555 {\@currentHref}%
6556 {\Hy@toclevel}%
6557 {#1}%
6558 \ifHy@verbose
6559 \def\Hy@tempa{#3}%
6560 \@onelevel@sanitize\Hy@tempa
6561 \typeout{pdftex: bookmark at \the\inputlineno: %
6562 {\csname the#2\endcsname}%
6563 {\Hy@tempa}%
6564 {\@currentHref}%
6565 {\Hy@toclevel}%
6566 {#1}%
6567 }%
6568 \fi
6569 \addtocontents{#1}{%
6570 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6571 }%
6572 \endgroup
6573 }
6574 \def\contentsline#1#2#3#4{%
6575 \ifx\#4\%
6576 \csname l@#1\endcsname{#2}{#3}%
6577 \else
6578 \ifcase\Hy@linktoc % none
6579 \csname l@#1\endcsname{#2}{#3}%
6580 \or % section
6581 \csname l@#1\endcsname{%
6582 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6583 }{#3}%
6584 \or % page
6585 \csname l@#1\endcsname{#2}{#3}%
6586 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6587 }%
6588 \else % all
6589 \csname l@#1\endcsname{%
6590 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6591 }{#3}%
6592 \hyper@linkstart{link}{#4}{#3}\hyper@linkend

```

```

6593     }%
6594     \fi
6595     \fi
6596 }

6597 </package>
6598 <*check>
6599 \checklatex
6600 \checkcommand\def\addcontentsline#1#2#3{%
6601   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}}%
6602 }
6603 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6604 </check>
6605 <*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.

```

6606 \let\H@definecounter\@definecounter
6607 \def\@definecounter#1{%
6608   \H@definecounter{#1}%
6609   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6610 }

```

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.

```

6611 \let\H@newctr\@newctr
6612 \def\@newctr#1[#2]{%
6613   \H@newctr#1[{#2}]%
6614   \expandafter\def\csname theH#1\endcsname{%
6615     \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}}%
6616   }%
6617 }

```

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.

```

6618 \ifpackageloaded{amsmath}{%
6619   \def\Hy@make@anchor{%
6620     \Hy@GlobalStepCount\Hy@linkcounter
6621     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6622     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6623   }%
6624   \def\Hy@make@df@tag@@#1{%
6625     \gdef\df@tag{%
6626       \maketag@@@{\Hy@make@anchor#1}%
6627       \def\@currentlabel{#1}%
6628     }%
6629   }%

```

```

6630 \def\Hy@make@df@tag@@@#1{%
6631   \gdef\df@tag{%
6632     \tagform@{\Hy@make@anchor#1}%
6633     \toks@{\exp{\p@equation{#1}}}%
6634     \edef\@currentlabel{\the\toks@}%
6635   }%
6636 }%
6637 \let\HyOrg@make@df@tag@@\make@df@tag@@
6638 \let\HyOrg@make@df@tag@@@\make@df@tag@@@
6639 \let\make@df@tag@@\Hy@make@df@tag@@
6640 \let\make@df@tag@@@\Hy@make@df@tag@@@
6641 }{}

```

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

```

6642 \@ifpackagewith{hyperref}{pdfTeX}{%
6643   \let\H@seteqlabel\@seteqlabel
6644   \def\@seteqlabel#1{%
6645     \H@seteqlabel{#1}%
6646     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6647     \Hy@raisedlink{%
6648       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6649     }%
6650   }%
6651 }{}

```

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.

```

6652 \let\HyOrg@addtoreset\@addtoreset
6653 \def\@addtoreset#1#2{%
6654   \HyOrg@addtoreset{#1}{#2}%
6655   \expandafter\xdef\csname theH#1\endcsname{%
6656     \expandafter\noexpand
6657     \csname the\@ifundefined{theH#2}{H#2}\endcsname
6658     .\noexpand\the\noexpand\value{#1}%
6659   }%
6660 }

```

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

```

6661 </package>
6662 <*check>
6663 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6664 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6665   \@ifundefined{c@#2}{\@nocounterr{#2}}{%

```

```

6666 \ifundefined{c@#3}{\@nocnterr{#3}}{%
6667 \addtoreset{#2}{#3}%
6668 \exp\xdef\csname the#2\endcsname{%
6669 \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6670 }%
6671 }%
6672 }%
6673 }%
6674 \check)
6675 \*package)
6676 \ifpackageloaded{amsmath}{%
6677 \ifpackagelater{amsmath}{1999/12/14}{%
6678 \renewcommand*{\numberwithin}{3}[\arabic]{%
6679 \ifundefined{c@#2}{\@nocounterr{#2}}{%
6680 \ifundefined{c@#3}{\@nocnterr{#3}}{%
6681 \HyOrg@addtoreset{#2}{#3}%
6682 \exp\xdef\csname the#2\endcsname{%
6683 \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6684 }%
6685 \exp\xdef\csname theH#2\endcsname{%
6686 \exp\@nx
6687 \csname the\ifundefined{theH#3}{H#3\endcsname
6688 .\@nx#1{#2}%
6689 }%
6690 }%
6691 }%
6692 }%
6693 }{%
6694 \Hy@WarningNoLine{%
6695 \string\numberwithin\space of package 'amsmath' %
6696 only fixed\MessageBreak
6697 for version 2000/06/06 v2.12 or newer%
6698 }%
6699 }%
6700 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

6701 \ifHy@figures
6702 \let\Hy@Gin@setfile\Gin@setfile
6703 \def\Gin@setfile#1#2#3{%
6704 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6705 }%
6706 \fi
6707 \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.

```

6708 \ifHy@hyperindex
6709 \def\HyInd@ParenLeft{()}%
6710 \def\HyInd@ParenRight{}}}%
6711 \def\hyperindexformat#1#2{%
6712 \let\HyOrg@hyperpage\hyperpage
6713 \let\hyperpage\@firstofone
6714 #1{\HyOrg@hyperpage{#2}}}%
6715 \let\hyperpage\HyOrg@hyperpage
6716 }%
6717 \Hy@nextfalse
6718 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6719 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6720 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
6721 \begingroup
6722 \lccode'\|=\expandafter'\HyInd@EncapChar\relax
6723 \lccode'\|/'=\relax
6724 \lowercase{\endgroup
6725 \ifHy@next
6726 \let\HyInd@org@wrindex\@wrindex
6727 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
6728 \def\HyInd@@wrindex#1#2|#3|#4\{\%
6729 \ifx\|#3\}%
6730 \HyInd@org@wrindex{#1}{#2|hyperpage}%
6731 \else
6732 \HyInd@@@wrindex{#1}{#2}#3\}%
6733 \fi
6734 }%
6735 \def\HyInd@@@wrindex#1#2#3#4\{\%
6736 \def\Hy@temp@A{#3}%
6737 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6738 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6739 \relax
6740 \HyInd@org@wrindex{#1}{%
6741 #2|hyperindexformat{/#3#4}%
6742 }%
6743 \else
6744 \ifx\|#4\}%
6745 \ifx\Hy@temp@A\HyInd@ParenRight
6746 \HyInd@org@wrindex{#1}{#2|#3}%
6747 \else
6748 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6749 \fi
6750 \else
6751 \HyInd@org@wrindex{#1}{%
6752 #2|#3hyperindexformat{/#4}%
6753 }%
6754 \fi
6755 \fi
6756 }%
6757 \else
6758 \def\@wrindex#1{\@@wrindex#1||\}%
6759 \def\@@wrindex#1|#2|#3\}%
6760 \if@files

```

```

6761 \ifx\|#2\|%
6762 \protected@write\@indexfile{}\{%
6763 \string\indexentry{#1|hyperpage}\thepage}%
6764 }%
6765 \else
6766 \HyInd@@@wrindex{#1}#2\|%
6767 \fi
6768 \fi
6769 \endgroup
6770 \@esphack
6771 }%
6772 \def\HyInd@@@wrindex#1#2#3\|%
6773 \def\Hy@temp@A{#2}%
6774 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6775 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6776 \relax
6777 \protected@write\@indexfile{}\{%
6778 \string\indexentry{%
6779 #1|hyperindexformat{/#2#3}%
6780 }\thepage}%
6781 }%
6782 \else
6783 \ifx\|#3\|%
6784 \ifx\Hy@temp@A\HyInd@ParenRight
6785 \protected@write\@indexfile{}\{%
6786 \string\indexentry{#1|#2}\thepage}%
6787 }%
6788 \else
6789 \protected@write\@indexfile{}\{%
6790 \string\indexentry{#1|#2hyperpage}\thepage}%
6791 }%
6792 \fi
6793 \else
6794 \protected@write\@indexfile{}\{%
6795 \string\indexentry{%
6796 #1|#2hyperindexformat{/#3}%
6797 }\thepage}%
6798 }%
6799 \fi
6800 \fi
6801 }%
6802 \fi
6803 }%
6804 \fi
6805 \Hy@DisableOption{hyperindex}
6806 \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.

```
6807 \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.

```

6808 \def\hyperpage#1{%
6809 \HyInd@hyperpage#1\nohyperpage{}\@nil
6810 }
6811 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%

```

```

6812 \HyInd@@hyperpage{#1}%
6813 #2%
6814 \def\Hy@temp{#3}%
6815 \ifx\Hy@temp\@empty
6816 \else
6817 \Hy@ReturnAfterFi{%
6818 \HyInd@hyperpage#3\@nil
6819 }%
6820 \fi
6821 }
6822 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
6823 \def\@hyperpage#1--#2--#3\{%
6824 \ifx\#2\%
6825 \@commahyperpage{#1}%
6826 \else
6827 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6828 \fi
6829 }
6830 \def\@commahyperpage#1{\@commahyperpage#1, \}
6831 \def\@commahyperpage#1, #2,#3\{%
6832 \ifx\#2\%
6833 \HyInd@pagelink{#1}%
6834 \else
6835 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6836 \fi
6837 }

```

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

```

6838 \def\HyInd@pagelink#1{%
6839 \begingroup
6840 \toks@={}%
6841 \HyInd@removespaces#1 \@nil
6842 \endgroup
6843 }
6844 \def\HyInd@removespaces#1 #2\@nil{%
6845 \toks@=\expandafter{\the\toks@#1}%
6846 \ifx\#2\%
6847 \edef\x{\the\toks@}%
6848 \ifx\x\@empty
6849 \else
6850 \hyperlink{page.\the\toks@}{\the\toks@}%
6851 \fi
6852 \else
6853 \Hy@ReturnAfterFi{%
6854 \HyInd@removespaces#2\@nil
6855 }%
6856 \fi
6857 }

```

44 Compatibility with foiltex

```

6858 \@ifclassloaded{foils}{%
6859 \providecommand*\ext@table{lot}%
6860 \providecommand*\ext@figure{lof}%
6861 }{}

```


45 Compatibility with seminar slide package

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

```
6862 \ifclassloaded{seminar}{%
6863   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
6864 }{%
6865   \Hy@seminarslidesfalse
6866 }
6867 \ifpackageloaded{slidesec}{%
6868   \newcommand\theHslidesection {\arabic{slidesection}}%
6869   \newcommand\theHslidesubsection{%
6870     \theHslidesection.\arabic{slidesubsection}}%
6871   }%
6872   \def\slide@heading[#1]#2{%
6873     \H@refstepcounter{slidesection}%
6874     \@addtoreset{slidesubsection}{slidesection}%
6875     \addtocontents{los}{%
6876       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6877       {\@SCTR}{slideheading.\theslidesection}}%
6878   }%
6879   \def\Hy@tempa{#2}%
6880   \ifx\Hy@tempa\@empty
6881   \else
6882     {%
6883       \edef\@currentlabel{%
6884         \csname p@slidesection\endcsname\theslidesection
6885       }%
6886       \makeslideheading{#2}%
6887     }%
6888   \fi
6889   \gdef\theslideheading{#1}%
6890   \gdef\theslidesubheading{}%
6891   \ifHy@bookmarksnumbered
6892     \def\Hy@slidetitle{\theslidesection\space #1}%
6893   \else
6894     \def\Hy@slidetitle{#1}%
6895   \fi
6896   \ifHy@hypertextnames
6897     \ifHy@naturalnames
6898       \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6899       \Hy@writebookmark
6900         {\theslidesection}%
6901         {\Hy@slidetitle}%
6902         {slideheading.\theslidesection}%
6903         {1}%
6904         {toc}%
6905     \else
6906       \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6907       \Hy@writebookmark
6908         {\theslidesection}%
6909         {\Hy@slidetitle}%
6910         {slideheading.\theHslidesection}%
6911         {1}%
6912         {toc}%
6913     \fi
6914   \else
```

```

6915 \Hy@GlobalStepCount\Hy@linkcounter
6916 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6917 \Hy@writebookmark
6918 {\theslidesubsection}%
6919 {\Hy@slidetitle}%
6920 {slideheading.\the\Hy@linkcounter}%
6921 {1}%
6922 {toc}%
6923 \fi
6924 }%
6925 \def\slide@subheading[#1]#2{%
6926 \H@refstepcounter{slidesubsection}%
6927 \addtocontents{los}{%
6928 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6929 {\@SCTR}{slideheading.\theslidesubsection}%
6930 }%
6931 \def\Hy@tempa{#2}%
6932 \ifx\Hy@tempa\@empty
6933 \else
6934 {%
6935 \edef\@currentlabel{%
6936 \csname p@slidesubsection\endcsname\theslidesubsection
6937 }%
6938 \makeslidesubheading{#2}%
6939 }%
6940 \fi
6941 \gdef\theslidesubheading{#1}%
6942 \ifHy@bookmarksnumbered
6943 \def\Hy@slidetitle{\theslidesubsection\space #1}%
6944 \else
6945 \def\Hy@slidetitle{#1}%
6946 \fi
6947 \ifHy@hypertexnames
6948 \ifHy@naturalnames
6949 \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6950 \Hy@writebookmark
6951 {\theslidesubsection}%
6952 {\Hy@slidetitle}%
6953 {slideheading.\theslidesubsection}%
6954 {2}%
6955 {toc}%
6956 \else
6957 \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6958 \Hy@writebookmark
6959 {\theslidesubsection}%
6960 {\Hy@slidetitle}%
6961 {slideheading.\theHslidesubsection}%
6962 {2}%
6963 {toc}%
6964 \fi
6965 \else
6966 \Hy@GlobalStepCount\Hy@linkcounter
6967 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6968 \Hy@writebookmark
6969 {\theslidesubsection}%
6970 {\Hy@slidetitle}%
6971 {slideheading.\the\Hy@linkcounter}%

```

```

6972 {1}%
6973 {toc}%
6974 \fi
6975 }%
6976 \providecommand*{\listslidenam}{List of Slides}%
6977 \def\listofslides{%
6978 \section*{%
6979 \listslidenam
6980 \@mkboth{%
6981 \expandafter\MakeUppercase\listslidenam
6982 }{%
6983 \expandafter\MakeUppercase\listslidenam
6984 }%
6985 }%
6986 \def\l@slide##1##2##3##4{%
6987 \slide@undottedcline{%
6988 \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
6989 }{}%
6990 }%
6991 \let\l@subslide\l@slide
6992 \@startlos
6993 }%
6994 \def\slide@contents{%
6995 \def\l@slide##1##2##3##4{%
6996 \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6997 }%
6998 \let\l@subslide\@gobblefour
6999 \@startlos
7000 }%
7001 \def\Slide@contents{%
7002 \def\l@slide##1##2##3##4{%
7003 \ifcase\lslide@flag
7004 \message{##1 ** \the\c@slidesection}%
7005 \ifnum##1>\c@slidesection
7006 \def\lslide@flag{1}%
7007 {%
7008 \large
7009 \slide@ccline{%
7010 \slidenumberline{\$ \Rightarrow \bullet}%
7011 {\hyperlink{##4}{##2}}}%
7012 }{##3}%
7013 }%
7014 \else
7015 {%
7016 \large
7017 \slide@ccline{%
7018 \slidenumberline{\$ \surd\; \bullet}%
7019 {\hyperlink{##4}{##2}}}%
7020 }{##3}%
7021 }%
7022 \fi
7023 \or
7024 \def\lslide@flag{2}%
7025 {%
7026 \large
7027 \slide@ccline{%
7028 \slidenumberline{\$ \bullet}%

```

```

7029         {\hyperlink{##4}{##2}}%
7030     }{##3}%
7031 }%
7032 \or
7033 {%
7034     \large
7035     \slide@cline{%
7036         \slidenumberline{$\bullet$}%
7037         {\hyperlink{##4}{##2}}%
7038     }{##3}%
7039 }%
7040 \fi
7041 }%
7042 \def\l@subslide##1##2##3##4{%
7043     \ifnum\lslide@flag=1 %
7044         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
7045     \fi
7046 }%
7047 \def\lslide@flag{0}%
7048 \@startlos
7049 }%
7050 }{}

```

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.)

```

7051 \ifHy@texht
7052   \expandafter\endinput
7053 \fi
7054 \let\real@setref\@setref
7055 \def\@setref#1#2#3{% csname, extract group, refname
7056   \ifx#1\relax
7057     \protect\G@refundefinedtrue
7058     \nfss@text{\reset@font\bfseries ??}%
7059     \@latex@warning{%
7060       Reference '#3' on page \thepage \space undefined%
7061     }%
7062   \else
7063     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
7064   \fi
7065 }

```

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

```

7066 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
7067   \begingroup
7068     \toks0={\hyper@@link{#5}{#4}}%
7069     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
7070   \edef\x{\endgroup
7071     \the\toks0 {\the\toks1 }%
7072   }%
7073 \x
7074 }
7075 \def\@pagesetref#1#2#3{% csname, extract macro, ref
7076   \ifx#1\relax
7077     \protect\G@refundefinedtrue
7078     \nfss@text{\reset@font\bfseries ??}%
7079     \@latex@warning{%

```

```

7080   Reference '#3' on page \thepage \space undefined%
7081   }%
7082 \else
7083   \protect\hyper@link
7084   {\expandafter\@fifthoffive#1}%
7085   {page.\expandafter\@secondoffive#1}%
7086   {\expandafter\@secondoffive#1}%
7087 \fi
7088 }

7089 </package>
7090 <*check>
7091 \checklatex
7092 \checkcommand\def\@setref#1#2#3{%
7093   \ifx#1\relax
7094     \protect\G@refundefinedtrue
7095     \nfss@text{\reset@font\bfseries ??}%
7096     \@latex@warning{%
7097       Reference '#3' on page \thepage \space undefined%
7098     }%
7099   \else
7100     \expandafter#2#1\null
7101   \fi
7102 }
7103 </check>
7104 <*package>

```

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

```

7105 \def\HyRef@StarSetRef#1{%
7106   \begingroup
7107   \Hy@safe@activetrue
7108   \edef\x{#1}%
7109   \@onelevel@sanitize\x
7110   \edef\x{\endgroup
7111     \noexpand\HyRef@@StarSetRef
7112     \expandafter\noexpand\csname r@\x\endcsname{\x}%
7113   }%
7114   \x
7115 }
7116 \def\HyRef@@StarSetRef#1#2#3{%
7117   \ifx#1\@undefined
7118     \let#1\relax
7119   \fi
7120   \real@setref#1#3{#2}%
7121 }
7122 \def\@refstar#1{%
7123   \HyRef@StarSetRef{#1}\@firstoffive
7124 }
7125 \def\@pagerefstar#1{%
7126   \HyRef@StarSetRef{#1}\@secondoffive
7127 }
7128 \AtBeginDocument{%
7129   \ifpackageloaded{varioref}{%
7130     \def\@Refstar#1{%
7131       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
7132     }%
7133     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%

```

```

7134 \MakeUppercase#1%
7135 }%
7136 \DeclareRobustCommand*{\Ref}{%
7137 \ifstar\@Refstar\HyRef@Ref
7138 }%
7139 \def\HyRef@Ref#1{%
7140 \hyperref[{#1}]{\Ref*{#1}}%
7141 }%
7142 \def\Vr@f#1{%
7143 \leavevmode\unskip\vref@space
7144 \hyperref[{#1}]{%
7145 \Ref*{#1}%
7146 \let\vref@space\nobreakspace
7147 \@vpageref\unskip}{#1}%
7148 }%
7149 }%
7150 \def\vr@f#1{%
7151 \leavevmode\unskip\vref@space
7152 \begingroup
7153 \let\T@pageref\@pagerefstar
7154 \hyperref[{#1}]{%
7155 \ref*{#1}%
7156 \vpageref\unskip}{#1}%
7157 }%
7158 \endgroup
7159 }%
7160 }{}%
7161 }
7162 \DeclareRobustCommand*{\autopageref}{%
7163 \ifstar{%
7164 \HyRef@autopagerefname\pageref*%
7165 }\HyRef@autopageref
7166 }
7167 \def\HyRef@autopageref#1{%
7168 \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
7169 }
7170 \def\HyRef@autopagerefname{%
7171 \ifundefined{pageautorefname}{%
7172 \ifundefined{pagename}{%
7173 \Hy@Warning{No autoref name for 'page'}%
7174 }{%
7175 \pagename\nobreakspace
7176 }%
7177 }{%
7178 \pageautorefname\nobreakspace
7179 }%
7180 }
7181 \DeclareRobustCommand*{\autoref}{%
7182 \ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
7183 }
7184 \def\HyRef@autoref#1#2{%
7185 \begingroup
7186 \Hy@safe@activetrue
7187 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
7188 \endgroup
7189 }
7190 \def\HyRef@autosetref#1#2#3{% link command, csname, refname

```

```

7191 \HyRef@ShowKeysRef{#2}%
7192 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
7193 \edef\HyRef@thisref{%
7194   \expandafter\@fourthoffive#1\@empty\@empty\@empty
7195 }%
7196 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
7197 \Hy@safe@activesfalse
7198 #3{%
7199   \expandafter\@fifthoffive#1\@empty\@empty\@empty
7200 }{%
7201   \expandafter\@fourthoffive#1\@empty\@empty\@empty
7202 }{%
7203   \HyRef@currentHtag
7204   \expandafter\@firstoffive#1\@empty\@empty\@empty
7205   \null
7206 }%
7207 \else
7208   \protect\G@refundefinedtrue
7209   \nfss@text{\reset@font\bfseries ??}%
7210   \@latex@warning{%
7211     Reference '#2' on page \thepage\space undefined%
7212   }%
7213 \fi
7214 }
7215 \def\HyRef@testreftype#1.#2\.{%
7216   \@ifundefined{#1autorefname}{%
7217     \@ifundefined{#1name}{%
7218       \HyRef@StripStar#1\*\\\@nil{#1}%
7219       \@ifundefined{\HyRef@name autorefname}{%
7220         \@ifundefined{\HyRef@name name}{%
7221           \def\HyRef@currentHtag{%
7222             \Hy@Warning{No autoref name for '#1'}%
7223           }{%
7224             \edef\HyRef@currentHtag{%
7225               \expandafter\noexpand\csname\HyRef@name name\endcsname
7226               \noexpand~%
7227             }%
7228             }%
7229           }{%
7230             \edef\HyRef@currentHtag{%
7231               \expandafter\noexpand
7232               \csname\HyRef@name autorefname\endcsname
7233               \noexpand~%
7234             }%
7235             }%
7236           }{%
7237             \edef\HyRef@currentHtag{%
7238               \expandafter\noexpand\csname#1name\endcsname
7239               \noexpand~%
7240             }%
7241             }%
7242           }{%
7243             \edef\HyRef@currentHtag{%
7244               \expandafter\noexpand\csname#1autorefname\endcsname
7245               \noexpand~%
7246             }%
7247             }%

```

```

7248 }
7249 \def\HyRef@StripStar#1*\#2\@nil#3{%
7250 \def\HyRef@name{#2}%
7251 \ifx\HyRef@name\HyRef@CaseStar
7252 \def\HyRef@name{#1}%
7253 \else
7254 \def\HyRef@name{#3}%
7255 \fi
7256 }
7257 \def\HyRef@CaseStar{*\\}
7258 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

7259 \let\HyRef@ShowKeysRef\@gobble
7260 \def\HyRef@ShowKeysInit{%
7261 \begingroup\expandafter\expandafter\expandafter\endgroup
7262 \expandafter\ifx\csname SK@@label\endcsname\relax
7263 \else
7264 \ifx\SK@ref\@empty
7265 \else
7266 \def\HyRef@ShowKeysRef{%
7267 \SK@\SK@@ref
7268 }%
7269 \fi
7270 \fi
7271 }
7272 \@ifpackageloaded{showkeys}{%
7273 \HyRef@ShowKeysInit
7274 }{%
7275 \AtBeginDocument{%
7276 \@ifpackageloaded{showkeys}{%
7277 \HyRef@ShowKeysInit
7278 }{}%
7279 }%
7280 }

```

Defaults for the names that \autoref uses.

```

7281 \providecommand*\AMSautorefname{\equationautorefname}
7282 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
7283 \providecommand*\Itemautorefname{\itemautorefname}
7284 \providecommand*\itemautorefname{item}
7285 \providecommand*\equationautorefname{Equation}
7286 \providecommand*\footnoteautorefname{footnote}
7287 \providecommand*\itemautorefname{item}
7288 \providecommand*\figureautorefname{Figure}
7289 \providecommand*\tableautorefname{Table}
7290 \providecommand*\partautorefname{Part}
7291 \providecommand*\appendixautorefname{Appendix}
7292 \providecommand*\chapterautorefname{chapter}
7293 \providecommand*\sectionautorefname{section}
7294 \providecommand*\subsectionautorefname{subsection}
7295 \providecommand*\subsubsectionautorefname{subsubsection}
7296 \providecommand*\paragraphautorefname{paragraph}
7297 \providecommand*\subparagraphautorefname{subparagraph}
7298 \providecommand*\FancyVerbLineautorefname{line}
7299 \providecommand*\theoremautorefname{Theorem}

```



```

7300 \providecommand*\pageautorefname{page}
7301 </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 pdfTeX offers `\pdfescapestring`.

```

7302 < *pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
7303 \RequirePackage{pdfTeXcmds}[2009/04/10]
7304 \begingroup\expandafter\expandafter\expandafter\endgroup
7305 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
7306 \begingroup
7307 \catcode'\|=0 %
7308 \@makeother\| %
7309 |@firstofone{ |endgroup
7310 |def|Hy@pstringdef#1#2{%
7311 |begingroup
7312 |edef~{|string~}%
7313 |xdef|Hy@gtemp{#2}%
7314 |endgroup
7315 |let#1|Hy@gtemp
7316 |@onelevel@sanitize#1%
7317 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
7318 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
7319 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
7320 }%
7321 |def|Hy@ExchangeBackslash#1\#2|@nil{%
7322 #1%
7323 |ifx|\#2\|%%
7324 |else
7325 \| %
7326 |Hy@ReturnAfterFi{%
7327 |Hy@ExchangeBackslash#2|@nil
7328 }%
7329 |fi
7330 }%
7331 }%
7332 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
7333 #1%
7334 \ifx\#2\| %
7335 \else
7336 \@backslashchar(%
7337 \Hy@ReturnAfterFi{%
7338 \Hy@ExchangeLeftParenthesis#2\@nil
7339 }%
7340 \fi
7341 }%
7342 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
7343 #1%

```

```

7344 \ifx\#2\%
7345 \else
7346 \@backslashchar)%
7347 \Hy@ReturnAfterFi{%
7348 \Hy@ExchangeRightParenthesis#2\@nil
7349 }%
7350 \fi
7351 }%
7352 \else
7353 \def\Hy@pstringdef#1#2{%
7354 \begingroup
7355 \edef~{\string~}%
7356 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
7357 \endgroup
7358 \let#1\Hy@gtemp
7359 }%
7360 \fi
7361 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

7362 <*pdfTeX>
7363 \providecommand*{\XR@ext}{pdf}
7364 \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, 2005-08-081: \pdfminorversion

```

7365 \let\Hy@pdfminorversion\relax
7366 \begingroup\expandafter\expandafter\expandafter\endgroup
7367 \expandafter\ifx\csname pdfminorversion\endcsname\relax
7368 \begingroup\expandafter\expandafter\expandafter\endgroup
7369 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
7370 \else
7371 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
7372 \fi
7373 \else
7374 \def\Hy@pdfminorversion{\pdfminorversion}%
7375 \fi
7376 \@ifundefined{Hy@pdfminorversion}{%
7377 \PackageInfo{hyperref}{%
7378 PDF version is not set, because pdfTeX is too old (<1.10a)%
7379 }%
7380 }{%
7381 \ifHy@ocgcolorlinks
7382 \ifnum\Hy@pdfminorversion<5 %
7383 \setkeys{Hyp}{pdfversion=1.5}%
7384 \fi
7385 \fi
7386 \ifHy@setpdfversion
7387 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
7388 \else
7389 \Hy@pdfminorversion=\Hy@pdfversion\relax

```

```

7390 \fi
7391 \PackageInfo{hyperref}{%
7392 \expandafter\string\Hy@pdfminorversion
7393 :=\number\Hy@pdfversion\space
7394 }%
7395 \fi
7396 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
7397 }
7398 \Hy@DisableOption{pdfversion}%

7399 \ifHy@ocgcolorlinks
7400 \immediate\pdfobj{%
7401 <<%
7402 /Type/OCG%
7403 /Name(View)%
7404 /Usage<<%
7405 /Print<<%
7406 /PrintState/OFF%
7407 >>%
7408 /View<<%
7409 /ViewState/ON%
7410 >>%
7411 >>%
7412 >>%
7413 }%
7414 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
7415 \immediate\pdfobj{%
7416 <<%
7417 /Type/OCG%
7418 /Name(Print)%
7419 /Usage<<%
7420 /Print<<%
7421 /PrintState/ON%
7422 >>%
7423 /View<<%
7424 /ViewState/OFF%
7425 >>%
7426 >>%
7427 >>%
7428 }%
7429 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
7430 \immediate\pdfobj{%
7431 [%
7432 \OBJ@OCG@view\space\OBJ@OCG@print
7433 ]%
7434 }%
7435 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
7436 \pdfcatalog{%
7437 /OCProperties<<%
7438 /OCGs \OBJ@OCGs
7439 /D<<%
7440 /OFF[\OBJ@OCG@print]%
7441 /AS[%
7442 <<%
7443 /Event/View%
7444 /OCGs \OBJ@OCGs
7445 /Category[/View]%
7446 >>%

```

```

7447     <<%
7448         /Event/Print%
7449         /OCGs \OBJ@OCGs
7450         /Category[/Print]%
7451     >>%
7452     <<%
7453         /Event/Export%
7454         /OCGs \OBJ@OCGs
7455         /Category[/Print]%
7456     >>%
7457     ]%
7458     >>%
7459     >>%
7460 }%
7461 \begingroup
7462 \edef\x{\endgroup
7463     \pdfpageresources{%
7464         /Properties<<%
7465         /OCView \OBJ@OCG@view
7466         /OCPrint \OBJ@OCG@print
7467     >>%
7468     }%
7469     }%
7470 \x
7471 \AtBeginDocument{%
7472     \def\Hy@colorlink#1{%
7473         \begingroup
7474         \ifHy@ocgcolorlinks
7475             \def\Hy@ocgcolor{#1}%
7476             \setbox0=\color@hbox
7477         \else
7478             \HyColor@UseColor#1%
7479         \fi
7480     }%
7481     \def\Hy@endcolorlink{%
7482         \ifHy@ocgcolorlinks
7483             \color@endbox
7484         \mbox{%
7485             \pdfliteral page{/OC/OCPrint BDC}%
7486             \rlap{\copy0}%
7487             \pdfliteral page{EMC/OC/OCView BDC}%
7488         \begingroup
7489             \expandafter\HyColor@UseColor\Hy@ocgcolor
7490             \box0 %
7491         \endgroup
7492         \pdfliteral page{EMC}%
7493     }%
7494     \fi
7495 \endgroup
7496 }%
7497 }%
7498 \else
7499     \Hy@DisableOption{ocgcolorlinks}%
7500 \fi

```

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

```

7501 \def\setpdfinkmargin#1{\pdfinkmargin#1}
7502 \ifx\pdfstartlink\@undefined% less than version 14

```

```

7503 \let\pdfstartlink\pdfannotlink
7504 \let\pdfinkmargin\@tempdima
7505 \let\pdfxform\pdfform
7506 \let\pdflastxform\pdfastform
7507 \let\pdfrefxform\pdfrefform
7508 \else
7509 \pdfinkmargin1pt %
7510 \fi

```

First set up the default linking

```
7511 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

7512 \def\new@pdfink#1{%
7513   \ifHy@verbose
7514     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
7515   \fi
7516   \Hy@SaveLastskip
7517   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7518   \Hy@DestName\Hy@pstringDest\@pdfview
7519   \Hy@RestoreLastskip
7520 }
7521 \let\pdf@endanchor\@empty

```

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

```

7522 \def\Hy@DestName#1#2{%
7523   \pdfdest name{#1}#2\relax
7524 }

```

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.

```

7525 \providecommand*\@pdfborder{0 0 1}
7526 \providecommand*\@pdfborderstyle{}
7527 \def\Hy@undefinedname{UNDEFINED}
7528 \def\find@pdfink#1#2{%
7529   \leavevmode
7530   \protected@edef\Hy@testname{#2}%
7531   \ifx\Hy@testname\@empty
7532     \Hy@Warning{%
7533       Empty destination name,\MessageBreak
7534       using '\Hy@undefinedname'%
7535     }%
7536     \let\Hy@testname\Hy@undefinedname
7537   \else
7538     \Hy@pstringdef\Hy@testname{%
7539       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7540     }%
7541   \fi
7542   \Hy@StartlinkName{%
7543     \ifHy@pdfa /F 4\fi
7544     \Hy@setpdfborder
7545     \ifx\@pdfhighlight\@empty
7546       \else
7547         /H\@pdfhighlight
7548       \fi

```

```

7549 \ifx\CurrentBorderColor\relax
7550 \else
7551 /C[\CurrentBorderColor]%
7552 \fi
7553 }\Hy@testname
7554 \expandafter\Hy@colorlink\csname @#1color\endcsname
7555 }
7556 \def\Hy@StartlinkName#1#2{%
7557 \pdfstartlink attr{#1}goto name{#2}\relax
7558 }
7559 \def\close@pdfink{\Hy@endcolorlink\pdfendlink}
7560 \def\hyper@anchor#1{\new@pdfink{#1}\anchor@spot\pdf@endanchor}
7561 \def\hyper@anchorstart#1{\new@pdfink{#1}\Hy@activeanchortrue}
7562 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
7563 \def\hyper@linkstart#1#2{%
7564 \@ifundefined{@#1bordercolor}{%
7565 \let\CurrentBorderColor\relax
7566 }{%
7567 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7568 }%
7569 \find@pdfink{#1}{#2}%
7570 }
7571 \def\hyper@linkend{\close@pdfink}
7572 \def\hyper@link#1#2#3{%
7573 \@ifundefined{@#1bordercolor}{%
7574 \let\CurrentBorderColor\relax
7575 }{%
7576 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7577 }%
7578 \find@pdfink{#1}{#2}#3%
7579 \close@pdfink
7580 }
7581 \let\CurrentBorderColor\@linkbordercolor
7582 \def\hyper@linkurl#1#2{%
7583 \begingroup
7584 \Hy@pstringdef\Hy@pstringURI{#2}%
7585 \hyper@chars
7586 \leavevmode
7587 \pdfstartlink
7588 attr{%
7589 \Hy@setpdfborder
7590 \ifx\@pdfhighlight\@empty
7591 \else
7592 /H\@pdfhighlight
7593 \fi
7594 \ifx\@urlbordercolor\relax
7595 \else
7596 /C[\@urlbordercolor]%
7597 \fi
7598 }%
7599 user{%
7600 /Subtype/Link%
7601 \ifHy@pdfa /F 4\fi
7602 /A<<%
7603 /Type/Action%
7604 /S/URI%
7605 /URI(\Hy@pstringURI)%

```

```

7606     >>%
7607     }%
7608     \relax
7609     \Hy@colorlink\@urlcolor#1%
7610     \close@pdflink
7611     \endgroup
7612 }
7613 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7614     \begingroup
7615     \Hy@pstringdef\Hy@pstringF{#2}%
7616     \Hy@pstringdef\Hy@pstringD{#3}%
7617     \leavevmode
7618     \pdfstartlink
7619     attr{%
7620         \Hy@setpdfborder
7621         \ifx\@pdfhighlight\@empty
7622         \else
7623         /H\@pdfhighlight
7624         \fi
7625         \ifx\@filebordercolor\relax
7626         \else
7627         /C[\@filebordercolor]%
7628         \fi
7629     }%
7630     user {%
7631         /Subtype/Link%
7632         \ifHy@pdfa /F 4\fi
7633         /A<<%
7634         /F(\Hy@pstringF)%
7635         /S/GoToR%
7636         \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}

```

```

7637     \ifx\#3\%
7638     /D[0 \@pdfstartview]%
7639     \else
7640     /D(\Hy@pstringD)%
7641     \fi
7642     >>%
7643     }%
7644     \relax
7645     \Hy@colorlink\@filecolor#1%
7646     \close@pdflink
7647     \endgroup
7648 }
7649 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
7650     \begingroup
7651     \Hy@pstringdef\Hy@pstringF{#1}%

```

```

7652 \Hy@pstringdef\Hy@pstringP{#3}%
7653 \leavevmode
7654 \pdfstartlink
7655   attr{%
7656     \Hy@setpdfborder
7657     \ifx\@pdfhighlight\@empty
7658     \else
7659       /H\@pdfhighlight
7660     \fi
7661     \ifx\@runbordercolor\relax
7662     \else
7663       /C[\@runbordercolor]%
7664     \fi
7665   }%
7666   user {%
7667     /Subtype/Link%
7668     \ifHy@pdfa /F 4\fi
7669     /A<<%
7670       /F(\Hy@pstringF)%
7671       /S/Launch%
7672       \Hy@SetNewWindow
7673       \ifx\#3\%
7674       \else
7675         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7676       \fi
7677     >>%
7678   }%
7679   \relax
7680 \Hy@colorlink\@runcolor#2%
7681 \close@pdflink
7682 \endgroup
7683 }

```

\@pdfproducer

```

7684 \ifx\@pdfproducer\relax
7685 \begingroup\expandafter\expandafter\expandafter\endgroup
7686 \expandafter\ifx\csname luatexversion\endcsname\relax
7687 \def\@pdfproducer{pdfTeX}%
7688 \ifx\TeXversion\@undefined
7689 \else
7690 \ifx\TeXversion\relax
7691 \else
7692 \ifnum\TeXversion>0 %
7693 \def\@pdfproducer{pdfTeX}%
7694 \fi
7695 \fi
7696 \fi
7697 \ifx\pdfTeXversion\@undefined
7698 \else
7699 \ifnum\pdfTeXversion<100 %
7700 \edef\@pdfproducer{%
7701   \@pdfproducer
7702   \the\pdfTeXversion.\pdfTeXrevision
7703 }%
7704 \else
7705 \ifnum\pdfTeXversion<130 %
7706 \edef\@pdfproducer{%

```



```

7707     \@pdfproducer-%
7708     \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7709     \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
7710     \pdfTeXrevision
7711   }%
7712 \else
7713   \ifnum\pdfTeXversion<140 %
7714   \else
7715     \def\@pdfproducer{pdfTeX}%
7716   \fi
7717 \edef\@pdfproducer{%
7718   \@pdfproducer-%
7719   \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7720   \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7721   \pdfTeXrevision
7722 }%
7723 \fi
7724 \fi
7725 \fi
7726 \else
7727 \begingroup
7728   \count@=\luatexversion
7729   \divide\count@ by 100 %
7730   \edef\x{\the\count@}%
7731   \count@=-\x\relax
7732   \multiply\count@ by 100 %
7733   \advance\count@ by \luatexversion
7734   \edef\x{\endgroup
7735     \def\noexpand\@pdfproducer{%
7736       LuaTeX-\x.\the\count@.\luatexrevision
7737     }%
7738   }%
7739 \x
7740 \fi
7741 \fi

```

\PDF@SetupDox

```

7742 \def\PDF@SetupDoc{%
7743   \ifx\@pdfpagescrop\@empty
7744   \else
7745     \edef\process@me{%
7746       \pdfpagesattr={%
7747         /CropBox[\@pdfpagescrop]%
7748         \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
7749         \else
7750           ^^J\the\pdfpagesattr
7751         \fi
7752       }%
7753     }%
7754     \process@me
7755   \fi
7756   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7757   \pdfcatalog{%
7758     /PageMode/\@pdfpagemode
7759     \ifx\@baseurl\@empty
7760     \else
7761       /URI<</Base(\Hy@pstringB)>>%

```

```

7762 \fi
7763 }%
7764 \ifx\@pdfstartpage\@empty
7765 \else
7766 \ifx\@pdfstartview\@empty
7767 \else
7768 openaction goto page\@pdfstartpage{\@pdfstartview}%
7769 \fi
7770 \fi
7771 \edef\Hy@temp{%
7772 \ifHy@toolbar\else /HideToolbar true\fi
7773 \ifHy@menubar\else /HideMenubar true\fi
7774 \ifHy@windowui\else /HideWindowUI true\fi
7775 \ifHy@fitwindow /FitWindow true\fi
7776 \ifHy@centerwindow /CenterWindow true\fi
7777 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7778 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7779 \Hy@UseNameKey{Direction}\@pdfdirection
7780 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7781 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7782 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7783 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7784 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7785 \Hy@UseNameKey{Duplex}\@pdfduplex
7786 \ifx\@pdfpicktraybypdfsize\@empty
7787 \else
7788 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7789 \fi
7790 \ifx\@pdfprintpagerange\@empty
7791 \else
7792 /PrintPageRange\@pdfprintpagerange)%
7793 \fi
7794 \ifx\@pdfnumcopies\@empty
7795 \else
7796 /NumCopies \@pdfnumcopies
7797 \fi
7798 }%
7799 \pdfcatalog{%
7800 \ifx\Hy@temp\@empty
7801 \else
7802 /ViewerPreferences<<\Hy@temp>>%
7803 \fi
7804 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7805 \ifx\@pdflang\@empty
7806 \else
7807 /Lang(\@pdflang)%
7808 \fi
7809 }%
7810 }

```

\PDF@FinishDoc

```

7811 \def\PDF@FinishDoc{%
7812 \Hy@UseMaketitleInfos
7813 \HyInfo@GenerateAddons
7814 \pdfinfo{%
7815 /Author(\@pdfauthor)%
7816 /Title(\@pdftitle)%

```

```

7817 /Subject(\@pdfsubject)%
7818 /Creator(\@pdfcreator)%
7819 \ifx\@pdfcreationdate\@empty
7820 \else
7821 /CreationDate(\@pdfcreationdate)%
7822 \fi
7823 \ifx\@pdfmoddate\@empty
7824 \else
7825 /ModDate(\@pdfmoddate)%
7826 \fi
7827 \ifx\@pdfproducer\relax
7828 \else
7829 /Producer(\@pdfproducer)%
7830 \fi
7831 /Keywords(\@pdfkeywords)%
7832 \ifx\@pdftrapped\@empty
7833 \else
7834 /Trapped/\@pdftrapped
7835 \fi
7836 \HyInfo@Addons
7837 }%
7838 \Hy@DisableOption{pdfauthor}%
7839 \Hy@DisableOption{pdftitle}%
7840 \Hy@DisableOption{pdfsubject}%
7841 \Hy@DisableOption{pdfcreator}%
7842 \Hy@DisableOption{pdfcreationdate}%
7843 \Hy@DisableOption{pdfmoddate}%
7844 \Hy@DisableOption{pdfproducer}%
7845 \Hy@DisableOption{pdfkeywords}%
7846 \Hy@DisableOption{pdftrapped}%
7847 \Hy@DisableOption{pdfinfo}%
7848 }

```

`\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`.

```

7849 \def\hyper@pagetransition{%
7850 \ifx\@pdfpagetransition\relax
7851 \else
7852 \expandafter\Hy@RemoveTransPageAttr
7853 \the\pdfpageattr^^J/Trans{}}>>\END
7854 \ifx\@pdfpagetransition\@empty
7855 \else
7856 \edef\@processme{%
7857 \global\pdfpageattr{%
7858 \the\pdfpageattr
7859 ^^J/Trans << /S /\@pdfpagetransition\space >>%
7860 }%
7861 }%
7862 \@processme
7863 \fi
7864 \fi
7865 }

```

`\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.

```

7866 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7867 \ifx\#2\%
7868 \global\pdfpageattr{#1}%
7869 \else
7870 \Hy@RemoveTransPageAttr#1#4\END
7871 \fi
7872 }

```

`\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`.

```

7873 \def\hyper@pageduration{%
7874 \ifx\@pdfpageduration\relax
7875 \else
7876 \expandafter
7877 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
7878 \ifx\@pdfpageduration\@empty
7879 \else
7880 \edef\@processme{%
7881 \global\pdfpageattr{%
7882 \the\pdfpageattr
7883 ^^J/Dur \@pdfpageduration\space
7884 }%
7885 }%
7886 \@processme
7887 \fi
7888 \fi
7889 }

```

`\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.

```

7890 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7891 \ifx\#2\%
7892 \global\pdfpageattr{#1}%
7893 \else
7894 \Hy@RemoveDurPageAttr#1#4\END
7895 \fi
7896 }

```

`\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).

```

7897 \def\hyper@pagehidden{%
7898 \ifHy@useHidKey
7899 \expandafter
7900 \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7901 \ifHy@pdfpagehidden
7902 \edef\@processme{%
7903 \global\pdfpageattr{%
7904 \the\pdfpageattr
7905 ^^J/Hid true % SPACE
7906 }%
7907 }%

```

```

7908 \@@processme
7909 \fi
7910 \fi
7911 }

```

`\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.

```

7912 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7913 \ifx\#2\%
7914 \global\pdfpageattr{#1}%
7915 \else
7916 \Hy@RemoveHidPageAttr#1#4\END
7917 \fi
7918 }

7919 \g@addto@macro\Hy@EveryPageHook{%
7920 \hyper@pagetransition
7921 \hyper@pageduration
7922 \hyper@pagehidden
7923 }

```

Also Xe_{TeX} support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

7924 </pdfTeX>
7925 <*pdfTeX | xetex>
7926 \AtBeginDocument{%
7927 \ifHy@setpagesize
7928 \expandafter\@firstofone
7929 \else
7930 \expandafter\@gobble
7931 \fi
7932 {%
7933 \@ifclassloaded{seminar}{%
7934 <*pdfTeX>
7935 \setlength{\pdfhorigin}{1truein}%
7936 \setlength{\pdfvorigin}{1truein}%
7937 </pdfTeX>
7938 \ifportrait
7939 \ifdim\paperwidth=\z@
7940 \else
7941 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7942 \fi
7943 \ifdim\paperheight=\z@
7944 \else
7945 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7946 \fi
7947 \else
7948 \ifdim\paperheight=\z@
7949 \else
7950 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7951 \fi
7952 \ifdim\paperwidth=\z@
7953 \else
7954 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7955 \fi
7956 \fi

```

```

7957 }{%
7958   \@ifundefined{stockwidth}{%
7959     \ifdim\paperwidth>\z@
7960       \setlength{\pdfpagewidth}{\paperwidth}%
7961     \fi
7962     \ifdim\paperheight>\z@
7963       \setlength{\pdfpageheight}{\paperheight}%
7964     \fi
7965   }{%
7966     \ifdim\stockwidth>\z@
7967       \setlength{\pdfpagewidth}{\stockwidth}%
7968     \fi
7969     \ifdim\stockheight>\z@
7970       \setlength{\pdfpageheight}{\stockheight}%
7971     \fi
7972   }%
7973 }%
7974 }%
7975 \Hy@DisableOption{setpagesize}%
7976 }
7977 </pdfTeX | xetex>
7978 <*pdfTeX>
7979 \def\Acrobatmenu#1#2{%
7980   \Hy@Acrobatmenu{#1}{#2}{%
7981     \pdfstartlink
7982     attr{%
7983       \Hy@setpdfborder
7984       \ifx\@pdfhighlight\@empty
7985         \else
7986           /H\@pdfhighlight
7987         \fi
7988       \ifx\@menubordercolor\relax
7989         \else
7990           /C[\@menubordercolor]%
7991       \fi
7992     }%
7993     user{%
7994       /Subtype/Link%
7995       \ifHy@pdfa /F 4\fi
7996       /A<<%
7997       /S/Named/N/#1%
7998       >>%
7999     }%
8000     \relax
8001     \Hy@colorlink\@menucolor#2%
8002     \close@pdflink
8003   }%
8004 }

```

46.2.1 Fix for problem with different nesting levels

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

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

could be invoked independently from `hyperref`.

```

8005 \def\Hy@FixNotFirstPage{%
8006   \gdef\Hy@FixNotFirstPage{%
8007     \setbox\AtBeginShipoutBox=\hbox{%
8008       \copy\AtBeginShipoutBox
8009     }%
8010   }%
8011 }
8012 \AtBeginShipout{\Hy@FixNotFirstPage}
8013 \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 T_EX file — the T_EX 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.

```

8014 (*hypertext)
8015 \providecommand*\XR@ext}{dvi}
8016 \def\PDF@FinishDoc{}
8017 \def\PDF@SetupDoc{%
8018   \ifx\@baseurl\@empty
8019   \else
8020     \special{html:<base href="\@baseurl">}%
8021   \fi
8022 }
8023 \def\hyper@anchor#1{%
8024   \Hy@SaveLastskip
8025   \begingroup
8026     \let\protect=\string

```

```

8027 \hyper@chars
8028 \special{html:<a name=%
8029 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8030 \endgroup
8031 \Hy@activeanchortrue
8032 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8033 \special{html:</a>}%
8034 \Hy@activeanchorfalse
8035 \Hy@RestoreLastskip
8036 }
8037 \def\hyper@anchorstart#1{%
8038 \Hy@SaveLastskip
8039 \begingroup
8040 \hyper@chars
8041 \special{html:<a name=%
8042 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8043 \endgroup
8044 \Hy@activeanchortrue
8045 }
8046 \def\hyper@anchorend{%
8047 \special{html:</a>}%
8048 \Hy@activeanchorfalse
8049 \Hy@RestoreLastskip
8050 }
8051 \def\@urlltype{url}
8052 \def\hyper@linkstart#1#2{%
8053 \expandafter\Hy@colorlink\csname @#1color\endcsname
8054 \def\Hy@tempa{#1}%
8055 \ifx\Hy@tempa\@urlltype
8056 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8057 \else
8058 \begingroup
8059 \hyper@chars
8060 \special{html:<a href=%
8061 \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>}%
8062 \endgroup
8063 \fi
8064 }
8065 \def\hyper@linkend{%
8066 \special{html:</a>}%
8067 \Hy@endcolorlink
8068 }
8069 \def\hyper@linkfile#1#2#3{%
8070 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
8071 }
8072 \def\hyper@linkurl#1#2{%

```

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

```

8073 \leavevmode
8074 \ifHy@raiselinks
8075 \setbox\@tempboxa=\color@hbox #1\color@endbox
8076 \@linkdim\dp\@tempboxa
8077 \lower\@linkdim\hbox{%
8078 \hyper@chars
8079 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8080 }%
8081 \Hy@colorlink\@urllcolor#1%

```



```
8082 \@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).

```
8083 \advance\@linkdim by -6.5\p@
8084 \raise\@linkdim\hbox{\special{html:</a>}}%
8085 \Hy@endcolorlink
8086 \else
8087 \begingroup
8088 \hyper@chars
8089 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8090 \Hy@colorlink\@urlcolor#1%
8091 \special{html:</a>}%
8092 \Hy@endcolorlink
8093 \endgroup
8094 \fi
8095 }
```

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

```
8096 \def\hyper@link#1#2#3{%
8097 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
8098 }

8099 \def\hyper@image#1#2{%
8100 \begingroup
8101 \hyper@chars
8102 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
8103 \endgroup
8104 }
8105 \</hypertex>
8106 \<*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, L^AT_EX 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.

```
8107 \providecommand*\XR@ext}{dvi}
8108 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
8109 \def\hyper@anchor#1{%
8110 \Hy@SaveLastskip
8111 \begingroup
8112 \let\protect=\string
8113 \special{mark: #1}%
8114 \endgroup
8115 \Hy@activeanchortrue
8116 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8117 \Hy@activeanchorfalse
8118 \Hy@RestoreLastskip
```

```

8119 }
8120 \def\hyper@anchorstart#1{%
8121   \Hy@SaveLastskip
8122   \special{mark: #1}%
8123   \Hy@activeanchortrue
8124 }
8125 \def\hyper@anchorend{%
8126   \Hy@activeanchorfalse
8127   \Hy@RestoreLastskip
8128 }
8129 \def\hyper@linkstart#1#2{%
8130   \expandafter\Hy@colorlink\csname @#1color\endcsname
8131   \special{button: %
8132     10000000 %
8133     \number\baselineskip\space
8134     #2%
8135   }%
8136 }
8137 \def\hyper@linkend{%
8138   \Hy@endcolorlink
8139 }
8140 \def\hyper@link#1#2#3{%
8141   \setbox\@tempboxa=\color@hbox #3\color@endbox
8142   \leavevmode
8143   \ifHy@raiselinks
8144     \@linkdim\dp\@tempboxa
8145     \lower\@linkdim\hbox{%
8146       \special{button: %
8147         \number\wd\@tempboxa\space
8148         \number\ht\@tempboxa\space
8149         #2%
8150       }%
8151       \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8152       \Hy@endcolorlink
8153     }%
8154     \@linkdim\ht\@tempboxa
8155     \advance\@linkdim by -6.5\p@
8156     \raise\@linkdim\hbox{%}%
8157   \else
8158     \special{button: %
8159       \number\wd\@tempboxa\space
8160       \number\ht\@tempboxa\space
8161       #2%
8162     }%
8163     \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8164     \Hy@endcolorlink
8165   \fi
8166 }
8167 \def\hyper@linkurl#1#2{%
8168   \begingroup
8169   \hyper@chars
8170   \leavevmode
8171   \setbox\@tempboxa=\color@hbox #1\color@endbox
8172   \ifHy@raiselinks
8173     \@linkdim\dp\@tempboxa
8174     \lower\@linkdim\hbox{%
8175       \special{button: %

```

```

8176      \number\wd\@tempboxa\space
8177      \number\ht\@tempboxa\space
8178      launch: \wwwbrowser\space
8179      #2%
8180    }%
8181    \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8182  }%
8183  \@linkdim\ht\@tempboxa
8184  \advance\@linkdim by -6.5\p@
8185  \raise\@linkdim\hbox{}%
8186  \else
8187    \special{button: %
8188      \number\wd\@tempboxa\space
8189      \number\ht\@tempboxa\space
8190      launch: \wwwbrowser\space
8191      #2%
8192    }%
8193    \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8194  \fi
8195  \endgroup
8196 }
8197 \def\hyper@linkfile#1#2#3{%
8198   \begingroup
8199   \hyper@chars
8200   \leavevmode
8201   \setbox\@tempboxa=\color@hbox #1\color@endbox
8202   \ifHy@raiselinks
8203     \@linkdim\dp\@tempboxa
8204     \lower\@linkdim\hbox{%
8205       \special{button: %
8206         \number\wd\@tempboxa\space
8207         \number\ht\@tempboxa\space
8208         #3,%
8209         file: #2%
8210       }%
8211       \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8212     }%
8213     \@linkdim\ht\@tempboxa
8214     \advance\@linkdim by -6.5\p@
8215     \raise\@linkdim\hbox{}%
8216   \else
8217     \special{button: %
8218       \number\wd\@tempboxa\space
8219       \number\ht\@tempboxa\space
8220       #3,%
8221       file: #2%
8222     }%
8223     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8224   \fi
8225   \endgroup
8226 }
8227 \ifx\@pdfproducer\relax
8228   \def\@pdfproducer{dviwindo + Distiller}%
8229 \fi
8230 \HyInfo@AddonUnsupportedtrue
8231 \def\PDF@FinishDoc{%
8232   \Hy@UseMaketitleInfos

```

```

8233 \HyInfo@TrappedUnsupported
8234 \special{PDF: Keywords \@pdfkeywords}%
8235 \special{PDF: Title \@pdftitle}%
8236 \special{PDF: Creator \@pdfcreator}%
8237 \ifx\@pdfcreationdate\@empty
8238 \else
8239 \special{PDF: CreationDate \@pdfcreationdate}%
8240 \fi
8241 \ifx\@pdfmoddate\@empty
8242 \else
8243 \special{PDF: ModDate \@pdfmoddate}%
8244 \fi
8245 \special{PDF: Author \@pdfauthor}%
8246 \ifx\@pdfproducer\relax
8247 \else
8248 \special{PDF: Producer \@pdfproducer}%
8249 \fi
8250 \special{PDF: Subject \@pdfsubject}%
8251 \Hy@DisableOption{pdfauthor}%
8252 \Hy@DisableOption{pdftitle}%
8253 \Hy@DisableOption{pdfsubject}%
8254 \Hy@DisableOption{pdfcreator}%
8255 \Hy@DisableOption{pdfcreationdate}%
8256 \Hy@DisableOption{pdfmoddate}%
8257 \Hy@DisableOption{pdfproducer}%
8258 \Hy@DisableOption{pdfkeywords}%
8259 \Hy@DisableOption{pdftrapped}%
8260 \Hy@DisableOption{pdfinfo}%
8261 }
8262 \def\PDF@SetupDoc{%
8263 \ifx\@baseurl\@empty
8264 \else
8265 \special{PDF: Base \@baseurl}%
8266 \fi
8267 \ifx\@pdfpagescrop\@empty\else
8268 \special{PDF: BBox \@pdfpagescrop}%
8269 \fi
8270 \def\Hy@temp{%
8271 \ifx\@pdfstartpage\@empty
8272 \else
8273 \ifx\@pdfstartview\@empty
8274 \else
8275 \edef\Hy@temp{%
8276 ,Page=\@pdfstartpage
8277 ,View=\@pdfstartview
8278 }%
8279 \fi
8280 \fi
8281 \edef\Hy@temp{%
8282 \noexpand\pdfmark{%
8283 pdfmark=/DOCVIEW,%
8284 PageMode=/\@pdfpagemode
8285 \Hy@temp
8286 }%
8287 }%
8288 \Hy@temp
8289 \ifx\@pdfpagescrop\@empty

```

```

8290 \else
8291 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8292 \fi
8293 \edef\Hy@temp{%
8294 \ifHy@toolbar\else /HideToolbar true\fi
8295 \ifHy@menubar\else /HideMenubar true\fi
8296 \ifHy>windowui\else /HideWindowUI true\fi
8297 \ifHy@fitwindow /FitWindow true\fi
8298 \ifHy@centerwindow /CenterWindow true\fi
8299 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8300 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8301 \Hy@UseNameKey{Direction}\@pdfdirection
8302 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8303 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8304 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8305 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8306 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8307 \Hy@UseNameKey{Duplex}\@pdfduplex
8308 \ifx\@pdfpicktraybypdfsize\@empty
8309 \else
8310 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8311 \fi
8312 \ifx\@pdfprintpagerange\@empty
8313 \else
8314 /PrintPageRange[\@pdfprintpagerange]%
8315 \fi
8316 \ifx\@pdfnumcopies\@empty
8317 \else
8318 /NumCopies \@pdfnumcopies
8319 \fi
8320 }%
8321 \pdfmark{pdfmark=/PUT,%
8322 Raw={%
8323 \string{Catalog}\string}<<%
8324 \ifx\Hy@temp\@empty
8325 \else
8326 /ViewerPreferences<<\Hy@temp>>%
8327 \fi
8328 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8329 \ifx\@pdflang\@empty
8330 \else
8331 /Lang(\@pdflang)%
8332 \fi
8333 >>%
8334 }%
8335 }%
8336 }
8337 </dviwindo>
8338 <*dvipdfm | xetex>

```

46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

8339 \providecommand*{\XR@ext}{pdf}
8340 \Hy@setbreaklinks{true}
8341 \newsavebox{\pdfm@box}
8342 \def\@pdfm@mark#1{\special{pdf:#1}}

```

```

8343 \def\@pdfm@dest#1{%
8344   \Hy@SaveLastskip
8345   \begingroup
8346   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8347   \def\x{XYZ}%
8348   \ifx\x\@pdfview
8349     \def\x{XYZ @xpos @ypos null}%
8350   \else
8351     \def\x{FitH}%
8352     \ifx\x\@pdfview
8353       \def\x{FitH @ypos}%
8354     \else
8355       \def\x{FitBH}%
8356       \ifx\x\@pdfview
8357         \def\x{FitBH @ypos}%
8358       \else
8359         \def\x{FitV}%
8360         \ifx\x\@pdfview
8361           \def\x{FitV @xpos}%
8362         \else
8363           \def\x{FitBV}%
8364           \ifx\x\@pdfview
8365             \def\x{FitBV @xpos}%
8366           \else
8367             \def\x{Fit}%
8368             \ifx\x\@pdfview
8369               \let\x\@pdfview
8370             \else
8371               \def\x{FitB}%
8372               \ifx\x\@pdfview
8373                 \let\x\@pdfview
8374               \else
8375                 \def\x{FitR}%
8376                 \ifx\x\@pdfview
8377                   \Hy@Warning{'pdfview=FitR' is not supported}%
8378                   \def\x{XYZ @xpos @ypos null}%
8379                 \else
8380                   \@onelevel@sanitize\@pdfview
8381                   \Hy@Warning{%
8382                     Unknown value '\@pdfview' for pdfview%
8383                   }%
8384                   \def\x{XYZ @xpos @ypos null}%
8385                 \fi
8386               \fi
8387             \fi
8388           \fi
8389         \fi
8390       \fi
8391     \fi
8392   \fi
8393   \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
8394 \endgroup
8395 \Hy@RestoreLastskip
8396 }
8397 \providecommand*\@pdfview{XYZ}
8398 \providecommand*\@pdfborder{0 0 1}
8399 \providecommand*\@pdfborderstyle{}

```

```

8400 \def\hyper@anchor#1{%
8401   \@pdfm@dest{#1}%
8402 }
8403 \def\hyper@anchorstart#1{%
8404   \Hy@activeanchortrue
8405   \@pdfm@dest{#1}%
8406 }
8407 \def\hyper@anchorend{%
8408   \Hy@activeanchorfalse
8409 }
8410 \newcounter{Hy@AnnotLevel}
8411 \ifHy@ocgcolorlinks
8412   \def\OBJ@OCG@view{@OCG@view}%
8413   \@pdfm@mark{%
8414     obj \OBJ@OCG@view <<%
8415       /Type/OCG%
8416       /Name(View)%
8417       /Usage<<%
8418       /Print<<%
8419       /PrintState/OFF%
8420       >>%
8421       /View<<%
8422       /ViewState/ON%
8423       >>%
8424       >>%
8425       >>%
8426   }%
8427   \@pdfm@mark{close \OBJ@OCG@view}%
8428   \def\OBJ@OCG@print{@OCG@print}%
8429   \@pdfm@mark{%
8430     obj \OBJ@OCG@print <<%
8431       /Type/OCG%
8432       /Name(Print)%
8433       /Usage<<%
8434       /Print<<%
8435       /PrintState/ON%
8436       >>%
8437       /View<<%
8438       /ViewState/OFF%
8439       >>%
8440       >>%
8441       >>%
8442   }%
8443   \@pdfm@mark{close \OBJ@OCG@print}%
8444   \def\OBJ@OCGs{@OCGs}%
8445   \@pdfm@mark{%
8446     obj \OBJ@OCGs [%
8447       \OBJ@OCG@view\space\OBJ@OCG@print
8448     ]%
8449   }%
8450   \@pdfm@mark{close \OBJ@OCGs}%
8451   \@pdfm@mark{%
8452     put @catalog <<%
8453       /OCProperties<<%
8454       /OCGs \OBJ@OCGs
8455       /D<<%
8456       /OFF[\OBJ@OCG@print]%

```

```

8457      /AS[%
8458      <<%
8459      /Event/View%
8460      /OCGs \OBJ@OCGs
8461      /Category[/View]%
8462      >>%
8463      <<%
8464      /Event/Print%
8465      /OCGs \OBJ@OCGs
8466      /Category[/Print]%
8467      >>%
8468      <<%
8469      /Event/Export%
8470      /OCGs \OBJ@OCGs
8471      /Category[/Print]%
8472      >>%
8473      ]%
8474      >>%
8475      >>%
8476      >>%
8477      }%
8478      \AtBeginShipout{%
8479      \setbox\AtBeginShipoutBox=\hbox{%
8480      \copy\AtBeginShipoutBox
8481      \@pdfm@mark{%
8482      put @resources <<%
8483      /Properties<<%
8484      /OCView \OBJ@OCG@view
8485      /OCPrint \OBJ@OCG@print
8486      >>%
8487      >>%
8488      }%
8489      }%
8490      }%
8491      \AtBeginDocument{%
8492      \def\Hy@colorlink#1{%
8493      \begingroup
8494      \ifHy@ocgcolorlinks
8495      \def\Hy@ocgcolor{#1}%
8496      \setbox0=\color@hbox
8497      \else
8498      \HyColor@UseColor#1%
8499      \fi
8500      }%
8501      \def\Hy@endcolorlink{%
8502      \ifHy@ocgcolorlinks
8503      \color@endbox
8504      \mbox{%
8505      \@pdfm@mark{content /OC/OCPrint BDC}%
8506      \rlap{\copy0}%
8507      \@pdfm@mark{content EMC/OC/OCView BDC}%
8508      \begingroup
8509      \expandafter\HyColor@UseColor\Hy@ocgcolor
8510      \box0 %
8511      \endgroup
8512      \@pdfm@mark{content EMC}%
8513      }%

```



```

8514     \fi
8515     \endgroup
8516   }%
8517 }%
8518 \else
8519   \Hy@DisableOption{ocgcolorlinks}%
8520 \fi

8521 \def\Hy@BeginAnnot#1{%
8522   \stepcounter{Hy@AnnotLevel}%
8523   \ifnum\value{Hy@AnnotLevel}=\@ne
8524     #1%
8525   \fi
8526 }
8527 \def\Hy@endAnnot{%
8528   \ifnum\value{Hy@AnnotLevel}=\@ne
8529     \Hy@endcolorlink
8530     \@pdfm@mark{eann}%
8531   \fi
8532   \addtocounter{Hy@AnnotLevel}\m@ne
8533 }

8534 \def\Hy@undefinedname{UNDEFINED}
8535 \def\hyper@linkstart#1#2{%
8536   \Hy@BeginAnnot{%
8537     \protected@edef\Hy@testname{#2}%
8538     \ifx\Hy@testname\@empty
8539       \Hy@Warning{%
8540         Empty destination name,\MessageBreak
8541         using '\Hy@undefinedname'%
8542       }%
8543       \let\Hy@testname\Hy@undefinedname
8544     \else
8545       \Hy@pstringdef\Hy@testname{%
8546         \expandafter\HyperDestNameFilter\expandafter{%
8547           \Hy@testname
8548         }%
8549       }%
8550     \fi
8551     \@pdfm@mark{%
8552       bann<<%
8553       /Type/Annot%
8554       /Subtype/Link%
8555       \ifHy@pdfa /F 4\fi
8556       \Hy@setpdfborder
8557       \expandafter\ifx\csname @#1bordercolor\endcsname\relax
8558       \else
8559         /C[\csname @#1bordercolor\endcsname]%
8560       \fi
8561       /A<<%
8562       /S/GoTo%
8563       /D(\Hy@testname)%
8564       >>%
8565     >>%
8566   }%
8567   \expandafter\Hy@colorlink\csname @#1color\endcsname
8568 }%
8569 }
8570 \def\hyper@linkend{\Hy@endAnnot}%

```

```

8571 \def\hyper@link#1#2#3{%
8572   \hyper@linkstart{#1}{#2}#3\hyper@linkend
8573 }
8574 \def\hyper@linkfile#1#2#3{%
8575   \leavevmode
8576   \Hy@BeginAnnot{%
8577     \Hy@pstringdef\Hy@pstringF{#2}%
8578     \Hy@pstringdef\Hy@pstringD{#3}%
8579     \@pdfm@mark{%
8580       bann<<%
8581       /Type/Annot%
8582       /Subtype/Link%
8583       \ifHy@pdfa /F 4\fi
8584       \Hy@setpdfborder
8585       \ifx\@filebordercolor\relax
8586       \else
8587         /C[\@filebordercolor]%
8588       \fi
8589       /A<<%
8590       /S/GoToR%
8591       /F(\Hy@pstringF)%
8592       /D\ifx\@#3\@0 \@pdfstartview\else(\Hy@pstringD)\fi
8593       \Hy@SetNewWindow
8594       >>%
8595     >>%
8596   }%
8597   \Hy@colorlink\@filecolor
8598 }%
8599 #1%
8600 \Hy@endAnnot
8601 }
8602 \def\hyper@linkurl#1#2{%
8603   \leavevmode
8604   \Hy@BeginAnnot{%
8605     \Hy@pstringdef\Hy@pstringURI{#2}%
8606     \@pdfm@mark{%
8607       bann<<%
8608       /Type/Annot%
8609       /Subtype/Link%
8610       \ifHy@pdfa /F 4\fi
8611       \Hy@setpdfborder
8612       \ifx\@urlbordercolor\relax
8613       \else
8614         /C[\@urlbordercolor]%
8615       \fi
8616       /A<<%
8617       /S/URI%
8618       /URI(\Hy@pstringURI)%
8619       >>%
8620     >>%
8621   }%
8622   \Hy@colorlink\@urlcolor
8623 }%
8624 #1%
8625 \Hy@endAnnot
8626 }
8627 \def\Acrobatmenu#1#2{%

```

```

8628 \Hy@Acrobatmenu{#1}{#2}{%
8629 \Hy@BeginAnnot{%
8630 \pdfmark{%
8631   bann<<%
8632   /Type/Annot%
8633   /Subtype/Link%
8634   \ifHy@pdfa /F 4\fi
8635   /A<<%
8636   /S/Named%
8637   /N/#1%
8638   >>%
8639   \Hy@setpdfborder
8640   \ifx\@menubordercolor\relax
8641   \relax
8642   /C[\@menubordercolor]%
8643   \fi
8644   >>%
8645   }%
8646   \Hy@colorlink\@menucolor
8647   }%
8648   #2%
8649   \Hy@endAnnot
8650   }%
8651 }
8652 \ifx\@pdfproducer\relax
8653 \def\@pdfproducer{dvipdfm}%

```

Detect Xe_{TeX}. However, but xdvipdfmx will overwrite it in the final PDF file.

```

8654 \begingroup\expandafter\expandafter\expandafter\endgroup
8655 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8656 \else
8657 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8658 \fi
8659 \fi
8660 \def\PDF@FinishDoc{%
8661 \Hy@UseMaketitleInfos
8662 \HyInfo@GenerateAddons
8663 \pdfmark{%
8664   docinfo<<%
8665   /Title(\pdftitle)%
8666   /Subject(\pdfsubject)%
8667   /Creator(\pdfcreator)%
8668   \ifx\pdfcreationdate\empty
8669   \else
8670   /CreationDate(\pdfcreationdate)%
8671   \fi
8672   \ifx\pdfmoddate\empty
8673   \else
8674   /ModDate(\pdfmoddate)%
8675   \fi
8676   /Author(\pdfauthor)%
8677   \ifx\@pdfproducer\relax
8678   \else
8679   /Producer(\pdfproducer)%
8680   \fi
8681   /Keywords(\pdfkeywords)%
8682   \ifx\pdftrapped\empty
8683   \else

```

```

8684      /Trapped/\@pdftrapped
8685      \fi
8686      \HyInfo@Addons
8687      >>%
8688  }%
8689  \Hy@DisableOption{pdfauthor}%
8690  \Hy@DisableOption{pdftitle}%
8691  \Hy@DisableOption{pdfsubject}%
8692  \Hy@DisableOption{pdfcreator}%
8693  \Hy@DisableOption{pdfcreationdate}%
8694  \Hy@DisableOption{pdfmoddate}%
8695  \Hy@DisableOption{pdfproducer}%
8696  \Hy@DisableOption{pdfkeywords}%
8697  \Hy@DisableOption{pdftrapped}%
8698  \Hy@DisableOption{pdfinfo}%
8699  }

8700 \def\PDF@SetupDoc{%
8701   \edef\Hy@temp{%
8702     \ifHy@toolbar\else /HideToolbar true\fi
8703     \ifHy@menubar\else /HideMenubar true\fi
8704     \ifHy>windowui\else /HideWindowUI true\fi
8705     \ifHy@fitwindow /FitWindow true\fi
8706     \ifHy@centerwindow /CenterWindow true\fi
8707     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8708     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8709     \Hy@UseNameKey{Direction}\@pdfdirection
8710     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8711     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8712     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8713     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8714     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8715     \Hy@UseNameKey{Duplex}\@pdfduplex
8716     \ifx\@pdfpicktraybypdfsize\@empty
8717     \else
8718       /PickTrayByPDFSize \@pdfpicktraybypdfsize
8719     \fi
8720     \ifx\@pdfprintpagerange\@empty
8721     \else
8722       /PrintPageRange\@pdfprintpagerange\%
8723     \fi
8724     \ifx\@pdfnumcopies\@empty
8725     \else
8726       /NumCopies \@pdfnumcopies
8727     \fi
8728   }%
8729   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8730   \@pdfm@mark{%
8731     docview<<%
8732     \ifx\@pdfstartpage\@empty
8733     \else
8734       \ifx\@pdfstartview\@empty
8735       \else
8736         /OpenAction[@page\@pdfstartpage\@pdfstartview]%
8737       \fi
8738     \fi
8739     \ifx\@baseurl\@empty
8740     \else

```

```

8741      /URI<</Base(\Hy@pstringB)>>%
8742      \fi
8743      /PageMode/\@pdfpagemode
8744      \ifx\Hy@temp\@empty
8745      \else
8746      /ViewerPreferences<<\Hy@temp>>%
8747      \fi
8748      \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8749      \ifx\@pdflang\@empty
8750      \else
8751      /Lang(\@pdflang)%
8752      \fi
8753      >>%
8754    }%
8755    \ifx\@pdfpagescrop\@empty
8756    \else
8757    \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
8758    \fi
8759  }
8760 </dvipdfm | xetex>

```

XeTeX uses pdfTeX's method `\pdfpagewidth` and `\pdfpageheight` for setting the paper size.

```

8761 <*dvipdfm>
8762 \AtBeginShipoutFirst{%
8763   \ifHy@setpagesize
8764   \begingroup
8765     \ifundefined{stockwidth}{%
8766       \ifdim\paperwidth>\z@
8767       \ifdim\paperheight>\z@
8768       \special{papersize=\the\paperwidth,\the\paperheight}%
8769       \fi
8770     }%
8771     \ifdim\stockwidth>\z@
8772     \ifdim\stockheight>\z@
8773     \special{papersize=\the\stockwidth,\the\stockheight}%
8774     \fi
8775   }%
8776   \fi
8777 }%
8778 \endgroup
8779 \fi
8780 \Hy@DisableOption{setpagesize}%
8781 }
8782 </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.

```

8783 <*vtexhtml>
8784 \providecommand*{\XR@ext}{htm}
8785 \RequirePackage{vtexhtml}
8786 \newif\if@Localurl
8787 \def\PDF@FinishDoc{}
8788 \def\PDF@SetupDoc{%
8789   \ifx\@baseurl\@empty

```

```

8790 \else
8791 \special{!direct <base href="\@baseurl">}%
8792 \fi
8793 }
8794 \def\@urlltype{url}
8795 \def\hyper@link#1#2#3{%
8796 \leavevmode
8797 \special{!direct <a href=%
8798 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8799 #3%
8800 \special{!direct </a>}%
8801 }
8802 \def\hyper@linkurl#1#2{%
8803 \begingroup
8804 \hyper@chars
8805 \leavevmode
8806 \MathBSuppress=1\relax
8807 \special{!direct <a href=%
8808 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8809 #1%
8810 \MathBSuppress=0\relax
8811 \special{!direct </a>}%
8812 \endgroup
8813 }
8814 \def\hyper@linkfile#1#2#3{%
8815 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\ \else\##3\fi}%
8816 }
8817 \def\hyper@linkstart#1#2{%
8818 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlltype
8819 \@Localurltrue
8820 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8821 \else
8822 \@Localurlfalse
8823 \begingroup
8824 \hyper@chars
8825 \special{!aref \HyperDestNameFilter{#2}}%
8826 \endgroup
8827 \fi
8828 }
8829 \def\hyper@linkend{%
8830 \if@Localurl
8831 \special{!endaref}%
8832 \else
8833 \special{!direct </a>}%
8834 \fi
8835 }
8836 \def\hyper@anchorstart#1{%
8837 \Hy@SaveLastskip
8838 \begingroup
8839 \hyper@chars
8840 \special{!aname #1}%
8841 \special{!direct <a name=%
8842 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8843 \endgroup
8844 \Hy@activeanchortrue
8845 }
8846 \def\hyper@anchorend{%

```

```

8847 \special{!direct </a>}%
8848 \Hy@activeanchorfalse
8849 \Hy@RestoreLastskip
8850 }
8851 \def\hyper@anchor#1{%
8852 \Hy@SaveLastskip
8853 \begingroup
8854 \let\protect=\string
8855 \hyper@chars
8856 \leavevmode
8857 \special{!aname #1}%
8858 \special{!direct <a name=%
8859 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8860 \endgroup
8861 \Hy@activeanchortrue
8862 \bgroup\anchor@spot\egroup
8863 \special{!direct </a>}%
8864 \Hy@activeanchorfalse
8865 \Hy@RestoreLastskip
8866 }
8867 \def\@Form[#1]{%
8868 \typeout{Sorry, TeXpider does not yet support FORMs}%
8869 }
8870 \def\@endForm{}
8871 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8872 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8873 }
8874 \def\@TextField[#1]#2{% parameters, label
8875 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8876 }
8877 \def\@CheckBox[#1]#2{% parameters, label
8878 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8879 }
8880 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8881 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8882 }
8883 \def\@PushButton[#1]#2{% parameters, label
8884 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8885 }
8886 \def\@Reset[#1]#2{%
8887 \typeout{Sorry, TeXpider does not yet support FORMs}%
8888 }
8889 \def\@Submit[#1]#2{%
8890 \typeout{Sorry, TeXpider does not yet support FORMs}%
8891 }
8892 </vtexhtml>
8893 <*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.

```

8894 \ifx\mediaheight\@undefined
8895 \else
8896 \ifx\mediaheight\relax
8897 \else
8898 \ifHy@setpagesize
8899 \providecommand*{\VTeXInitMediaSize}{%

```

```

8900 \ifundefined{stockwidth}{%
8901 \ifdim\paperheight>0pt %
8902 \setlength\mediaheight\paperheight
8903 \fi
8904 \ifdim\paperheight>0pt %
8905 \setlength\mediawidth\paperwidth
8906 \fi
8907 }{%
8908 \ifdim\stockheight>0pt %
8909 \setlength\mediaheight\stockheight
8910 \fi
8911 \ifdim\stockwidth>0pt %
8912 \setlength\mediawidth\stockwidth
8913 \fi
8914 }%
8915 }%
8916 \AtBeginDocument{\VTeXInitMediaSize}%
8917 \fi
8918 \Hy@DisableOption{setpagesize}%
8919 \fi
8920 \fi

```

Older versions of VTeX require xyz in lower case.

```

8921 \providecommand*\@pdfview{xyz}
8922 \providecommand*\@pdfborder{0 0 1}
8923 \providecommand*\@pdfborderstyle{}
8924 \let\CurrentBorderColor\@linkbordercolor
8925 \def\hyper@anchor#1{%
8926 \Hy@SaveLastskip
8927 \begingroup
8928 \let\protect=\string
8929 \hyper@chars
8930 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8931 \endgroup
8932 \Hy@activeanchortrue
8933 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8934 \Hy@activeanchorfalse
8935 \Hy@RestoreLastskip
8936 }
8937 \def\hyper@anchorstart#1{%
8938 \Hy@SaveLastskip
8939 \begingroup
8940 \hyper@chars
8941 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8942 \endgroup
8943 \Hy@activeanchortrue
8944 }
8945 \def\hyper@anchorend{%
8946 \Hy@activeanchorfalse
8947 \Hy@RestoreLastskip
8948 }
8949 \def\@urltype{url}
8950 \def\Hy@undefinedname{UNDEFINED}
8951 \def\hyper@linkstart#1#2{%
8952 \Hy@pstringdef\Hy@pstringURI{#2}%
8953 \expandafter\Hy@colorlink\csname @#1color\endcsname
8954 \ifundefined{@#1bordercolor}{%
8955 \let\CurrentBorderColor\relax

```



```

8956 }{%
8957   \edef\CurrentBorderColor{%
8958     \csname @#1bordercolor\endcsname
8959   }%
8960 }%
8961 \def\Hy@tempa{#1}%
8962 \ifx\Hy@tempa\@uratype
8963   \special{!%
8964     aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8965     a=<%
8966       \ifHy@pdfa /F 4\fi
8967       \Hy@setpdfborder
8968       \ifx\CurrentBorderColor\relax
8969         \else
8970           /C [\CurrentBorderColor]%
8971         \fi
8972       >%
8973     }%
8974   \else
8975     \protected@edef\Hy@testname{#2}%
8976     \ifx\Hy@testname\@empty
8977       \Hy@Warning{%
8978         Empty destination name,\MessageBreak
8979         using '\Hy@undefinedname'%
8980       }%
8981       \let\Hy@testname\Hy@undefinedname
8982     \fi
8983     \special{!%
8984       aref \expandafter\HyperDestNameFilter
8985         \expandafter{\Hy@testname};%
8986       a=<%
8987         \ifHy@pdfa /F 4\fi
8988         \Hy@setpdfborder
8989         \ifx\CurrentBorderColor\relax
8990           \else
8991             /C [\CurrentBorderColor]%
8992           \fi
8993         >%
8994       }%
8995     \fi
8996   }
8997 \def\hyper@linkend{%
8998   \special{!endaref}%
8999   \Hy@endcolorlink
9000 }
9001 \def\hyper@linkfile#1#2#3{%
9002   \leavevmode
9003   \special{!%
9004     aref <%
9005     \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
9006     f=#2>#3;%
9007     a=<%
9008       \ifHy@pdfa /F 4\fi
9009       \Hy@setpdfborder
9010       \ifx\@filebordercolor\relax
9011         \else
9012           /C [\@filebordercolor]%

```

```

9013 \fi
9014 >%
9015 }%
9016 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
9017 \special{!endaref}%
9018 }
9019 \def\hyper@linkurl#1#2{%
9020 \begingroup
9021 \Hy@pstringdef\Hy@pstringURI{#2}%
9022 \hyper@chars
9023 \leavevmode
9024 \special{!%
9025   aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
9026   a=<%
9027     \ifHy@pdfa /F 4\fi
9028     \Hy@setpdfborder
9029     \ifx\@urlbordercolor\relax
9030     \else
9031       /C [\@urlbordercolor]%
9032     \fi
9033   >%
9034   }%
9035   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9036   \special{!endaref}%
9037 \endgroup
9038 }
9039 \def\hyper@link#1#2#3{%
9040 \@ifundefined{@#1bordercolor}{%
9041   \let\CurrentBorderColor\relax
9042 }{%
9043   \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9044 }%
9045 \leavevmode
9046 \protected@edef\Hy@testname{#2}%
9047 \ifx\Hy@testname\@empty
9048   \Hy@Warning{%
9049     Empty destination name,\MessageBreak
9050     using '\Hy@undefinedname'%
9051   }%
9052   \let\Hy@testname\Hy@undefinedname
9053 \fi
9054 \special{!%
9055   aref \expandafter\HyperDestNameFilter
9056     \expandafter{\Hy@testname};%
9057   a=<%
9058     \ifHy@pdfa /F 4\fi
9059     \Hy@setpdfborder
9060     \ifx\CurrentBorderColor\relax
9061     \else
9062       /C [\CurrentBorderColor]%
9063     \fi
9064   >%
9065   }%
9066 \expandafter
9067 \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
9068 \special{!endaref}%
9069 }

```

```

9070 \def\hyper@image#1#2{%
9071   \hyper@linkurl{#2}{#1}%
9072 }
9073 \def\@hyper@launch run:#1\#2#3{%
9074   \Hy@pstringdef\Hy@pstringF{#1}%
9075   \Hy@pstringdef\Hy@pstringP{#3}%
9076   \leavevmode
9077   \special{!aref %
9078     <u=%
9079       /Type/Action%
9080       /S/Launch%
9081       /F(\Hy@pstringF)%
9082       \Hy@SetNewWindow
9083       \ifx\#3\%
9084         \else
9085           /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
9086         \fi%
9087       >,%
9088       a=<%
9089         \ifHy@pdfa /F 4\fi
9090         \Hy@setpdfborder
9091         \ifx\@runbordercolor\relax
9092           \else
9093             /C[\@runbordercolor]%
9094           \fi
9095         >%
9096       }%
9097   \Hy@colorlink\@runcolor#2\Hy@endcolorlink
9098   \special{!endaref}%
9099 }
9100 \def\Acrobatmenu#1#2{%
9101   \Hy@Acrobatmenu{#1}{#2}{%
9102     \special{!%
9103       aref <u=/S /Named /N /#1>,%
9104       a=<%
9105         \ifHy@pdfa /F 4\fi
9106         \Hy@setpdfborder
9107         \ifx\@menubordercolor\relax
9108           \else
9109             /C[\@menubordercolor]%
9110           \fi
9111         >%
9112       }%
9113   \Hy@colorlink\@menucolor#2\Hy@endcolorlink
9114   \special{!endaref}%
9115   }%
9116 }

```

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

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

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

```

9117 \ifnum\Hy@VTeXversion<702 %
9118 \else
9119   \def\hyper@pagetransition{%
9120     \ifx\@pdfpagetransition\relax
9121       \else
9122         \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

9123 \else
9124 \hvtex@parse@trans\@pdfpagetransition
9125 \fi
9126 \fi
9127 }%
```

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:

```

9128 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
9129 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
9130 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
9131 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
9132 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
9133 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
9134 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%
```

Optional parameters:

```

9135 \def\hvtex@par@dimension{/Dm}%
9136 \def\hvtex@par@direction{/Di}%
9137 \def\hvtex@par@duration{/D}%
9138 \def\hvtex@par@motion{/M}%
```

Tokenizer:

```

9139 \def\hvtex@gettoken{%
9140 \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
9141 }%
```

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

```

9142 \def\hvtex@gettoken@#1 #2\@nil{%
9143 \edef\hvtex@token{#1}%
9144 \edef\hvtex@buffer{#2}%
9145 }%
9146 \def\hvtex@parse@trans#1{%
```

Initializing code:

```

9147 \let\hvtex@trans@code\@empty
9148 \let\hvtex@param@dimension\@empty
9149 \let\hvtex@param@direction\@empty
```

```

9150 \let\hvtex@param@duration\@empty
9151 \let\hvtex@param@motion\@empty
9152 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

9153 \hvtex@gettoken
9154 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

9155 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

9156 \else
9157 \hvtex@gettoken
9158 \fi
9159 \fi
9160 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

9161 \hvtex@trans@params
9162 }%

```

Reentrant macro to parse optional parameters.

```

9163 \def\hvtex@trans@params{%
9164 \ifx\hvtex@buffer\@empty
9165 \else
9166 \hvtex@gettoken
9167 \let\hvtex@trans@par\hvtex@token
9168 \ifx\hvtex@buffer\@empty
9169 \else
9170 \hvtex@gettoken
9171 \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. V_T_EX special takes it in milliseconds.

```

9172 \let\hvtex@param@duration\hvtex@token
9173 \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

9174 \expandafter\edef\expandafter\hvtex@param@motion
9175 \expandafter{\expandafter\@gobble\hvtex@token}%
9176 \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

9177 \expandafter\edef\expandafter\hvtex@param@dimension
9178 \expandafter{\expandafter\@gobble\hvtex@token}%
9179 \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).

```

9180 \let\hvtex@param@direction\hvtex@token
9181 \fi\fi\fi\fi
9182 \fi
9183 \fi
9184 \ifx\hvtex@buffer\@empty
9185 \let\next\hvtex@produce@trans
9186 \else
9187 \let\next\hvtex@trans@params
9188 \fi
9189 \next
9190 }%

```

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

```

9191 \def\hvtex@produce@trans{%
9192 \let\vtex@trans@special\@empty
9193 \if S\hvtex@trans@code
9194 \edef\vtex@trans@special{\hvtex@trans@code
9195 \hvtex@param@dimension\hvtex@param@motion}%
9196 \else\if B\hvtex@trans@code
9197 \edef\vtex@trans@special{%
9198 \hvtex@trans@code\hvtex@param@dimension
9199 }%
9200 \else\if X\hvtex@trans@code
9201 \edef\vtex@trans@special{%
9202 \hvtex@trans@code\hvtex@param@motion
9203 }%
9204 \else\if W\hvtex@trans@code
9205 \edef\vtex@trans@special{%
9206 \hvtex@trans@code\hvtex@param@direction
9207 }%
9208 \else\if D\hvtex@trans@code
9209 \let\vtex@trans@special\hvtex@trans@code
9210 \else\if R\hvtex@trans@code
9211 \let\vtex@trans@special\hvtex@trans@code
9212 \else\if G\hvtex@trans@code
9213 \edef\vtex@trans@special{%
9214 \hvtex@trans@code\hvtex@param@direction
9215 }%
9216 \fi\fi\fi\fi\fi
9217 \ifx\vtex@trans@special\@empty
9218 \else
9219 \ifx\hvtex@param@duration\@empty
9220 \else
9221 \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

9222 \multiply\dimen@\@m
9223 \edef\vtex@trans@special{%
9224 \vtex@trans@special,\strip@pt\dimen@
9225 }%
9226 \fi

```

And all the mess is just for this.

```

9227 \special{!trans \vtex@trans@special}%
9228 \fi
9229 }%

9230 \def\hyper@pageduration{%
9231 \ifx\@pdfpageduration\relax
9232 \else
9233 \ifx\@pdfpageduration\@empty
9234 \special{!duration-}%
9235 \else
9236 \special{!duration \@pdfpageduration}%
9237 \fi
9238 \fi
9239 }%
9240 \def\hyper@pagehidden{%
9241 \ifHy@useHidKey

```

```

9242 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
9243 \fi
9244 }%
9245 \g@addto@macro\Hy@EveryPageBoxHook{%
9246 \hyper@pagetransition
9247 \hyper@pageduration
9248 \hyper@pagehidden
9249 }%
9250 \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

```

9251 \ifx\@pdfproducer\relax
9252 \def\@pdfproducer{VTeX}%
9253 \ifnum\Hy@VTeXversion>\z@
9254 \count@\VTeXversion
9255 \divide\count@ 100 %
9256 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
9257 \multiply\count@ -100 %
9258 \advance\count@\VTeXversion
9259 \edef\@pdfproducer{%
9260 \@pdfproducer
9261 .\ifnum\count@<10 0\fi\the\count@
9262 \ifx\VTeXOS\@undefined\else
9263 \ifnum\VTeXOS>0 %
9264 \ifnum\VTeXOS<6 %
9265 \space(%
9266 \ifcase\VTeXOS
9267 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
9268 \fi
9269 )%
9270 \fi
9271 \fi
9272 \fi
9273 ,\space
9274 \ifnum\OpMode=\@one PDF\else PS\fi
9275 \space backend%
9276 \ifx\gexmode\@undefined\else
9277 \ifnum\gexmode>\z@\space with GeX\fi
9278 \fi
9279 }%
9280 \fi
9281 \fi

```

Current `!pdftinfo` 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).

```

9282 \def\PDF@SetupDoc{%
9283   \ifx\@pdfpagescrop\@empty
9284   \else
9285     \special{!pdfinfo b=<\@pdfpagescrop>}%
9286   \fi
9287   \ifx\@pdfstartpage\@empty
9288   \else
9289     \ifx\@pdfstartview\@empty
9290     \else
9291       \special{!onopen Page\@pdfstartpage}%
9292     \fi
9293   \fi
9294   \special{!pdfinfo p=</\@pdfpagemode>}%
9295   \ifx\@baseurl\@empty
9296   \else
9297     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
9298   \fi
9299   \special{!pdfinfo v=<<<%
9300     \ifHy@toolbar\else /HideToolbar true\fi
9301     \ifHy@menubar\else /HideMenubar true\fi
9302     \ifHy>windowui\else /HideWindowUI true\fi
9303     \ifHy@fitwindow /FitWindow true\fi
9304     \ifHy@centerwindow /CenterWindow true\fi
9305     \ifHy@displaydoctitle /DisplayDocTitle true\fi
9306     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9307     \Hy@UseNameKey{Direction}\@pdfdirection
9308     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9309     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9310     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9311     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9312     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9313     \Hy@UseNameKey{Duplex}\@pdfduplex
9314     \ifx\@pdfpicktraybypdfsize\@empty
9315     \else
9316       /PickTrayByPDFSize \@pdfpicktraybypdfsize
9317     \fi
9318     \ifx\@pdfprintpagerange\@empty
9319     \else
9320       /PrintPageRange[\@pdfprintpagerange]%
9321     \fi
9322     \ifx\@pdfnumcopies\@empty
9323     \else
9324       /NumCopies \@pdfnumcopies

```



```

9325 \fi
9326 >>>}%
9327 \ifx\@pdfpagelayout\@empty
9328 \else
9329 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
9330 \fi
9331 }%
9332 \HyInfo@AddonUnsupportedtrue
9333 \def\PDF@FinishDoc{%
9334 \Hy@UseMaketitleInfos
9335 \HyInfo@TrappedUnsupported
9336 \special{!pdfinfo a=<\@pdfauthor>}%
9337 \special{!pdfinfo t=<\@pdftitle>}%
9338 \special{!pdfinfo s=<\@pdfsubject>}%
9339 \special{!pdfinfo c=<\@pdfcreator>}%
9340 \ifx\@pdfproducer\relax
9341 \else
9342 \special{!pdfinfo r=<\@pdfproducer>}%
9343 \fi
9344 \special{!pdfinfo k=<\@pdfkeywords>}%
9345 \Hy@DisableOption{pdfauthor}%
9346 \Hy@DisableOption{pdftitle}%
9347 \Hy@DisableOption{pdfsubject}%
9348 \Hy@DisableOption{pdfcreator}%
9349 \Hy@DisableOption{pdfcreationdate}%
9350 \Hy@DisableOption{pdfmoddate}%
9351 \Hy@DisableOption{pdfproducer}%
9352 \Hy@DisableOption{pdfkeywords}%
9353 \Hy@DisableOption{pdftrapped}%
9354 \Hy@DisableOption{pdfinfo}%
9355 }
9356 </vtex>

```

46.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:

```

/showpage {
  //showpage
  clippath stroke erasepage
} bind def

```

But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

```

9357 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
9358 <package>\providecommand*{\Hy@DistillerDestFix}{%
9359 <*pdfmark | dviwindo>
9360 \def\Hy@DistillerDestFix{%
9361 \beginngroup
9362 \let\x\literalps@out

```

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

```

9363 \ifnum \@ifundefined{OpMode}{0}{%
9364 \ifundefined{gexmode}{0}{%
9365 \ifnum\gexmode>0 \OpMode\else 0\fi
9366 }}>1 %

```

```

9367 \def\x##1{%
9368 \immediate\special{!=##1}%
9369 }%
9370 \fi
9371 \x{%
9372 /product where{%
9373 pop %
9374 product(Distiller)search{%
9375 pop pop pop %
9376 version(.)search{%
9377 exch pop exch pop%
9378 (3011)eq{%
9379 gsave %
9380 newpath 0 0 moveto closepath clip%
9381 /Courier findfont 10 scalefont setfont %
9382 72 72 moveto(.)show %
9383 grestore%
9384 }if%
9385 }{pop}ifelse%
9386 }{pop}ifelse%
9387 }if%
9388 }%
9389 \endgroup
9390 }
9391 </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 |

```

9392 <*pdfmark>
9393 \Hy@breaklinks@unsupported
9394 \def\hyper@anchor#1{%
9395 \Hy@SaveLastskip
9396 \begingroup
9397 \pdfmark[\anchor@spot]{%
9398 pdfmark=/DEST,%
9399 linktype=anchor,%
9400 View=/\@pdfview \@pdfviewparams,%
9401 DestAnchor={#1}%
9402 }%
9403 \endgroup
9404 \Hy@RestoreLastskip
9405 }
9406 \ifundefined{hyper@anchorstart}{\endinput}
9407 \def\hyper@anchorstart#1{%

```

```

9408 \Hy@SaveLastskip
9409 \literalps@out{H.S}%
9410 \xdef\hyper@currentanchor{#1}%
9411 \Hy@activeanchortrue
9412 }
9413 \def\hyper@anchorend{%
9414 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
9415 \pdfmark{%
9416 pdfmark=/DEST,%
9417 linktype=anchor,%
9418 View=/\@pdfview \@pdfviewparams,%
9419 DestAnchor=\hyper@currentanchor,%
9420 }%
9421 \Hy@activeanchorfalse
9422 \Hy@RestoreLastskip
9423 }
9424 \def\hyper@linkstart#1#2{%
9425 \ifHy@breaklinks
9426 \else
9427 \leavevmode\hbox\bgroup
9428 \fi
9429 \expandafter\Hy@colorlink\csname @#1color\endcsname
9430 \literalps@out{H.S}%
9431 \xdef\hyper@currentanchor{#2}%
9432 \gdef\hyper@currentlinktype{#1}%
9433 }
9434 \def\hyper@linkend{%
9435 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
9436 \@ifundefined{@\hyper@currentlinktype bordercolor}{%
9437 \let\Hy@tempcolor\relax
9438 }{%
9439 \edef\Hy@tempcolor{%
9440 \csname @\hyper@currentlinktype bordercolor\endcsname
9441 }%
9442 }%
9443 \pdfmark{%
9444 pdfmark=/ANN,%
9445 linktype=link,%
9446 Subtype=/Link,%
9447 PDFAFlags=4,%
9448 Dest=\hyper@currentanchor,%
9449 AcroHighlight=\@pdfhighlight,%
9450 Border=\@pdfborder,%
9451 BorderStyle=\@pdfborderstyle,%
9452 Color=\Hy@tempcolor,%
9453 Raw=H.B%
9454 }%
9455 \Hy@endcolorlink
9456 \ifHy@breaklinks
9457 \else
9458 \egroup
9459 \fi
9460 }

```

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.

```

9461 \begingroup

```

```

9462 \catcode'P=12 %
9463 \catcode'T=12 %
9464 \lowercase{\endgroup
9465 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
9466 }
9467 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

9468 \def\hyper@pagetransition{%
9469 \ifx\@pdfpagetransition\relax
9470 \else
9471 \ifx\@pdfpagetransition\@empty
9472 % 1. Does an old entry have to be deleted?
9473 % 2. If 1=yes, how to delete?
9474 \else
9475 \pdfmark{%
9476 pdfmark=/PUT,%
9477 Raw={%
9478 \string{ThisPage\string}%
9479 <</Trans << /S /\@pdfpagetransition\space >> >>%
9480 }%
9481 }%
9482 \fi
9483 \fi
9484 }

```

\hyper@pageduration

```

9485 \def\hyper@pageduration{%
9486 \ifx\@pdfpageduration\relax
9487 \else
9488 \ifx\@pdfpageduration\@empty
9489 % 1. Does an old entry have to be deleted?
9490 % 2. If 1=yes, how to delete?
9491 \else
9492 \pdfmark{%
9493 pdfmark=/PUT,%
9494 Raw={%
9495 \string{ThisPage\string}%
9496 <</Dur \@pdfpageduration>>%
9497 }%
9498 }%
9499 \fi
9500 \fi
9501 }

```

\hyper@pagehidden

```

9502 \def\hyper@pagehidden{%
9503 \ifHy@useHidKey
9504 \pdfmark{%
9505 pdfmark=/PUT,%
9506 Raw={%
9507 \string{ThisPage\string}%
9508 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
9509 }%
9510 }%
9511 \fi
9512 }

```

```

9513 \g@addto@macro\Hy@EveryPageBoxHook{%
9514   \hyper@pagetransition
9515   \hyper@pageduration
9516   \hyper@pagehidden
9517 }

9518 \def\hyper@image#1#2{%
9519   \hyper@linkurl{#2}{#1}%
9520 }

9521 \def\Hy@undefinedname{UNDEFINED}
9522 \def\hyper@link#1#2#3{%
9523   \@ifundefined{@#1bordercolor}{%
9524     \let\Hy@tempcolor\relax
9525   }{%
9526     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
9527   }%
9528   \begingroup
9529     \protected@edef\Hy@testname{#2}%
9530     \ifx\Hy@testname\@empty
9531       \Hy@Warning{%
9532         Empty destination name,\MessageBreak
9533         using '\Hy@undefinedname'%
9534       }%
9535       \let\Hy@testname\Hy@undefinedname
9536     \fi
9537     \pdfmark[{#3}]{%
9538       Color=\Hy@tempcolor,%
9539       linktype={#1},%
9540       AcroHighlight=\@pdfhighlight,%
9541       Border=\@pdfborder,%
9542       BorderStyle=\@pdfborderstyle,%
9543       pdfmark=/ANN,%
9544       Subtype=/Link,%
9545       PDFAFlags=4,%
9546       Dest=\Hy@testname
9547     }%
9548   \endgroup
9549 }

9550 \newtoks\pdf@docset
9551 \def\PDF@FinishDoc{%
9552   \Hy@UseMaketitleInfos
9553   \Hy@Info@GenerateAddons
9554   \let\Hy@temp\@empty
9555   \ifx\@pdfcreationdate\@empty
9556   \else
9557     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
9558   \fi
9559   \ifx\@pdfmoddate\@empty
9560   \else
9561     \expandafter\def\expandafter\Hy@temp\expandafter{%
9562       \Hy@temp
9563       ModDate=\@pdfmoddate,%
9564     }%
9565   \fi
9566   \ifx\@pdfproducer\relax
9567   \else
9568     \expandafter\def\expandafter\Hy@temp\expandafter{%
9569       \Hy@temp

```

```

9570     Producer=\@pdfproducer,%
9571 }%
9572 \fi
9573 \expandafter
9574 \pdfmark\expandafter{%
9575   \Hy@temp
9576   pdfmark=/DOCINFO,%
9577   Title=\@pdftitle,%
9578   Subject=\@pdfsubject,%
9579   Creator=\@pdfcreator,%
9580   Author=\@pdfauthor,%
9581   Keywords=\@pdfkeywords,%
9582   Trapped=\@pdftrapped
9583 }%
9584 \ifx\HyInfo@Addons\@empty
9585 \else
9586   \pdfmark{%
9587     pdfmark=/DOCINFO,%
9588     Raw={\HyInfo@Addons}%
9589   }%
9590 \fi
9591 \Hy@DisableOption{pdfauthor}%
9592 \Hy@DisableOption{pdftitle}%
9593 \Hy@DisableOption{pdfsubject}%
9594 \Hy@DisableOption{pdfcreator}%
9595 \Hy@DisableOption{pdfcreationdate}%
9596 \Hy@DisableOption{pdfmoddate}%
9597 \Hy@DisableOption{pdfproducer}%
9598 \Hy@DisableOption{pdfkeywords}%
9599 \Hy@DisableOption{pdftrapped}%
9600 \Hy@DisableOption{pdfinfo}%
9601 }
9602 \def\PDF@SetupDoc{%
9603   \def\Hy@temp{}%
9604   \ifx\@pdfstartpage\@empty
9605   \else
9606     \ifx\@pdfstartview\@empty
9607     \else
9608       \edef\Hy@temp{%
9609         ,Page=\@pdfstartpage
9610         ,View=\@pdfstartview
9611       }%
9612     \fi
9613   \fi
9614   \edef\Hy@temp{%
9615     \noexpand\pdfmark{%
9616       pdfmark=/DOCVIEW,%
9617       PageMode=\/@pdfpagemode
9618     }\Hy@temp
9619   }%
9620 }%
9621 \Hy@temp
9622 \ifx\@pdfpagescrop\@empty
9623 \else
9624   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9625 \fi
9626 \edef\Hy@temp{%

```

```

9627 \ifHy@toolbar\else /HideToolbar true\fi
9628 \ifHy@menubar\else /HideMenubar true\fi
9629 \ifHy@windowui\else /HideWindowUI true\fi
9630 \ifHy@fitwindow /FitWindow true\fi
9631 \ifHy@centerwindow /CenterWindow true\fi
9632 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9633 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9634 \Hy@UseNameKey{Direction}\@pdfdirection
9635 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9636 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9637 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9638 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9639 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9640 \Hy@UseNameKey{Duplex}\@pdfduplex
9641 \ifx\@pdfpicktraybypdfsize\@empty
9642 \else
9643 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9644 \fi
9645 \ifx\@pdfprintpagerange\@empty
9646 \else
9647 /PrintPageRange[\@pdfprintpagerange]%
9648 \fi
9649 \ifx\@pdfnumcopies\@empty
9650 \else
9651 /NumCopies \@pdfnumcopies
9652 \fi
9653 }%
9654 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9655 \pdfmark{%
9656 pdfmark=/PUT,%
9657 Raw={%
9658 \string{Catalog\string}<<%
9659 \ifx\Hy@temp\@empty
9660 \else
9661 /ViewerPreferences<<\Hy@temp>>%
9662 \fi
9663 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9664 \ifx\@pdflang\@empty
9665 \else
9666 /Lang(\@pdflang)%
9667 \fi
9668 \ifx\@baseurl\@empty
9669 \else
9670 /URI<</Base(\Hy@pstringB)>>%
9671 \fi
9672 >>%
9673 }%
9674 }%
9675 }
9676 </pdfmark>
9677 <*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.

```

9678 \newif\ifHy@pdfmarkerror
9679 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
9680 \def\pdfmark@[#1]#2{%
9681   \Hy@pdfmarkerrorfalse
9682   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9683   \@processme
9684   \let\pdf@type\relax
9685   \setkeys{PDF}{#2}%
9686   \ifHy@pdfmarkerror
9687   \else
9688     \ifx\pdf@type\relax
9689       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9690       \ifx\#1\%
9691         \else
9692           \pdf@rect{#1}%
9693         \fi
9694       \else
9695         \ifx\#1\%
9696           \literalps@out{%
9697             [\the\pdf@toks\space\pdf@type\space pdfmark%
9698             ]%
9699           \else
9700             \@ifundefined{@pdf@linktype color}{%
9701               \Hy@colorlink\@linkcolor
9702             }{%
9703               \expandafter\Hy@colorlink
9704                 \csname @\pdf@linktype color\endcsname
9705             }%
9706             \pdf@rect{#1}%
9707             \literalps@out{%
9708               [\the\pdf@toks\space\pdf@type\space pdfmark%
9709               ]%
9710             \Hy@endcolorlink
9711           \fi
9712         \fi
9713       \fi
9714 }

```

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

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

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

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

```

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

```

```

9715 \newsavebox{\pdf@box}
9716 \providecommand*{\Hy@setouterhbox}{\sbox}
9717 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
9718 \def\Hy@DEST{/DEST}
9719 \def\pdf@rect#1{%
9720   \leavevmode
9721   \ifHy@breaklinks
9722     \Hy@setouterhbox\pdf@box{#1}%
9723   \else

```



```

9724 \sbox\pdf@box{#1}%
9725 \fi
9726 \dimen@ \ht\pdf@box
9727 \ifdim\dp\pdf@box=\z@
9728 \literalps@out{H.S}%
9729 \else
9730 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9731 \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. . .).

```

9732 \ifHy@breaklinks
9733 \expandafter\Hy@breaklinksunhbox
9734 \else
9735 \expandafter\box
9736 \fi
9737 \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

9738 \ifdim\dimen@=\z@
9739 \literalps@out{H.R}%
9740 \else
9741 \raise\dimen@\hbox{\literalps@out{H.R}}%
9742 \fi
9743 \ifx\pdf@type\Hy@DEST
9744 \else
9745 \pdf@addtoksx{H.B}%
9746 \fi
9747 }

```

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.

```

9748 \newtoks\pdf@toks
9749 \newtoks\pdf@defaulttoks
9750 \pdf@defaulttoks={}%
9751 \def\pdf@addtoks#1#2{%
9752 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9753 \@processme
9754 }
9755 \def\pdf@addtoksx#1{%
9756 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9757 \@processme
9758 }
9759 \def\PDFdefaults#1{%
9760 \pdf@defaulttoks={#1}%
9761 }

```

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

```

9762 % what is the type of pdfmark?
9763 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9764 % what is the link type?
9765 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
9766 \def\pdf@linktype{link}
9767 % parameter is a stream of PDF

```

```

9768 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
9769 % parameter is a name
9770 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9771 % parameter is a array
9772 \define@key{PDF}{Border}{%
9773   \edef\Hy@temp{#1}%
9774   \ifx\Hy@temp\@empty
9775     \else
9776       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
9777     \fi
9778 }
9779 \let\Hy@BorderArrayPatch\@empty
9780 % parameter is a dictionary
9781 \define@key{PDF}{BorderStyle}{%
9782   \edef\Hy@temp{#1}%
9783   \ifx\Hy@temp\@empty
9784     \else
9785       \pdf@addtoks{<<#1>>}{BS}%
9786     \fi
9787 }
9788 % parameter is a array
9789 \define@key{PDF}{Color}{%
9790   \ifx\relax#1\relax
9791     \else
9792       \pdf@addtoks{[#1]}{Color}% hash-ok
9793     \fi
9794 }
9795 % parameter is a string
9796 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9797 % parameter is a integer
9798 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9799 % parameter is a array
9800 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9801 % parameter is a string
9802 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9803 % parameter is a string or file
9804 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9805 % parameter is a destination
9806 \define@key{PDF}{Dest}{%
9807   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9808   \ifx\Hy@pstringDest\@empty
9809     \Hy@pdfmarkerrortrue
9810     \Hy@Warning{Destination with empty name ignored}%
9811   \else
9812     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9813   \fi
9814 }
9815 \define@key{PDF}{DestAnchor}{%
9816   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9817   \ifx\Hy@pstringDest\@empty
9818     \Hy@pdfmarkerrortrue
9819     \Hy@Warning{Destination with empty name ignored}%
9820   \else
9821     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9822   \fi
9823 }
9824 % parameter is a string

```

```

9825 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9826 % parameter is a string
9827 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9828 % parameter is a int
9829 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9830 \define@key{PDF}{PDFAFlags}{%
9831   \ifHy@pdfa
9832     \pdf@addtoks{#1}{F}%
9833   \fi
9834 }
9835 % parameter is a name
9836 \define@key{PDF}{AcroHighlight}{%
9837   \begingroup
9838     \edef\x{#1}%
9839     \expandafter\endgroup\ifx\x\@empty
9840       \else
9841         \pdf@addtoks{#1}{H}%
9842       \fi
9843 }
9844 % parameter is a string
9845 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9846 % parameter is a string
9847 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9848 % parameter is a string
9849 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9850 % parameter is a string
9851 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9852 % parameter is a Boolean
9853 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9854 % parameter is a integer or name
9855 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9856 % parameter is a name
9857 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9858 % parameter is a string
9859 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9860 % parameter is a array
9861 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9862 % parameter is a integer
9863 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9864 % parameter is a name
9865 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9866 % parameter is a string
9867 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9868 % parameter is a string
9869 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9870 % parameter is a string
9871 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9872 % parameter is an array
9873 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9874 % parameter is a string
9875 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9876 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9877 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9878 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9879 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9880 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}

```

```

9881 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9882 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9883 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9884 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9885 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
9886 \define@key{PDF}{Trapped}{%
9887   \edef\Hy@temp{#1}%
9888   \ifx\Hy@temp\@empty
9889     \else
9890       \pdf@addtoks{/#1}{Trapped}%
9891     \fi
9892 }
9893
9894 </pdfmarkbase>
9895 <*pdfmark>
9896 \def\Acrobatmenu#1#2{%
9897   \Hy@Acrobatmenu{#1}{#2}{%
9898     \pdfmark[{#2}]{%
9899       linktype=menu,%
9900       pdfmark=/ANN,%
9901       AcroHighlight=\@pdfhighlight,%
9902       Border=\@pdfborder,%
9903       BorderStyle=\@pdfborderstyle,%
9904       Action={<< /Subtype /Named /N /#1 >>},%
9905       Subtype=/Link,%
9906       PDFAFlags=4%
9907     }%
9908   }%
9909 }

```

And now for some useful examples:

```

9910 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9911 \def\PDFNextPage@[#1]#2{%
9912   \pdfmark[{#2}]{%
9913     #1,%
9914     Border=\@pdfborder,%
9915     BorderStyle=\@pdfborderstyle,%
9916     Color=.2 .1 .5,%
9917     pdfmark=/ANN,%
9918     Subtype=/Link,%
9919     PDFAFlags=4,%
9920     Page=/Next%
9921   }%
9922 }
9923 \def\PDFPreviousPage{%
9924   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9925 }
9926 \def\PDFPreviousPage@[#1]#2{%
9927   \pdfmark[{#2}]{%
9928     #1,%
9929     Border=\@pdfborder,%
9930     BorderStyle=\@pdfborderstyle,%
9931     Color=.4 .4 .1,%
9932     pdfmark=/ANN,%
9933     Subtype=/Link,%
9934     PDFAFlags=4,%
9935     Page=/Prev%
9936   }%

```

```

9937 }
9938 \def\PDFOpen#1{%
9939   \pdfmark{#1,pdfmark=/DOCVIEW}%
9940 }

```

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

```

9941 \def\hyper@linkurl#1#2{%
9942   \begingroup
9943   \Hy@pstringdef\Hy@pstringURI{#2}%
9944   \hyper@chars
9945   \leavevmode
9946   \pdfmark[{#1}]{%
9947     pdfmark=/ANN,%
9948     linktype=url,%
9949     AcroHighlight=\@pdfhighlight,%
9950     Border=\@pdfborder,%
9951     BorderStyle=\@pdfborderstyle,%
9952     Color=\@urlbordercolor,%
9953     Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9954     Subtype=/Link,%
9955     PDFAFlags=4%
9956   }%
9957 \endgroup
9958 }
9959 \def\hyper@linkfile#1#2#3{%
9960   \begingroup
9961   \Hy@pstringdef\Hy@pstringF{#2}%
9962   \Hy@pstringdef\Hy@pstringD{#3}%
9963   \leavevmode
9964   \pdfmark[{#1}]{%
9965     pdfmark=/ANN,%
9966     Subtype=/Link,%
9967     PDFAFlags=4,%
9968     AcroHighlight=\@pdfhighlight,%
9969     Border=\@pdfborder,%
9970     BorderStyle=\@pdfborderstyle,%
9971     linktype=file,%
9972     Color=\@filebordercolor,%
9973     Action={%
9974       <<%
9975       /S/GoToR%
9976       \Hy@SetNewWindow
9977       /F(\Hy@pstringF)%
9978       /D\ifx\#3\[\[0 \@pdfstartview\]\else(\Hy@pstringD)cvn\fi
9979       >>%
9980     }%
9981   }%
9982 \endgroup
9983 }
9984 \def\@hyper@launch run:#1\#2#3{%
9985   \begingroup
9986   \Hy@pstringdef\Hy@pstringF{#1}%
9987   \Hy@pstringdef\Hy@pstringP{#3}%
9988   \leavevmode
9989   \pdfmark[{#2}]{%
9990     pdfmark=/ANN,%
9991     Subtype=/Link,%
9992     PDFAFlags=4,%

```

```

9993   AcroHighlight=\@pdfhighlight,%
9994   Border=\@pdfborder,%
9995   BorderStyle=\@pdfborderstyle,%
9996   linktype=run,%
9997   Color=\@runbordercolor,%
9998   Action={%
9999       <<%
10000       /S/Launch%
10001       \Hy@SetNewWindow
10002       /F(\Hy@pstringF)%
10003       \ifx\#3\%
10004       \else
10005       /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10006       \fi
10007       >>%
10008   }%
10009 }%
10010 \endgroup
10011 }
10012 </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.

```

10013 < *dvips>
10014 \providecommand*{\XR@ext}{pdf}
10015 \def\Hy@raisedlink{}
10016 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
10017 \def\headerps@out#1{\special{! #1}}%
10018 \input{pdfmark.def}%
10019 \ifx\@pdfproducer\relax
10020 \def\@pdfproducer{dvips + Distiller}%
10021 \fi
10022 \providecommand*\@pdfborder{0 0 1}
10023 \providecommand*\@pdfborderstyle{}
10024 \providecommand*\@pdfview{XYZ}
10025 \providecommand*\@pdfviewparams{ H.V}
10026 \def\Hy@BorderArrayPatch{BorderArrayPatch}
10027 \g@addto@macro\Hy@FirstPageHook{%
10028   \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.

```
10029 /DvipsToPDF{72.27 mul Resolution div} def%
10030 /PDFToDvips{72.27 div Resolution mul} def%
10031 /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.

```
10032 /BorderArrayPatch{%
10033   [exch{%
10034     dup dup type/integertype eq exch type/realtype eq or%
10035     {BPToDvips}if%
10036   }forall]%
10037 }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.

```
10038 /HyperBorder {1 PDFToDvips} def%
10039 /H.V {pdf@hoff pdf@voff null} def%
10040 /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

```
10041 /H.S {%
10042   currentpoint %
10043   HyperBorder add /pdf@lly exch def %
10044   dup DvipsToPDF 72 add /pdf@hoff exch def %
10045   HyperBorder sub /pdf@llx exch def%
10046 } 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`

```
10047 /H.L {%
10048   2 sub dup%
10049   /HyperBasePt exch def %
10050   PDFToDvips /HyperBaseDvips exch def %
10051   currentpoint %
10052   HyperBaseDvips sub /pdf@ury exch def%
10053   /pdf@urx exch def%
10054 } def%
10055 /H.A {%
10056   H.L %
10057 % |pdf@voff| = the distance from the top of the page to a point
10058 % |\baselineskip| above the current point in PDF coordinates
10059   currentpoint exch pop %
10060   vsize 72 sub exch DvipsToPDF %
10061   HyperBasePt sub % baseline skip
10062   sub /pdf@voff exch def%
10063 } def%
10064 /H.R {%
10065   currentpoint %
10066   HyperBorder sub /pdf@ury exch def %
```

```

10067   HyperBorder add /pdf@urx exch def %
10068 % | /pdf@voff| = the distance from the top of the page to the current point, in
10069 % PDF coordinates
10070   currentpoint exch pop vsize 72 sub %
10071   exch DvipsToPDF sub /pdf@voff exch def%
10072 } def%
10073 }%
10074 }
10075 \AtBeginShipoutFirst{%
10076 \ifHy@setpagesize
10077 \begingroup
10078 \ifundefined{stockwidth}{%
10079 \ifdim\paperwidth>\z@
10080 \ifdim\paperheight>\z@
10081 \special{papersize=\the\paperwidth,\the\paperheight}%
10082 \fi
10083 \fi
10084 }{%
10085 \ifdim\stockwidth>\z@
10086 \ifdim\stockheight>\z@
10087 \special{papersize=\the\stockwidth,\the\stockheight}%
10088 \fi
10089 \fi
10090 }%
10091 \endgroup
10092 \fi
10093 \Hy@DisableOption{setpagesize}%
10094 }
10095 </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.

```

10096 <*vtexpdfmark>
10097 \providecommand*{\XR@ext}{pdf}
10098 \def\Hy@raisedlink{}
10099 \def\literalps@out#1{\special{pS:#1}}%
10100 \def\headerps@out#1{\immediate\special{pS:#1}}%
10101 \input{pdfmark.def}%
10102 \ifx\@pdfproducer\relax
10103 \ifnum\OpMode=\@ne
10104 \def\@pdfproducer{VTeX}%
10105 \else
10106 \def\@pdfproducer{VTeX + Distiller}%
10107 \fi
10108 \fi
10109 \providecommand*\@pdfborder{0 0 1}
10110 \providecommand*\@pdfborderstyle{}
10111 \providecommand*\@pdfview{XYZ}
10112 \providecommand*\@pdfviewparams{ H.V}
10113 \g@addto@macro\Hy@FirstPageHook{%
10114 \headerps@out{%
10115 /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.

```
10116 /HyperBorder {1} def%
10117 /H.V {pdf@hoff pdf@voff null} def%
10118 /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```
10119 /H.S {%
10120   currentpoint %
10121   HyperBorder sub%
10122   /pdf@lly exch def %
10123   dup 72 add /pdf@hoff exch def %
10124   HyperBorder sub%
10125   /pdf@llx exch def%
10126 } def%
```

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

```
10127 /H.L {%
10128   2 sub%
10129   /HyperBasePt exch def %
10130   currentpoint %
10131   HyperBasePt add HyperBorder add%
10132   /pdf@ury exch def %
10133   HyperBorder add%
10134   /pdf@urx exch def%
10135 } def%
10136 /H.A {%
10137   H.L %
10138   currentpoint exch pop %
10139   vsize 72 sub exch %
10140   HyperBasePt add add%
10141   /pdf@voff exch def%
10142 } def%
```

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

```
10143 /H.R {%
10144   currentpoint %
10145   HyperBorder add%
10146   /pdf@ury exch def %
10147   HyperBorder add%
10148   /pdf@urx exch def %
10149   currentpoint exch pop vsize 72 sub add%
10150   /pdf@voff exch def%
10151 } def%
10152 }%
10153 }
10154 </vtxpdfmark>
```

46.11 Textures

```
10155 <*textures>
10156 \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.

```
10157 \begingroup
10158 \obeylines %
10159 \gdef\Hy@ps@CR{\noexpand
10160 }%
10161 \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`.

```
10162 \def\literalps@out#1{%
10163   \special{postscript 0 0 transform}%
10164   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
10165 }%
10166 %
```

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.

```
10167 \def\headerps@out#1{%
10168   \special{%
10169     prepostscript TeXdict begin\Hy@ps@CR
10170       #1\Hy@ps@CR
10171     end%
10172   }%
10173 }%
10174 %
```

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.

```
10175 \g@addto@macro\Hy@FirstPageHook{%
10176   \headerps@out{%
10177     /betterpdfmark {%
10178       systemdict begin %
10179         dup /BP eq%
10180         {cleartomark gsave nulldevice []}%
10181         {dup /EP eq%
10182           {cleartomark cleartomark grestore}%
10183           {cleartomark}%
10184         }ifelse%
10185       }ifelse %
10186     end%
10187   }def\Hy@ps@CR
10188   ____pdfmark__ not{/pdfmark /betterpdfmark load def}if%
```

```

10189 }% end of \headerps@out
10190 }% end of \AtBeginShipoutFirst
10191 %
10192 \input{pdfmark.def}%
10193 %
10194 \ifx\@pdfproducer\relax
10195 \def\@pdfproducer{Textures + Distiller}%
10196 \fi
10197 \providecommand*\@pdfborder{0 0 1}
10198 \providecommand*\@pdfborderstyle{}
10199 \providecommand*\@pdfview{XYZ}
10200 \providecommand*\@pdfviewparams{ H.V}
10201 %

```

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 .

```

10202 \AfterBeginDocument{%
10203 \headerps@out{%

```

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

```

10204 /vsize {\Hy@pageheight} def%
10205 /DvipsToPDF {} def%
10206 /PDFToDvips {} def%
10207 /BPToDvips {} def%
10208 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
10209 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
10210 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
10211 /H.S {%
10212 currentpoint %
10213 HyperBorder add /pdf@lly exch def %
10214 dup DvipsToPDF 72 add /pdf@hoff exch def %
10215 HyperBorder sub /pdf@llx exch def%
10216 } def\Hy@ps@CR
10217 /H.L {%
10218 2 sub %
10219 PDFToDvips /HyperBase exch def %
10220 currentpoint %
10221 HyperBase sub /pdf@ury exch def%
10222 /pdf@urx exch def%
10223 } def\Hy@ps@CR
10224 /H.A {%
10225 H.L %
10226 currentpoint exch pop %
10227 vsize 72 sub exch DvipsToPDF %
10228 HyperBase sub % baseline skip
10229 sub /pdf@voff exch def%
10230 } def\Hy@ps@CR
10231 /H.R {%
10232 currentpoint %
10233 HyperBorder sub /pdf@ury exch def %
10234 HyperBorder add /pdf@urx exch def %
10235 currentpoint exch pop vsize 72 sub %
10236 exch DvipsToPDF sub /pdf@voff exch def%
10237 } def\Hy@ps@CR
10238 }%

```

```

10239 }
10240 \AfterBeginDocument{%
10241   \ifHy@colorlinks
10242     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
10243   \fi
10244 }

```

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.

```

10245 \expandafter\let\expandafter\keepPDF@SetupDoc
10246   \csname PDF@SetupDoc\endcsname
10247 \def\PDF@SetupDoc{%
10248   \ifx\@baseurl\@empty
10249     \else
10250       \special{html:<base href="\@baseurl">}%
10251     \fi
10252   \keepPDF@SetupDoc
10253 }
10254 \def\hyper@anchor#1{%
10255   \Hy@SaveLastskip
10256   \begingroup
10257     \let\protect=\string
10258     \special{html:<a name=%
10259       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10260   \endgroup
10261   \Hy@activeanchortrue
10262   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10263   \special{html:</a>}%
10264   \Hy@activeanchorfalse
10265   \Hy@RestoreLastskip
10266 }
10267 \def\hyper@anchorstart#1{%
10268   \Hy@SaveLastskip
10269   \begingroup
10270     \hyper@chars
10271     \special{html:<a name=%
10272       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10273   \endgroup
10274   \Hy@activeanchortrue
10275 }
10276 \def\hyper@anchorend{%
10277   \special{html:</a>}%
10278   \Hy@activeanchorfalse
10279   \Hy@RestoreLastskip
10280 }
10281 \def\@urltype{url}
10282 \def\hyper@linkstart#1#2{%
10283   \expandafter\Hy@colorlink\csname @#1color\endcsname
10284   \def\Hy@tempa{#1}%
10285   \ifx\Hy@tempa\@urltype
10286     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10287   \else
10288     \begingroup
10289       \hyper@chars
10290       \special{%
10291         html:<a href=%
10292           \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%

```

```

10293     }%
10294   \endgroup
10295 \fi
10296 }
10297 \def\hyper@linkend{%
10298   \special{html:</a>}%
10299   \Hy@endcolorlink
10300 }
10301 \def\hyper@linkfile#1#2#3{%
10302   \hyper@linkurl{#1}{%
10303     \Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi
10304   }%
10305 }
10306 \def\hyper@linkurl#1#2{%
10307   \leavevmode
10308   \ifHy@raiselinks
10309     \setbox\@tempboxa=\color@hbox #1\color@endbox
10310     \@linkdim\dp\@tempboxa
10311     \lower\@linkdim\hbox{%
10312       \hyper@chars
10313       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10314     }%
10315     \Hy@colorlink\@urlcolor#1%
10316     \@linkdim\ht\@tempboxa
10317     \advance\@linkdim by -6.5\p@
10318     \raise\@linkdim\hbox{\special{html:</a>}}%
10319     \Hy@endcolorlink
10320   \else
10321     \begingroup
10322     \hyper@chars
10323     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10324     \Hy@colorlink\@urlcolor#1%
10325     \special{html:</a>}%
10326     \Hy@endcolorlink
10327   \endgroup
10328 \fi
10329 }

```

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

```

10330 \def\hyper@link#1#2#3{%
10331   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
10332 }
10333 \def\hyper@image#1#2{%
10334   \begingroup
10335   \hyper@chars
10336   \special{html:<img src=\hyper@quote#1\hyper@quote>}%
10337   \endgroup
10338 }
10339 </textures>

```

46.12 dvipsone

```

10340 % \subsection{dvipsone driver}
10341 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
10342 % |\special| commands.
10343 < *dvipsone>
10344 \providecommand*{\XR@ext}{pdf}
10345 \def\Hy@raisedlink{

```

```

10346 \providecommand*\@pdfborder{0 0 1}
10347 \providecommand*\@pdfborderstyle{}
10348 \def\literalps@out#1{\special{ps:#1}}%
10349 \def\headerps@out#1{\special{headertext=#1}}%
10350 \input{pdfmark.def}%
10351 \ifx\@pdfproducer\relax
10352   \def\@pdfproducer{dvipsone + Distiller}%
10353 \fi
10354 \HyInfo@AddonUnsupportedtrue
10355 \def\PDF@FinishDoc{%
10356   \Hy@UseMaketitleInfos
10357   \HyInfo@TrappedUnsupported
10358   \special{PDF: Keywords \@pdfkeywords}%
10359   \special{PDF: Title \@pdftitle}%
10360   \special{PDF: Creator \@pdfcreator}%
10361   \ifx\@pdfcreationdate\@empty
10362   \else
10363     \special{PDF: CreationDate \@pdfcreationdate}%
10364   \fi
10365   \ifx\@pdfmoddate\@empty
10366   \else
10367     \special{PDF: ModDate \@pdfmoddate}%
10368   \fi
10369   \special{PDF: Author \@pdfauthor}%
10370   \ifx\@pdfproducer\relax
10371   \else
10372     \special{PDF: Producer \@pdfproducer}%
10373   \fi
10374   \special{PDF: Subject \@pdfsubject}%
10375   \Hy@DisableOption{pdfauthor}%
10376   \Hy@DisableOption{pdftitle}%
10377   \Hy@DisableOption{pdfsubject}%
10378   \Hy@DisableOption{pdfcreator}%
10379   \Hy@DisableOption{pdfcreationdate}%
10380   \Hy@DisableOption{pdfmoddate}%
10381   \Hy@DisableOption{pdfproducer}%
10382   \Hy@DisableOption{pdfkeywords}%
10383   \Hy@DisableOption{pdftrapped}%
10384   \Hy@DisableOption{pdfinfo}%
10385 }
10386 \def\PDF@SetupDoc{%
10387   \def\Hy@temp{}%
10388   \ifx\@pdfstartpage\@empty
10389   \else
10390     \ifx\@pdfstartview\@empty
10391     \else
10392       \edef\Hy@temp{%
10393         ,Page=\@pdfstartpage
10394         ,View=\@pdfstartview
10395       }%
10396     \fi
10397   \fi
10398   \edef\Hy@temp{%
10399     \noexpand\pdfmark{%
10400       pdfmark=/DOCVIEW,%
10401       PageMode=/\@pdfpagemode
10402     }\Hy@temp

```

```

10403 }%
10404 }%
10405 \Hy@temp
10406 \ifx\@pdfpagescrop\@empty
10407 \else
10408 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10409 \fi
10410 \edef\Hy@temp{%
10411 \ifHy@toolbar\else /HideToolbar true\fi
10412 \ifHy@menubar\else /HideMenubar true\fi
10413 \ifHy>windowui\else /HideWindowUI true\fi
10414 \ifHy@fitwindow /FitWindow true\fi
10415 \ifHy@centerwindow /CenterWindow true\fi
10416 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10417 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10418 \Hy@UseNameKey{Direction}\@pdfdirection
10419 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10420 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10421 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10422 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10423 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10424 \Hy@UseNameKey{Duplex}\@pdfduplex
10425 \ifx\@pdfpicktraybypdfsize\@empty
10426 \else
10427 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10428 \fi
10429 \ifx\@pdfprintpagerange\@empty
10430 \else
10431 /PrintPageRange\@pdfprintpagerange]%
10432 \fi
10433 \ifx\@pdfnumcopies\@empty
10434 \else
10435 /NumCopies \@pdfnumcopies
10436 \fi
10437 }%
10438 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10439 \pdfmark{%
10440 pdfmark=/PUT,%
10441 Raw={%
10442 \string{Catalog\string}<<%
10443 \ifx\Hy@temp\@empty
10444 \else
10445 /ViewerPreferences<<\Hy@temp>>%
10446 \fi
10447 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10448 \ifx\@pdflang\@empty
10449 \else
10450 /Lang(\@pdflang)%
10451 \fi
10452 \ifx\@baseurl\@empty
10453 \else
10454 /URI<</Base(\Hy@pstringB)>>%
10455 \fi
10456 >>%
10457 }%
10458 }%
10459 }

```

```

10460 \providecommand*\@pdfview{XYZ}
10461 \providecommand*\@pdfviewparams{ %
10462   gsave revscl currentpoint grestore %
10463   72 add exch pop null exch null%
10464 }
10465 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

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

```

10466 \g@addto@macro\Hy@FirstPageHook{%
10467   \headerps@out{%

```

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

```

10468   /DvipsToPDF { 65781 div } def%
10469   /PDFToDvips { 65781 mul } def%
10470   /BPTToDvips{65781 mul}def%
10471   /HyperBorder { 1 PDFToDvips } def%
10472   /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.

```

10473   /BorderArrayPatch{%
10474     [exch{%
10475       dup dup type/integertype eq exch type/realtype eq or%
10476       {BPTToDvips}if%
10477     }forall]%
10478   }def%
10479   /H.S {%
10480     currentpoint %
10481     HyperBorder add /pdf@lly exch def %
10482     dup DvipsToPDF 72 add /pdf@hoff exch def %
10483     HyperBorder sub /pdf@llx exch def%
10484   } def%
10485   /H.L {%
10486     2 sub %
10487     PDFToDvips /HyperBase exch def %
10488     currentpoint %
10489     HyperBase sub /pdf@ury exch def%
10490     /pdf@urx exch def%
10491   } def%
10492   /H.A {%
10493     H.L %
10494     currentpoint exch pop %
10495     HyperBase sub % baseline skip
10496     DvipsToPDF /pdf@voff exch def%
10497   } def%
10498   /H.R {%
10499     currentpoint %
10500     HyperBorder sub /pdf@ury exch def %
10501     HyperBorder add /pdf@urx exch def %
10502     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
10503   } def%
10504   }%
10505 }
10506 \</dvipsone>

```


46.13 TeX4ht

```
10507 <*tex4ht>
10508 \providecommand*{\XR@ext}{html}
10509 \def\Hy@raisedlink{}
10510 \@ifpackageloaded{tex4ht}{%
10511   \typeout{hyperref tex4ht: tex4ht already loaded}%
10512 }{%
10513   \RequirePackage[hTeX]{tex4ht}%
10514 }
10515 \hyperlinkfileprefix{}
10516 \def\PDF@FinishDoc{}
10517 \def\PDF@SetupDoc{%
10518   \ifx\@baseurl\@empty
10519     \else
10520       \special{t4ht=<base href="\@baseurl">}%
10521     \fi
10522 }
10523 \def\hyper@anchor#1{%
10524   \Hy@SaveLastskip
10525   \begingroup
10526     \let\protect=\string
10527     \special{t4ht=<a name=%
10528       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10529   \endgroup
10530   \Hy@activeanchortrue
10531   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10532   \special{t4ht=</a>}%
10533   \Hy@activeanchorfalse
10534   \Hy@RestoreLastskip
10535 }
10536 \def\hyper@anchorstart#1{%
10537   \Hy@SaveLastskip
10538   \begingroup
10539     \hyper@chars\special{t4ht=<a name=%
10540       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10541   \endgroup
10542   \Hy@activeanchortrue
10543 }
10544 \def\hyper@anchorend{%
10545   \special{t4ht=</a>}%
10546   \Hy@activeanchorfalse
10547   \Hy@RestoreLastskip
10548 }
10549 \def\@urltype{url}
10550 \def\hyper@linkstart#1#2{%
10551   \expandafter\Hy@colorlink\csname @#1color\endcsname
10552   \def\Hy@tempa{#1}%
10553   \ifx\Hy@tempa\@urltype
10554     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10555   \else
10556     \begingroup
10557       \hyper@chars
10558       \special{t4ht=<a href=%
10559         \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10560     \endgroup
10561   \fi
10562 }
```

```

10563 \def\hyper@linkend{%
10564   \special{t4ht=</a>}%
10565   \Hy@endcolorlink
10566 }
10567 \def\hyper@linkfile#1#2#3{%
10568   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
10569 }
10570 \def\hyper@linkurl#1#2{%
10571   \leavevmode
10572   \ifHy@raiselinks
10573     \setbox\@tempboxa=\color@hbox #1\color@endbox
10574     \@linkdim\dp\@tempboxa
10575     \lower\@linkdim\hbox{%
10576       \begingroup
10577         \hyper@chars
10578         \special{%
10579           t4ht=<a href=\hyper@quote#2\hyper@quote>%
10580         }%
10581       \endgroup
10582     }%
10583     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10584     \@linkdim\ht\@tempboxa
10585     \advance\@linkdim by -6.5\p@
10586     \raise\@linkdim\hbox{\special{t4ht=</a>}}%
10587   \else
10588     \begingroup
10589     \hyper@chars
10590     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10591     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10592     \special{t4ht=</a>}%
10593   \endgroup
10594   \fi
10595 }

```

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

```

10596 \def\hyper@link#1#2#3{%
10597   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
10598 }
10599 \def\hyper@image#1#2{%
10600   \begingroup
10601   \hyper@chars
10602   \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
10603   \endgroup
10604 }
10605 \let\autoref\ref
10606 \ifx \rEfLiNK \UnDef
10607   \def\rEfLiNK #1#2{#2}%
10608 \fi
10609 \def\backref#1{}
10610 </tex4ht>
10611 <*tex4htcfg>
10612 \IfFileExists{\jobname.cfg}{\endinput}{}
10613 \Preamble{html}
10614   \begin{document}%
10615 \EndPreamble
10616 \def\TeX{TeX}
10617 \def\OMEGA{\Omega}
10618 \def\LaTeX{LaTeX}

```

```

10619 \def\LaTeXe{\LaTeX2e}
10620 \def\TeX{e-TeX}
10621 \def\MF{Metafont}
10622 \def\MP{MetaPost}
10623 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

10624 <*pdfmark>
10625 \long\def\@Form[#1]{%
10626 \g@addto@macro\Hy@FirstPageHook{%
10627 \headerps@out{%
10628 [%
10629 /_objdef{pdfDocEncoding}%
10630 /type/dict%
10631 /OBJ pdfmark%
10632 [%
10633 {pdfDocEncoding}%
10634 <<%
10635 /Type/Encoding%
10636 /Differences%
10637 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
10638 /tilde %
10639 39/quotesingle %
10640 96/grave %
10641 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10642 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10643 /quotedblbase/quotedblleft/quotedblright/quoteleft%
10644 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
10645 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10646 164/currency %
10647 166/brokenbar %
10648 168/dieresis/copyright/ordfeminine %
10649 172/logicalnot/.notdef/registered/macron/degree/plusminus%
10650 /twosuperior/threesuperior/acute/mu %
10651 183/periodcentered/cedilla/onesuperior/ordmasculine %
10652 188/onequarter/onehalf/threequarters %
10653 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10654 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10655 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10656 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10657 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10658 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10659 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10660 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
10661 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
10662 /ucircumflex/udieresis/yacute/thorn/ydieresis%
10663 ]%
10664 >>%
10665 /PUT pdfmark%
10666 [%
10667 /_objdef{ZaDb}%
10668 /type/dict%
10669 /OBJ pdfmark%
10670 [%
10671 {ZaDb}%

```

```

10672 <<%
10673   /Type/Font%
10674   /Subtype/Type1%
10675   /Name/ZaDb%
10676   /BaseFont/ZapfDingbats%
10677 >>%
10678 /PUT pdfmark%
10679 [%
10680   /_objdef{Helv}%
10681   /type/dict%
10682 /OBJ pdfmark%
10683 [%
10684   {Helv}%
10685 <<%
10686   /Type/Font%
10687   /Subtype/Type1%
10688   /Name/Helv%
10689   /BaseFont/Helvetica%
10690   /Encoding{pdfDocEncoding}%
10691 >>%
10692 /PUT pdfmark%
10693 [%
10694   /_objdef{aform}%
10695   /type/dict%
10696 /OBJ pdfmark%
10697 [%
10698   /_objdef{afields}%
10699   /type/array%
10700 /OBJ pdfmark%
10701 {%
10702 [%
10703   /BBox[0 0 100 100]%
10704   /_objdef{Check}%
10705 /BP pdfmark %
10706 1 0 0 setrgbcolor%
10707 /ZapfDingbats 80 selectfont %
10708 20 20 moveto%
10709 (4)show%
10710 [/EP pdfmark%
10711 [%
10712   /BBox[0 0 100 100]%
10713   /_objdef{Cross}%
10714 /BP pdfmark %
10715 1 0 0 setrgbcolor%
10716 /ZapfDingbats 80 selectfont %
10717 20 20 moveto%
10718 (8)show%
10719 [/EP pdfmark%
10720 [%
10721   /BBox[0 0 250 100]%
10722   /_objdef{Submit}%
10723 /BP pdfmark %
10724 0.6 setgray %
10725 0 0 250 100 rectfill %
10726 1 setgray %
10727 2 2 moveto %
10728 2 98 lineto %

```

```

10729 248 98 lineto %
10730 246 96 lineto %
10731 4 96 lineto %
10732 4 4 lineto %
10733 fill %
10734 0.34 setgray %
10735 248 98 moveto %
10736 248 2 lineto %
10737 2 2 lineto %
10738 4 4 lineto %
10739 246 4 lineto %
10740 246 96 lineto %
10741 fill%
10742 /Helvetica 76 selectfont %
10743 0 setgray %
10744 8 22.5 moveto%
10745 (Submit)show%
10746 [/EP pdfmark%
10747 [%
10748 /BBox[0 0 250 100]%
10749 /_objdef{SubmitP}%
10750 /BP pdfmark %
10751 0.6 setgray %
10752 0 0 250 100 rectfill %
10753 0.34 setgray %
10754 2 2 moveto %
10755 2 98 lineto %
10756 248 98 lineto %
10757 246 96 lineto %
10758 4 96 lineto %
10759 4 4 lineto %
10760 fill %
10761 1 setgray %
10762 248 98 moveto %
10763 248 2 lineto %
10764 2 2 lineto %
10765 4 4 lineto %
10766 246 4 lineto %
10767 246 96 lineto %
10768 fill%
10769 /Helvetica 76 selectfont %
10770 0 setgray %
10771 10 20.5 moveto%
10772 (Submit)show%
10773 [/EP pdfmark%
10774 } ?pdfmark%
10775 [%
10776 {aform}%
10777 <<%
10778 /Fields{afields}%
10779 /DR<<%
10780 /Font<<%
10781 /ZaDb{ZaDb}%
10782 /Helv{Helv}%
10783 >>%
10784 >>%
10785 /DA(/Helv 10 Tf 0 g)%

```

```

10786 /CO{corder}%
10787 \ifHy@pdfa
10788 \else
10789 /NeedAppearances true%
10790 \fi
10791 >>%
10792 /PUT pdfmark%
10793 [%
10794 {Catalog}%
10795 <<%
10796 /AcroForm{aform}%
10797 >>%
10798 /PUT pdfmark%
10799 [%
10800 /__objdef{corder}%
10801 /type/array%
10802 /OBJ pdfmark% dps
10803 }}%
10804 \setkeys{Form}{#1}%
10805 }
10806 \def\@endForm{}
10807 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10808 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10809 }
10810 \def\@TextField[#1]#2{% parameters, label
10811 \def\Fld@name{#2}%
10812 \def\Fld@default{}%
10813 \let\Fld@value\@empty
10814 \def\Fld@width{\DefaultWidthofText}%
10815 \def\Fld@height{%
10816 \ifFld@multiline
10817 \DefaultHeightofTextMultiline
10818 \else
10819 \DefaultHeightofText
10820 \fi
10821 }%
10822 \begingroup
10823 \Field@toks={ }%
10824 \expandafter\HyField@SetKeys\expandafter{%
10825 \DefaultOptionsofText,#1%
10826 }%
10827 \HyField@FlagsText
10828 \ifFld@hidden\def\Fld@width{1sp}\fi
10829 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10830 \LayoutTextField{#2}{%
10831 \Hy@escapeform\PDFForm@Text
10832 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10833 pdfmark=/ANN,Raw={\PDFForm@Text}%
10834 }%
10835 }%
10836 \endgroup
10837 }
10838 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10839 \def\Fld@name{#2}%
10840 \let\Fld@default\relax
10841 \let\Fld@value\relax
10842 \def\Fld@width{\DefaultWidthofChoiceMenu}%

```

```

10843 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10844 \begingroup
10845 \Fld@menulength=0 %
10846 \@tempdima\z@
10847 \@for\@curropt:=#3\do{%
10848 \expandafter\Fld@checkequals\@curropt==\%
10849 \Hy@StepCount\Fld@menulength
10850 \settowidth{\@tempdimb}{\@currDisplay}%
10851 \ifdim\Fld@tempdimb>\@tempdima\Fld@tempdima\Fld@tempdimb\fi
10852 }%
10853 \advance\@tempdima by 15\p@
10854 \Field@toks={ }%
10855 \begingroup
10856 \HyField@SetKeys{#1}%
10857 \edef\x{\endgroup
10858 \noexpand\expandafter
10859 \noexpand\HyField@SetKeys
10860 \noexpand\expandafter{%
10861 \expandafter\noexpand\csname DefaultOptionsof%
10862 \ifFld@radio
10863 Radio%
10864 \else
10865 \ifFld@combo
10866 \ifFld@popdown
10867 PopdownBox%
10868 \else
10869 ComboBox%
10870 \fi
10871 \else
10872 ListBox%
10873 \fi
10874 \fi
10875 \endcsname
10876 }%
10877 }\x
10878 \HyField@SetKeys{#1}%
10879 \ifFld@hidden\def\Fld@width{1sp}\fi
10880 \ifx\Fld@value\relax
10881 \let\Fld@value\Fld@default
10882 \fi
10883 \LayoutChoiceField{#2}{%
10884 \ifFld@radio
10885 \HyField@FlagsRadioButton
10886 \@Radio{#3}%
10887 \else
10888 \begingroup
10889 \HyField@FlagsChoice
10890 \ifdim\Fld@width<\@tempdima
10891 \ifdim\Fld@tempdima<1cm\Fld@tempdima1cm\fi
10892 \edef\Fld@width{\the\Fld@tempdima}%
10893 \fi
10894 \ifFld@combo
10895 \else
10896 \@tempdima=\the\Fld@menulength\Fld@charsize
10897 \advance\@tempdima by \Fld@borderwidth bp %
10898 \advance\@tempdima by \Fld@borderwidth bp %
10899 \edef\Fld@height{\the\Fld@tempdima}%

```

```

10900         \fi
10901         \@@ListBox{#3}%
10902     \endgroup
10903 \fi
10904 }%
10905 \endgroup
10906 }
10907 \def\@@Radio#1{%
10908     \Fld@listcount=0 %
10909     \for\@curropt:=#1\do{%
10910         \expandafter\Fld@checkequals\@curropt==\%
10911         \Hy@StepCount\Fld@listcount
10912         \@currDisplay\space
10913         \Hy@escapeform\PDFForm@Radio
10914         \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10915             pdfmark=/ANN,%
10916             Raw={%
10917                 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
10918             }%
10919         } % deliberate space between radio buttons
10920     }%
10921 }
10922 \newcount\Fld@listcount
10923 \def\@@ListBox#1{%
10924     \HyField@PDFChoices{#1}%
10925     \Hy@escapeform\PDFForm@List
10926     \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10927         pdfmark=/ANN,Raw={\PDFForm@List}%
10928     }%
10929 }
10930 \def\@PushButton[#1]#2{% parameters, label
10931     \def\Fld@name{#2}%
10932     \begingroup
10933         \Field@toks={ }%
10934         \expandafter\HyField@SetKeys\expandafter{%
10935             \DefaultOptionsofPushButton,#1%
10936         }%
10937         \ifHy@pdfa
10938             \PackageError{hyperref}{%
10939                 PDF/A: Push button with JavaScript is prohibited%
10940             }\@ehc
10941             \LayoutPushButtonField{%
10942                 \leavevmode
10943                 \MakeButtonField{#2}%
10944             }%
10945         \else
10946             \HyField@FlagsPushButton
10947             \ifFld@hidden\def\Fld@width{1sp}\fi
10948             \LayoutPushButtonField{%
10949                 \leavevmode
10950                 \Hy@escapeform\PDFForm@Push
10951                 \pdfmark[\MakeButtonField{#2}]{%
10952                     pdfmark=/ANN,Raw={\PDFForm@Push}%
10953                 }%
10954             }%
10955         \fi
10956     \endgroup

```



```

10957 }
10958 \def\@Submit[#1]#2{%
10959   \Field@toks={ }%
10960   \def\Fld@width{\DefaultWidthofSubmit}%
10961   \def\Fld@height{\DefaultHeightofSubmit}%
10962   \begingroup
10963     \expandafter\HyField@SetKeys\expandafter{%
10964       \DefaultOptionsofSubmit,#1%
10965     }%
10966     \HyField@FlagsPushButton
10967     \HyField@FlagsSubmit
10968     \ifFld@hidden\def\Fld@width{1sp}\fi
10969     \Hy@escapeform\PDFForm@Submit
10970     \pdfmark[\MakeButtonField{#2}]{%
10971       pdfmark=/ANN,%
10972       Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10973     }%
10974   \endgroup
10975 }
10976 \def\@Reset[#1]#2{%
10977   \Field@toks={ }%
10978   \def\Fld@width{\DefaultWidthofReset}%
10979   \def\Fld@height{\DefaultHeightofReset}%
10980   \begingroup
10981     \expandafter\HyField@SetKeys\expandafter{%
10982       \DefaultOptionsofReset,#1%
10983     }%
10984     \leavevmode
10985     \ifHy@pdfa
10986       \PackageError{hyperref}{%
10987         PDF/A: Reset action is prohibited%
10988       }\@ehc
10989       \MakeButtonField{#2}%
10990     \else
10991       \HyField@FlagsPushButton
10992       \ifFld@hidden\def\Fld@width{1sp}\fi
10993       \Hy@escapeform\PDFForm@Reset
10994       \pdfmark[\MakeButtonField{#2}]{%
10995         pdfmark=/ANN,Raw={\PDFForm@Reset}%
10996       }%
10997     \fi
10998   \endgroup
10999 }%
11000 \def\@CheckBox[#1]#2{% parameters, label
11001   \def\Fld@name{#2}%
11002   \def\Fld@default{0}%
11003   \begingroup
11004     \def\Fld@width{\DefaultWidthofCheckBox}%
11005     \def\Fld@height{\DefaultHeightofCheckBox}%
11006     \Field@toks={ }%
11007     \expandafter\HyField@SetKeys\expandafter{%
11008       \DefaultOptionsofCheckBox,#1%
11009     }%
11010     \HyField@FlagsCheckBox
11011     \ifFld@hidden\def\Fld@width{1sp}\fi
11012     \LayoutCheckField{#2}{%
11013       \Hy@escapeform\PDFForm@Check

```

```

11014 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
11015 pdfmark=/ANN,Raw={\PDFForm@Check}%
11016 }%
11017 }%
11018 \endgroup
11019 }
11020 \pdfmark

```

47.2 HyperTeX

```

11021 \hypertex
11022 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
11023 \def\@endForm{}
11024 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11025 \typeout{Sorry, HyperTeX does not support FORM gauges}%
11026 }
11027 \def\@TextField[#1]#2{% parameters, label
11028 \typeout{Sorry, HyperTeX does not support FORM text fields}%
11029 }
11030 \def\@CheckBox[#1]#2{% parameters, label
11031 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
11032 }
11033 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11034 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
11035 }
11036 \def\@PushButton[#1]#2{% parameters, label
11037 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
11038 }
11039 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
11040 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
11041 \hypertex

```

47.3 TeX4ht

```

11042 \tex4ht
11043 \def\@Form[#1]{%
11044 \setkeys{Form}{#1}%
11045 \HCode{<form action="\Form@action" method="\Form@method">}%
11046 }
11047 \def\@endForm{\HCode{</form>}}
11048 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11049 \typeout{Sorry, TeX4ht does not support gauges}%
11050 }
11051 \def\@TextField[#1]#2{% parameters, label
11052 \let\Hy@reserved@a\@empty
11053 \def\Fld@name{#2}%
11054 \def\Fld@default{}%
11055 \bgroup
11056 \Field@toks={ }%
11057 \setkeys{Field}{#1}%
11058 \HCode{<label for="\Fld@name">#2</label>}%
11059 \ifFld@password
11060 \@@PasswordField
11061 \else
11062 \@@TextField
11063 \fi
11064 \egroup
11065 }
11066 \def\@@PasswordField{%

```

```

11067 \HCode{%
11068   <input type="password" %
11069   id="\Fld@name" %
11070   name="\Fld@name" %
11071   \ifFld@hidden type="hidden" \fi
11072   value="\Fld@default" %
11073   \the\Field@toks
11074   >%
11075 }%
11076 }
11077 \def\@@TextField{%
11078   \ifFld@multiline
11079     \HCode{<textarea %
11080       \ifFld@readonly readonly \fi
11081       id="\Fld@name" %
11082       name="\Fld@name" %
11083       \ifFld@hidden type="hidden" \fi
11084       \the\Field@toks>%
11085     }%
11086     \Fld@default
11087     \HCode{</textarea>}%
11088   \else
11089     \HCode{<input type="text" %
11090       \ifFld@readonly readonly \fi
11091       id="\Fld@name" %
11092       name="\Fld@name" %
11093       \ifFld@hidden type="hidden" \fi
11094       value="\Fld@default" %
11095       \the\Field@toks>%
11096     }%
11097   \fi
11098 }
11099 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11100   \def\Fld@name{#2}%
11101   \def\Fld@default{}%
11102   \let\Hy@reserved@a\relax
11103   \begingroup
11104     \expandafter\Fld@findlength#3\\%
11105     \Field@toks={ }%
11106     \setkeys{Field}{#1}%
11107     #2%
11108     \ifFld@radio
11109       \expandafter\@@Radio#3\\%
11110     \else
11111       \expandafter\@@Menu#3\\%
11112     \fi
11113   \endgroup
11114 }
11115 \def\Fld@findlength#1\\{%
11116   \Fld@menulength=0 %
11117   \@for\@currupt:=#1\do{\Hy@StepCount\Fld@menulength}%
11118 }
11119 \def\@@Menu#1\\{%
11120   \HCode{<select size="\the\Fld@menulength" %
11121     name="\Fld@name" %
11122     \the\Field@toks>%
11123   }%

```

```

11124 \@for\@curropt:=#1\do{%
11125 \expandafter\Fld@checkequals\@curropt==\\%
11126 \HCode{<option %
11127 \ifx\@curropt\Fld@default selected \fi
11128 value="\@currValue">\@currDisplay</option>%
11129 }%
11130 }%
11131 \HCode{</select>}%
11132 }
11133 \def\@@Radio#1\\{%
11134 \@for\@curropt:=#1\do{%
11135 \expandafter\Fld@checkequals\@curropt==\\%
11136 \HCode{<input type="radio" %
11137 \ifx\@curropt\Fld@default checked \fi
11138 name="\Fld@name" %
11139 value="\@currValue" %
11140 \the\Fld@toks>%
11141 }%
11142 \@currDisplay
11143 }%
11144 }
11145 \def\@PushButton[#1]#2{% parameters, label
11146 \def\Fld@name{#2}%
11147 \bgroup
11148 \Field@toks={ }%
11149 \setkeys{Field}{#1}%
11150 \HCode{<input type="button" %
11151 name="\Fld@name" %
11152 value="#2" %
11153 \the\Fld@toks>%
11154 }%
11155 \HCode{</button>}}%
11156 \egroup
11157 }
11158 \def\@Submit[#1]#2{%
11159 \HCode{<button type="submit">#2</button>}}%
11160 }
11161 \def\@Reset[#1]#2{%
11162 \HCode{<button type="reset">#2</button>}}%
11163 }
11164 \def\@CheckBox[#1]#2{% parameters, label
11165 \let\Hy@reserved@a\@empty
11166 \def\Fld@name{#2}%
11167 \def\Fld@default{0}%
11168 \bgroup
11169 \Field@toks={ }%
11170 \setkeys{Field}{#1}%
11171 \HCode{<input type="checkbox" %
11172 \ifFld@checked checked \fi
11173 \ifFld@disabled disabled \fi
11174 \ifFld@readonly readonly \fi
11175 name="\Fld@name" %
11176 \ifFld@hidden type="hidden" \fi
11177 value="\Fld@default" %
11178 \the\Fld@toks>%
11179 #2%
11180 }%

```

```

11181 \egroup
11182 }
11183 </tex4ht>

```

47.4 pdfTeX

```

11184 <*pdfTeX>
11185 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11186 \typeout{Sorry, pdfTeX does not support FORM gauges}%
11187 }
11188 \def\MakeFieldObject#1#2{\sbox0{#1}%
11189 \immediate\pdfxform0 %
11190 \expandafter\edef\csname #2Object\endcsname{%
11191 \the\pdflastxform\space 0 R%
11192 }%
11193 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
11194 }%
11195 \def\HyField@afields{}
11196 \begingroup\expandafter\expandafter\expandafter\endgroup
11197 \expandafter\ifx\csname pdflastlink\endcsname\relax
11198 \let\HyField@AddToFields\relax
11199 \PackageInfo{hyperref}{%
11200 You need pdfTeX 1.40.0 for setting the /Fields entry.%
11201 \MessageBreak
11202 Adobe Reader/Acrobat accepts an empty /Field array,%
11203 \MessageBreak
11204 but other PDF viewers might complain%
11205 }%
11206 \else
11207 \def\HyField@AddToFields{%
11208 \xdef\HyField@afields{%
11209 \ifx\HyField@afields\@empty
11210 \else
11211 \HyField@afields
11212 \space
11213 \fi
11214 \the\pdflastlink\space 0 R%
11215 }%
11216 }%
11217 \fi
11218 \def\@Form[#1]{%
11219 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
11220 \setkeys{Form}{#1}%
11221 \Hy@FormObjects
11222 \ifnum\pdfTeXversion>13 %
11223 \pdfrefobj\OBJ@pdfdocencoding
11224 \pdfrefobj\OBJ@ZaDb
11225 \pdfrefobj\OBJ@Helv
11226 \fi
11227 \AtEndDocument{%
11228 \immediate\pdfobj{%
11229 <<%
11230 /Fields[\HyField@afields]%
11231 /DR<<%
11232 /Font<<%
11233 /ZaDb \OBJ@ZaDb\space 0 R%
11234 /Helv \OBJ@Helv\space 0 R%
11235 >>%

```

```

11236      >>%
11237      /DA(/Helv 10 Tf 0 g)%
11238      \ifHy@pdfa
11239      \else
11240      /NeedAppearances true%
11241      \fi
11242      >>%
11243      }%
11244      \edef\OBJ@acroform{\the\pdfiastobj}%
11245      \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
11246      }%
11247      \MakeFieldObject{%

Same as \ding{123} of package pifont.
11248      \begingroup
11249      \fontfamily{pzd}%
11250      \fontencoding{U}%
11251      \fontseries{m}%
11252      \fontshape{n}%
11253      \selectfont
11254      \char123 %
11255      \endgroup
11256      }{Ding}%
11257      \MakeFieldObject{%
11258      \fbox{\textcolor{yellow}{\textsf{Submit}}}%
11259      }{Submit}%
11260      \MakeFieldObject{%
11261      \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
11262      }{SubmitP}%
11263      }
11264      \def\@endForm{}
11265      \def\@TextField[#1]#2{% parameters, label
11266      \def\Fld@name{#2}%
11267      \def\Fld@default{}%
11268      \let\Fld@value\@empty
11269      \def\Fld@width{\DefaultWidthofText}%
11270      \def\Fld@height{%
11271      \ifFld@multiline
11272      \DefaultHeightofTextMultiline
11273      \else
11274      \DefaultHeightofText
11275      \fi
11276      }%
11277      \begingroup
11278      \Field@toks={ }%
11279      \expandafter\HyField@SetKeys\expandafter{%
11280      \DefaultOptionsofText,#1%
11281      }%
11282      \PDFForm@Name
11283      \HyField@FlagsText
11284      \ifFld@hidden\def\Fld@width{1sp}\fi
11285      \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11286      \LayoutTextField{#2}%
11287      \Hy@escapeform\PDFForm@Text
11288      \pdfstartlink user {\PDFForm@Text}\relax
11289      \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
11290      \HyField@AddToFields
11291      }%

```

```

11292 \endgroup
11293 }
11294 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11295 \def\Fld@name{#2}%
11296 \let\Fld@default\relax
11297 \let\Fld@value\relax
11298 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11299 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11300 \begingroup
11301 \Fld@menulength=0 %
11302 \@tempdima\z@
11303 \@for\@curropt:=#3\do{%
11304 \expandafter\Fld@checkequals\@curropt==\%
11305 \Hy@StepCount\Fld@menulength
11306 \settowidth{\@tempdimb}{\@currDisplay}%
11307 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11308 }%
11309 \advance\@tempdima by 15\p@
11310 \Field@toks={ }%
11311 \begingroup
11312 \HyField@SetKeys{#1}%
11313 \edef\x{\endgroup
11314 \noexpand\expandafter
11315 \noexpand\HyField@SetKeys
11316 \noexpand\expandafter{%
11317 \expandafter\noexpand\csname DefaultOptionsof%
11318 \ifFld@radio
11319 Radio%
11320 \else
11321 \ifFld@combo
11322 \ifFld@popdown
11323 PopdownBox%
11324 \else
11325 ComboBox%
11326 \fi
11327 \else
11328 ListBox%
11329 \fi
11330 \fi
11331 \endcsname
11332 }%
11333 }\x
11334 \HyField@SetKeys{#1}%
11335 \PDFForm@Name
11336 \ifFld@hidden\def\Fld@width{1sp}\fi
11337 \ifx\Fld@value\relax
11338 \let\Fld@value\Fld@default
11339 \fi
11340 \LayoutChoiceField{#2}{%
11341 \ifFld@radio
11342 \HyField@FlagsRadioButton
11343 \@@Radio{#3}%
11344 \else
11345 \begingroup
11346 \HyField@FlagsChoice
11347 \ifdim\Fld@width<\@tempdima
11348 \ifdim\@tempdima<1cm\@tempdima1cm\fi

```

```

11349         \edef\Fld@width{\the\@tempdima}%
11350     \fi
11351     \ifFld@combo
11352     \else
11353         \@tempdima=\the\Fld@menulength\Fld@charsize
11354         \advance\@tempdima by \Fld@borderwidth bp %
11355         \advance\@tempdima by \Fld@borderwidth bp %
11356         \edef\Fld@height{\the\@tempdima}%
11357     \fi
11358     \@@ListBox{#3}%
11359 \endgroup
11360 \fi
11361 }%
11362 \endgroup
11363 }
11364 \def\@@Radio#1{%
11365     \Fld@listcount=0 %
11366     \@for\@curropt:=#1\do{%
11367         \expandafter\Fld@checkequals\@curropt==\%
11368         \Hy@StepCount\Fld@listcount
11369         \@currDisplay\space
11370         \leavevmode
11371         \Hy@escapeform\PDFForm@Radio
11372         \pdfstartlink user {%
11373             \PDFForm@Radio
11374             /AP<<%
11375             /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.

```

11376         /\@currValue\space \DingObject
11377         >>%
11378         >>%
11379     }%
11380     \relax
11381     \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
11382     \ifnum\Fld@listcount=1 %
11383         \HyField@AddToFields
11384     \fi
11385     \space % deliberate space between radio buttons
11386 }%
11387 }
11388 \newcount\Fld@listcount
11389 \def\@@ListBox#1{%
11390     \HyField@PDFChoices{#1}%
11391     \leavevmode
11392     \Hy@escapeform\PDFForm@List
11393     \pdfstartlink user {\PDFForm@List}\relax
11394     \MakeChoiceField{\Fld@width}{\Fld@height}%
11395     \pdfendlink
11396     \HyField@AddToFields
11397 }
11398 \def\@PushButton[#1]#2{% parameters, label
11399     \def\Fld@name{#2}%
11400     \begingroup
11401         \Field@toks={}%
11402         \expandafter\HyField@SetKeys\expandafter{%

```



```

11403     \DefaultOptionsofPushButton,#1%
11404 }%
11405 \PDFForm@Name
11406 \ifHy@pdfa
11407     \PackageError{hyperref}{%
11408         PDF/A: Push button with JavaScript is prohibited%
11409     }\@ehc
11410     \LayoutPushButtonField{%
11411         \leavevmode
11412         \MakeButtonField{#2}%
11413     }%
11414 \else
11415     \HyField@FlagsPushButton
11416     \ifFld@hidden\def\Fld@width{1sp}\fi
11417     \LayoutPushButtonField{%
11418         \leavevmode
11419         \Hy@escapeform\PDFForm@Push
11420         \pdfstartlink user {\PDFForm@Push}\relax
11421         \MakeButtonField{#2}%
11422         \pdfendlink
11423         \HyField@AddToFields
11424     }%
11425 \fi
11426 \endgroup
11427 }
11428 \def\@Submit[#1]#2{%
11429     \Field@toks={ }%
11430     \def\Fld@width{\DefaultWidthofSubmit}%
11431     \def\Fld@height{\DefaultHeightofSubmit}%
11432     \begingroup
11433         \expandafter\HyField@SetKeys\expandafter{%
11434             \DefaultOptionsofSubmit,#1%
11435         }%
11436         \HyField@FlagsPushButton
11437         \HyField@FlagsSubmit
11438         \ifFld@hidden\def\Fld@width{1sp}\fi
11439         \leavevmode
11440         \Hy@escapeform\PDFForm@Submit
11441         \pdfstartlink user {%
11442             \PDFForm@Submit
11443             /AP<</N \SubmitObject/D \SubmitPObject>>%
11444         }%
11445         \relax
11446         \MakeButtonField{#2}%
11447         \pdfendlink
11448         \HyField@AddToFields
11449     \endgroup
11450 }
11451 \def\@Reset[#1]#2{%
11452     \Field@toks={ }%
11453     \def\Fld@width{\DefaultWidthofReset}%
11454     \def\Fld@height{\DefaultHeightofReset}%
11455     \begingroup
11456         \expandafter\HyField@SetKeys\expandafter{%
11457             \DefaultOptionsofReset,#1%
11458         }%
11459         \leavevmode

```

```

11460 \ifHy@pdfa
11461 \PackageError{hyperref}{%
11462 PDF/A: Reset action is prohibited%
11463 } \@ehc
11464 \MakeButtonField{#2}%
11465 \else
11466 \HyField@FlagsPushButton
11467 \ifFld@hidden\def\Fld@width{1sp}\fi
11468 \Hy@escapeform\PDFForm@Reset
11469 \pdfstartlink user {\PDFForm@Reset}\relax
11470 \MakeButtonField{#2}%
11471 \pdfendlink
11472 \HyField@AddToFields
11473 \fi
11474 \endgroup
11475 }
11476 \def\@CheckBox[#1]#2{% parameters, label
11477 \def\Fld@name{#2}%
11478 \def\Fld@default{0}%
11479 \begingroup
11480 \def\Fld@width{\DefaultWidthofCheckBox}%
11481 \def\Fld@height{\DefaultHeightofCheckBox}%
11482 \Field@toks={ }%
11483 \expandafter\HyField@SetKeys\expandafter{%
11484 \DefaultOptionsofCheckBox,#1%
11485 }%
11486 \PDFForm@Name
11487 \HyField@FlagsCheckBox
11488 \ifFld@hidden\def\Fld@width{1sp}\fi
11489 \LayoutCheckField{#2}{%
11490 \Hy@escapeform\PDFForm@Check
11491 \pdfstartlink user {\PDFForm@Check}\relax
11492 \MakeCheckField{\Fld@width}{\Fld@height}%
11493 \pdfendlink
11494 \HyField@AddToFields
11495 }%
11496 \endgroup
11497 }
11498 \def\Hy@FormObjects{%
11499 \pdfobj {%
11500 <<%
11501 /Type/Encoding%
11502 /Differences%
11503 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
11504 /ring/tilde %
11505 39/quotesingle %
11506 96/grave %
11507 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11508 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11509 /quotedblbase/quotedblleft/quotedblright/quoteleft%
11510 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
11511 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11512 164/currency %
11513 166/brokenbar %
11514 168/dieresis/copyright/ordfeminine %
11515 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11516 /twosuperior/threesuperior/acute/mu %

```

```

11517 183/periodcentered/cedilla/onesuperior/ordmasculine %
11518 188/onequarter/onehalf/threequarters %
11519 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11520 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11521 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11522 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11523 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11524 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11525 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11526 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
11527 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
11528 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
11529 ]%
11530 >>%
11531 }%
11532 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
11533 \pdfobj{%
11534 <<%
11535 /Type/Font%
11536 /Subtype/Type1%
11537 /Name/ZaDb%
11538 /BaseFont/ZapfDingbats%
11539 >>%
11540 }%
11541 \xdef\OBJ@ZaDb{\the\pdflastobj}%
11542 \pdfobj{%
11543 <<%
11544 /Type/Font%
11545 /Subtype/Type1%
11546 /Name/Helv%
11547 /BaseFont/Helvetica%
11548 /Encoding \OBJ@pdfdocencoding\space 0 R%
11549 >>%
11550 }%
11551 \xdef\OBJ@Helv{\the\pdflastobj}%
11552 \global\let\Hy@FormObjects\relax
11553 }
11554 \pdfTeX

```

47.5 dvipdfm, xetex

D. P. Story adapted the pdf_T_EX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
11555 \dvipdfm | xetex)
```

\@Gauge

```

11556 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11557 \typeout{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
11558 }

```

\@Form

```

11559 \def\@Form[#1]{%
11560 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
11561 \setkeys{Form}{#1}%
11562 \Hy@FormObjects
11563 \@pdfm@mark{obj @afields []}%
11564 \@pdfm@mark{obj @corder []}%

```

```

11565 \pdfmark{%
11566   obj @aform <<%
11567     /Fields @afields%
11568     /DR<<%
11569     /Font<<%
11570     /ZaDb @OBJZaDb%
11571     /Helv @OBJHelv%
11572     >>%
11573   >>%
11574   /DA(/Helv 10 Tf 0 g)%
11575   /CO @corder%
11576   \ifHy@pdfa
11577   \else
11578     /NeedAppearances true%
11579   \fi
11580   >>%
11581 }%
11582 \pdfmark{put @catalog <</AcroForm @aform>>}%
11583 }

```

\@endForm

```

11584 \def\@endForm{}

```

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

```

11585 \def\dvipdfm@setdim{%
11586   height \the\ht\pdfm@box\space
11587   width \the\wd\pdfm@box\space
11588   depth \the\dp\pdfm@box\space
11589 }

```

\HyField@AnnotCount

```

11590 \newcount\HyField@AnnotCount
11591 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

11592 \def\HyField@AdvanceAnnotCount{%
11593   \global\advance\HyField@AnnotCount\@ne
11594 }

```

\HyField@TheAnnotCount

```

11595 \def\HyField@TheAnnotCount{%
11596   \the\HyField@AnnotCount
11597 }

```

\@TextField

```

11598 \def\@TextField[#1]#2{% parameters, label
11599   \def\Fld@name{#2}%
11600   \def\Fld@default{}%
11601   \let\Fld@value\@empty
11602   \def\Fld@width{\DefaultWidthofText}%
11603   \def\Fld@height{%
11604     \ifFld@multiline
11605       \DefaultHeightofTextMultiline
11606     \else
11607       \DefaultHeightofText
11608     \fi

```

```

11609 }%
11610 \begingroup
11611 \Field@toks={ }%
11612 \expandafter\HyField@SetKeys\expandafter{%
11613   \DefaultOptionsofText,#1%
11614 }%
11615 \PDFForm@Name
11616 \HyField@FlagsText
11617 \ifFld@hidden\def\Fld@width{1sp}\fi
11618 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11619 \setbox\pdfm@box=\hbox{%
11620   \MakeTextField{\Fld@width}{\Fld@height}%
11621 }%
11622 \HyField@AdvanceAnnotCount
11623 \LayoutTextField{#2}{%
11624   \Hy@escapeform\PDFForm@Text
11625   \@pdfm@mark{%
11626     ann @text\HyField@TheAnnotCount\space
11627     \dvipdfm@setdim << \PDFForm@Text >>%
11628   }%
11629 }%
11630 \unhbox\pdfm@box
11631 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
11632 % record in @afields array
11633 \endgroup
11634 }

```

\@ChoiceMenu

```

11635 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11636   \def\Fld@name{#2}%
11637   \let\Fld@default\relax
11638   \let\Fld@value\relax
11639   \def\Fld@width{\DefaultWidthofChoiceMenu}%
11640   \def\Fld@height{\DefaultHeightofChoiceMenu}%
11641   \begingroup
11642     \Fld@menulength=0 %
11643     \@tempdima\z@
11644     \@for\@curropt:=#3\do{%
11645       \expandafter\Fld@checkequals\@curropt==\%
11646       \Hy@StepCount\Fld@menulength
11647       \settowidth{\@tempdimb}{\@currDisplay}%
11648       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11649     }%
11650     \advance\@tempdima by 15\p@
11651     \Field@toks={ }%
11652     \begingroup
11653       \HyField@SetKeys{#1}%
11654     \edef\x{\endgroup
11655       \noexpand\expandafter
11656       \noexpand\HyField@SetKeys
11657       \noexpand\expandafter{%
11658         \expandafter\noexpand\curname DefaultOptionsof%
11659         \ifFld@radio
11660           Radio%
11661         \else
11662           \ifFld@combo
11663             \ifFld@popdown

```

```

11664         PopdownBox%
11665     \else
11666         ComboBox%
11667     \fi
11668 \else
11669     ListBox%
11670 \fi
11671 \fi
11672 \endcsname
11673 }%
11674 }\x
11675 \HyField@SetKeys{#1}%
11676 \PDFForm@Name
11677 \ifFld@hidden\def\Fld@width{1sp}\fi
11678 \ifx\Fld@value\relax
11679     \let\Fld@value\Fld@default
11680 \fi
11681 \LayoutChoiceField{#2}{%
11682     \ifFld@radio
11683         \HyField@FlagsRadioButton
11684         \@@Radio{#3}%
11685     \else
11686         \begingroup
11687         \HyField@FlagsChoice
11688         \ifdim\Fld@width<\@tempdima
11689             \ifdim\@tempdima<1cm\@tempdima1cm\fi
11690             \edef\Fld@width{\the\@tempdima}%
11691         \fi
11692         \ifFld@combo
11693         \else
11694             \@tempdima=\the\Fld@menulength\Fld@charsize
11695             \advance\@tempdima by \Fld@borderwidth bp %
11696             \advance\@tempdima by \Fld@borderwidth bp %
11697             \edef\Fld@height{\the\@tempdima}%
11698         \fi
11699         \@@ListBox{#3}%
11700     \endgroup
11701 \fi
11702 }%
11703 \endgroup
11704 }

```

\@@Radio

```

11705 \def\@@Radio#1{%
11706     \Fld@listcount=0 %
11707     \setbox\pdfm@box=\hbox{%
11708         \MakeRadioField{\Fld@width}{\Fld@height}%
11709     }%
11710     \@for\@curropt:=#1\do{%
11711         \expandafter\Fld@checkequals\@curropt==\%
11712         \Hy@StepCount\Fld@listcount
11713         \@currDisplay\space
11714         \leavevmode
11715         \Hy@escapeform\PDFForm@Radio
11716         \ifnum\Fld@listcount=1 %
11717             \HyField@AdvanceAnnotCount
11718         \fi

```

```

11719 \@pdfm@mark{%
11720   ann %
11721   \ifnum\Fld@listcount=1 %
11722     @radio\HyField@TheAnnotCount%
11723     \space
11724     \fi
11725     \dvipdfm@setdim
11726     <<%
11727     \PDFForm@Radio
11728     /AP<</N<</\@currValue /null>>>>%
11729     >>%
11730  }%
11731   \unhcopy\pdfm@box\space% deliberate space between radio buttons
11732   \ifnum\Fld@listcount=1 %
11733     \@pdfm@mark{%
11734       put @afields @radio\HyField@TheAnnotCount
11735     }%
11736   \fi
11737 }%
11738 }

```

\Fld@listcount

```

11739 \newcount\Fld@listcount

```

\@@ListBox

```

11740 \def\@@ListBox#1{%
11741   \HyField@PDFChoices{#1}%
11742   \setbox\pdfm@box=\hbox{%
11743     \MakeChoiceField{\Fld@width}{\Fld@height}%
11744   }%
11745   \leavevmode
11746   \Hy@escapeform\PDFForm@List
11747   \HyField@AdvanceAnnotCount
11748   \@pdfm@mark{%
11749     ann @list\HyField@TheAnnotCount\space
11750     \dvipdfm@setdim
11751     <<\PDFForm@List>>%
11752   }%
11753   \unhbox\pdfm@box
11754   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
11755 }

```

\@PushButton

```

11756 \def\@PushButton[#1]#2{% parameters, label
11757   \def\Fld@name{#2}%
11758   \begingroup
11759     \Field@toks={ }%
11760     \expandafter\HyField@SetKeys\expandafter{%
11761       \DefaultOptionsofPushButton,#1%
11762     }%
11763     \PDFForm@Name
11764     \ifHy@pdfa
11765       \PackageError{hyperref}{%
11766         PDF/A: Push button with JavaScript is prohibited%
11767       }\@ehc
11768     \LayoutPushButtonField{%
11769       \leavevmode

```

```

11770     \MakeButtonField{#2}%
11771   }%
11772 \else
11773   \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11774   \HyField@FlagsPushButton
11775   \ifFld@hidden\def\Fld@width{1sp}\fi
11776   \HyField@AdvanceAnnotCount
11777   \LayoutPushButtonField{%
11778     \leavevmode
11779     \Hy@escapeform\PDFForm@Push
11780     \@pdfm@mark{%
11781       ann @push\HyField@TheAnnotCount\space
11782       \dvipdfm@setdim
11783       <<\PDFForm@Push>>%
11784     }%
11785   }%
11786   \unhbox\pdfm@box
11787   \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
11788 \fi
11789 \endgroup
11790 }

```

\@Submit

```

11791 \def\@Submit[#1]#2{%
11792   \Field@toks={ }%
11793   \def\Fld@width{\DefaultWidthofSubmit}%
11794   \def\Fld@height{\DefaultHeightofSubmit}%
11795   \begingroup
11796   \expandafter\HyField@SetKeys\expandafter{%
11797     \DefaultOptionsofSubmit,#1%
11798   }%
11799   \HyField@FlagsPushButton
11800   \HyField@FlagsSubmit
11801   \ifFld@hidden\def\Fld@width{1sp}\fi
11802   \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11803   \leavevmode
11804   \Hy@escapeform\PDFForm@Submit
11805   \HyField@AdvanceAnnotCount
11806   \@pdfm@mark{%
11807     ann @submit\HyField@TheAnnotCount\space
11808     \dvipdfm@setdim
11809     <<\PDFForm@Submit>>%
11810   }%
11811   \unhbox\pdfm@box%
11812   \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
11813 \endgroup
11814 }

```

\@Reset

```

11815 \def\@Reset[#1]#2{%
11816   \Field@toks={ }%
11817   \def\Fld@width{\DefaultWidthofReset}%
11818   \def\Fld@height{\DefaultHeightofReset}%
11819   \begingroup
11820   \expandafter\HyField@SetKeys\expandafter{%
11821     \DefaultOptionsofReset,#1%
11822   }%

```



```

11823 \leavevmode
11824 \ifHy@pdfa
11825   \PackageError{hyperref}{%
11826     PDF/A: Reset action is prohibited%
11827   }\@ehc
11828   \MakeButtonField{#2}%
11829 \else
11830   \HyField@FlagsPushButton
11831   \ifFld@hidden\def\Fld@width{1sp}\fi
11832   \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11833   \Hy@escapeform\PDFForm@Reset
11834   \HyField@AdvanceAnnotCount
11835   \@pdfm@mark{%
11836     ann @reset\HyField@TheAnnotCount\space
11837     \dvipdfm@setdim
11838     <<\PDFForm@Reset>>%
11839   }%
11840   \unhbox\pdfm@box
11841   \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11842 \fi
11843 \endgroup
11844 }

```

\@CheckBox

```

11845 \def\@CheckBox[#1]#2{% parameters, label
11846   \def\Fld@name{#2}%
11847   \def\Fld@default{0}%
11848   \begingroup
11849     \def\Fld@width{\DefaultWidthofCheckBox}%
11850     \def\Fld@height{\DefaultHeightofCheckBox}%
11851     \Field@toks={ }%
11852     \expandafter\HyField@SetKeys\expandafter{%
11853       \DefaultOptionsofCheckBox,#1%
11854     }%
11855     \PDFForm@Name
11856     \HyField@FlagsCheckBox
11857     \ifFld@hidden\def\Fld@width{1sp}\fi
11858     \setbox\pdfm@box=\hbox{%
11859       \MakeCheckField{\Fld@width}{\Fld@height}%
11860     }%
11861     \HyField@AdvanceAnnotCount
11862     \LayoutCheckField{#2}{%
11863       \Hy@escapeform\PDFForm@Check
11864       \@pdfm@mark{%
11865         ann @check\HyField@TheAnnotCount\space
11866         \dvipdfm@setdim
11867         <<\PDFForm@Check>>%
11868       }%
11869       \unhbox\pdfm@box
11870       \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11871     }%
11872   \endgroup
11873 }

11874 \def\Hy@FormObjects{%
11875   \@pdfm@mark{obj @OBJpdfdocencoding%
11876     <<%
11877     /Type/Encoding%

```

11878 /Differences[%
11879 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11880 39/quotesingle %
11881 96/grave %
11882 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11883 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11884 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11885 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11886 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11887 164/currency %
11888 166/brokenbar %
11889 168/dieresis/copyright/ordfeminine %
11890 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11891 /twosuperior/threesuperior/acute/mu %
11892 183/periodcentered/cedilla/onesuperior/ordmasculine %
11893 188/onequarter/onehalf/threequarters %
11894 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11895 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11896 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11897 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11898 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11899 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11900 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11901 /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
11902 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11903 /thorn/ydieresis%
11904]%
11905 >>%
11906 }%
11907 \@pdfmark{obj @OBJZaDb%
11908 <<%
11909 /Type/Font%
11910 /Subtype/Type1%
11911 /Name/ZaDb%
11912 /BaseFont/ZapfDingbats%
11913 >>%
11914 }%
11915 \@pdfmark{obj @OBJHelv%
11916 <<%
11917 /Type/Font%
11918 /Subtype/Type1%
11919 /Name/Helv%
11920 /BaseFont/Helvetica%
11921 /Encoding @OBJpdfdocencoding%
11922 >>%
11923 }%
11924 \global\let\Hy@FormObjects\relax
11925 }
11926 </dvipdfm | xetex>

47.6 Common forms part

11927 <*pdfform>

\Hy@escapestring

11928 \begingroup\expandafter\expandafter\expandafter\endgroup
11929 \expandafter\ifx\csname pdfescapestring\endcsname\relax

```

11930 \let\Hy@escapestring\@firstofone
11931 \def\Hy@escapeform#1{%
11932   \ifHy@escapeform
11933     \def\Hy@escapestring##1{%
11934       \noexpand\Hy@escapestring{\noexpand##1}%
11935     }%
11936     \edef\Hy@temp{#1}%
11937     \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{ }\@nil
11938   \def\Hy@escapestring##1{%
11939     \ifundefined{Hy@esc@\string##1}{%
11940       ##1%
11941       \ThisShouldNotHappen
11942     }{%
11943       \csname Hy@esc@\string##1\endcsname
11944     }%
11945   }%
11946 \else
11947   \let\Hy@escapestring\@firstofone
11948 \fi
11949 }%
11950 \def\Hy@@@escapeform#1\Hy@escapestring#2#3\@nil{%
11951   \ifx\#3\%
11952   \else
11953     \expandafter
11954     \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11955     \Hy@ReturnAfterFi{%
11956       \Hy@@@escapeform#3\@nil
11957     }%
11958   \fi
11959 }%
11960 \else
11961   \def\Hy@escapeform#1{%
11962     \ifHy@escapeform
11963       \let\Hy@escapestring\pdfescapestring
11964     \else
11965       \let\Hy@escapestring\@firstofone
11966     \fi
11967   }%
11968   \Hy@escapeform{ }%
11969 \fi

```

\PDFForm@Name

```

11970 \def\PDFForm@Name{%
11971   \begingroup
11972   \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11973     \ifHy@unicode
11974       \Hy@unicodedefalse
11975     \fi
11976   \fi
11977   \HyPsd@XeTeXBigCharstrue
11978   \pdfstringdef\Hy@gtemp\Fld@name
11979 \endgroup
11980 \let\Fld@name\Hy@gtemp
11981 }

```

\PDFForm@Check

```

11982 \def\PDFForm@Check{%

```

```

11983 /Subtype/Widget%
11984 \Fld@annotflags
11985 /T(\Fld@name)%
11986 /FT/Btn%
11987 \Fld@flags
11988 /Q \Fld@align
11989 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11990 /MK<<%
11991 \ifnum\Fld@rotation=\z@
11992 \else
11993 /R \Fld@rotation
11994 \fi
11995 \ifx\Fld@bordercolor\relax
11996 \else
11997 /BC[\Fld@bordercolor]%
11998 \fi
11999 \ifx\Fld@bcolor\relax
12000 \else
12001 /BG[\Fld@bcolor]%
12002 \fi
12003 /CA(\Hy@escapestring{\Fld@cbsymbol})%
12004 >>%
12005 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
12006 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12007 /H/P%
12008 \ifFld@checked /V/Yes\else /V/Off\fi
12009 }

```

\PDFForm@Push

```

12010 \ifHy@pdfa
12011 \else
12012 \def\PDFForm@Push{%
12013 /Subtype/Widget%
12014 \Fld@annotflags
12015 /T(\Fld@name)%
12016 /FT/Btn%
12017 \Fld@flags
12018 /H/P%
12019 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12020 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12021 \ifx\Fld@bordercolor\relax\else 1\fi
12022 \space
12023 \else
12024 /MK<<%
12025 \ifnum\Fld@rotation=\z@
12026 \else
12027 /R \Fld@rotation
12028 \fi
12029 \ifx\Fld@bordercolor\relax
12030 \else
12031 /BC[\Fld@bordercolor]%
12032 \fi
12033 >>%
12034 \fi
12035 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
12036 }%
12037 \fi

```

\Fld@additionalactions

```
12038 \def\Fld@@additionalactions{%
```

K input (keystroke) format

```
12039 \ifx\Fld@keystroke@code\@empty
```

```
12040 \else
```

```
12041 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
```

```
12042 \fi
```

F display format

```
12043 \ifx\Fld@format@code\@empty
```

```
12044 \else
```

```
12045 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
```

```
12046 \fi
```

V validation

```
12047 \ifx\Fld@validate@code\@empty
```

```
12048 \else
```

```
12049 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
```

```
12050 \fi
```

C calculation

```
12051 \ifx\Fld@calculate@code\@empty
```

```
12052 \else
```

```
12053 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
```

```
12054 \fi
```

Fo receiving the input focus

```
12055 \ifx\Fld@onfocus@code\@empty
```

```
12056 \else
```

```
12057 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
```

```
12058 \fi
```

Bl loosing the input focus (blurred)

```
12059 \ifx\Fld@onblur@code\@empty
```

```
12060 \else
```

```
12061 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
```

```
12062 \fi
```

D pressing the mouse button (down)

```
12063 \ifx\Fld@onmousedown@code\@empty
```

```
12064 \else
```

```
12065 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
```

```
12066 \fi
```

U releasing the mouse button (up)

```
12067 \ifx\Fld@onmouseup@code\@empty
```

```
12068 \else
```

```
12069 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
```

```
12070 \fi
```

E cursor enters the annotation's active area.

```
12071 \ifx\Fld@onenter@code\@empty
```

```
12072 \else
```

```
12073 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
```

```
12074 \fi
```

X cursor exits the annotation's active area.

```
12075 \ifx\Fld@onexit@code\@empty
```

```
12076 \else
```

```
12077 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
```

```

12078 \fi
12079 }
12080 \def\Fld@additionalactions{%
12081 \if\Fld@@additionalactions-%
12082 \else
12083 \ifHy@pdfa
12084 \else
12085 /AA<<\Fld@@additionalactions>>%
12086 \fi
12087 \fi
12088 }

```

\PDFForm@List

```

12089 \def\PDFForm@List{%
12090 /Subtype/Widget%
12091 \Fld@annotflags
12092 /T(\Fld@name)%
12093 /FT/Ch%
12094 \Fld@flags
12095 /Q \Fld@align
12096 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12097 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12098 \ifx\Fld@bordercolor\relax\else 1\fi
12099 \ifx\Fld@bcolor\relax \else 1\fi
12100 \space
12101 \else
12102 /MK<<%
12103 \ifnum\Fld@rotation=\z@
12104 \else
12105 /R \Fld@rotation
12106 \fi
12107 \ifx\Fld@bordercolor\relax
12108 \else
12109 /BC[\Fld@bordercolor]%
12110 \fi
12111 \ifx\Fld@bcolor\relax
12112 \else
12113 /BG[\Fld@bcolor]%
12114 \fi
12115 >>%
12116 \fi
12117 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12118 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12119 \Fld@choices
12120 \Fld@additionalactions
12121 }

```

\PDFForm@Radio

```

12122 \def\PDFForm@Radio{%
12123 /Subtype/Widget%
12124 \Fld@annotflags
12125 /T(\Fld@name)%
12126 /FT/Btn%
12127 \Fld@flags
12128 /H/P%
12129 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12130 /MK<<%

```

```

12131 \ifnum\Fld@rotation=\z@
12132 \else
12133 /R \Fld@rotation
12134 \fi
12135 \ifx\Fld@bordercolor\relax
12136 \else
12137 /BC[\Fld@bordercolor]%
12138 \fi
12139 \ifx\Fld@bcolor\relax
12140 \else
12141 /BG[\Fld@bcolor]%
12142 \fi
12143 /CA(\Fld@radiosymbol)%
12144 >>%
12145 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
12146 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12147 \ifx\@currValue\Fld@default
12148 /V/\Fld@default
12149 \else
12150 /V/Off%
12151 \fi
12152 \Fld@additionalactions
12153 }

```

\PDFForm@Text

```

12154 \def\PDFForm@Text{%
12155 /Subtype/Widget%
12156 \Fld@annotflags
12157 /T(\Fld@name)%
12158 /FT/Tx%
12159 \Fld@flags
12160 /Q \Fld@align
12161 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
12162 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12163 \ifx\Fld@bordercolor\relax\else 1\fi
12164 \ifx\Fld@bcolor\relax \else 1\fi
12165 \space
12166 \else
12167 /MK<<%
12168 \ifnum\Fld@rotation=\z@
12169 \else
12170 /R \Fld@rotation
12171 \fi
12172 \ifx\Fld@bordercolor\relax
12173 \else
12174 /BC[\Fld@bordercolor]%
12175 \fi
12176 \ifx\Fld@bcolor\relax
12177 \else
12178 /BG[\Fld@bcolor]%
12179 \fi
12180 >>%
12181 \fi
12182 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12183 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12184 /DV(\Hy@escapestring{\Fld@default})%
12185 /V(\Hy@escapestring{\Fld@value})%

```

```

12186 \Fld@additionalactions
12187 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
12188 }

```

\PDFForm@Submit

```

12189 \def\PDFForm@Submit{%
12190 /Subtype/Widget%
12191 \Fld@annotflags
12192 /T(\Fld@name)%
12193 /FT/Btn%
12194 \Fld@flags
12195 /H/P%
12196 /BS<</W \Fld@borderwidth/S\Fld@borderstyle>>%
12197 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12198     \ifx\Fld@bordercolor\relax\else 1\fi
12199     \space
12200 \else
12201 /MK<<%
12202     \ifnum\Fld@rotation=\z@
12203     \else
12204     /R \Fld@rotation
12205     \fi
12206     \ifx\Fld@bordercolor\relax
12207     \else
12208     /BC[\Fld@bordercolor]%
12209     \fi
12210 >>%
12211 \fi
12212 /A<<%
12213 /S/SubmitForm%
12214 /F<<%
12215 /FS/URL%
12216 /F(\Hy@escapestring{\Form@action})%
12217 >>%
12218 \Fld@submitflags
12219 >>%
12220 }

```

\PDFForm@Reset

```

12221 \ifHy@pdfa
12222 \else
12223 \def\PDFForm@Reset{%
12224 /Subtype/Widget%
12225 \Fld@annotflags
12226 /T(\Fld@name)%
12227 /FT/Btn%
12228 \Fld@flags
12229 /H/P%
12230 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
12231 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12232     \ifx\Fld@bordercolor\relax\else 1\fi
12233     \space
12234 \else
12235 /MK<<%
12236     \ifnum\Fld@rotation=\z@
12237     \else
12238     /R \Fld@rotation

```



```

12239 \fi
12240 \ifx\Fld@bordercolor\relax
12241 \else
12242 /BC[\Fld@bordercolor]%
12243 \fi
12244 % /CA (Clear)
12245 % /AC (Done)
12246 >>%
12247 \fi
12248 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12249 /A<</S/ResetForm>>%
12250 }%
12251 \fi

12252 </pdfform>
12253 <*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`

```

12254 \def\phantomsection{%
12255 \Hy@GlobalStepCount\Hy@linkcounter
12256 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12257 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
12258 }
12259 </package>

```

48.1 Bookmarks

```
12260 <*outlines>
```

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

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

When using the right-to-left typesetting based on $\varepsilon\text{-TeX}$, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of $\varepsilon\text{-TeX}$'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.

```

12261 \def\Hy@writebookmark#1#2#3#4#5{%
12262 % section number, text, label, level, file
12263 \ifx\WriteBookmarks\relax%
12264 \else

```

```

12265 \ifnum#4>\Hy@bookmarksdepth\relax
12266 \else
12267 \@@writetorep{#1}{#2}{#3}{#4}{#5}%
12268 \fi
12269 \fi
12270 }
12271 \def\Hy@currentbookmarklevel{0}
12272 \def\Hy@numberline#1{#1 }
12273 \def\@@writetorep#1#2#3#4#5{%
12274 \begingroup
12275 \edef\Hy@tempa{#5}%
12276 \ifx\Hy@tempa\Hy@bookmarkstype
12277 \edef\Hy@level{#4}%
12278 \ifx\Hy@levelcheck Y%
12279 \@tempcnta\Hy@level\relax
12280 \advance\@tempcnta by -1 %
12281 \ifnum\Hy@currentbookmarklevel<\@tempcnta
12282 \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
12283 \advance\@tempcnta by 1 %
12284 \Hy@Warning{%
12285 Difference (\the\@tempcnta) between bookmark levels is %
12286 greater \MessageBreak than one, level fixed%
12287 }%
12288 \@tempcnta\Hy@currentbookmarklevel
12289 \advance\@tempcnta by 1 %
12290 \edef\Hy@level{\the\@tempcnta}%
12291 \fi
12292 \else
12293 \global\let\Hy@levelcheck Y%
12294 \fi
12295 \global\let\Hy@currentbookmarklevel\Hy@level
12296 \@tempcnta\Hy@level\relax
12297 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
12298 \advance\@tempcnta by -1 %
12299 \edef\Hy@tempa{#3}%
12300 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
12301 \ifx\Hy@tempa\Hy@tempb
12302 \Hy@Warning{%
12303 The anchor of a bookmark and its parent's must not%
12304 \MessageBreak be the same. Added a new anchor%
12305 }%
12306 \phantomsection
12307 \fi
12308 \ifHy@bookmarksnumbered
12309 \let\numberline\Hy@numberline
12310 \let\partnumberline\Hy@numberline
12311 \let\chapternumberline\Hy@numberline
12312 \else
12313 \let\numberline\@gobble
12314 \let\partnumberline\@gobble
12315 \let\chapternumberline\@gobble
12316 \fi
12317 \HyPsd@XeTeXBigCharstrue
12318 \pdfstringdef\Hy@tempa{#2}%
12319 \if@files
12320 \stepcounter{bookmark@seq@number}%
12321 \ifundefined{@outlinefile}{%

```

```

12322     }{%
12323     \protected@write\@outlinefile{}{%
12324     \protect\BOOKMARK
12325     [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
12326     {\Hy@tempa}{\Hy@tempb}%
12327     \@percentchar\space\thebookmark@seq@number
12328     }%
12329     }%
12330     \fi
12331     \fi
12332     \endgroup
12333 }
12334 \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 `]`.

```

12335 \newcommand{\currentpdfbookmark}{%
12336 \pdfbookmark[\Hy@currentbookmarklevel]%
12337 }
12338 \newcommand{\subpdfbookmark}{%
12339 \@tempcnta\Hy@currentbookmarklevel
12340 \Hy@StepCount\@tempcnta
12341 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
12342 }
12343 \newcommand{\belowpdfbookmark}[2]{%
12344 \@tempcnta\Hy@currentbookmarklevel
12345 \Hy@StepCount\@tempcnta
12346 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
12347 \advance\@tempcnta by -1 %
12348 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
12349 }

```

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.

```

12350 \renewcommand\pdfbookmark[3][0]{%
12351 \Hy@writebookmark}{#2}{#3.#1}{#1}{toc}%
12352 \hyper@anchorstart{#3.#1}\hyper@anchorend
12353 }
12354 \def\BOOKMARK{%
12355 \@ifnextchar[\@BOOKMARK]{\@@BOOKMARK[1][-]}%
12356 }
12357 \def\@BOOKMARK[#1]{%
12358 \@ifnextchar[\@BOOKMARK[{#1}]{\@@BOOKMARK[{#1}][-]}%
12359 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

48.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

12360 \RequirePackage{rerunfilecheck}[2009/12/10]
12361 \def\Hy@OutlineRerunCheck{%
12362 \RerunFileCheck{\jobname.out}{%
12363 \immediate\closeout\@outlinefile
12364 }{%
12365 Rerun to get outlines right\MessageBreak
12366 or use package ‘bookmark’%
12367 }%

```

12368 }

48.1.2 Driver stuff

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

12369 < *vtex >

12370 \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.

```
12371 \begingroup
12372 \catcode'\'=12 %
12373 \ifnum\Hy@VTeXversion<650 %
12374 \catcode'\ "=12 %
12375 \gdef\hv@pdf@char#1#2#3{%
12376 \char
12377 \ifcase'#1#2#3 %
12378 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
12379 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
12380 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
12381 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
12382 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
12383 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
12384 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
12385 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
12386 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
12387 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
12388 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
12389 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
12390 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
12391 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
12392 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
12393 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
12394 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
12395 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
12396 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
12397 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
12398 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
12399 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
12400 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
12401 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
12402 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
12403 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
12404 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
12405 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
12406 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
12407 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
12408 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
12409 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
12410 \fi
12411 }%
12412 \else
```

```

12413 \gdef\hv@pdf@char{\char'}%
12414 \fi
12415 \endgroup

```

\@@BOOKMARK

```

12416 \def\@@BOOKMARK[#1][#2]#3#4#5{%
12417 \expandafter\edef\csname @count@#3\endcsname{%
12418 \the\@serial@counter
12419 }%
12420 \edef\@mycount{\the\@serial@counter}%
12421 \Hy@StepCount\@serial@counter
12422 \edef\@parcount{%
12423 \expandafter\ifx\csname @count@#5\endcsname\relax
12424 0%
12425 \else
12426 \csname @count@#5\endcsname
12427 \fi
12428 }%
12429 \immediate\special{%
12430 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
12431 s=\ifx#2-c\else o\fi,t=#4%
12432 }%
12433 }%

```

\ReadBookmarks

```

12434 \def\ReadBookmarks{%
12435 \begingroup
12436 \def\0{\hv@pdf@char 0}%
12437 \def\1{\hv@pdf@char 1}%
12438 \def\2{\hv@pdf@char 2}%
12439 \def\3{\hv@pdf@char 3}%
12440 \def\({}%
12441 \def\)}%
12442 \def\do##1{%
12443 \ifnum\the\catcode'##1=\active
12444 \@makeother##1%
12445 \fi
12446 }%
12447 \dospecials
12448 \InputIfFileExists{\jobname.out}{\}{}%
12449 \endgroup
12450 \ifx\WriteBookmarks\relax
12451 \else
12452 \if@filesw
12453 \newwrite\@outlinefile
12454 \Hy@OutlineRerunCheck
12455 \immediate\openout\@outlinefile=\jobname.out\relax
12456 \ifHy@typexml
12457 \immediate\write\@outlinefile{<relaxxml>\relax}%
12458 \fi
12459 \fi
12460 \fi
12461 }

12462 </vtex>
12463 <!*vtex>
12464 \def\ReadBookmarks{%

```

```

12465 \begingroup
12466 \escapechar='\\%
12467 \let\escapechar\@gobble %
12468 \def\@@BOOKMARK[##1][##2]##3##4##5{%
12469   \calc@bm@number{##5}%
12470 }%
12471 \InputIfFileExists{\jobname.out}{-}{-}%
12472 \ifx\WriteBookmarks\relax
12473   \global\let\WriteBookmarks\relax
12474 \fi
12475 \def\@@BOOKMARK[##1][##2]##3##4##5{%
12476   \def\Hy@temp{##4}%
12477 \<*pdftex>
12478   \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12479   \Hy@OutlineName{}\Hy@pstringName{%
12480     ##2\check@bm@number{##3}%
12481   }{%
12482     \expandafter\strip@prefix\meaning\Hy@temp
12483   }%
12484 \</pdftex>
12485 \<*pdfmark>
12486   \pdfmark{%
12487     pdfmark=/OUT,%
12488     Count={##2\check@bm@number{##3}},%
12489     Dest={##3},%
12490     Title=\expandafter\strip@prefix\meaning\Hy@temp
12491   }%
12492 \</pdfmark>
12493 \<*dviPDFM | xetex>
12494   \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12495   \@pdfm@mark{%
12496     outline \ifHy@DvipdfmxOutlineOpen
12497       [%
12498         \ifnum##21>\z@
12499         \else
12500         -%
12501         \fi
12502       ] %
12503     \fi
12504     ##1<<%
12505     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
12506     /A<<%
12507     /S/GoTo%
12508     /D(\Hy@pstringName)%
12509     >>%
12510     >>%
12511   }%
12512 \</dviPDFM | xetex>
12513 }%
12514 {%
12515   \def\WriteBookmarks{0}%
12516   \InputIfFileExists{\jobname.out}{-}{-}%
12517 }%
12518 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
12519 \ifx\WriteBookmarks\relax
12520 \else
12521   \if@filesW

```

```

12522 \newwrite\@outlinefile
12523 \Hy@OutlineRerunCheck
12524 \immediate\openout\@outlinefile=\jobname.out\relax
12525 \ifHy@typexml
12526 \immediate\write\@outlinefile{<relaxxml>\relax}%
12527 \fi
12528 \fi
12529 \fi
12530 \endgroup
12531 }
12532 <*pdfTeX>
12533 \def\Hy@OutlineName#1#2#3#4{%
12534 \pdfoutline goto name{#2}count#3{#4}%
12535 }
12536 </pdfTeX>
12537 \def\check@bm@number#1{%
12538 \expandafter\ifx\csname B_#1\endcsname\relax
12539 0%
12540 \else
12541 \csname B_#1\endcsname
12542 \fi
12543 }
12544 \def\calc@bm@number#1{%
12545 \@tempcnta=\check@bm@number{#1}\relax
12546 \advance\@tempcnta by 1 %
12547 \expandafter\xdef\csname B_#1\endcsname{the\@tempcnta}%
12548 }
12549 </!vtex>
12550 \ifHy@implicit
12551 \else
12552 \expandafter\endinput
12553 \fi
12554 </outlines>
12555 <*outlines | hypertex>
12556 \newlength\Hy@SectionHShift
12557 \def\Hy@SectionAnchorHref#1{%
12558 \ifx\protect\@typeset@protect
12559 \Hy@@@SectionAnchor{#1}%
12560 \fi
12561 }
12562 \DeclareRobustCommand*{\Hy@@@SectionAnchor}[1]{%
12563 \leavevmode
12564 \hbox to 0pt{%
12565 \kern-\Hy@SectionHShift
12566 \Hy@raisedlink{%
12567 \hyper@anchorstart{#1}\hyper@anchorend
12568 }%
12569 \hss
12570 }%
12571 }
12572 \let\H@old@ssect\@ssect
12573 \def\@ssect#1#2#3#4#5{%
12574 \Hy@GlobalStepCount\Hy@linkcounter
12575 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12576 \setlength{\Hy@SectionHShift}{#1}%
12577 \begingroup

```

```

12578 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
12579 \toks\tw@\expandafter{%
12580 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
12581 #5%
12582 }%
12583 \edef\x{\endgroup
12584 \the\toks@{\the\toks\tw@}}%
12585 }\x
12586 }
12587 \let\H@old@schapter\@schapter
12588 \def\@schapter#1{%
12589 \begingroup
12590 \let\@mkboth\@gobbletwo
12591 \Hy@GlobalStepCount\Hy@linkcounter
12592 \xdef\@currentHref{\Hy@chapapp*.the\Hy@linkcounter}%
12593 \Hy@raisedlink{%
12594 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12595 }%
12596 \endgroup
12597 \H@old@schapter{#1}%
12598 }

```

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:

```

12599 \ifundefined{@chapter}{}{%
12600 \let\Hy@org@chapter\@chapter
12601 \def\@chapter{%
12602 \def\Hy@next{%
12603 \Hy@GlobalStepCount\Hy@linkcounter
12604 \xdef\@currentHref{\Hy@chapapp*.the\Hy@linkcounter}%
12605 \Hy@raisedlink{%
12606 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12607 }%
12608 }%
12609 \ifnum\c@secnumdepth>\m@ne
12610 \ifundefined{if@mainmatter}%
12611 \iftrue{\csname if@mainmatter\endcsname}%
12612 \let\Hy@next\relax
12613 \fi
12614 \fi
12615 \Hy@next
12616 \Hy@org@chapter
12617 }%
12618 }

12619 \let\H@old@part\@part
12620 \begingroup\expandafter\expandafter\expandafter\endgroup
12621 \expandafter\ifx\csname chapter\endcsname\relax
12622 \let\Hy@secnum@part\z@
12623 \else
12624 \let\Hy@secnum@part\m@ne
12625 \fi
12626 \def\@part{%
12627 \ifnum\Hy@secnum@part>\c@secnumdepth
12628 \phantomsection
12629 \fi
12630 \H@old@part

```



```

12631 }
12632 \let\H@old@spart\@spart
12633 \def\@spart#1{%
12634   \Hy@GlobalStepCount\Hy@linkcounter
12635   \xdef\@currentHref{part*.\the\Hy@linkcounter}%
12636   \Hy@raisedlink{%
12637     \hyper@anchorstart{\@currentHref}\hyper@anchorend
12638   }%
12639   \H@old@spart{#1}%
12640 }
12641 \let\H@old@sect\@sect
12642 \def\@sect#1#2#3#4#5#6[#7]#8{%
12643   \ifnum #2>\c@secnumdepth
12644     \expandafter\@firstoftwo
12645   \else
12646     \expandafter\@secondoftwo
12647   \fi
12648   {%
12649     \Hy@GlobalStepCount\Hy@linkcounter
12650     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12651     \setlength{\Hy@SectionHShift}{#3}%
12652     \begingroup
12653       \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]}%
12654       \toks\tw@\expandafter{%
12655         \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
12656         #8%
12657       }%
12658       \edef\x{\endgroup
12659         \the\toks@{\the\toks\tw@}}%
12660     }\x
12661   }{%
12662     \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]{#8}%
12663   }%
12664 }
12665 </outlines | hypertex>
12666 <*outlines>
12667 \expandafter\def\csname Parent-4\endcsname{}
12668 \expandafter\def\csname Parent-3\endcsname{}
12669 \expandafter\def\csname Parent-2\endcsname{}
12670 \expandafter\def\csname Parent-1\endcsname{}
12671 \expandafter\def\csname Parent0\endcsname{}
12672 \expandafter\def\csname Parent1\endcsname{}
12673 \expandafter\def\csname Parent2\endcsname{}
12674 \expandafter\def\csname Parent3\endcsname{}
12675 \expandafter\def\csname Parent4\endcsname{}
12676 </outlines>

```

49 Compatibility with koma-script classes

```
12677 <*outlines | hypertex>
```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias Isenberg (Tobias.Isenberg@gmx.de). With version 6.71b the hack is also applied to ‘scrprf’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

12678 \def\Hy@tempa{%
12679   \def\@addchap{##1}##2{%
12680     \typeout{##2}%
12681     \if@twoside
12682       \@mkboth{##1}{}%
12683     \else
12684       \@mkboth{}{##1}%
12685     \fi
12686     \addtocontents{lof}{\protect\addvspace{10\p@}}%
12687     \addtocontents{lot}{\protect\addvspace{10\p@}}%
12688     \Hy@GlobalStepCount\Hy@linkcounter
12689     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12690     \Hy@raisedlink{%
12691       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12692     }%
12693     \if@twocolumn
12694       \@topnewpage[\@makeschapterhead{##2}]%
12695     \else
12696       \@makeschapterhead{##2}%
12697       \@afterheading
12698     \fi
12699     \addcontentsline{toc}{chapter}{##1}%
12700   }%
12701 }
12702 \@ifclassloaded{scrbook}{%
12703   \@ifclasslater{scrbook}{2001/01/01}{%
12704     \let\Hy@tempa\@empty
12705   }{}%
12706 }{%
12707   \@ifclassloaded{scrreprt}{%
12708     \@ifclasslater{scrreprt}{2001/01/01}{%
12709       \let\Hy@tempa\@empty
12710     }{}%
12711   }{}%
12712   \let\Hy@tempa\@empty
12713 }%
12714 }%
12715 \Hy@tempa
12716 </outlines | hypertext>

```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

50.1 PD1 encoding

```

12717 <*pd1enc>
12718 \DeclareFontEncoding{PD1}{}{}

```

Accents

```

12719 \DeclareTextAccent{'}{PD1}{\textasciigrave}
12720 \DeclareTextAccent{'}{PD1}{\textacute}
12721 \DeclareTextAccent{~}{PD1}{\textasciicircum}
12722 \DeclareTextAccent{~}{PD1}{\texttilde}
12723 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
12724 \DeclareTextAccent{r}{PD1}{\textring}
12725 \DeclareTextAccent{v}{PD1}{\textasciicaron}

```

```

12726 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
12727 \DeclareTextAccent{\c}{PD1}{\textcedilla}
12728 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
12729 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
12730 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
12731 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textasciigrave}
12732 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
12733 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
12734 \DeclareTextCompositeCommand{\-}{PD1}{\@empty}{\texttilde}
12735 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
12736 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
12737 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
12738 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
12739 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
12740 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
12741 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
12742 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
12743 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textasciigrave}
12744 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
12745 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
12746 \DeclareTextCompositeCommand{\-}{PD1}{\ }{\texttilde}
12747 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
12748 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
12749 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
12750 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
12751 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
12752 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
12753 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
12754 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
12755 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
12756 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
12757 \DeclareTextCommand{\newtie}{PD1}[1]{%
12758   \TextSymbolUnavailable{\newtie{#1}}#1%
12759 }

```

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

```

12760 % U+0009 (CHARACTER TABULATION)
12761 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
12762 % U+000A (LINE FEED)
12763 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
12764 % U+000D (CARRIAGE RETURN)
12765 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

12766 % U+02D8 BREVE; breve
12767 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
12768 % U+02C7 CARON; caron
12769 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
12770 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
12771 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
12772 % U+02D9 DOT ABOVE; dotaccent
12773 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
12774 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
12775 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
12776 % U+02DB OGONEK; ogonek
12777 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
12778 % U+02DA RING ABOVE; ring
12779 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
12780 % U+02DC SMALL TILDE; ilde, *tilde

```

12781 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC
 \040: U+0020 SPACE; *space, spacehackarabic
 \041: U+0021 EXCLAMATION MARK; exclam
 12782 % U+0022 QUOTATION MARK; quotedbl
 12783 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
 12784 % U+0023 NUMBER SIGN; numbersign
 12785 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
 12786 % U+0024 DOLLAR SIGN; dollar
 12787 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
 12788 % U+0025 PERCENT SIGN; percent
 12789 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
 12790 % U+0026 AMPERSAND; ampersand
 12791 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026
 \047: U+0027 APOSTROPHE; quotesingle

 12792 % U+0028 LEFT PARENTHESIS; parenleft
 12793 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028
 12794 % U+0029 RIGHT PARENTHESIS; parenright
 12795 \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
 12796 % U+002E FULL STOP; period
 12797 \DeclareTextCommand{\textdotbelow}{PD1}{\cdot}% \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
 12798 % U+003C LESS-THAN SIGN; less
 12799 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
 \075: U+003D EQUALS SIGN; equal
 12800 % U+003E GREATER-THAN SIGN; greater
 12801 \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
 12802 % U+005C REVERSE SOLIDUS; backslash
 12803 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 12804 % U+005E CIRCUMFLEX ACCENT; asciicircum
 12805 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 12806 % U+005F LOW LINE; underscore
 12807 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 12808 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 12809 % U+0060 GRAVE ACCENT; grave
 12810 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060

\141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 12811 % U+0069 LATIN SMALL LETTER I; i
 12812 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 12813 % U+007B LEFT CURLY BRACKET; braceleft
 12814 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 12815 % U+007C VERTICAL LINE; *bar, verticalbar
 12816 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 12817 % U+007D RIGHT CURLY BRACKET; braceright
 12818 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 12819 % U+007E TILDE; asciitilde
 12820 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 12821 % U+2022 BULLET; bullet
 12822 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 12823 % U+2020 DAGGER; dagger
 12824 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 12825 % U+2021 DOUBLE DAGGER; daggerdbl
 12826 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 12827 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 12828 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 12829 % U+2014 EM DASH; emdash
 12830 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 12831 % U+2013 EN DASH; endash
 12832 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 12833 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 12834 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 12835 % U+2044 FRACTION SLASH; fraction
 12836 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 12837 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 ingleft
 12838 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039
 12839 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 ingright
 12840 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A
 12841 % U+2212 MINUS SIGN; minus
 12842 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 12843 % U+2030 PER MILLE SIGN; perthousand
 12844 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 12845 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 12846 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 12847 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 12848 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 12849 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 12850 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
 12851 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 12852 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
 12853 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 12854 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
 12855 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 12856 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 12857 % U+2122 TRADE MARK SIGN; trademark

12858 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 12859 % U+FB01 LATIN SMALL LIGATURE FI; fi
 12860 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
 12861 % U+FB02 LATIN SMALL LIGATURE FL; fl
 12862 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
 12863 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 12864 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
 12865 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 12866 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
 12867 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
 12868 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
 12869 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 12870 \DeclareTextCompositeCommand{\Y}{PD1}{Y}{\230}% U+0178
 12871 \DeclareTextCommand{\IJ}{PD1}{\230}
 12872 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 12873 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
 12874 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 12875 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
 12876 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 12877 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
 12878 % U+0153 LATIN SMALL LIGATURE OE; oe
 12879 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
 12880 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 12881 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
 12882 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 12883 \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.

12884 % U+20AC EURO SIGN; *Euro, euro
 12885 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
 12886 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 12887 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
 12888 % U+00A2 CENT SIGN; cent
 12889 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
 12890 % U+00A3 POUND SIGN; sterling
 12891 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
 12892 % U+00A4 CURRENCY SIGN; currency
 12893 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
 12894 % U+00A5 YEN SIGN; yen
 12895 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
 12896 % U+00A6 BROKEN BAR; brokenbar
 12897 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
 12898 % U+00A7 SECTION SIGN; section
 12899 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
 12900 % U+00A8 DIAERESIS; dieresis
 12901 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
 12902 % U+00A9 COPYRIGHT SIGN; copyright
 12903 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
 12904 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 12905 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
 12906 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motleft
 12907 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
 12908 % U+00AC NOT SIGN; logicalnot
 12909 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
 12910 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not

No glyph \255 in PDFDocEncoding.

12911 % U+00AE REGISTERED SIGN; registered
12912 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
12913 % U+00AF MACRON; *macron, overscore
12914 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
12915 % U+00B0 DEGREE SIGN; degree
12916 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
12917 % U+00B1 PLUS-MINUS SIGN; plusminus
12918 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
12919 % U+00B2 SUPERSCRIPT TWO; twosuperior
12920 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
12921 % U+00B3 SUPERSCRIPT THREE; threesuperior
12922 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
12923 % U+00B4 ACUTE ACCENT; acute
12924 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
12925 % U+00B5 MICRO SIGN; mu, mu1
12926 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
12927 % U+00B6 PILCROW SIGN; paragraph
12928 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
12929 % U+00B7 MIDDLE DOT; middot, *periodcentered
12930 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
12931 % U+00B8 CEDILLA; cedilla
12932 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
12933 % U+00B9 SUPERSCRIPT ONE; onesuperior
12934 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
12935 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
12936 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
12937 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
motright
12938 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
12939 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
12940 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
12941 % U+00BD VULGAR FRACTION ONE HALF; onehalf
12942 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
12943 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
12944 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
12945 % U+00BF INVERTED QUESTION MARK; questiondown
12946 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
12947 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
12948 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
12949 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
12950 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
12951 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
12952 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
12953 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
12954 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
12955 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
12956 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
12957 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
12958 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
12959 % U+00C6 LATIN CAPITAL LETTER AE; AE
12960 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
12961 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
12962 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
12963 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
12964 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
12965 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
12966 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9

12967 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
12968 \DeclareTextCompositeCommand{\`}{PD1}{E}{\312}% U+00CA
12969 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
12970 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
12971 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
12972 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
12973 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
12974 \DeclareTextCompositeCommand{\`}{PD1}{I}{\315}% U+00CD
12975 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
12976 \DeclareTextCompositeCommand{\`}{PD1}{I}{\316}% U+00CE
12977 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
12978 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
12979 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
12980 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
12981 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
12982 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
12983 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
12984 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
12985 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
12986 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
12987 \DeclareTextCompositeCommand{\`}{PD1}{O}{\323}% U+00D3
12988 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
12989 \DeclareTextCompositeCommand{\`}{PD1}{O}{\324}% U+00D4
12990 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
12991 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
12992 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
12993 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
12994 % U+00D7 MULTIPLICATION SIGN; multiply
12995 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
12996 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
12997 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
12998 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
12999 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
13000 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
13001 \DeclareTextCompositeCommand{\`}{PD1}{U}{\332}% U+00DA
13002 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
13003 \DeclareTextCompositeCommand{\`}{PD1}{U}{\333}% U+00DB
13004 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
13005 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
13006 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
13007 \DeclareTextCompositeCommand{\`}{PD1}{Y}{\335}% U+00DD
13008 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
13009 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
13010 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
13011 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
13012 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
13013 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
13014 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
13015 \DeclareTextCompositeCommand{\`}{PD1}{a}{\341}% U+00E1
13016 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
13017 \DeclareTextCompositeCommand{\`}{PD1}{a}{\342}% U+00E2
13018 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
13019 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
13020 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
13021 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
13022 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
13023 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5

13024 % U+00E6 LATIN SMALL LETTER AE; ae
13025 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
13026 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
13027 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
13028 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
13029 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8
13030 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
13031 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9
13032 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
13033 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA
13034 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
13035 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
13036 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
13037 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
13038 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC
13039 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
13040 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
13041 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
13042 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
13043 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
13044 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
13045 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
13046 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
13047 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
13048 % U+00F0 LATIN SMALL LETTER ETH; eth
13049 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
13050 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
13051 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
13052 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
13053 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
13054 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
13055 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
13056 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
13057 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4
13058 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
13059 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
13060 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
13061 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
13062 % U+00F7 DIVISION SIGN; divide
13063 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
13064 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
13065 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
13066 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
13067 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
13068 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
13069 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
13070 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
13071 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
13072 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
13073 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
13074 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
13075 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
13076 % U+00FE LATIN SMALL LETTER THORN; thorn
13077 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
13078 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
13079 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
13080 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

```
13081 \DeclareTextCommand{\SS}{PD1}{SS}
13082 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}
```

Aliases (german.sty)

```
13083 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
13084 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
13085 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
13086 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
13087 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
13088 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
13089 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
13090 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}
```

Aliases (math names)

```
13091 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
13092 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
13093 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
13094 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
13095 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
13096 \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).

```
13097 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
13098 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
13099 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
13100 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
13101 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
13102 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
13103 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
13104 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
13105 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
13106 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
13107 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
13108 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
13109 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
13110 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
13111 </pd1enc>
```

50.2 PU encoding

```
13112 <*puenc>
13113 \DeclareFontEncoding{PU}{-}{-}
```

50.2.1 NFSS2 accents

```
13114 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
13115 \DeclareTextCommand{\'}{PU}[1]{\#1\83\000}% U+0300
13116 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
13117 \DeclareTextCommand{\'}{PU}[1]{\#1\83\001}% U+0301
13118 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
13119 \DeclareTextCommand{\^}{PU}[1]{\#1\83\002}% U+0302
13120 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
13121 \DeclareTextCommand{\~}{PU}[1]{\#1\83\003}% U+0303
13122 % U+0304 COMBINING MACRON; macroncmb
13123 \DeclareTextCommand{\=}{PU}[1]{\#1\83\004}% U+0304
13124 % U+0306 COMBINING BREVE; brevecmb
13125 \DeclareTextCommand{\u}{PU}[1]{\#1\83\006}% U+0306
```

13126 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
13127 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
13128 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
13129 % U+0308 COMBINING DIAERESIS; dieresiscmb
13130 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
13131 % U+030A COMBINING RING ABOVE; ringcmb
13132 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
13133 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
13134 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
13135 % U+030C COMBINING CARON; caroncmb
13136 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
13137 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
13138 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
13139 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
13140 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
13141 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
13142 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
13143 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
13144 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
13145 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
13146 % U+0327 COMBINING CEDILLA; cedillacmb
13147 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
13148 % U+0328 COMBINING OGONEK; ogonekcmb
13149 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
13150 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
13151 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
13152 % U+20DD COMBINING ENCLOSING CIRCLE
13153 \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.

13154 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}
13155 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
13156 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
13157 \DeclareTextCompositeCommand{\-}{PU}{\@empty}{\texttilde}
13158 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
13159 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
13160 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
13161 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
13162 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
13163 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
13164 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
13165 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
13166 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
13167 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
13168 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
13169 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
13170 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
13171 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
13172 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
13173 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
13174 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
13175 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
13176 \DeclareTextCompositeCommand{\-}{PU}{\ }{\texttilde}
13177 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
13178 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
13179 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
13180 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}

```

13181 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
13182 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
13183 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
13184 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
13185 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
13186 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
13187 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
13188 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
13189 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
13190 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
13191 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

13192 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
13193 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
13194 \DeclareTextCommand{\capitalgrave}{PU}[1]{\'{#1}}
13195 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
13196 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
13197 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
13198 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
13199 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
13200 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
13201 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
13202 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
13203 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
13204 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
13205 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
13206 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

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

Special white space escape characters.

```

13207 % U+0009 (CHARACTER TABULATION)
13208 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
13209 % U+000A (LINE FEED)
13210 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
13211 % U+000D (CARRIAGE RETURN)
13212 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

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

13213 % U+0022 QUOTATION MARK; quotedbl
13214 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
13215 % U+0023 NUMBER SIGN; numbersign
13216 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
13217 % U+0024 DOLLAR SIGN; dollar
13218 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
13219 % U+0025 PERCENT SIGN; percent
13220 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
13221 % U+0026 AMPERSAND; ampersand
13222 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
13223 % U+0027 APOSTROPHE; quotesingle
13224 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
13225 % U+0028 LEFT PARENTHESIS; parenleft
13226 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
13227 % U+0029 RIGHT PARENTHESIS; parenright
13228 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
13229 % U+002A ASTERISK; asterisk
13230 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A (?)

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\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
 13231 % U+003C LESS-THAN SIGN; less
 13232 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
 \80\075: U+003D EQUALS SIGN; equal
 13233 % U+003E GREATER-THAN SIGN; greater
 13234 \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
 13235 % U+005C REVERSE SOLIDUS; backslash
 13236 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright
 13237 % U+005E CIRCUMFLEX ACCENT; asciicircum
 13238 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 13239 % U+005F LOW LINE; underscore
 13240 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 13241 % U+0060 GRAVE ACCENT; grave
 13242 \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
 13243 % U+0069 LATIN SMALL LETTER I; i
 13244 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069
 13245 \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
 13246 % U+007B LEFT CURLY BRACKET; braceleft
 13247 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 13248 % U+007C VERTICAL LINE; *bar, verticalbar
 13249 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 13250 % U+007D RIGHT CURLY BRACKET; braceright
 13251 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 13252 % U+007E TILDE; asciitilde
 13253 \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
 13254 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown

13255 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 13256 % U+00A2 CENT SIGN; cent
 13257 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 13258 % U+00A3 POUND SIGN; sterling
 13259 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 13260 % U+00A4 CURRENCY SIGN; currency
 13261 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 13262 % U+00A5 YEN SIGN; yen
 13263 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
 13264 % U+00A6 BROKEN BAR; brokenbar
 13265 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
 13266 % U+00A7 SECTION SIGN; section
 13267 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 13268 % U+00A8 DIAERESIS; dieresis
 13269 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
 13270 % U+00A9 COPYRIGHT SIGN; copyright
 13271 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
 13272 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 13273 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 13274 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motleft
 13275 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 13276 % U+00AC NOT SIGN; logicalnot
 13277 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 13278 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
 13279 % U+00AE REGISTERED SIGN; registered
 13280 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
 13281 % U+00AF MACRON; *macron, overscore
 13282 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
 13283 % U+00B0 DEGREE SIGN; degree
 13284 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
 13285 % U+00B1 PLUS-MINUS SIGN; plusminus
 13286 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
 13287 % U+00B2 SUPERScript TWO; twosuperior
 13288 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
 13289 % U+00B3 SUPERScript THREE; threesuperior
 13290 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
 13291 % U+00B4 ACUTE ACCENT; acute
 13292 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
 13293 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
 13294 % U+00B5 MICRO SIGN; mu, mu1
 13295 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
 13296 % U+00B6 PILCROW SIGN; paragraph
 13297 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
 13298 % U+00B7 MIDDLE DOT; middot, *periodcentered
 13299 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
 13300 % U+00B8 CEDILLA; cedilla
 13301 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
 13302 % U+00B9 SUPERScript ONE; onesuperior
 13303 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
 13304 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 13305 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
 13306 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motright
 13307 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
 13308 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter

13309 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
13310 % U+00BD VULGAR FRACTION ONE HALF; onehalf
13311 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
13312 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
13313 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
13314 % U+00BF INVERTED QUESTION MARK; questiondown
13315 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
13316 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
13317 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
13318 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
13319 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
13320 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
13321 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
13322 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
13323 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
13324 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
13325 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
13326 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
13327 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
13328 % U+00C6 LATIN CAPITAL LETTER AE; AE
13329 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
13330 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
13331 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
13332 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
13333 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
13334 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
13335 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
13336 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
13337 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
13338 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
13339 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
13340 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
13341 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
13342 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
13343 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
13344 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
13345 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
13346 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
13347 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
13348 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
13349 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
13350 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
13351 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
13352 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
13353 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
13354 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
13355 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
13356 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
13357 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
13358 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
13359 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
13360 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
13361 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
13362 % U+00D7 MULTIPLICATION SIGN; multiply
13363 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
13364 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
13365 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8

13366 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
13367 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9
13368 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
13369 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
13370 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
13371 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\333}% U+00DB
13372 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
13373 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
13374 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
13375 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
13376 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
13377 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
13378 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
13379 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
13380 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
13381 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0
13382 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
13383 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
13384 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
13385 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\342}% U+00E2
13386 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
13387 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
13388 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
13389 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
13390 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
13391 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
13392 % U+00E6 LATIN SMALL LETTER AE; ae
13393 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
13394 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
13395 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
13396 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
13397 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8
13398 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
13399 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
13400 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
13401 \DeclareTextCompositeCommand{\~}{PU}{e}{\80\352}% U+00EA
13402 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
13403 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
13404 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
13405 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
13406 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
13407 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
13408 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
13409 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
13410 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
13411 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\356}% U+00EE
13412 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\356}% U+00EE
13413 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
13414 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
13415 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
13416 % U+00F0 LATIN SMALL LETTER ETH; eth
13417 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
13418 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
13419 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
13420 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
13421 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2
13422 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute

13423 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
 13424 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
 13425 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\364}% U+00F4
 13426 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
 13427 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
 13428 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 13429 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
 13430 % U+00F7 DIVISION SIGN; divide
 13431 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
 13432 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 13433 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
 13434 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 13435 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9
 13436 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 13437 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 13438 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 13439 \DeclareTextCompositeCommand{\~}{PU}{u}{\80\373}% U+00FB
 13440 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 13441 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
 13442 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 13443 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 13444 % U+00FE LATIN SMALL LETTER THORN; thorn
 13445 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 13446 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 13447 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

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

13448 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 13449 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
 13450 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 13451 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
 13452 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 13453 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 13454 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 13455 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 13456 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 13457 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 13458 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
 13459 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
 13460 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
 13461 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
 13462 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
 13463 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
 13464 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
 13465 \DeclareTextCompositeCommand{\~}{PU}{C}{\81\010}% U+0108
 13466 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
 13467 \DeclareTextCompositeCommand{\~}{PU}{c}{\81\011}% U+0109
 13468 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
 13469 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
 13470 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
 13471 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
 13472 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
 13473 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
 13474 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
 13475 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
 13476 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron

13477 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
13478 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
13479 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
13480 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
13481 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
13482 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
13483 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
13484 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
13485 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
13486 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
13487 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
13488 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
13489 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
13490 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
13491 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
13492 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
13493 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
13494 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
13495 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
13496 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
13497 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
13498 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
13499 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
13500 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
13501 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
13502 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
13503 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
13504 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
13505 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
13506 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
13507 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
13508 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
13509 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
13510 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
13511 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
13512 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
13513 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
13514 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
13515 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
13516 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent
13517 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
13518 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
13519 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
13520 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
13521 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
13522 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
13523 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
13524 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
13525 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
13526 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
13527 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127
13528 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
13529 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
13530 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
13531 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
13532 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129

13533 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
 13534 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
 13535 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
 13536 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
 13537 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
 13538 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
 13539 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
 13540 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
 13541 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
 13542 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
 13543 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
 13544 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
 13545 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
 13546 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
 13547 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
 13548 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
 13549 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
 13550 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 13551 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
 13552 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
 13553 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
 13554 % U+0133 LATIN SMALL LIGATURE IJ; ij
 13555 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
 13556 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
 13557 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
 13558 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
 13559 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
 13560 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
 13561 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
 cent
 13562 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
 13563 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
 13564 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

The canonical name of U+0138, small letter kra, would be `\textkgreenlandic`, following the glyph naming convention. However `latex/base/inputenc.dtx` has choosen `\textkra`.

13565 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
 13566 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
 13567 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
 13568 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
 13569 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
 13570 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
 13571 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
 cent
 13572 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
 13573 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
 13574 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
 13575 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
 13576 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
 13577 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
 13578 \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`.

13579 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
 13580 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
 13581 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent

13582 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
 13583 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 13584 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
 13585 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 13586 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
 13587 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
 13588 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
 13589 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
 13590 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
 13591 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-
 cent
 13592 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
 13593 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
 13594 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
 13595 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
 13596 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
 13597 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
 13598 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
 13599 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-
 trophe, quoterightn
 13600 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
 13601 % U+014A LATIN CAPITAL LETTER ENG; Eng
 13602 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
 13603 % U+014B LATIN SMALL LETTER ENG; eng
 13604 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
 13605 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
 13606 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
 13607 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
 13608 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
 13609 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
 13610 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
 13611 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
 13612 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
 13613 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblac-
 ute, Ohungarumlaut
 13614 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
 13615 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohun-
 garumlaut
 13616 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
 13617 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 13618 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
 13619 % U+0153 LATIN SMALL LIGATURE OE; oe
 13620 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
 13621 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
 13622 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
 13623 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
 13624 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
 13625 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-
 cent
 13626 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
 13627 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
 13628 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
 13629 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
 13630 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
 13631 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
 13632 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
 13633 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute

13634 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
13635 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
13636 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
13637 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
13638 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
13639 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
13640 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
13641 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
13642 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
13643 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
13644 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
13645 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
13646 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
13647 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
13648 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
13649 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-
cent
13650 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
13651 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
13652 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
13653 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
13654 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
13655 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
13656 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
13657 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
13658 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
13659 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
13660 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
13661 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
13662 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
13663 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
13664 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
13665 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
13666 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
13667 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
13668 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
13669 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
13670 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
13671 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
13672 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
13673 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
13674 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
13675 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
13676 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
13677 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblac-
cute, Uhungarumlaut
13678 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
13679 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhun-
garumlaut
13680 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
13681 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
13682 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
13683 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
13684 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
13685 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
13686 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
13687 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex

13688 \DeclareTextCompositeCommand{\~}{PU}{w}{\81\165}% U+0175
 13689 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
 13690 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
 13691 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 13692 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
 13693 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 13694 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
 13695 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 13696 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
 13697 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 13698 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
 13699 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 13700 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 13701 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 13702 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 13703 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 13704 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 13705 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 13706 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 13707 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 13708 \DeclareTextCommand{\textlong}{PU}{\81\177}% U+017F

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

13709 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 13710 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 13711 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 13712 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 13713 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
 13714 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 13715 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 13716 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 13717 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
 13718 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 13719 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 13720 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
 13721 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
 13722 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
 13723 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
 13724 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
 13725 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
 13726 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
 13727 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
 13728 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
 13729 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
 13730 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
 13731 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
 13732 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
 13733 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
 13734 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
 13735 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
 13736 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
 13737 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
 13738 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
 13739 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
 13740 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
 13741 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
 13742 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek

13743 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
13744 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
13745 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
13746 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
13747 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
13748 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
13749 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
13750 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
13751 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
13752 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8
13753 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
13754 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9
13755 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
13756 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
13757 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
13758 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
13759 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslashacute, Ostrokeacute
13760 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
13761 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslashacute, ostrokeacute
13762 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
13763 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
13764 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
13765 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
13766 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
13767 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
13768 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
13769 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
13770 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
13771 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
13772 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
13773 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
13774 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
13775 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
13776 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
13777 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
13778 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
13779 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
13780 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
13781 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
13782 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
13783 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
13784 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
13785 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
13786 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
13787 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
13788 % U+021E LATIN CAPITAL LETTER H WITH CARON
13789 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
13790 % U+021F LATIN SMALL LETTER H WITH CARON
13791 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
13792 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
13793 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
13794 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
13795 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
13796 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
13797 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228

13798 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 13799 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 13800 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 13801 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 13802 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 13803 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 13804 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 13805 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 13806 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 13807 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 13808 % U+0237 LATIN SMALL LETTER DOTLESS J
 13809 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

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

13810 % U+02C7 CARON; caron
 13811 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 13812 % U+02D8 BREVE; breve
 13813 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 13814 % U+02D9 DOT ABOVE; dotaccent
 13815 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 13816 % U+02DA RING ABOVE; ring
 13817 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 13818 % U+02DB OGONEK; ogonek
 13819 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 13820 % U+02DC SMALL TILDE; ilde, *tilde
 13821 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 13822 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 13823 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 13824 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 13825 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 13826 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 13827 % U+02F7 MODIFIER LETTER LOW TILDE
 13828 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

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

13829 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 13830 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 13831 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 13832 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 13833 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
 13834 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 13835 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 13836 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
 13837 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 13838 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

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

13839 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 13840 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
 13841 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
 13842 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
 13843 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos
 13844 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
 13845 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
 13846 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
 13847 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
 13848 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389

13849 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
13850 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
13851 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-
crotonos
13852 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
13853 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos
13854 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
13855 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
13856 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
13857 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; io-
tadiesisistonos
13858 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390
13859 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
13860 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
13861 % U+0392 GREEK CAPITAL LETTER BETA; Beta
13862 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
13863 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
13864 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
13865 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
13866 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
13867 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
13868 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
13869 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
13870 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
13871 % U+0397 GREEK CAPITAL LETTER ETA; Eta
13872 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
13873 % U+0398 GREEK CAPITAL LETTER THETA; Theta
13874 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
13875 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
13876 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
13877 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
13878 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
13879 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
13880 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
13881 % U+039C GREEK CAPITAL LETTER MU; Mu
13882 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
13883 % U+039D GREEK CAPITAL LETTER NU; Nu
13884 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
13885 % U+039E GREEK CAPITAL LETTER XI; Xi
13886 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
13887 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
13888 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
13889 % U+03A0 GREEK CAPITAL LETTER PI; Pi
13890 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
13891 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
13892 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
13893 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
13894 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
13895 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
13896 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
13897 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
13898 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
13899 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
13900 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
13901 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
13902 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
13903 % U+03A8 GREEK CAPITAL LETTER PSI; Psi

13904 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
13905 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
13906 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
13907 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
13908 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
13909 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
13910 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
silondieresis
13911 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
13912 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
13913 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC
13914 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilononos
13915 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
13916 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
13917 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
13918 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
13919 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
13920 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-
silondieresis
13921 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0
13922 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
13923 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
13924 % U+03B2 GREEK SMALL LETTER BETA; beta
13925 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
13926 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
13927 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
13928 % U+03B4 GREEK SMALL LETTER DELTA; delta
13929 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
13930 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
13931 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
13932 % U+03B6 GREEK SMALL LETTER ZETA; zeta
13933 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
13934 % U+03B7 GREEK SMALL LETTER ETA; eta
13935 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
13936 % U+03B8 GREEK SMALL LETTER THETA; theta
13937 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
13938 % U+03B9 GREEK SMALL LETTER IOTA; iota
13939 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
13940 % U+03BA GREEK SMALL LETTER KAPPA; kappa
13941 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
13942 % U+03BB GREEK SMALL LETTER LAMDA; lambda
13943 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
13944 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
13945 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
13946 % U+03BD GREEK SMALL LETTER NU; nu
13947 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
13948 % U+03BE GREEK SMALL LETTER XI; xi
13949 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
13950 % U+03BF GREEK SMALL LETTER OMICRON; omicron
13951 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
13952 % U+03C0 GREEK SMALL LETTER PI; pi
13953 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
13954 % U+03C1 GREEK SMALL LETTER RHO; rho
13955 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
13956 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
13957 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
13958 % U+03C3 GREEK SMALL LETTER SIGMA; sigma

13959 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
 13960 % U+03C4 GREEK SMALL LETTER TAU; tau
 13961 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
 13962 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
 13963 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
 13964 % U+03C6 GREEK SMALL LETTER PHI; phi
 13965 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
 13966 % U+03C7 GREEK SMALL LETTER CHI; chi
 13967 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
 13968 % U+03C8 GREEK SMALL LETTER PSI; psi
 13969 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
 13970 % U+03C9 GREEK SMALL LETTER OMEGA; omega
 13971 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
 13972 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
 13973 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
 13974 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
 silondieresis
 13975 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
 13976 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
 13977 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
 13978 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
 13979 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
 13980 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
 13981 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
 13982 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
 13983 % U+03DA GREEK LETTER STIGMA; Stigmatagreek
 13984 \DeclareTextCommand{\textStigmatagreek}{PU}{\83\332}% U+03DA
 13985 % U+03DB GREEK SMALL LETTER STIGMA
 13986 \DeclareTextCommand{\textstigmatagreek}{PU}{\83\333}% U+03DB
 13987 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
 13988 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
 13989 % U+03DD GREEK SMALL LETTER DIGAMMA
 13990 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
 13991 % U+03DE GREEK LETTER KOPPA; Koppagreek
 13992 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
 13993 % U+03DF GREEK SMALL LETTER KOPPA
 13994 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
 13995 % U+03E0 GREEK LETTER SAMPI; Sampigreek
 13996 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
 13997 % U+03E1 GREEK SMALL LETTER SAMPI
 13998 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

50.2.9 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

13999 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
 14000 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400
 14001 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
 14002 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
 14003 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???
 14004 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
 14005 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
 14006 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
 14007 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% U+0403
 14008 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
 14009 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
 14010 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054

14011 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
14012 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyril-
lic, *afii10055
14013 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
14014 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
14015 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
14016 \DeclareTextCompositeCommand{"}{PU}{\CYRII}{\84\007}% U+0407
14017 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
14018 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
14019 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
14020 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
14021 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
14022 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
14023 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
14024 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
14025 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
14026 \DeclareTextCompositeCommand{'}{PU}{\CYRK}{\84\014}% U+040C
14027 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
14028 \DeclareTextCompositeCommand{'}{PU}{\CYRI}{\84\015}% U+040D
14029 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
14030 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
14031 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
14032 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
14033 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
14034 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
14035 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
14036 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
14037 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
14038 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
14039 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
14040 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
14041 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
14042 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
14043 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
14044 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
14045 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
14046 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
14047 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
14048 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
14049 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
14050 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
14051 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
14052 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
14053 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
14054 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
14055 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
14056 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
14057 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
14058 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
14059 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
14060 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
14061 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
14062 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
14063 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
14064 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
14065 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
14066 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F

14067 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
14068 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
14069 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
14070 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
14071 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
14072 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
14073 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
14074 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
14075 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
14076 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
14077 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
14078 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
14079 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
14080 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
14081 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
14082 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
14083 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
14084 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
14085 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
14086 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
14087 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
14088 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
14089 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
14090 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
14091 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
14092 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
14093 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
14094 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
14095 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
14096 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
14097 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
14098 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
14099 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
14100 \DeclareTextCommand{\cyr a}{PU}{\84\060}% U+0430
14101 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
14102 \DeclareTextCommand{\cyr b}{PU}{\84\061}% U+0431
14103 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
14104 \DeclareTextCommand{\cyr v}{PU}{\84\062}% U+0432
14105 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
14106 \DeclareTextCommand{\cyr g}{PU}{\84\063}% U+0433
14107 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
14108 \DeclareTextCommand{\cyr d}{PU}{\84\064}% U+0434
14109 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
14110 \DeclareTextCommand{\cyr e}{PU}{\84\065}% U+0435
14111 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
14112 \DeclareTextCommand{\cyr zh}{PU}{\84\066}% U+0436
14113 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
14114 \DeclareTextCommand{\cyr z}{PU}{\84\067}% U+0437
14115 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
14116 \DeclareTextCommand{\cyr i}{PU}{\84\070}% U+0438
14117 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
14118 \DeclareTextCommand{\cyr ishrt}{PU}{\84\071}% U+0439
14119 \DeclareTextCompositeCommand{\U}{PU}{\cyr i}{\84\071}% U+0439
14120 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
14121 \DeclareTextCommand{\cyr k}{PU}{\84\072}% U+043A
14122 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
14123 \DeclareTextCommand{\cyr l}{PU}{\84\073}% U+043B

14124 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
14125 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
14126 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
14127 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
14128 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
14129 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
14130 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
14131 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
14132 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
14133 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
14134 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
14135 \DeclareTextCommand{\cyr s}{PU}{\84\101}% U+0441
14136 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
14137 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
14138 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
14139 \DeclareTextCommand{\cyr u}{PU}{\84\103}% U+0443
14140 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
14141 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
14142 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
14143 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
14144 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
14145 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
14146 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
14147 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
14148 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
14149 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
14150 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
14151 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
14152 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
14153 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A
14154 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
14155 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
14156 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
14157 \DeclareTextCommand{\cyr sftsn}{PU}{\84\114}% U+044C
14158 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
14159 \DeclareTextCommand{\cyrrerev}{PU}{\84\115}% U+044D
14160 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
14161 \DeclareTextCommand{\cyr yu}{PU}{\84\116}% U+044E
14162 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
14163 \DeclareTextCommand{\cyr ya}{PU}{\84\117}% U+044F
14164 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
14165 \DeclareTextCompositeCommand{\`}{PU}{\cyre}{\84\120}% U+0450
14166 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
14167 \DeclareTextCommand{\cyr yo}{PU}{\84\121}% U+0451
14168 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
14169 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
14170 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
14171 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
14172 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
14173 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
14174 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
14175 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
14176 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
14177 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyril-
lic
14178 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
14179 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic

14180 \DeclareTextCommand{\cyrji}{PU}{\84\127}% U+0457
14181 \DeclareTextCompositeCommand{"}{PU}{\cyrji}{\84\127}% U+0457
14182 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
14183 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
14184 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
14185 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459
14186 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
14187 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
14188 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
14189 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
14190 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
14191 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
14192 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
14193 \DeclareTextCompositeCommand{\`}{PU}{\cyrj}{\84\135}% U+045D
14194 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
14195 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
14196 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
14197 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
14198 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
14199 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
14200 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
14201 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
14202 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
14203 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
14204 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
14205 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
14206 \DeclareTextCommand{\cyrjat}{PU}{\84\143}% U+0463
14207 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
14208 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
14209 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
14210 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
14211 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
14212 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
14213 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
14214 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
14215 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleio-
tifiedcyrillic
14216 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
14217 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleioti-
fiedcyrillic
14218 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
14219 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
14220 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
14221 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
14222 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
14223 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
cyrillic
14224 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
14225 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyril-
lic
14226 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
14227 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
14228 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
14229 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
14230 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
14231 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
14232 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470

14233 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
 14234 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
 14235 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
 14236 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
 14237 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
 14238 \DeclareTextCommand{\cyrfit a}{PU}{\84\163}% U+0473
 14239 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
 14240 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
 14241 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
 14242 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
 14243 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; Izhitsadblgravecyrillic
 14244 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
 14245 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; izhitsadblgravecyrillic
 14246 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
 14247 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
 14248 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
 14249 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
 14250 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
 14251 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-
 lic
 14252 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
 14253 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 14254 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 14255 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-
 cyrillic
 14256 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 14257 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-
 cyrillic
 14258 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 14259 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 14260 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 14261 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 14262 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 14263 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 14264 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 14265 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 14266 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 14267 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 14268 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyril-
 liccmb
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumata-
 cyrilliccmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyril-
 liccmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 14269 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 14270 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 14271 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 14272 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 14273 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN

14274 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
14275 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
14276 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
14277 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
14278 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
14279 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
14280 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
14281 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-
cyrillic, *afii10050
14282 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
14283 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, ghe-
upturncyrillic
14284 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
14285 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-
cyrillic
14286 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
14287 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
14288 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
14289 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemid-
dlehookcyrillic
14290 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
14291 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemid-
dlehookcyrillic
14292 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
14293 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescen-
dercyrillic
14294 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
14295 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescen-
dercyrillic
14296 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
14297 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-
dercyrillic
14298 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
14299 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
14300 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-
cyrillic
14301 \DeclareTextCommand{\cyrzdesc}{PU}{\84\231}% U+0499
14302 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
14303 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-
dercyrillic
14304 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
14305 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescender-
cyrillic
14306 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
14307 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-
ticalstrokecyrillic
14308 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
14309 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-
ticalstrokecyrillic
14310 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
14311 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
14312 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
14313 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
14314 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
14315 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
14316 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
14317 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic

14318 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
14319 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
14320 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
14321 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic
14322 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
14323 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
14324 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
14325 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
14326 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
14327 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
14328 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
14329 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
14330 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
14331 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
14332 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
14333 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
14334 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
14335 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
14336 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
14337 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
14338 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
14339 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
14340 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB
14341 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
14342 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
14343 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
14344 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD
14345 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
14346 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
14347 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
14348 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF
14349 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
14350 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
14351 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic
14352 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1
14353 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescendercyrillic
14354 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
14355 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
14356 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
14357 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
14358 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
14359 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
14360 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5

14361 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic
14362 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
14363 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
14364 \DeclareTextCommand{\cyrchrds}{PU}{\84\267}% U+04B7
14365 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-
verticalstrokecyrillic
14366 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
14367 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-
verticalstrokecyrillic
14368 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
14369 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
14370 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
14371 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
14372 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
14373 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-
cyrillic
14374 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
14375 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-
lic
14376 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
14377 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-
DER; Chedescenderabkhasiancyrillic
14378 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
14379 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
14380 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-
DER; chedescenderabkhasiancyrillic
14381 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
14382 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
14383 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
14384 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
14385 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
14386 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
14387 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
14388 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
14389 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
14390 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
14391 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
14392 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
14393 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
14394 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
14395 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
14396 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
14397 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
14398 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
14399 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
14400 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
14401 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-
cyrillic
14402 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
14403 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-
cyrillic
14404 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
14405 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
14406 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
14407 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL

14408 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
 14409 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
 14410 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
 14411 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
 14412 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
 14413 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrl-
 lic
 14414 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2
 14415 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrlilic
 14416 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3
 14417 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
 14418 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
 14419 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
 14420 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
 14421 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevocyrlilic
 14422 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
 14423 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevocyrlilic
 14424 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
 14425 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
 14426 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
 14427 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
 14428 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
 14429 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-
 siscyrlilic
 14430 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA
 14431 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-
 siscyrlilic
 14432 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB
 14433 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-
 siscyrlilic
 14434 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
 14435 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrlilic
 14436 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD
 14437 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrlilic
 14438 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
 14439 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrlilic
 14440 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
 14441 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-
 cyrlilic
 14442 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
 14443 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrlilic
 14444 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
 14445 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrlilic
 14446 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2
 14447 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrlilic
 14448 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3
 14449 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrlilic
 14450 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
 14451 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrlilic
 14452 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
 14453 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrlilic
 14454 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
 14455 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrlilic

14456 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
14457 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
14458 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
14459 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
14460 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
14461 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERE-
SIS; Obarreddieresiscyrillic
14462 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
14463 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarred-
dieresiscyrillic
14464 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
14465 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
14466 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
14467 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
14468 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
14469 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
14470 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U+04EE
14471 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
14472 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF
14473 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
14474 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
14475 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
14476 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
14477 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-
garumlautcyrillic
14478 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
14479 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-
garumlautcyrillic
14480 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
14481 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-
siscyrillic
14482 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4
14483 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chediere-
siscyrillic
14484 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
14485 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
14486 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
14487 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
14488 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
14489 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-
siscyrillic
14490 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
14491 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-
siscyrillic
14492 \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
14493 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
14494 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
14495 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
14496 \DeclareTextCommand{\cyrhhk}{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

14497 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 14498 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

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

14499 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 14500 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02
 14501 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 14502 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03
 14503 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
 14504 \DeclareTextCompositeCommand{b}{PU}{B}{\9036\006}% U+1E06
 14505 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
 14506 \DeclareTextCompositeCommand{b}{PU}{b}{\9036\007}% U+1E07
 14507 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
 14508 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A
 14509 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
 14510 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B
 14511 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
 14512 \DeclareTextCompositeCommand{b}{PU}{D}{\9036\016}% U+1E0E
 14513 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
 14514 \DeclareTextCompositeCommand{b}{PU}{d}{\9036\017}% U+1E0F
 14515 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
 14516 \DeclareTextCompositeCommand{c}{PU}{D}{\9036\020}% U+1E10
 14517 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
 14518 \DeclareTextCompositeCommand{c}{PU}{d}{\9036\021}% U+1E11
 14519 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
 14520 \DeclareTextCompositeCommand{.}{PU}{F}{\9036\036}% U+1E1E
 14521 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
 14522 \DeclareTextCompositeCommand{.}{PU}{f}{\9036\037}% U+1E1F
 14523 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
 14524 \DeclareTextCompositeCommand{=}{PU}{G}{\9036\040}% U+1E20
 14525 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
 14526 \DeclareTextCompositeCommand{=}{PU}{g}{\9036\041}% U+1E21
 14527 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
 14528 \DeclareTextCompositeCommand{.}{PU}{H}{\9036\042}% U+1E22
 14529 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
 14530 \DeclareTextCompositeCommand{.}{PU}{h}{\9036\043}% U+1E23
 14531 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
 14532 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26
 14533 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
 14534 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27
 14535 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
 14536 \DeclareTextCompositeCommand{c}{PU}{H}{\9036\050}% U+1E28
 14537 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
 14538 \DeclareTextCompositeCommand{c}{PU}{h}{\9036\051}% U+1E29
 14539 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
 14540 \DeclareTextCompositeCommand{'}{PU}{K}{\9036\060}% U+1E30
 14541 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
 14542 \DeclareTextCompositeCommand{'}{PU}{k}{\9036\061}% U+1E31
 14543 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
 14544 \DeclareTextCompositeCommand{b}{PU}{K}{\9036\064}% U+1E34
 14545 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
 14546 \DeclareTextCompositeCommand{b}{PU}{k}{\9036\065}% U+1E35
 14547 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
 14548 \DeclareTextCompositeCommand{b}{PU}{L}{\9036\072}% U+1E3A
 14549 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
 14550 \DeclareTextCompositeCommand{b}{PU}{l}{\9036\073}% U+1E3B
 14551 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute

14552 \DeclareTextCompositeCommand{'}{PU}{M}{\9036\076}% U+1E3E
14553 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
14554 \DeclareTextCompositeCommand{'}{PU}{m}{\9036\077}% U+1E3F
14555 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
14556 \DeclareTextCompositeCommand{.}{PU}{M}{\9036\100}% U+1E40
14557 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
14558 \DeclareTextCompositeCommand{.}{PU}{m}{\9036\101}% U+1E41
14559 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
14560 \DeclareTextCompositeCommand{.}{PU}{N}{\9036\104}% U+1E44
14561 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
14562 \DeclareTextCompositeCommand{.}{PU}{n}{\9036\105}% U+1E45
14563 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
14564 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
14565 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
14566 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
14567 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
14568 \DeclareTextCompositeCommand{'}{PU}{P}{\9036\124}% U+1E54
14569 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
14570 \DeclareTextCompositeCommand{'}{PU}{p}{\9036\125}% U+1E55
14571 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
14572 \DeclareTextCompositeCommand{.}{PU}{P}{\9036\126}% U+1E56
14573 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
14574 \DeclareTextCompositeCommand{.}{PU}{p}{\9036\127}% U+1E57
14575 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
14576 \DeclareTextCompositeCommand{.}{PU}{R}{\9036\130}% U+1E58
14577 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
14578 \DeclareTextCompositeCommand{.}{PU}{r}{\9036\131}% U+1E59
14579 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
14580 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
14581 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
14582 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
14583 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
14584 \DeclareTextCompositeCommand{.}{PU}{S}{\9036\140}% U+1E60
14585 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
14586 \DeclareTextCompositeCommand{.}{PU}{s}{\9036\141}% U+1E61
14587 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
14588 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
14589 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
14590 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
14591 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
14592 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
14593 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
14594 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
14595 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
14596 \DeclareTextCompositeCommand{'}{PU}{W}{\9036\200}% U+1E80
14597 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
14598 \DeclareTextCompositeCommand{'}{PU}{w}{\9036\201}% U+1E81
14599 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
14600 \DeclareTextCompositeCommand{'}{PU}{W}{\9036\202}% U+1E82
14601 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
14602 \DeclareTextCompositeCommand{'}{PU}{w}{\9036\203}% U+1E83
14603 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
14604 \DeclareTextCompositeCommand{"}{PU}{W}{\9036\204}% U+1E84
14605 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
14606 \DeclareTextCompositeCommand{"}{PU}{w}{\9036\205}% U+1E85
14607 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
14608 \DeclareTextCompositeCommand{.}{PU}{W}{\9036\206}% U+1E86

14609 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
 14610 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
 14611 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
 14612 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
 14613 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
 14614 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
 14615 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
 14616 \DeclareTextCompositeCommand{"}{PU}{X}{\9036\214}% U+1E8C
 14617 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
 14618 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D
 14619 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
 14620 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
 14621 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
 14622 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
 14623 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
 14624 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
 14625 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
 14626 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
 14627 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
 14628 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
 14629 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
 14630 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
 14631 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
 14632 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
 14633 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
 14634 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97
 14635 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
 14636 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
 14637 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
 14638 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
 14639 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-
 cent
 14640 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
 14641 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
 14642 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
 14643 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
 14644 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
 14645 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 14646 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
 14647 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 14648 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
 14649 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 14650 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 14651 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 14652 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

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

14653 % U+200C ZERO WIDTH NON-JOINER; *afi61664, zerowidthnonjoiner
 14654 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 14655 % U+2013 EN DASH; endash
 14656 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 14657 % U+2014 EM DASH; emdash
 14658 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 14659 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 14660 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 14661 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 14662 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018

14663 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 14664 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 14665 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 14666 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 14667 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 14668 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 14669 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 14670 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 14671 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 14672 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 14673 % U+2020 DAGGER; dagger
 14674 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
 14675 % U+2021 DOUBLE DAGGER; daggerdbl
 14676 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 14677 % U+2022 BULLET; bullet
 14678 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
 14679 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14680 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 14681 % U+2030 PER MILLE SIGN; perthousand
 14682 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 14683 % U+2031 PER TEN THOUSAND SIGN
 14684 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 14685 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 ingleft
 14686 \DeclareTextCommand{\guilsingleft}{PU}{\9040\071}% U+2039
 14687 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 ingright
 14688 \DeclareTextCommand{\guilsingright}{PU}{\9040\072}% U+203A
 14689 % U+203B REFERENCE MARK; referencemark
 14690 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 14691 % U+203D INTERROBANG
 14692 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 14693 % U+2044 FRACTION SLASH; fraction
 14694 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 14695 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 14696 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 14697 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 14698 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 14699 % U+2052 COMMERCIAL MINUS SIGN
 14700 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

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

14701 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 14702 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
 14703 % U+2074 SUPERSCRIPT FOUR; foursuperior
 14704 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
 14705 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 14706 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
 14707 % U+2076 SUPERSCRIPT SIX; sixsuperior
 14708 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
 14709 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
 14710 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
 14711 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
 14712 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
 14713 % U+2079 SUPERSCRIPT NINE; ninesuperior
 14714 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
 14715 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior

14716 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
 14717 % U+207B SUPERScript MINUS
 14718 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
 14719 % U+207C SUPERScript EQUALS SIGN; equalsuperior
 14720 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}
 14721 % U+207D SUPERScript LEFT PARENTHESIS; parenleftsuperior
 14722 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
 14723 % U+207E SUPERScript RIGHT PARENTHESIS; parenrightsuperior
 14724 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
 14725 % U+207F SUPERScript LATIN SMALL LETTER N; nsuperior
 14726 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
 14727 % U+2080 SUBSCRIPT ZERO; zeroinferior
 14728 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
 14729 % U+2081 SUBSCRIPT ONE; oneinferior
 14730 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
 14731 % U+2082 SUBSCRIPT TWO; twoinferior
 14732 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
 14733 % U+2083 SUBSCRIPT THREE; threeinferior
 14734 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
 14735 % U+2084 SUBSCRIPT FOUR; fourinferior
 14736 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
 14737 % U+2085 SUBSCRIPT FIVE; fiveinferior
 14738 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
 14739 % U+2086 SUBSCRIPT SIX; sixinferior
 14740 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086
 14741 % U+2087 SUBSCRIPT SEVEN; seveninferior
 14742 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
 14743 % U+2088 SUBSCRIPT EIGHT; eightinferior
 14744 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
 14745 % U+2089 SUBSCRIPT NINE; nineinferior
 14746 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
 14747 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
 14748 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
 14749 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
 14750 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

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

14751 % U+20A1 COLON SIGN; *colonmonetary, colonsign
 14752 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
 14753 % U+20A4 LIRA SIGN; afii08941, *lira
 14754 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 14755 % U+20A6 NAIRA SIGN
 14756 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 14757 % U+20A7 PESETA SIGN; peseta
 14758 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 14759 % U+20A9 WON SIGN; won
 14760 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 14761 % U+20AB DONG SIGN; dong
 14762 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 14763 % U+20AC EURO SIGN; *Euro, euro
 14764 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 14765 % U+20B1 PESO SIGN
 14766 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 14767 % U+20B2 GUARANI SIGN
 14768 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

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

14769 % U+2103 DEGREE CELSIUS; centigrade
14770 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
14771 % U+2116 NUMERO SIGN; *afi61352, numero
14772 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
14773 % U+2117 SOUND RECORDING COPYRIGHT
14774 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
14775 % U+211E PRESCRIPTION TAKE; prescription
14776 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
14777 % U+2120 SERVICE MARK
14778 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
14779 % U+2122 TRADE MARK SIGN; trademark
14780 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
14781 % U+2126 OHM SIGN; Ohm, Omega
14782 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
14783 % U+2127 INVERTED OHM SIGN
14784 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
14785 % U+212B ANGSTROM SIGN; angstrom
14786 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
14787 % U+212E ESTIMATED SYMBOL; estimated
14788 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
14789 % U+2135 ALEF SYMBOL; aleph
14790 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

14791 % U+2190 LEFTWARDS ARROW; arrowleft
14792 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
14793 % U+2191 UPWARDS ARROW; arrowup
14794 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
14795 % U+2192 RIGHTWARDS ARROW; arrowright
14796 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
14797 % U+2193 DOWNWARDS ARROW; arrowdown
14798 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

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

14799 % U+2212 MINUS SIGN; minus
14800 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
14801 % U+221A SQUARE ROOT; radical
14802 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

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

14803 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
14804 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
14805 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
14806 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

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

14807 % U+2422 BLANK SYMBOL
14808 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
14809 % U+2423 OPEN BOX; blank
14810 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

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

14811 % U+2460 CIRCLED DIGIT ONE; onecircle
14812 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
14813 % U+2461 CIRCLED DIGIT TWO; twocircle
14814 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
14815 % U+2462 CIRCLED DIGIT THREE; threecircle

14816 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
14817 % U+2463 CIRCLED DIGIT FOUR; fourcircle
14818 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
14819 % U+2464 CIRCLED DIGIT FIVE; fivecircle
14820 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
14821 % U+2465 CIRCLED DIGIT SIX; sixcircle
14822 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
14823 % U+2466 CIRCLED DIGIT SEVEN; sevendcircle
14824 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
14825 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
14826 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
14827 % U+2468 CIRCLED DIGIT NINE; ninecircle
14828 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
14829 % U+2469 CIRCLED NUMBER TEN; tencircle
14830 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
14831 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
14832 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
14833 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
14834 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
14835 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
14836 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
14837 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
14838 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
14839 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
14840 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
14841 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
14842 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
14843 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
14844 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
14845 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
14846 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
14847 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
14848 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
14849 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
14850 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
14851 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
14852 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
14853 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
14854 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
14855 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
14856 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
14857 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
14858 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
14859 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
14860 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
14861 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
14862 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
14863 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
14864 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
14865 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
14866 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
14867 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
14868 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
14869 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
14870 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
14871 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
14872 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0

14873 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
 14874 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
 14875 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
 14876 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
 14877 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
 14878 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
 14879 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
 14880 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
 14881 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
 14882 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
 14883 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
 14884 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
 14885 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
 14886 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
 14887 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
 14888 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
 14889 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
 14890 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
 14891 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
 14892 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
 14893 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
 14894 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
 14895 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
 14896 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
 14897 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
 14898 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
 14899 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
 14900 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
 14901 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
 14902 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
 14903 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
 14904 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
 14905 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
 14906 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
 14907 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
 14908 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
 14909 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
 14910 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
 14911 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
 14912 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
 14913 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
 14914 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
 14915 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
 14916 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
 14917 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 14918 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 14919 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 14920 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
 14921 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
 14922 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 14923 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
 14924 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
 14925 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 14926 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 14927 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 14928 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 14929 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle

14930 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 14931 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 14932 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
 14933 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 14934 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 14935 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 14936 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 14937 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 14938 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 14939 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 14940 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 14941 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 14942 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 14943 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 14944 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 14945 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 14946 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 14947 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 14948 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 14949 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 14950 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
 14951 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 14952 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 14953 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 14954 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 14955 % U+24EA CIRCLED DIGIT ZERO
 14956 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

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

14957 % U+25E6 WHITE BULLET; *openbullet, whitebullet
 14958 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
 14959 % U+25EF LARGE CIRCLE; largecircle
 14960 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

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

14961 % U+266A EIGHTH NOTE; musicalnote
 14962 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
 14963 % U+26AD MARRIAGE SYMBOL
 14964 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
 14965 % U+26AE DIVORCE SYMBOL
 14966 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

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

14967 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
 14968 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
 14969 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
 14970 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

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

14971 % U+FB01 LATIN SMALL LIGATURE FI; fi
 14972 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
 14973 % U+FB02 LATIN SMALL LIGATURE FL; fl
 14974 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

50.2.25 Miscellaneous

14975 \DeclareTextCommand{\SS}{PU}{SS}

50.2.26 Aliases

Aliases (german.sty)

```
14976 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
14977 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
14978 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
14979 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
14980 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
14981 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
14982 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
14983 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}
```

Aliases (math names)

```
14984 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
14985 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
14986 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
14987 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
14988 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
14989 </puenc>
```

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```
14990 <*puvnc>
14991 \DeclareTextCommand{\abreve}{PU}{\81\003}
14992 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
14993 \DeclareTextCommand{\dj}{PU}{\81\021}
14994 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
14995 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
14996 \DeclareTextCommand{\ohorn}{PU}{\81\241}
14997 \DeclareTextCommand{\uhorn}{PU}{\81\260}
14998 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
14999 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
15000 \DeclareTextCommand{\DJ}{PU}{\81\020}
15001 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
15002 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
15003 \DeclareTextCommand{\OHORN}{PU}{\81\240}
15004 \DeclareTextCommand{\UHORN}{PU}{\81\257}
15005 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
15006 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
15007 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
15008 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
15009 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
15010 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
15011 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
15012 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
15013 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
15014 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
15015 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
15016 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
15017 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
15018 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
15019 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
15020 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
15021 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
15022 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
```

15023 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
15024 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
15025 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
15026 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
15027 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
15028 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
15029 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
15030 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
15031 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
15032 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
15033 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
15034 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
15035 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
15036 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
15037 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
15038 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
15039 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
15040 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
15041 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
15042 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
15043 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
15044 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
15045 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
15046 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
15047 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}
15048 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
15049 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
15050 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
15051 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
15052 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
15053 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
15054 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
15055 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
15056 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
15057 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
15058 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}
15059 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}
15060 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}
15061 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}
15062 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}
15063 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
15064 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}
15065 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
15066 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
15067 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
15068 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
15069 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
15070 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
15071 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
15072 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
15073 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
15074 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}
15075 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}
15076 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}
15077 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
15078 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}
15079 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}


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15080 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}
15081 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}
15082 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}
15083 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
15084 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}
15085 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}
15086 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
15087 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}
15088 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
15089 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
15090 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}
15091 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
15092 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
15093 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
15094 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
15095 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
15096 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
15097 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
15098 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
15099 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
15100 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
15101 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
15102 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
15103 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
15104 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
15105 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
15106 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
15107 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
15108 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
15109 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
15110 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
15111 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
15112 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
15113 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
15114 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
15115 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
15116 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
15117 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
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15124 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
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50.4 PU encoding, additions for Arabi

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TER HAMZA
15128 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE

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15129 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE

15130 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE

15131 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LET-
TER ALEF WITH HAMZA BELOW

15132 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LET-
TER YEH WITH HAMZA ABOVE

15133 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF

15134 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH

15135 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA

15136 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH

15137 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LET-
TER THEH

15138 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LET-
TER JEEM

15139 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH

15140 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH

15141 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL

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15143 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH

15144 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN

15145 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN

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15149 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH

15150 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH

15151 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN

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15179 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

15180 </puarenc>

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51 End of file hycheck.tex

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15184 \end{document}
15185 </check>

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