

Hypertext marks in \LaTeX

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1 Documentation overview for `hyperref`

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

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

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

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

Options This file provides a short option summary.

Bookmark talk, slides Slides for the talk “PDF information and navigation elements with `hyperref`, `pdfTeX` and `thumbpdf`” at Euro \TeX 1999.

Bookmark talk, paper The paper version of the talk.

Source code documentation:

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

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

`nameref.dtx` “Section name references in \LaTeX ”

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3 File hycheck.tex

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

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

`\checklatex` Optional argument: release date of L^AT_EX.

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

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

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

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

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

`\HyC@checkPackage`

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

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

```

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

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

```

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

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

```

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

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

```

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

`\HyC@noValue`

```

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

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

```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

`\HyC@meaning`

```

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

```

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

```

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

```

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

```

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

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

```

4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```

231 \Hy@SetCatcodes

```

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

```

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

```

4.2 Compatibility with format dumps

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

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

```

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

```

4.3 Switches

```

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

```

```

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

```

Defaults for the switches are now set.

```

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

```

```

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

```

5 Common help macros

`\Hy@StepCount`

```

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

```

`\Hy@GlobalStepCount`

```

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

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

```

5.1 Macros for recursions

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

```

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

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

```

5.2 Babel's protection of shorthand characters

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

```

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

```

5.3 Coordinate transformations

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

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

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

Example (T_EX):

```

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

\hypercalcbp

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

```

```

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

```

6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

6.1 Description of PDF strings

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

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

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

6.2 Definition of `\pdfstringdef`

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

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

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

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

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

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

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

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

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

```
382 \begingroup
```

6.2.1 Preprocessing

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

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

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

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

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

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

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

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

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

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

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

```
388 \ifHy@unicode
```

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

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

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

```
392 \HyPsd@UTFviii
```

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

```
394 \else
```

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

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

```
397 \fi
```

```
398 \enc@update
```

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

```

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

```

Package color.

```

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

```

Upper- and lowercase.

```

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

```

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

```

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

```

```

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

```

Disable \cyr, used in russianb.ldf.

```

470 \let\cyr\relax
    Redefine \es@roman, used in spanish.ldf.
471 \let\es@roman\@Roman

```

Package german.

```

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

```

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

Package FrenchPro. This package uses:

```

    \if@mid@expandable{not fully expandable code}{fully expandable code}
480 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

481 \HyPsd@AMSclassfix

```

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

```

482 \let\hspace\HyPsd@hspace

```

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

```

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

```

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

```

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

```

Miscellaneous commands.

```

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

```

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

```

494 \def\halign{\pdfstringdefWarn\halign\@gobble}%
495 \let\ignorespaces\HyPsd@ignorespaces

```

Patch for cjk bookmarks.

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

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

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

```
499 \Hy@pdfstringtrue
500 \pdfstringdefPreHook
```

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

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

Package xspace.

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

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
513 \let\discretionary\@gobbletwo
\@ifstar is defined in  $\text{\LaTeX}$  as follows:
```

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

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

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

```
514 \let\@ifnextchar\HyPsd@ifnextchar
515 \let\@ifnextchar\HyPsd@new@ifnextchar
516 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

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

6.2.2 Expansion

There are several possibilities to expand tokens within \LaTeX :

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

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

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

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

```
518   \begingroup
519     \let\GenericError\@gobblefour
520     \let\GenericWarning\@gobbletwo
521     \let\GenericInfo\@gobbletwo
```

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

```
522   \ifx\nofrenchguillemets\@undefined
523     \else
524       \nofrenchguillemets
525     \fi
```

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

```
526   \let\Hy@temp\xdef
527   \let\def\HyPsd@DefCommand
528   \let\gdef\HyPsd@DefCommand
```

```

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

```

6.2.3 Postprocessing

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

```

535     \ifx#1\@empty
536     \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.

```

537     \HyPsd@ProtectSpaces#1%
538     \let\HyPsd@String\@empty
539     \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
540     \global\let#1\HyPsd@String

```

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

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

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

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

```

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

```

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

```

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

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

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

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

```

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

```

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

```

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

```

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

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

```

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

```

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

```

593 \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.

```

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

```

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

```

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

```

Try conversion back to PDFDocEncoding.

```

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

```

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

```

626     \pdfstringdefPostHook#1%
627 \endgroup
628 }

```

`\Hy@pdfstringdef`

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

6.3 Encodings

6.3.1 Workaround for package linguex

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

6.3.2 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L^AT_EX 2_ε's NFSS. Because the informational strings are not set by T_EX's typesetting mechanism but for interpreting by the PDF reader, the glyphs of the PD1 encoding are implemented to be safely written to a file (PDF output file, .out file).

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

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

6.3.3 PU encoding

The PU encoding implements the Unicode encoding for use with L^AT_EX's NFSS. Because of large memory requirements the encoding file for Unicode support is only loaded, if option unicode is specified as package option.

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

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

```

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

```

6.4 Additional user commands

6.4.1 `\texorpdfstring`

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

```

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

```

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`.

```

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

```

`\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`.

```

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

```

`\HyPsd@DisableCommands`

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

`\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`.

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

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.

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

6.5.2 Babel languages

```
705 \newif\ifHy@next
```

Nothing to do for english.

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

```

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

```

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

```

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

```

```

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

```

```

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

```

```

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

```

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 ($\geq 0x40$).

```

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

```

```

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

```

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

```

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

```

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

```

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

```

```

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

```

6.5.4 \@inmathwarn-Patch

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

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

```

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

```

```

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

1004 \def\HyPsd@inmathwarn#1#2{%
1005   \ifx#2\expandafter
1006     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1007       \HyPsd@GLYPHERR
1008       \expandafter\@gobble\string#1%
1009       >%
1010       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1011     \else
1012       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1013     \fi
1014   \else
1015     \expandafter#2%
1016   \fi
1017 }
1018 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1019 \def\HyPsd@EndWithElse#1\else{\else}

```

\HyPsd@add@accent

```

1020 \def\HyPsd@add@accent#1#2{%
1021   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1022   #2%
1023 }%

```

6.5.5 Unexpandable spaces

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

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

These properties are used in \HyPsd@CheckCatcodes.

```

1024 \def\HyPsd@LetUnexpandableSpace#1{%
1025   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1026 }

```

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

```

1027 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.6 Marker for commands

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

\HyPsd@ITALCORR
\HyPsd@GLYPHERR

```

1028 \edef\HyPsd@XSPACE{\string#\string X}
1029 \edef\HyPsd@ITALCORR{\string#\string I}
1030 \edef\HyPsd@GLYPHERR{\string#\string G}

```

6.5.7 \hspace fix

\HyPsd@hspace

```
1031 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1032 \def\HyPsd@@hspace#1*#2\END{%
1033   \ifx\#2\%
1034     \HyPsd@hspacetest{#1}%
1035   \else
1036     \expandafter\HyPsd@hspacetest
1037   \fi
1038 }
```

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

```
1039 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

6.5.8 Fix for AMS classes

```
1040 \@ifundefined{tocsection}{%
1041   \let\HyPsd@AMSclassfix\relax
1042 }{%
1043   \def\HyPsd@AMSclassfix{%
1044     \let\tocpart\HyPsd@tocsection
1045     \let\tocchapter\HyPsd@tocsection
1046     \let\tocappendix\HyPsd@tocsection
1047     \let\tocsection\HyPsd@tocsection
1048     \let\tocsubsection\HyPsd@tocsection
1049     \let\tocsubsubsection\HyPsd@tocsection
1050     \let\tocparagraph\HyPsd@tocsection
1051   }%
1052   \def\HyPsd@tocsection#1#2#3{%
1053     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1054     #3%
1055   }%
1056 }
```

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.

```
1057 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1058 \def\HyPsd@@ref#1*#2\END{%
1059   \ifx\#2\%
1060     \HyPsd@@@ref{#1}%
1061   \else
1062     \expandafter\HyPsd@@@ref
1063   \fi
1064 }
```

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

```
1065 \def\HyPsd@@@ref#1{%
1066   \expandafter\ifx\csname r@#1\endcsname\relax
1067     ??%
```

```

1068 \else
1069 \expandafter\expandafter\expandafter
1070 \@car\csname r@#1\endcsname\@nil
1071 \fi
1072 }

\HyPsd@pageref Macro \HyPsd@pageref calls the macro \HyPsd@@pageref for star checking. The same
methods like in \HyPsd@hspace is used.
1073 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

\HyPsd@@pageref Macro \HyPsd@@pageref checks if a star is present.
1074 \def\HyPsd@@pageref#1*#2\END{%
1075 \ifx\#2\%
1076 \HyPsd@@pageref{#1}%
1077 \else
1078 \expandafter\HyPsd@@pageref
1079 \fi
1080 }

\HyPsd@@@pageref \HyPsd@@@pageref does the work and extracts the second argument.
1081 \def\HyPsd@@@pageref#1{%
1082 \expandafter\ifx\csname r@#1\endcsname\relax
1083 ??%
1084 \else
1085 \expandafter\expandafter\expandafter\expandafter
1086 \expandafter\expandafter\expandafter\@car
1087 \expandafter\expandafter\expandafter\@gobble
1088 \csname r@#1\endcsname{}\@nil
1089 \fi
1090 }

\HyPsd@nameref Macro \HyPsd@nameref calls the macro \HyPsd@@nameref for star checking. The same
methods like in \HyPsd@hspace is used.
1091 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

\HyPsd@@nameref Macro \HyPsd@@nameref checks if a star is present.
1092 \def\HyPsd@@nameref#1*#2\END{%
1093 \ifx\#2\%
1094 \HyPsd@@nameref{#1}%
1095 \else
1096 \expandafter\HyPsd@@nameref
1097 \fi
1098 }

\HyPsd@@@nameref \HyPsd@@@nameref does the work and extracts the third argument.
1099 \def\HyPsd@@@nameref#1{%
1100 \expandafter\ifx\csname r@#1\endcsname\relax
1101 ??%
1102 \else
1103 \expandafter\expandafter\expandafter\expandafter
1104 \expandafter\expandafter\expandafter\@car
1105 \expandafter\expandafter\expandafter\@gobbletwo
1106 \csname r@#1\endcsname{}\@nil
1107 \fi
1108 }

```

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

```
1109 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```
1110 \def\HyPsd@@autoref#1*#2\END{%
1111   \ifx\#2\%
1112     \HyPsd@@@autoref{#1}%
1113   \else
1114     \expandafter\HyPsd@@@autoref
1115   \fi
1116 }
```

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

```
1117 \def\HyPsd@@@autoref#1{%
1118   \expandafter\ifx\csname r@#1\endcsname\relax
1119     ??%
1120   \else
1121     \expandafter\expandafter\expandafter\HyPsd@autorefname
1122       \csname r@#1\endcsname{}{}{}{}\@nil
1123     \expandafter\expandafter\expandafter
1124       \@car\csname r@#1\endcsname\@nil
1125   \fi
1126 }
```

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

```
1127 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1128   \ifx\#4\%
1129   \else
1130     \HyPsd@@autorefname#4.\@nil
1131   \fi
1132 }
```

`\HyPsd@@autorefname`

```
1133 \def\HyPsd@@autorefname#1.#2\@nil{%
1134   \@ifundefined{#1autorefname}{%
1135     \@ifundefined{#1name}{%
1136       }{%
1137         \csname#1name\endcsname\space
1138       }%
1139     }{%
1140       \csname#1autorefname\endcsname\space
1141     }%
1142 }
```

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 1143 \begingroup
1144   \def\x#1#2{%
1145     \endgroup
1146     \let#1\def
1147     \def\HyPsd@DefCommand##1##2##{%
1148       #1%
1149       \expandafter\noexpand
1150       \csname\expandafter@gobble\string##1\@empty\endcsname
1151       \@gobble
1152     }%
1153     \let#2\let
1154     \def\HyPsd@@LetCommand##1{%
1155       \expandafter\ifx\csname##1\expandafter\endcsname
1156         \csname iftrue\endcsname
1157       \pdfstringdefWarn\let
1158       \expandafter@gobble
1159     \else
1160       \expandafter\ifx\csname##1\expandafter\endcsname
1161         \csname iffalse\endcsname
1162       \pdfstringdefWarn\let
1163       \expandafter\expandafter\expandafter@gobble
1164     \else
1165       #2%
1166       \expandafter\noexpand
1167       \csname##1\expandafter\expandafter\expandafter\endcsname
1168     \fi
1169   \fi
1170 }%
1171 }%
1172 \expandafter\x\csname <def>-command\expandafter\endcsname
1173   \csname <let>-command\endcsname
1174 \def\HyPsd@LetCommand#1{%
1175   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1176   \expandafter\expandafter\expandafter{%
1177     \expandafter@gobble\string#1\@empty
```

```

1178 }%
1179 }

```

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.

```

1180 \def\HyPsd@ifnextchar{%
1181   \pdfstringdefWarn\@ifnextchar
1182   \expandafter\@gobbletwo\@gobble
1183 }

```

`\HyPsd@new@ifnextchar` Package `amsgen.sty` redefines `\ifstar` using `\new@ifnextchar` instead of `\@ifnextchar`. See bug report `latex/3662`.

```

1184 \def\HyPsd@new@ifnextchar{%
1185   \pdfstringdefWarn\new@ifnextchar
1186   \expandafter\@gobbletwo\@gobble
1187 }

```

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`.

```

1188 \def\HyPsd@protected@testopt#1{%
1189   \pdfstringdefWarn#1%
1190   \@gobbletwo
1191 }

```

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:

```

1192 \def\HyPsd@Warning#1{%
1193   \begingroup
1194     \def\space{ }%
1195     \Hy@Warning{#1}%
1196   \endgroup
1197 }

```

6.6.2 Protecting spaces

```

1198 \RequirePackage{etexcmds}[2007/09/09]
1199 \ifetex@unexpanded
1200   \expandafter\@secondoftwo
1201 \else
1202   \expandafter\@firstoftwo
1203 \fi
1204 {%

```

`\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`.

```

1205 \def\HyPsd@ProtectSpaces#1{%
1206   \iftrue
1207     \expandafter\HyPsd@@ProtectSpacesFi
1208     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1209   \fi
1210 }%

```

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

```

1211 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1212   \fi
1213   \ifx\scrollmode#2\scrollmode
1214     \HyPsd@RemoveMask#1\HyPsd@End#3%
1215   \else
1216     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1217     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1218   \fi
1219 }%

```

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.

```

1220 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1221   \toks@{\expandafter{#1}%
1222   \xdef#2{\the\toks@}%
1223 }%

1224 }{%
1225   \let\HyPsd@fi\fi
1226   \def\HyPsd@ProtectSpaces#1{%
1227     \xdef#1{%
1228       \iftrue
1229         \expandafter\HyPsd@@ProtectSpacesFi
1230         \expandafter|\expandafter\@empty#1| %
1231       \HyPsd@fi
1232     }%
1233     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1234   }%
1235   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1236     \fi
1237     \etex@unexpanded{#1}%
1238     \ifx\scrollmode#2\scrollmode
1239     \else
1240       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1241     \HyPsd@fi
1242   }%
1243   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1244     \xdef#2{\etex@unexpanded\expandafter{#1}%
1245   }%
1246 }

```

6.6.3 Remove grouping braces

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

```
1247 \def\HyPsd@RemoveBraces#1{%
1248   \ifx\scrollmode#1\scrollmode
1249   \else
1250     \HyPsd@@RemoveBracesFi#1\HyPsd@end{#1}%
1251   \fi
1252 }
```

`\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`.

```
1253 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@end#3\fi{%
1254   \fi
1255   \def\Hy@temp@A{#1#2}%
1256   \def\Hy@temp@B{#3}%
1257   \ifx\Hy@temp@A\Hy@temp@B
1258     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1259       \HyPsd@String#1%
1260     }%
1261     \ifx\scrollmode#2\scrollmode
1262     \else
1263       \Hy@ReturnAfterFiFiEnd{%
1264         \HyPsd@RemoveBraces{#2}%
1265       }%
1266     \fi
1267   \else
1268     \def\Hy@temp@A{#1}%
1269     \HyPsd@AppendItalcorr\HyPsd@String
1270     \ifx\Hy@temp@A\@empty
1271       \Hy@ReturnAfterElseFiFiEnd{%
1272         \HyPsd@RemoveBraces{#2}%
1273       }%
1274     \else
1275       \HyPsd@ProtectSpaces\Hy@temp@A
1276       \HyPsd@AppendItalcorr\Hy@temp@A
1277       \Hy@ReturnAfterFiFiEnd{%
1278         \expandafter\HyPsd@RemoveBraces\expandafter
1279         {\Hy@temp@A#2}%
1280       }%
1281     \fi
1282   \fi
1283   \Hy@ReturnEnd
1284 }
```

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

```
1285 \def\HyPsd@AppendItalcorr#1{%
1286   \expandafter\HyPsd@@AppendItalcorr\expandafter{\/}#1%
```

```

1287 }
1288 \def\HyPsd@@AppendItalcorr#1#2{%
1289   \expandafter\def\expandafter#2\expandafter{#2#1}%
1290 }

```

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`).

```

1291 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1292   \global\let\HyPsd@Rest\relax
1293   \ifcat\relax\noexpand#1\relax
1294     \ifx#1\protect
1295       \else
1296         \ifx#1\penalty
1297           \setbox\z@=\hbox{%
1298             \afterassignment\HyPsd@AfterCountRemove
1299             \count@=#2\HyPsd@End
1300           }%
1301         \else
1302           \ifx#1\kern
1303             \setbox\z@=\hbox{%
1304               \afterassignment\HyPsd@AfterDimenRemove
1305               \dimen@=#2\HyPsd@End
1306             }%
1307           \else
1308             \ifx#1\hskip
1309               \setbox\z@=\hbox{%
1310                 \afterassignment\HyPsd@AfterSkipRemove
1311                 \skip@=#2\HyPsd@End
1312               }%
1313             \else
1314               \HyPsd@CatcodeWarning{#1}%
1315             \fi
1316           \fi
1317         \fi
1318       \fi
1319     \else
1320       \ifcat#1A% letter
1321         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1322           \HyPsd@String#1%
1323         }%
1324       \else
1325         \ifcat#1 % SPACE
1326           \expandafter\def\expandafter\HyPsd@String\expandafter{%
1327             \HyPsd@String\HyPsd@SPACEOPTI
1328           }%
1329         \else

```

```

1330         \ifcat$#1%
1331         \HyPsd@CatcodeWarning{math shift}%
1332     \else
1333         \ifcat&#1%
1334         \HyPsd@CatcodeWarning{alignment tab}%
1335     \else
1336         \ifcat^#1%
1337         \HyPsd@CatcodeWarning{superscript}%
1338     \else
1339         \ifcat_#1%
1340         \HyPsd@CatcodeWarning{subscript}%
1341     \else
1342         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1343             \HyPsd@String#1%
1344         }%
1345     \fi
1346 \fi
1347 \fi
1348 \fi
1349 \fi
1350 \fi
1351 \fi
1352 \ifx\HyPsd@Rest\relax
1353     \ifx\scrollmode#2\scrollmode
1354     \else
1355         \Hy@ReturnAfterFiFiEnd{%
1356             \HyPsd@CheckCatcodes#2\HyPsd@End
1357         }%
1358     \fi
1359 \else
1360     \ifx\HyPsd@Rest\@empty
1361     \else
1362         \Hy@ReturnAfterFiFiEnd{%
1363             \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1364         }%
1365     \fi
1366 \fi
1367 \Hy@ReturnEnd
1368 }

```

Remove counts, dimens, skips.

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

```

1369 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1370     \gdef\HyPsd@Rest{#1}%
1371 }

```

\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.

```

1372 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1373     \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1374         \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1375     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1376 \else
1377     \ifdim\dimen@=\z@

```

```

1378 \else
1379 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1380 \fi
1381 \gdef\HyPsd@Rest{#1}%
1382 \fi
1383 }

```

`\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).

```

1384 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1385 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>\fi>1ex %
1386 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1387 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1388 \else
1389 \ifdim\skip@=\z@
1390 \else
1391 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1392 \fi
1393 \gdef\HyPsd@Rest{#1}%
1394 \fi
1395 }

```

Catcode warnings.

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

```

1396 \def\HyPsd@CatcodeWarning#1{%
1397 \HyPsd@Warning{%
1398 Token not allowed in a PDF string (%
1399 \ifHy@unicode
1400 Unicode%
1401 \else
1402 PDFDocEncoding%
1403 \fi
1404 ):%
1405 \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1406 }%
1407 }
1408 \begingroup
1409 \catcode‘\|=0 %
1410 \catcode‘\|=12 %
1411 \gdef\HyPsd@RemoveCmdPrefix#1{%
1412 |expandafter\HyPsd@@RemoveCmdPrefix
1413 |string#1|@empty\<-|@empty|@empty
1414 }%
1415 \gdef\HyPsd@@RemoveCmdPrefix#1\<-#2|@empty#3|@empty{#1#2}%
1416 |endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

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

```

```

1426 \MessageBreak #1\MessageBreak
1427 removed%
1428 }%
1429 }

```

\HyPsd@ReplaceSpaceWarning

```

1430 \def\HyPsd@ReplaceSpaceWarning#1{%
1431 \HyPsd@Warning{%
1432 Token not allowed in a PDF string (%)
1433 \ifHy@unicode
1434 Unicode%
1435 \else
1436 PDFDocEncoding%
1437 \fi
1438 }:%
1439 \MessageBreak #1\MessageBreak
1440 replaced by space%
1441 }%
1442 }

```

6.6.5 Check for wrong glyphs

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

```

1443 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1444 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1445 \HyPsd@String#1%
1446 }%
1447 \ifx\#2\%
1448 \else
1449 \Hy@ReturnAfterFi{%
1450 \HyPsd@GlyphProcessWarning#2\@empty
1451 }%
1452 \fi
1453 }
1454 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1455 \HyPsd@@GlyphProcessWarning#1++>%
1456 \HyPsd@GlyphProcess#2\@empty
1457 }
1458 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1459 \ifx\#2\%
1460 \HyPsd@Warning{%
1461 Glyph not defined in %
1462 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1463 removing '@backslashchar#1'%
1464 }%
1465 \else
1466 \HyPsd@Warning{%
1467 Composite letter '@backslashchar#1+#2'\MessageBreak
1468 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1469 \MessageBreak
1470 removing '@backslashchar#1'%
1471 }%
1472 \fi
1473 }

```

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`.

```
1474 \def\HyPsd@spaceopti#1{ % first space
1475   \ifx\HyPsd@spaceopti#1%
1476     \040%
1477   \else
1478     #1%
1479   \fi
1480 }%
```

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.

```
1481 \def\HyPsd@Subst#1#2#3{%
1482   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1483     \fi
1484     ##1%
1485     \ifx\scrollmode##2\scrollmode
1486     \else
1487       #2%
1488       \HyPsd@@ReplaceFi##2\END
1489     \fi
1490   }%
1491   \xdef#3{%
1492     \iftrue
1493       \expandafter\HyPsd@@ReplaceFi#3#1\END
1494     \fi
1495   }%
1496 }
```

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

```
1497 \def\HyPsd@StringSubst#1{%
1498   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1499 }
```

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.

```
1500 \def\HyPsd@doxspace#1{%
1501   \ifx#1\relax\else
1502     \ifx#1.\else
1503       \ifx#1:\else
1504         \ifx#1,\else
1505           \ifx#1;\else
1506             \ifx#1!\else
1507               \ifx#1?\else
```

```

1508         \ifx#1/\else
1509         \ifx#1-\else
1510         \ifx#1'\else
1511         \HyPsd@SPACEOPTI
1512         \fi
1513         \fi
1514         \fi
1515         \fi
1516         \fi
1517         \fi
1518         \fi
1519         \fi
1520         \fi
1521         \fi
1522         #1%
1523 }%

```

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.

```

1524 \begingroup
1525 \catcode'\|=0 %
1526 \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

1527 |gdef|HyPsd@ConvertToUnicode#1{%
1528 |xdef#1{%
1529 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1530 }%
1531 |ifx#1|@empty
1532 |else
1533 |xdef#1{%
1534 \376\377%
1535 #1%
1536 }%
1537 |fi
1538 }%

```

\HyPsd@DoConvert

```

1539 |gdef|HyPsd@DoConvert#1{%
1540 |ifx#1|@empty
1541 |else
1542 |Hy@ReturnAfterFi{%
1543 |ifx#1\|%
1544 \|%
1545 |expandafter|HyPsd@DoEscape
1546 |else
1547 \000#1%
1548 |expandafter|HyPsd@DoConvert
1549 |fi
1550 }%
1551 |fi
1552 }%

```

\HyPsd@DoEscape

```

1553 |gdef|HyPsd@DoEscape#1{%
1554   |ifx#19%
1555   |expandafter|HyPsd@GetTwoBytes
1556   |else
1557   |Hy@ReturnAfterFi{%
1558   |ifx#18%
1559   00%
1560   |expandafter|HyPsd@GetTwoBytes
1561   |else
1562   #1%
1563   |expandafter|HyPsd@GetOneByte
1564   |fi
1565   }%
1566 |fi
1567 }%

```

\HyPsd@GetTwoBytes

```

1568 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1569   #1\#2#3#4%
1570   |HyPsd@DoConvert
1571   }%

```

\HyPsd@GetOneByte

```

1572 |gdef|HyPsd@GetOneByte#1#2{%
1573   #1#2%
1574   |HyPsd@DoConvert
1575   }%
1576 |endgroup

```

\HyPsd@@GetNextTwoTokens

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

```

1577 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1578   \xdef#4{#4#1#2}%
1579   \HyPsd@@ConvertToUnicode#3\END#4%
1580 }

```

6.6.9 Support for UTF-8 input encoding

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

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

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

```

1581 \begingroup\expandafter\expandafter\expandafter\endgroup
1582 \expandafter\ifx\csname numexpr\endcsname\relax
1583   \let\HyPsd@UTFviii\relax
1584 \else
1585   \begingroup
1586     \lccode'\~='^^f4\relax
1587   \lowercase{\endgroup

```

```

1588 \def\HyPsd@UTFviii{%
1589 \let\UTFviii@two@octets\HyPsd@UTFviii@two
1590 \let\UTFviii@three@octets\HyPsd@UTFviii@three
1591 \let\UTFviii@four@octets\HyPsd@UTFviii@four
1592 \ifx~\HyPsd@UTFviii@ccxliv@undef
1593 \let~\HyPsd@UTFviii@ccxliv@def
1594 \fi
1595 \let\unichar\HyPsd@unichar
1596 }%
1597 }%
1598 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1599 \edef\HyPsd@UTFviii@ccxliv@def{%
1600 \noexpand\UTFviii@four@octets\string ^^f4%
1601 }%

```

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.

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

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

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

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

$$(5)$$

```

1602 \def\HyPsd@UTFviii@two#1#2{%
1603 \expandafter\HyPsd@UTFviii@@two
1604 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|%
1605 \number'#1\expandafter|%
1606 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|%
1607 \number'#2 \@nil
1608 }%
1609 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1610 \expandafter\8%
1611 \number\numexpr #1-48\expandafter\relax
1612 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1613 \number\numexpr #3-8*%
1614 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1615 \number\numexpr #4-8*#3\relax
1616 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1617 \def\HyPsd@UTFviii@three#1#2#3{%
1618 \expandafter\HyPsd@UTFviii@@three
1619 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|%

```

```

1620     \number'#1\expandafter|%
1621     \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|%
1622     \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|%
1623     \number'#2\expandafter|%
1624     \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|%
1625     \number'#3 \@nil
1626 }%
1627 \def\HyPsd@UTFviii@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1628     \expandafter\9%
1629     \number\numexpr #1-56\expandafter\relax
1630     \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1631     \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1632     \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1633     \number\numexpr #6-16\expandafter\relax
1634     \number\numexpr #7-8*#6\relax
1635 }%

```

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 =  uuuuu - 1
UTF-16: 110110ww    wwzzzzyy    110111yy    yyxxxxxx
octal:  011 011 0ww 0ww zzz zyy 011 011 1yy 0yy xxx xxx

```

```

1636 \def\HyPsd@UTFviii@four#1#2{%
1637     \expandafter\HyPsd@UTFviii@four\number
1638     \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1639     \expandafter|\number
1640     \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp|%
1641 }%
1642 \def\HyPsd@UTFviii@four#1|#2|#3{%
1643     \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1644     \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1645     \ifodd#2 %
1646         \number\numexpr(#2-1)/2\relax
1647     \else
1648         \number\numexpr#2/2\relax
1649     \fi
1650     \number\numexpr\ifodd#2 4+\fi
1651         \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1652     \933%
1653     \expandafter\HyPsd@UTFviii@four\number
1654     \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp|%
1655 }%
1656 \def\HyPsd@UTFviii@four#1|#2{%
1657     \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1658     \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1659     \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1660     \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1661 }%

```

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

```

1662 \def\HyPsd@unichar#1{%
1663     \ifHy@unicode
1664         \ifnum#1>"10FFFF %
1665             \HyPsd@UnicodeReplacementCharacter % illegal
1666         \else

```

```

1667         \ifnum#1>"FFFF %
High-surrogate code point. ("D800 = 55296, \p@ = 1pt = 65536sp)
1668         \expandafter\HyPsd@unichar\expandafter{%
1669         \number\numexpr 55296+%
1670         \dimexpr.0009765625\dimexpr\number#1sp-\p@
1671         \relax\relax\relax
1672     }%

Low-surrogate code point. ("DC00 = 56320, "DC00 - 65536 = -9216)
1673         \expandafter\HyPsd@unichar\expandafter{%
1674         \number\numexpr#1-9216%
1675         -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1676         \relax\relax\relax
1677     }%
1678     \else
1679         \ifnum#1>"7FF %
1680         \9%
1681         \expandafter\HyPsd@unichar@first@byte\expandafter{%
1682         \number
1683         \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1684         }%
1685     \else
1686         \8%
1687         \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1688     \fi
1689     \expandafter\HyPsd@unichar@second@byte\expandafter{%
1690     \number
1691     \numexpr#1-256*\number
1692     \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1693     }%
1694     \fi
1695     \fi
1696     \else
1697     .% unsupported (Unicode -> PDF Doc Encoding)
1698     \fi
1699 }%
1700 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1701 \def\HyPsd@unichar@first@byte#1{%
1702     \number\dimexpr.015625\dimexpr#1sp\relax\relax
1703     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1704     \number
1705     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1706     \relax\relax\relax
1707     }%
1708 }%
1709 \def\HyPsd@unichar@second@byte#1{%
1710     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1711     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1712     \number
1713     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1714     \relax\relax\relax
1715     }%
1716 }%
1717 \def\HyPsd@unichar@octtwo#1{%
1718     \number\dimexpr.125\dimexpr#1sp\relax\relax
1719     \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1720     \relax\relax\relax

```

```

1721 }%
1722 \fi

```

7 Support of other packages

7.1 Class memoir

```

1723 \@ifclassloaded{memoir}{%
1724   \AtEndOfPackage{\RequirePackage{memhfixc}}%
1725 }{}

```

7.2 Package subfigure

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

```

1726 \@ifpackageloaded{subfigure}{%
1727   \@ifundefined{sub@label}{%
1728     \Hy@hypertextnamesfalse
1729   }{%
1730     \renewcommand*{\sub@label}[1]{%
1731       \@bsphack
1732       \subfig@oldlabel{#1}%
1733       \if@filesw
1734         \begingroup
1735           \edef\@currentlabstr{%
1736             \expandafter\strip@prefix\meaning\@currentlabelname
1737           }%
1738           \protected@write\@auxout{}{%
1739             \string\newlabel{sub@#1}{%
1740               {\@nameuse{@@thesub\@capttype}}%
1741               {\thepage}%
1742               {%
1743                 \expandafter\strip@period\@currentlabstr
1744                 \relax.\relax\@@@%
1745               }%
1746               {\@currentHref}%
1747               }%
1748             }%
1749           }%
1750         \endgroup
1751       \fi
1752       \@esphack
1753     }%
1754     \@ifpackagelater{subfigure}{2002/03/26}{%
1755       \providecommand*\toclevel@subfigure{1}%
1756       \providecommand*\toclevel@subtable{1}%
1757     }%
1758   }%
1759 }{}

```

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:

```

1760 \@ifundefined{XR@addURL}{%
1761 }{}

```

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.

```

1762 \def\XR@addURL#1{\XR@dURL#1{-}{-}{-}\}%
1763 \def\XR@dURL#1#2#3#4#5\{\%
1764   {#1}{#2}%
1765   \if!#4!%
1766   \else
1767     {#3}{#4}{\XR@URL}%
1768   \fi
1769 }%
1770 }

1771 \def\Hy@true{true}
1772 \def\Hy@false{false}

```

Providing dummy definitions.

```

1773 \let\literalps@out\@gobble
1774 \newcommand\pdfbookmark[3][]{-}{-}
1775 \def\Acrobatmenu#1#2{\leavevmode#2}
1776 \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

```

1777 \let\HyperRaiseLinkHook\@empty
1778 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

1779 \def\Hy@raisedlink#1{%
1780   \ifvmode
1781     #1%
1782   \else
1783     \penalty\@M
1784     \smash{%
1785       \begingroup
1786         \let\HyperRaiseLinkLength\@tempdima
1787         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1788         \HyperRaiseLinkHook
1789       \expandafter\endgroup
1790       \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
1791     }%
1792   \fi
1793 }

```

`\Hy@SaveLastskip` Inserting a `\special` command to set a destination destroys the `\lastskip` value.
`\Hy@RestoreLastskip` 1794 \def\Hy@SaveLastskip{%

```

1795 \let\Hy@RestoreLastskip\relax
1796 \ifvmode
1797   \ifdim\lastskip=\z@
1798     \let\Hy@RestoreLastskip\nobreak
1799   \else
1800     \begingroup
1801       \skip@=-\lastskip
1802       \edef\x{%
1803         \endgroup
1804         \def\noexpand\Hy@RestoreLastskip{%
1805           \noexpand\ifvmode
1806             \noexpand\nobreak
1807             \vskip\the\skip@
1808             \vskip\the\lastskip\relax
1809         \noexpand\fi
1810       }%
1811     }%
1812   \x
1813 \fi
1814 \else
1815   \ifhmode
1816     \ifdim\lastskip=\z@
1817       \let\Hy@RestoreLastskip\nobreak
1818     \else
1819       \begingroup
1820         \skip@=-\lastskip
1821         \edef\x{%
1822           \endgroup
1823           \def\noexpand\Hy@RestoreLastskip{%
1824             \noexpand\ifhmode
1825               \noexpand\nobreak
1826               \hskip\the\skip@
1827               \hskip\the\lastskip\relax
1828           \noexpand\fi
1829         }%
1830       }%
1831     \x
1832   \fi
1833 \fi
1834 \fi
1835 }%

```

9 Options

9.1 Help macros

\Hy@boolkey

```

1836 \def\Hy@boolkey{\@dblarg\Hy@boolkey}
1837 \def\Hy@boolkey[#1]#2#3{%
1838   \edef\Hy@tempa{#3}%
1839   \lowercase\expandafter{%
1840     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
1841   }%
1842   \ifx\Hy@tempa\@empty
1843     \let\Hy@tempa\Hy@true
1844   \fi

```

```

1845 \ifx\Hy@tempa\Hy@true
1846 \else
1847 \ifx\Hy@tempa\Hy@false
1848 \else
1849 \let\Hy@tempa\relax
1850 \fi
1851 \fi
1852 \ifx\Hy@tempa\relax
1853 \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
1854 \else
1855 \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
1856 \csname Hy@#2\Hy@tempa\endcsname
1857 \fi
1858 }

```

\Hy@WarnOptionValue

```

1859 \def\Hy@WarnOptionValue#1#2#3{%
1860 \Hy@Warning{%
1861 Unexpected value ‘#1’\MessageBreak
1862 of option ‘#2’ instead of\MessageBreak
1863 #3%
1864 }%
1865 }

```

\Hy@DisableOption

```

1866 \def\Hy@DisableOption#1{%
1867 \@ifundefined{KV@Hyp@#1@default}{%
1868 \define@key{Hyp}{#1}%
1869 }{%
1870 \define@key{Hyp}{#1}[]%
1871 }%
1872 {\Hy@WarnOptionDisabled{#1}}%
1873 }

```

\Hy@WarnOptionDisabled

```

1874 \def\Hy@WarnOptionDisabled#1{%
1875 \Hy@Warning{%
1876 Option ‘#1’ has already been used,\MessageBreak
1877 setting the option has no effect%
1878 }%
1879 }

```

\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.

```

1880 \def\Hy@CheckOptionValue#1#2#3{%
1881 \begingroup
1882 \edef\x{#1}%
1883 \@onelevel@sanitize\x
1884 \let\y=y%
1885 \def\do##1##2{%
1886 \def\z{##1}%
1887 \@onelevel@sanitize\z
1888 \ifx\x\z
1889 \let\y=n%
1890 \let\do\gobbletwo
1891 \fi
1892 }%

```

```

1893     #3%
1894     \ifx\y y%
1895     \def\do##1##2{%
1896         * ‘##1’%
1897         \ifx\##2\\\else\space(##2)\fi
1898         \MessageBreak
1899     }%
1900     \Hy@Warning{%
1901         Values of option ‘#2’:\MessageBreak
1902         #3%
1903         * An empty value disables the option.\MessageBreak
1904         Unknown value ‘\x’%
1905     }%
1906     \fi
1907 \endgroup
1908 }

```

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

```

1909 \def\Hy@DefNameKey#1{%
1910     \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
1911 }

```

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

```

1912 \def\Hy@@DefNameKey#1#2#3{%
1913     \define@key{Hyp}{#2}{%
1914         \edef#1{##1}%
1915         \ifx#1\@empty
1916             \else
1917                 \Hy@CheckOptionValue{##1}{#2}{#3}%
1918             \fi
1919     }%
1920     \let#1\@empty
1921 }

```

`\Hy@UseNameKey`

```

1922 \def\Hy@UseNameKey#1#2{%
1923     \ifx#2\@empty
1924     \else
1925         /#1/#2%
1926     \fi
1927 }

```

9.2 Defining the options

```

1928 \define@key{Hyp}{implicit}[true]{%
1929     \Hy@boolkey{implicit}{#1}%
1930 }
1931 \define@key{Hyp}{draft}[true]{%
1932     \Hy@boolkey{draft}{#1}%
1933 }
1934 \define@key{Hyp}{final}[true]{%
1935     \Hy@boolkey{final}{#1}%

```

```

1936 }
1937 \let\KV@Hyp@nolinks\KV@Hyp@draft
1938 \define@key{Hyp}{a4paper}[true]{%
1939   \def\special@paper{210mm,297mm}%
1940   \def\Hy@pageheight{842}%
1941 }
1942 \define@key{Hyp}{a5paper}[true]{%
1943   \def\special@paper{148mm,210mm}%
1944   \def\Hy@pageheight{595}%
1945 }
1946 \define@key{Hyp}{b5paper}[true]{%
1947   \def\special@paper{176mm,250mm}%
1948   \def\Hy@pageheight{709}%
1949 }
1950 \define@key{Hyp}{letterpaper}[true]{%
1951   \def\special@paper{8.5in,11in}%
1952   \def\Hy@pageheight{792}%
1953 }
1954 \define@key{Hyp}{legalpaper}[true]{%
1955   \def\special@paper{8.5in,14in}%
1956   \def\Hy@pageheight{1008}%
1957 }
1958 \define@key{Hyp}{executivepaper}[true]{%
1959   \def\special@paper{7.25in,10.5in}%
1960   \def\Hy@pageheight{720}%
1961 }
1962 \define@key{Hyp}{setpagesize}[true]{%
1963   \Hy@boolkey{setpagesize}{#1}%
1964 }
1965 \define@key{Hyp}{debug}[true]{%
1966   \Hy@boolkey[debug]{verbose}{#1}%
1967 }
1968 \define@key{Hyp}{linktocpage}[true]{%
1969   \Hy@boolkey{linktocpage}{#1}%
1970   \ifHy@linktocpage
1971     \let\Hy@linktoc\Hy@linktoc@page
1972   \else
1973     \let\Hy@linktoc\Hy@linktoc@section
1974   \fi
1975 }
1976 \chardef\Hy@linktoc@none=0 %
1977 \chardef\Hy@linktoc@section=1 %
1978 \chardef\Hy@linktoc@page=2 %
1979 \chardef\Hy@linktoc@all=3 %
1980 \ifHy@linktocpage
1981   \let\Hy@linktoc\Hy@linktoc@page
1982 \else
1983   \let\Hy@linktoc\Hy@linktoc@section
1984 \fi
1985 \define@key{Hyp}{linktoc}{%
1986   \@ifundefined{Hy@linktoc@#1}{%
1987     \Hy@Warning{%
1988       Unexpected value ‘#1’ of\MessageBreak
1989       option ‘linktoc’ instead of ‘none’,\MessageBreak
1990       ‘section’, ‘page’ or ‘all’%
1991     }%
1992   }{%

```

```

1993 \expandafter\let\expandafter\Hy@linktoc
1994 \csname Hy@linktoc@#1\endcsname
1995 }%
1996 }
1997 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
1998 \let\XR@ext\relax
1999 \define@key{Hyp}{verbose}[true]{%
2000 \Hy@boolkey{verbose}{#1}%
2001 }
2002 \define@key{Hyp}{typexml}[true]{%
2003 \Hy@boolkey{typexml}{#1}%
2004 }

```

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.

```

2005 \define@key{Hyp}{raiselinks}[true]{%
2006 \Hy@boolkey{raiselinks}{#1}%
2007 }

```

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

```

2008 \def\Hy@setbreaklinks#1{%
2009 \csname breaklinks#1\endcsname
2010 }
2011 \def\Hy@breaklinks@unsupported{%
2012 \ifx\Hy@setbreaklinks@gobble
2013 \ifHy@breaklinks
2014 \Hy@WarningNoLine{%
2015 You have enabled option 'breaklinks'.\MessageBreak
2016 But driver '\Hy@driver.def' does not support this.\MessageBreak
2017 Expect trouble with the link areas of broken links%
2018 }%
2019 \fi
2020 \fi
2021 }
2022 \define@key{Hyp}{breaklinks}[true]{%
2023 \Hy@boolkey{breaklinks}{#1}%
2024 \let\Hy@setbreaklinks@gobble
2025 }

```

Determines whether an automatic anchor is put on each page

```

2026 \define@key{Hyp}{pageanchor}[true]{%
2027 \Hy@boolkey{pageanchor}{#1}%
2028 }

```

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.

```

2029 \define@key{Hyp}{plainpages}[true]{%
2030 \Hy@boolkey{plainpages}{#1}%
2031 }

```

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

```

2032 \define@key{Hyp}{naturalnames}[true]{%
2033 \Hy@boolkey{naturalnames}{#1}%
2034 }

```

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

```

2035 \define@key{Hyp}{hypertexnames}[true]{%

```

```

2036 \Hy@boolkey{hypertextnames}{#1}%
2037 }

```

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

```

2038 \define@key{Hyp}{nesting}[true]{%
2039   \Hy@boolkey{nesting}{#1}%
2040 }

2041 \define@key{Hyp}{unicode}[true]{%
2042   \Hy@boolkey{unicode}{#1}%
2043   \ifHy@unicode
2044     \def\HyPsd@pdfencoding{unicode}%
2045   \else
2046     \def\HyPsd@pdfencoding{pdfdoc}%
2047   \fi
2048   \HyPsd@LoadUnicode
2049 }

2050 \def\HyPsd@LoadUnicode{%
2051   \@ifundefined{T@PU}{%
2052     \input{puenc.def}%
2053     \HyLinguex@Restore
2054   }{}%
2055   \DeclareFontFamily{PU}{pdf}{}%
2056   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
2057   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2058   \global\let\HyPsd@LoadUnicode\relax
2059 }

2060 \AtBeginDocument{%
2061   \ifx\HyPsd@LoadUnicode\relax
2062   \else
2063     \def\HyPsd@LoadUnicode{%
2064       \PackageError{hyperref}{%
2065         Unicode support for bookmarks is not available.\MessageBreak
2066         Activate unicode support by using one of the options\MessageBreak
2067         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2068         in the preamble%
2069       }{\ehc
2070         \global\let\HyPsd@LoadUnicode\relax
2071         \global\Hy@unicodedefalse
2072         \global\let\Hy@unicodetrue\Hy@unicodedefalse
2073       }%
2074     \fi
2075 }

2076 \define@key{Hyp}{pdfencoding}{%
2077   \edef\HyPsd@temp{#1}%
2078   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2079     \let\HyPsd@pdfencoding\HyPsd@temp
2080     \Hy@unicodedefalse
2081   \else
2082     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2083       \z@
2084     \else
2085       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2086         \z@
2087       \else
2088         \@ne
2089       \fi
2090     \fi

```

```

2091 \let\HyPsd@pdfencoding\HyPsd@temp
2092 \hypersetup{unicode}%
2093 \ifHy@unicode
2094 \def\HyPsd@pdfencoding{#1}%
2095 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2096 \HyPsd@LoadStringEnc
2097 \fi
2098 \else
2099 \Hy@Warning{Cannot switch to unicode bookmarks}%
2100 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2101 \fi
2102 \else
2103 \@onelevel@sanitize\HyPsd@temp
2104 \Hy@Warning{%
2105 Values of option 'pdfencoding':\MessageBreak
2106 'pdfdoc', 'unicode', 'auto'.\MessageBreak
2107 Ignoring unknown value '\HyPsd@temp'%
2108 }%
2109 \fi
2110 \fi
2111 }
2112 \def\HyPsd@pdfencoding@auto{auto}
2113 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2114 \def\HyPsd@pdfencoding@unicode{unicode}
2115 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2116 \def\HyPsd@LoadStringEnc{%
2117 \RequirePackage{stringenc}[2007/06/14]%
2118 \let\HyPsd@LoadStringEnc\relax
2119 }
2120 \AtBeginDocument{%
2121 \@ifpackageloaded{stringenc}{%
2122 \let\HyPsd@LoadStringEnc\relax
2123 }{%
2124 \def\HyPsd@LoadStringEnc{%
2125 \Hy@WarningNoLine{%
2126 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2127 in the preamble or load the package there%
2128 }%
2129 }%
2130 }%
2131 }
2132 \newif\ifHy@setpdfversion
2133 \define@key{Hyp}{pdfversion}{%
2134 \@ifundefined{Hy@pdfversion@#1}{%
2135 \PackageWarning{hyperref}{%
2136 Unsupported PDF version '#1'.\MessageBreak
2137 Valid values: 1.2 until 1.9%
2138 }%
2139 }{%
2140 \Hy@setpdfversiontrue
2141 \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2142 }%
2143 }
2144 \@namedef{Hy@pdfversion@1.2}{2}%
2145 \@namedef{Hy@pdfversion@1.3}{3}%
2146 \@namedef{Hy@pdfversion@1.4}{4}%
2147 \@namedef{Hy@pdfversion@1.5}{5}%

```

```

2148 \@namedef{Hy@pdfversion@1.6}{6}%
2149 \@namedef{Hy@pdfversion@1.7}{7}%
2150 \@namedef{Hy@pdfversion@1.8}{8}%
2151 \@namedef{Hy@pdfversion@1.9}{9}%
2152 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2153 \define@key{Hyp}{hyperref}[true]{%
2154 \define@key{Hyp}{tex4ht}[true]{%
2155   \Hy@texhttrue
2156   \setkeys{Hyp}{colorlinks=true}%
2157   \def\BeforeTeXIVht{\usepackage{color}}%
2158   \def\Hy@driver{htex4ht}%
2159   \def\MaybeStopEarly{%
2160     \typeout{Hyperref stopped early}%
2161     \AfterBeginDocument{%
2162       \PDF@FinishDoc
2163       \gdef\PDF@FinishDoc{}}%
2164   }%
2165   \endinput
2166 }%
2167 }
2168 \define@key{Hyp}{pdftex}[true]{%
2169   \def\Hy@driver{hpdftex}%
2170 }
2171 \define@key{Hyp}{nativepdf}[true]{%
2172   \def\Hy@driver{hdvips}%
2173 }
2174 \define@key{Hyp}{dvipdfm}[true]{%
2175   \def\Hy@driver{hdvipdfm}%
2176 }
2177 \define@key{Hyp}{dvipdfmx}[true]{%
2178   \def\Hy@driver{hdvipdfm}%
2179 }
2180 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2181   \expandafter\ifx\csname if#1\expandafter\endcsname
2182     \csname iftrue\endcsname
2183     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2184   \else
2185     \chardef\SpecialDvipdfmxOutlineOpen\z@
2186   \fi
2187 }
2188 \define@key{Hyp}{xetex}[true]{%
2189   \def\Hy@driver{hdvipdfm}%
2190 }
2191 \define@key{Hyp}{pdfmark}[true]{%
2192   \def\Hy@driver{hdvips}%
2193 }
2194 \define@key{Hyp}{dvips}[true]{%
2195   \def\Hy@driver{hdvips}%
2196 }
2197 \define@key{Hyp}{hypertex}[true]{%
2198   \def\Hy@driver{hypertex}%
2199 }
2200 \let\Hy@MaybeStopNow\relax
2201 \define@key{Hyp}{vtex}[true]{%

```

```

2202 \begingroup\expandafter\expandafter\expandafter\endgroup
2203 \expandafter\ifx\csname OpMode\endcsname\relax
2204 \latexerror{Non-VTeX processor}{}%
2205 \global\let\Hy@MaybeStopNow\endinput
2206 \endinput
2207 \else
2208 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2209 \def\Hy@driver{hvtex}%
2210 \else
2211 \ifnum\OpMode=10\relax
2212 \def\Hy@driver{hvtexhtm}%
2213 \def\MaybeStopEarly{%
2214 \typeout{Hyperref stopped early}%
2215 \AfterBeginDocument{%
2216 \PDF@FinishDoc
2217 \gdef\PDF@FinishDoc{}%
2218 }%
2219 \endinput
2220 }%
2221 \else
2222 \latexerror{Mode (\the\OpMode) has no hyperref driver}{}%
2223 \global\let\Hy@MaybeStopNow\endinput
2224 \endinput
2225 \fi
2226 \fi
2227 \fi
2228 }
2229 \define@key{Hyp}{vtexpdfmark}[true]{%
2230 \begingroup\expandafter\expandafter\expandafter\endgroup
2231 \expandafter\ifx\csname OpMode\endcsname\relax
2232 \latexerror{Non-VTeX processor}{}%
2233 \let\Hy@MaybeStopNow\endinput
2234 \endinput
2235 \else
2236 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2237 \def\Hy@driver{hvtexmrk}%
2238 \else
2239 \latexerror{Mode (\the\OpMode) has no hyperref driver}{}%
2240 \let\Hy@MaybeStopNow\endinput
2241 \endinput
2242 \fi
2243 \fi
2244 }
2245 \define@key{Hyp}{dviwindo}[true]{%
2246 \def\Hy@driver{hdviwind}%
2247 \setkeys{Hyp}{colorlinks}%
2248 \PassOptionsToPackage{dviwindo}{color}%
2249 }
2250 \define@key{Hyp}{dvipsone}[true]{%
2251 \def\Hy@driver{hdvipson}%
2252 }
2253 \define@key{Hyp}{textures}[true]{%
2254 \def\Hy@driver{htexture}%
2255 }
2256 \define@key{Hyp}{latex2html}[true]{%
2257 \AtBeginDocument{\@@latextohtmlX}%
2258 }

```

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

```
2259 \define@key{Hyp}{ps2pdf}[true]{%
2260   \def\Hy@driver{hdvips}%
2261   \providecommand*\@pdfborder{0 0 1}%
2262 }
```

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.

```
2263 \define@key{Hyp}{hyperfigures}[true]{%
2264   \Hy@boolkey[hyperfigures]{figures}{#1}%
2265 }
```

The automatic footnote linking can be disabled by option hyperfootnotes.

```
2266 \define@key{Hyp}{hyperfootnotes}[true]{%
2267   \Hy@boolkey[hyperfootnotes]{#1}%
2268 }
```

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

```
2269 \def\back@none{none}
2270 \def\back@section{section}
2271 \def\back@page{page}
2272 \def\back@slide{slide}
2273 \define@key{Hyp}{backref}[section]{%
2274   \lowercase{\def\Hy@tempa{#1}}%
2275   \ifx\Hy@tempa\@empty
2276     \let\Hy@tempa\back@section
2277   \fi
2278   \ifx\Hy@tempa\Hy@false
2279     \let\Hy@tempa\back@none
2280   \fi
2281   \ifx\Hy@tempa\back@slide
2282     \let\Hy@tempa\back@section
2283   \fi
2284   \ifx\Hy@tempa\back@page
2285     \PassOptionsToPackage{hyperpageref}{backref}%
2286     \Hy@backreftrue
2287   \else
2288     \ifx\Hy@tempa\back@section
2289       \PassOptionsToPackage{hyperref}{backref}%
2290       \Hy@backreftrue
2291     \else
2292       \ifx\Hy@tempa\back@none
2293         \Hy@backreffalse
2294       \else
2295         \Hy@WarnOptionValue{#1}{backref}{%
2296           'section', 'slide', 'page', 'none', \MessageBreak
2297           or 'false'}%
2298       \fi
2299     \fi
2300   \fi
2301 }
2302 \define@key{Hyp}{pagebackref}[true]{%
2303   \edef\Hy@tempa{#1}%
2304   \lowercase\expandafter{%
2305     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2306   }%
```

```

2307 \ifx\Hy@tempa\@empty
2308   \let\Hy@tempa\Hy@true
2309 \fi
2310 \ifx\Hy@tempa\Hy@true
2311   \PassOptionsToPackage{hyperpageref}{backref}%
2312   \Hy@backreftrue
2313 \else
2314   \ifx\Hy@tempa\Hy@false
2315     \Hy@backreffalse
2316   \else
2317     \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
2318   \fi
2319 \fi
2320 }

```

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

```

2321 \define@key{Hyp}{hyperindex}[true]{%
2322   \Hy@boolkey{hyperindex}{#1}%
2323 }

```

Configuration of encap char.

```

2324 \define@key{Hyp}{encap}[\l]{%
2325   \def\HyInd@EncapChar{#1}%
2326 }

```

12 Language options

The \autoref feature depends on the language.

```

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

```

```

2355 \def\subsectionautorefname{subsection}%
2356 \def\subsubsectionautorefname{subsubsection}%
2357 \def\paragraphautorefname{paragraph}%
2358 \def\subparagraphautorefname{subparagraph}%
2359 \def\FancyVerbLineautorefname{line}%
2360 \def\theoremautorefname{Theorem}%
2361 \def\pageautorefname{page}%
2362 }
2363 \def\HyLang@french{%
2364 \def\equationautorefname{\`Equation}%
2365 \def\footnoteautorefname{note}%
2366 \def\itemautorefname{item}%
2367 \def\figureautorefname{Figure}%
2368 \def\tableautorefname{Tableau}%
2369 \def\partautorefname{Partie}%
2370 \def\appendixautorefname{Appendice}%
2371 \def\chapterautorefname{chapitre}%
2372 \def\sectionautorefname{section}%
2373 \def\subsectionautorefname{sous-section}%
2374 \def\subsubsectionautorefname{sous-sous-section}%
2375 \def\paragraphautorefname{paragraphe}%
2376 \def\subparagraphautorefname{sous-paragraphe}%
2377 \def\FancyVerbLineautorefname{ligne}%
2378 \def\theoremautorefname{Th\`eor\`eme}%
2379 \def\pageautorefname{page}%
2380 }
2381 \def\HyLang@german{%
2382 \def\equationautorefname{Gleichung}%
2383 \def\footnoteautorefname{Fu\ss note}%
2384 \def\itemautorefname{Punkt}%
2385 \def\figureautorefname{Abbildung}%
2386 \def\tableautorefname{Tabelle}%
2387 \def\partautorefname{Teil}%
2388 \def\appendixautorefname{Anhang}%
2389 \def\chapterautorefname{Kapitel}%
2390 \def\sectionautorefname{Abschnitt}%
2391 \def\subsectionautorefname{Unterabschnitt}%
2392 \def\subsubsectionautorefname{Unterunterabschnitt}%
2393 \def\paragraphautorefname{Absatz}%
2394 \def\subparagraphautorefname{Unterabsatz}%
2395 \def\FancyVerbLineautorefname{Zeile}%
2396 \def\theoremautorefname{Theorem}%
2397 \def\pageautorefname{Seite}%
2398 }
2399 \def\HyLang@italian{%
2400 \def\equationautorefname{Equazione}%
2401 \def\footnoteautorefname{nota}%
2402 \def\itemautorefname{punto}%
2403 \def\figureautorefname{Figura}%
2404 \def\tableautorefname{Tabella}%
2405 \def\partautorefname{Parte}%
2406 \def\appendixautorefname{Appendice}%
2407 \def\chapterautorefname{Capitolo}%
2408 \def\sectionautorefname{sezione}%
2409 \def\subsectionautorefname{sottosezione}%
2410 \def\subsubsectionautorefname{sottosottosezione}%
2411 \def\paragraphautorefname{paragrafo}%

```

```

2412 \def\subparagraphautorefname{sottoparagrafo}%
2413 \def\FancyVerbLineautorefname{linea}%
2414 \def\theoremautorefname{Teorema}%
2415 \def\pageautorefname{Pag.\@}%
2416 }
2417 \def\HyLang@magyar{%
2418 \def\equationautorefname{Egyenlet}%
2419 \def\footnoteautorefname{l\'abjegyzet}%
2420 \def\itemautorefname{Elem}%
2421 \def\figureautorefname{\'Abra}%
2422 \def\tableautorefname{T\'abl\'azat}%
2423 \def\partautorefname{R\'esz}%
2424 \def\appendixautorefname{F\'uggel\'ek}%
2425 \def\chapterautorefname{fejezet}%
2426 \def\sectionautorefname{szakasz}%
2427 \def\subsectionautorefname{alszakasz}%
2428 \def\subsubsectionautorefname{alalszakasz}%
2429 \def\paragraphautorefname{bekezd\'es}%
2430 \def\subparagraphautorefname{albekezd\'es}%
2431 \def\FancyVerbLineautorefname{sor}%
2432 \def\theoremautorefname{T\'etel}%
2433 \def\pageautorefname{oldal}%
2434 }
2435 \def\HyLang@portuges{%
2436 \def\equationautorefname{Equa\c c\~ao}%
2437 \def\footnoteautorefname{Nota de rodap\'e}%
2438 \def\itemautorefname{Item}%
2439 \def\figureautorefname{Figura}%
2440 \def\tableautorefname{Tabela}%
2441 \def\partautorefname{Parte}%
2442 \def\appendixautorefname{Ap\~endice}%
2443 \def\chapterautorefname{Cap\'itulo}%
2444 \def\sectionautorefname{Se\c c\~ao}%
2445 \def\subsectionautorefname{Subse\c c\~ao}%
2446 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2447 \def\paragraphautorefname{par\'agrafo}%
2448 \def\subparagraphautorefname{subpar\'agrafo}%
2449 \def\FancyVerbLineautorefname{linha}%
2450 \def\theoremautorefname{Teorema}%
2451 \def\pageautorefname{P\'agina}%
2452 }

```

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`.

```

2453 \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`?

```

2454 \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.

```
2455 % \def\equationautorefname{%  
2456 % \cyr\cyrv\cyrery\cyrr\cyra\cyrzh\cyre\cyrn\cyri\cyre  
2457 % }%
```

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

```
2458 \def\footnoteautorefname{%  
2459 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrn.%  
2460 }%
```

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}”

```
2461 % \def\footnoteautorefname{%  
2462 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %  
2463 % \cyrp\cyrr\cyri\cyrn\cyre\cyrch\cyra\cyrn\cyri\cyre  
2464 % }%
```

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

```
2465 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%  
2466 % \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.

```
2467 \def\itemautorefname{\cyr\cyrp.}%  
2468 % \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.

```
2469 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%  
2470 \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.

```
2471 \def\partautorefname{\cyr\cyrch.}%  
2472 \def\chapterautorefname{\cyr\cyrg\cyrl.}%  
2473 \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.

```
2474 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%  
2475 % \def\appendixautorefname{%  
2476 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrzh\cyre\cyrn\cyri\cyre  
2477 % }%
```

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.

```
2478 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%  
2479 \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.

```
2480 \def\paragraphautorefname{\cyr\cyrp.}%  
2481 \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.

```
2482 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2483 % \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.

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

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

```
2485 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
2486 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
2487 % \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 ...

```
2488 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2489 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
2490 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2491 \def\pageautorefname{\cyr\cyrs.}%
2492 }
```

```
2493 \def\HyLang@spanish{%
2494 \def\equationautorefname{Ecuaci'on}%
2495 \def\footnoteautorefname{Nota a pie de p'agina}%
2496 \def\itemautorefname{Elemento}%
2497 \def\figureautorefname{Figura}%
2498 \def\tableautorefname{Tabla}%
2499 \def\partautorefname{Parte}%
2500 \def\appendixautorefname{Ap'endice}%
2501 \def\chapterautorefname{Cap'itulo}%
2502 \def\sectionautorefname{Secci'on}%
2503 \def\subsectionautorefname{Subsecci'on}%
2504 \def\subsubsectionautorefname{Subsubsecci'on}%
2505 \def\paragraphautorefname{P'arrafo}%
2506 \def\subparagraphautorefname{Subp'arrafo}%
2507 \def\FancyVerbLineautorefname{L'inea}%
2508 \def\theoremautorefname{Teorema}%
2509 \def\pageautorefname{P'agina}%
2510 }
```

```
2511 \def\HyLang@vietnamese{%
2512 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr'inh}%
2513 \def\footnoteautorefname{Ch'u th'ich}%
2514 \def\itemautorefname{m\du{c}%
2515 \def\figureautorefname{H'inh}%
2516 \def\tableautorefname{B'h{a}ng}%
2517 \def\partautorefname{Ph'\acircumflex{n}%
2518 \def\appendixautorefname{Ph\du{1}\du{c}%
```

```

2519 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
2520 \def\sectionautorefname{m\du{c}}%
2521 \def\subsectionautorefname{m\du{c}}%
2522 \def\subsubsectionautorefname{m\du{c}}%
2523 \def\paragraphautorefname{dj{}\da{n}%
2524 \def\subparagraphautorefname{dj{}\da{n}%
2525 \def\FancyVerbLineautorefname{d\'ong}%
2526 \def\theoremautorefname{DJ{}\di{nh l\'y}%
2527 \def\pageautorefname{Trang}%
2528 }

```

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

```

2529 \def\HyLang@addto#1#2{%
2530   #2%
2531   \@temptokena{#2}%
2532   \ifx#1\relax
2533     \let#1\@empty
2534   \fi
2535   \ifx#1\undefined
2536     \edef#1{\the\@temptokena}%
2537   \else
2538     \toks@\expandafter{#1}%
2539     \edef#1{\the\toks@\the\@temptokena}%
2540   \fi
2541   \@temptokena{}\toks@\@temptokena
2542 }

2543 \def\HyLang@DeclareLang#1#2#3{%
2544   \begingroup
2545     \edef\x##1##2{%
2546       \noexpand\ifx##2\relax
2547         \errmessage{No definitions for language #2' found!}%
2548       \noexpand\fi
2549     \endgroup
2550     \noexpand\define@key{Hyp}{#1}[]{%
2551       \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2552       #3%
2553     }%
2554   }%
2555   \expandafter\x\csname extras#1\expandafter\endcsname
2556     \csname HyLang@#2\endcsname
2557 }

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

```

```

2573 \HyLang@DeclareLang{french}{french}{}
2574 \HyLang@DeclareLang{frenchb}{french}{}
2575 \HyLang@DeclareLang{français}{french}{}
2576 \HyLang@DeclareLang{acadian}{french}{}
2577 \HyLang@DeclareLang{canadien}{french}{}
2578 \HyLang@DeclareLang{italian}{italian}{}
2579 \HyLang@DeclareLang{magyar}{magyar}{}
2580 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

2581 \define@key{Hyp}{vietnamese}[]{}%
2582   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2583   \AtEndOfPackage{%
2584     \ifundefined{T@PU}{}{}%
2585     \input{puvnenc.def}%
2586   }%
2587 }%
2588 }
2589 \define@key{Hyp}{vietnam}[]{}%
2590   \HyLang@addto\extravietnam\HyLang@vietnamese
2591   \AtEndOfPackage{%
2592     \ifundefined{T@PU}{}{}%
2593     \input{puvnenc.def}%
2594   }%
2595 }%
2596 }

```

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

```

2597 \define@key{Hyp}{arabic}[]{}%
2598   \AtEndOfPackage{%
2599     \ifundefined{T@PU}{}{}%
2600     \input{puarenc.def}%
2601   }%
2602 }%
2603 }

```

13 Options to change appearance of links

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

```

2604 \define@key{Hyp}{colorlinks}[true]{}%
2605   \Hy@boolkey{colorlinks}{#1}%
2606 }
2607 \define@key{Hyp}{ocgcolorlinks}[true]{}%
2608   \Hy@boolkey{ocgcolorlinks}{#1}%
2609 }
2610 \AtBeginDocument{%
2611   \begingroup
2612     \ifundefined{OBJ@OCG@view}{}%
2613     \ifHy@ocgcolorlinks
2614       \Hy@Warning{%
2615         Driver does not support ‘ocgcolorlinks’,\MessageBreak
2616         using ‘colorlinks’ instead%
2617       }%
2618     \fi
2619   }{}%
2620 \endgroup
2621 }

```

```

2622 \define@key{Hyp}{frenchlinks}[true]{%
2623   \Hy@boolkey{frenchlinks}{#1}%
2624 }

```

14 Bookmarking

```

2625 \define@key{Hyp}{bookmarks}[true]{%
2626   \Hy@boolkey{bookmarks}{#1}%
2627 }

2628 \define@key{Hyp}{bookmarksopen}[true]{%
2629   \Hy@boolkey{bookmarksopen}{#1}%
2630 }

```

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.

```

2631 \let\Hy@bookmarksdepth\c@tocdepth
2632 \define@key{Hyp}{bookmarksdepth}[]{%
2633   \begingroup
2634     \edef\x{#1}%
2635     \ifx\x\empty
2636       \global\let\Hy@bookmarksdepth\c@tocdepth
2637     \else
2638       \@ifundefined{toclevel@x}{%
2639         \@onelevel@sanitize\x
2640         \edef\y{\expandafter\@car\x\@nil}%
2641         \ifcase 0\expandafter\ifx\y-1\fi
2642           \expandafter\ifnum\expandafter'\y>47 %
2643             \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
2644           \Hy@Warning{Unknown document division name (\x)}%
2645         \else
2646           \setbox\z@=\hbox{%
2647             \count@=\x
2648             \xdef\Hy@bookmarksdepth{\the\count@}%
2649           }%
2650         \fi
2651       }{%
2652         \setbox\z@=\hbox{%
2653           \count@=\csname toclevel@x\endcsname
2654           \xdef\Hy@bookmarksdepth{\the\count@}%
2655         }%
2656       }%
2657     \fi
2658   \endgroup
2659 }

```

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

```

2660 \define@key{Hyp}{bookmarksopenlevel}{%
2661   \def\@bookmarksopenlevel{#1}%

```

```

2662 }
2663 \def\@bookmarksopenlevel{\maxdimen}
2664 % 'bookmarkstype' to specify which 'toc' file to mimic
2665 \define@key{Hyp}{bookmarkstype}{%
2666   \def\Hy@bookmarkstype{#1}%
2667 }
2668 \def\Hy@bookmarkstype{toc}

```

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

```

2669 \define@key{Hyp}{bookmarksnumbered}[true]{%
2670   \Hy@boolkey{bookmarksnumbered}{#1}%
2671 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

2672 \define@key{Hyp}{CJKbookmarks}[true]{%
2673   \Hy@boolkey{CJKbookmarks}{#1}%
2674 }

2675 \def\Hy@temp#1{%
2676   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2677 }
2678 \def\Hy@@temp#1#2#3{%
2679   \define@key{Hyp}{#2color}{%
2680     \HyColor@HyperrefColor{##1}#1%
2681   }%
2682   \def#1{#3}%
2683 }
2684 \Hy@temp{link}{red}
2685 \Hy@temp{anchor}{black}
2686 \Hy@temp{cite}{green}
2687 \Hy@temp{file}{cyan}
2688 \Hy@temp{url}{magenta}
2689 \Hy@temp{menu}{red}
2690 \Hy@temp{run}{\@filecolor}
2691 \define@key{Hyp}{pagecolor}{%
2692   \Hy@WarningPageColor
2693 }
2694 \def\Hy@WarningPageColor{%
2695   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
2696   \global\let\Hy@WarningPageColor\relax
2697 }

2698 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2699 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2700 \let\@baseurl\empty
2701 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2702 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2703 \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.

```

2704 \let\@pdfpagetransition\relax
2705 \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.

```
2706 \let\pdfpageduration\relax
2707 \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.

```
2708 \newif\ifHy@useHidKey
2709 \Hy@useHidKeyfalse
2710 \define@key{Hyp}{pdfpagehidden}[true]{%
2711   \Hy@boolkey{pdfpagehidden}{#1}%
2712   \ifHy@pdfpagehidden
2713     \global\Hy@useHidKeytrue
2714   \fi
2715 }
```

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).

```
2716 \def\Hy@ColorList{cite,file,link,menu,run,url}
2717 \@for\Hy@temp:=\Hy@ColorList\do{%
2718   \edef\Hy@temp{%
2719     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2720       \noexpand\HyColor@HyperrefBorderColor
2721       {##1}%
2722       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2723       {hyperref}%
2724       {\Hy@temp bordercolor}%
2725     }%
2726   }%
2727   \Hy@temp
2728 }
2729 \define@key{Hyp}{pagebordercolor}{%
2730   \Hy@WarningPageBorderColor
2731 }
2732 \def\Hy@WarningPageBorderColor{%
2733   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2734   \global\let\Hy@WarningPageBorderColor\relax
2735 }
2736 \define@key{Hyp}{pdfhighlight}{\def\pdfhighlight{#1}}
2737 \Hy@DefNameKey{pdfhighlight}{%
2738   \do{/I}{Invert}%
2739   \do{/N}{None}%
2740   \do{/O}{Outline}%
2741   \do{/P}{Push}%
2742 }
2743 \define@key{Hyp}{pdfborder}{\def\pdfborder{#1}}
2744 \define@key{Hyp}{pdfborderstyle}{\def\pdfborderstyle{#1}}
2745 \def\Hy@setpdfborder{%
2746   \ifx\pdfborder\empty
```

```

2747 \else
2748   /Border[\@pdfborder]%
2749 \fi
2750 \ifx\@pdfborderstyle\@empty
2751 \else
2752   /BS<<\@pdfborderstyle>>%
2753 \fi
2754 }
2755 \Hy@DefNameKey{pdfpagemode}{%
2756   \do{UseNone}{}%
2757   \do{UseOutlines}{}%
2758   \do{UseThumbs}{}%
2759   \do{FullScreen}{}%
2760   \do{UseOC}{PDF 1.5}%
2761   \do{UseAttachments}{PDF 1.6}%
2762 }
2763 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2764   \do{UseNone}{}%
2765   \do{UseOutlines}{}%
2766   \do{UseThumbs}{}%
2767   \do{FullScreen}{}%
2768   \do{UseOC}{PDF 1.5}%
2769   \do{UseAttachments}{PDF 1.6}%
2770 }
2771 \Hy@DefNameKey{pdfdirection}{%
2772   \do{L2R}{Left to right}%
2773   \do{R2L}{Right to left}%
2774 }
2775 \Hy@DefNameKey{pdfviewarea}{%
2776   \do{MediaBox}{}%
2777   \do{CropBox}{}%
2778   \do{BleedBox}{}%
2779   \do{TrimBox}{}%
2780   \do{ArtBox}{}%
2781 }
2782 \Hy@DefNameKey{pdfviewclip}{%
2783   \do{MediaBox}{}%
2784   \do{CropBox}{}%
2785   \do{BleedBox}{}%
2786   \do{TrimBox}{}%
2787   \do{ArtBox}{}%
2788 }
2789 \Hy@DefNameKey{pdfprintarea}{%
2790   \do{MediaBox}{}%
2791   \do{CropBox}{}%
2792   \do{BleedBox}{}%
2793   \do{TrimBox}{}%
2794   \do{ArtBox}{}%
2795 }
2796 \Hy@DefNameKey{pdfprintclip}{%
2797   \do{MediaBox}{}%
2798   \do{CropBox}{}%
2799   \do{BleedBox}{}%
2800   \do{TrimBox}{}%
2801   \do{ArtBox}{}%
2802 }
2803 \Hy@DefNameKey{pdfprintscaling}{%

```

```

2804 \do{AppDefault}{}%
2805 \do{None}{}%
2806 }
2807 \Hy@DefNameKey{pdfduplex}{%
2808 \do{Simplex}{}%
2809 \do{DuplexFlipShortEdge}{}%
2810 \do{DuplexFlipLongEdge}{}%
2811 }
2812 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
2813 \do{true}{}%
2814 \do{false}{}%
2815 }
2816 \define@key{Hyp}{pdfprintpagerange}{%
2817 \def\@pdfprintpagerange{#1}%
2818 }
2819 \Hy@DefNameKey{pdfnumcopies}{%
2820 \do{2}{two copies}%
2821 \do{3}{three copies}%
2822 \do{4}{four copies}%
2823 \do{5}{five copies}%
2824 }
2825 \define@key{Hyp}{pdfusetitle}[true]{%
2826 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
2827 }
2828 \define@key{Hyp}{pdftitle}{\pdfstringdef\@pdftitle{#1}}
2829 \define@key{Hyp}{pdfauthor}{\pdfstringdef\@pdfauthor{#1}}
2830 \define@key{Hyp}{pdfproducer}{\pdfstringdef\@pdfproducer{#1}}
2831 \define@key{Hyp}{pdfcreator}{\pdfstringdef\@pdfcreator{#1}}
2832 \define@key{Hyp}{pdfcreationdate}{%
2833 \begingroup
2834 \Hy@unicodedefalse
2835 \pdfstringdef\@pdfcreationdate{#1}%
2836 \endgroup
2837 }
2838 \define@key{Hyp}{pdfmoddate}{%
2839 \begingroup
2840 \Hy@unicodedefalse
2841 \pdfstringdef\@pdfmoddate{#1}%
2842 \endgroup
2843 }
2844 \define@key{Hyp}{pdfsubject}{\pdfstringdef\@pdfsubject{#1}}
2845 \define@key{Hyp}{pdfkeywords}{\pdfstringdef\@pdfkeywords{#1}}
2846 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
2847 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
2848 \let\setpdflinkmargin\@gobble
2849 \def\calculate@pdfview#1 #2\{%
2850 \def\@pdfview{#1}%
2851 \ifx\#2\%
2852 \def\@pdfviewparams{ -32768}%
2853 \else
2854 \def\@pdfviewparams{ #2}%
2855 \fi
2856 }
2857 \begingroup\expandafter\expandafter\expandafter\endgroup
2858 \expandafter\ifx\curname numexpr\endcurname\relax
2859 \def\Hy@number#1{%
2860 \expandafter\@firstofone\expandafter{\number#1}%

```

```

2861 }%
2862 \else
2863   \def\Hy@number#1{%
2864     \the\numexpr#1\relax
2865   }%
2866 \fi
2867 \define@key{Hyp}{pdfstartpage}{%
2868   \ifx\#1\%
2869     \def\@pdfstartpage{%
2870       \else
2871         \edef\@pdfstartpage{\Hy@number{#1}}%
2872       \fi
2873   }%
2874 \define@key{Hyp}{pdfstartview}{%
2875   \ifx\#1\%
2876     \def\@pdfstartview{%
2877       \else
2878         \hypercalcbpdef\@pdfstartview{ /#1 }%
2879       \fi
2880   }
2881 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
2882 \define@key{Hyp}{pdftoolbar}[true]{%
2883   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
2884   }
2885 \define@key{Hyp}{pdfmenubar}[true]{%
2886   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
2887   }
2888 \define@key{Hyp}{pdfwindowui}[true]{%
2889   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
2890   }
2891 \define@key{Hyp}{pdffitwindow}[true]{%
2892   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
2893   }
2894 \define@key{Hyp}{pdfcenterwindow}[true]{%
2895   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
2896   }
2897 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
2898   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
2899   }
2900 \define@key{Hyp}{pdfa}[true]{%
2901   \Hy@boolkey[pdfa]{#1}%
2902   }
2903 \define@key{Hyp}{pdfnewwindow}[true]{%
2904   \def\Hy@temp{#1}%
2905   \ifx\Hy@temp\@empty
2906     \Hy@newwindowsetfalse
2907   \else
2908     \Hy@newwindowsettrue
2909     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
2910   \fi
2911   }
2912 \def\Hy@SetNewWindow{%
2913   \ifHy@newwindowset
2914     /NewWindow %
2915     \ifHy@newwindow true\else false\fi
2916   \fi
2917   }

```

```

2918 \Hy@DefNameKey{pdfpagelayout}{%
2919   \do{SinglePage}{}%
2920   \do{OneColumn}{}%
2921   \do{TwoColumnLeft}{}%
2922   \do{TwoColumnRight}{}%
2923   \do{TwoPageLeft}{PDF 1.5}%
2924   \do{TwoPageRight}{PDF 1.5}%
2925 }
2926 \define@key{Hyp}{pdflang}{%
2927   \def\@pdflang{#1}%
2928 }
2929 \define@key{Hyp}{pdfpagelabels}[true]{%
2930   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
2931 }
2932 \define@key{Hyp}{pdfescapeform}[true]{%
2933   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
2934 }

```

Default values:

```

2935 \def\@linkbordercolor{1 0 0}
2936 \def\@urlbordercolor{0 1 1}
2937 \def\@menubordercolor{1 0 0}
2938 \def\@filebordercolor{0 .5 .5}
2939 \def\@runbordercolor{0 .7 .7}
2940 \def\@citebordercolor{0 1 0}
2941 \def\@pdfhighlight{/I}
2942 \def\@pdftitle{}
2943 \def\@pdfauthor{}
2944 \let\@pdfproducer\relax
2945 \def\@pdfcreator{LaTeX with hyperref package}
2946 \def\@pdfcreationdate{}
2947 \def\@pdfmoddate{}
2948 \def\@pdfsubject{}
2949 \def\@pdfkeywords{}
2950 \def\@pdfpagescrop{}
2951 \def\@pdfstartview{ /Fit }
2952 \def\@pdfstartpage{1}
2953 \def\@pdfprintpagerange{}
2954 \def\@pdflang{}
2955 \let\PDF@SetupDoc\@empty
2956 \let\PDF@FinishDoc\@empty
2957 \let\phantomsection\@empty
2958 \let\special@paper\@empty
2959 \def\HyperDestNameFilter#1{#1}
2960 \@ifundefined{stockwidth}{%
2961   \ifdim\paperwidth>\z@
2962     \ifdim\paperheight>\z@
2963       \edef\special@paper{\the\paperwidth,\the\paperheight}%
2964     \fi
2965   \fi
2966 }{%
2967   \ifdim\stockwidth>\z@
2968     \ifdim\stockheight>\z@
2969       \edef\special@paper{\the\stockwidth,\the\stockheight}%
2970     \fi
2971   \fi
2972 }
2973 \begingroup

```

```

2974 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
2975 \dimen@=\x\relax
2976 \ifdim\dimen@>\z@
2977 \else
2978   \dimen@=11in\relax
2979   \Hy@WarningNoLine{%
2980     Height of page (\expandafter\string\x) %
2981     is invalid (\the\x),\MessageBreak
2982     using 11in%
2983   }%
2984 \fi
2985 \dimen@=0.99626401\dimen@
2986 \xdef\Hy@pageheight{\strip@pt\dimen@}%
2987 \endgroup
2988 \def\HyInd@EncapChar{\|}
2989 \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.

```

2990 \let\hyper@normalise\ExecuteOptions
2991 \let\ExecuteOptions\hypersetup
2992 \Hy@RestoreCatcodes
2993 \InputIfFileExists{hyperref.cfg}{-}{-}
2994 \Hy@SetCatcodes
2995 \let\ExecuteOptions\hyper@normalise
2996 \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`.

```

2997 \RequirePackage{kvoptions}[2006/08/17]

```

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

```

2998 \@ifpackageloaded{tex4ht}{%
2999   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
3000   \PassOptionsToPackage{tex4ht}{hyperref}%
3001 }%
3002 }{-}

3003 \let\ReadBookmarks\relax
3004 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

3005 \AtBeginDocument{%
3006   \ifHy@draft
3007     \let\hyper@@anchor\@gobble
3008     \gdef\hyper@link#1#2#3{#3}%
3009     \let\hyper@anchorstart\@gobble
3010     \let\hyper@anchorend\@empty
3011     \let\hyper@linkstart\@gobbletwo
3012     \let\hyper@linkend\@empty
3013     \def\hyper@linkurl#1#2{#1}%
3014     \def\hyper@linkfile#1#2#3{#1}%
3015     \def\hyper@link@[#1]#2#3{#1}%
3016     \def\Acrobatmenu#1#2{\leavevmode#2}%
3017     \let\PDF@SetupDoc\@empty

```

```

3018 \let\PDF@FinishDoc\@empty
3019 \let\@fifthoffive\@secondoftwo
3020 \let\@secondoffive\@secondoftwo
3021 \let\ReadBookmarks\relax
3022 \let\WriteBookmarks\relax
3023 \Hy@WarningNoLine{ draft mode on}%
3024 \fi
3025 \Hy@DisableOption{draft}%
3026 \Hy@DisableOption{nolinks}%
3027 \Hy@DisableOption{final}%
3028 }

```

15.1 PDF/A

```

3029 \Hy@DisableOption{pdfa}
3030 \ifHy@pdfa
3031 \setkeys{Hyp}{pdfversion=1.4}%
3032 \def\Hy@Acrobatmenu#1#2{%
3033 \leavevmode
3034 \beginingroup
3035 \edef\x{#1}%
3036 \@onelevel@sanitize\x
3037 \ifx\x\Hy@NextPage
3038 \let\y=Y%
3039 \else
3040 \ifx\x\Hy@PrevPage
3041 \let\y=Y%
3042 \else
3043 \ifx\x\Hy@FirstPage
3044 \let\y=Y%
3045 \else
3046 \ifx\x\Hy@LastPage
3047 \let\y=Y%
3048 \else
3049 \let\y=N%
3050 \fi
3051 \fi
3052 \fi
3053 \fi
3054 \expandafter\endgroup
3055 \ifx\y Y%
3056 \else
3057 \PackageError{hyperref}{%
3058 PDF/A: Named action ‘#1’ is not permitted%
3059 }\@ehc
3060 {#2}%
3061 \expandafter\@gobble
3062 \fi
3063 }%
3064 \def\Hy@temp#1{%
3065 \expandafter\def\csname Hy@#1\endcsname{#1}%
3066 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3067 }%
3068 \Hy@temp{NextPage}%
3069 \Hy@temp{PrevPage}%
3070 \Hy@temp{FirstPage}%
3071 \Hy@temp{LastPage}%

```

```

3072 \else
3073   \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3074 \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.

```

3075 \Hy@nextfalse
3076 \@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
3077 \@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
3078 \@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
3079 \ifHy@next
3080   \let\texttilde~%
3081 \fi

```

15.3 Patch for babel 3.8j

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

```

3082 \@ifpackageloaded{babel}{%
3083   \@ifpackagelater{babel}{2008/03/16}{%
3084     \def\Hy@PatchLanguageShorthands#1{%
3085       \begingroup
3086         \edef\x{#1}%
3087         \@onelevel@sanitize\x
3088         \def\y{system}%
3089         \@onelevel@sanitize\y
3090       \expandafter\endgroup
3091       \ifx\x\y
3092       \else
3093         \HyOrg@languageshorthands{#1}%
3094       \fi
3095     }%
3096     \AtBeginDocument{%
3097       \begingroup
3098         \toks0=\expandafter{\pdfstringdefPreHook}%
3099         \xdef\pdfstringdefPreHook{%
3100           \let\noexpand\HyOrg@languageshorthands
3101             \noexpand\languageshorthands
3102           \let\noexpand\languageshorthands
3103             \noexpand\Hy@PatchLanguageShorthands
3104           \the\toks0 %
3105           \let\noexpand\languageshorthands
3106             \noexpand\HyOrg@languageshorthands
3107         }%
3108       \endgroup
3109     }%
3110   }{}%
3111 }{}

3112 \ifHy@figures
3113   \Hy@Info{Hyper figures ON}%
3114 \else
3115   \Hy@Info{Hyper figures OFF}%
3116 \fi
3117 \ifHy@nesting
3118   \Hy@Info{Link nesting ON}%

```

```

3119 \else
3120   \Hy@Info{Link nesting OFF}%
3121 \fi
3122 \ifHy@hyperindex
3123   \Hy@Info{Hyper index ON}%
3124 \else
3125   \Hy@Info{Hyper index OFF}%
3126 \fi
3127 \ifHy@plainpages
3128   \Hy@Info{Plain pages ON}%
3129 \else
3130   \Hy@Info{Plain pages OFF}%
3131 \fi
3132 \ifHy@backref
3133   \Hy@Info{Backreferencing ON}%
3134 \else
3135   \Hy@Info{Backreferencing OFF}%
3136 \fi
3137 \ifHy@typexml
3138   \AtEndOfPackage{%
3139     \RequirePackage{color}%
3140     \RequirePackage{nameref}%
3141   }%
3142 \fi
3143 \Hy@DisableOption{typexml}
3144 \ifHy@implicit
3145   \typeout{Implicit mode ON; LaTeX internals redefined}%
3146 \else
3147   \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3148   \def\MaybeStopEarly{%
3149     \typeout{Hyperref stopped early}%
3150     \AfterBeginDocument{%
3151       \PDF@FinishDoc
3152       \gdef\PDF@FinishDoc{}%
3153     }%
3154     \endinput
3155   }%
3156   \AtBeginDocument{%
3157     \let\autoref\ref
3158     \let\autopageref\pageref
3159     \ifx\pdfpagemode\@empty
3160       \gdef\pdfpagemode{UseNone}%
3161     \fi
3162     \global\Hy@backreffalse
3163   }%
3164   \AtEndOfPackage{%
3165     \global\let\ReadBookmarks\relax
3166     \global\let\WriteBookmarks\relax
3167   }%
3168 \fi
3169 \Hy@DisableOption{implicit}

```

15.3.1 Driver loading

```

3170 \AtEndOfPackage{%
3171   \@ifpackageloaded{tex4ht}{%
3172     \def\Hy@driver{htex4ht}%

```

```

3173 \Hy@texhttrue
3174 }{}%

```

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.

```

3175 \ifx\Hy@driver\@empty
3176 \else
3177 \def\Hy@temp{hpdftex}%
3178 \ifpdf
3179 \ifx\Hy@driver\Hy@temp
3180 \else
3181 \Hy@WarningNoLine{%
3182 Wrong driver '\Hy@driver.def';\MessageBreak
3183 pdfTeX is running in PDF mode.\MessageBreak
3184 Forcing driver '\Hy@temp.def'%
3185 }%
3186 \let\Hy@driver\Hy@temp
3187 \fi
3188 \else
3189 \ifx\Hy@driver\Hy@temp
3190 \Hy@WarningNoLine{%
3191 Wrong driver '\Hy@driver.def';\MessageBreak
3192 pdfTeX is not running in PDF mode.\MessageBreak
3193 Using default driver%
3194 }%
3195 \let\Hy@driver\@empty
3196 \fi
3197 \fi
3198 \fi
3199 \ifx\Hy@driver\@empty
3200 \else
3201 \def\Hy@temp{hdvipdfm}%
3202 \ifxetex
3203 \ifx\Hy@driver\Hy@temp
3204 \else
3205 \Hy@WarningNoLine{%
3206 Wrong driver '\Hy@driver.def';\MessageBreak
3207 XeTeX is running.\MessageBreak
3208 Forcing driver '\Hy@temp.def' for XeTeX%
3209 }%
3210 \let\Hy@driver\Hy@temp
3211 \fi
3212 \fi
3213 \fi
3214 \ifx\Hy@driver\@empty
3215 \else
3216 \def\Hy@temp{hvtexhtm}%
3217 \ifvtexhtml
3218 \ifx\Hy@driver\Hy@temp
3219 \else
3220 \Hy@WarningNoLine{%
3221 Wrong driver '\Hy@driver.def';\MessageBreak
3222 VTeX is running in HTML mode.\MessageBreak
3223 Forcing driver '\Hy@temp.def'%
3224 }%
3225 \let\Hy@driver\Hy@temp
3226 \fi
3227 \else

```

```

3228     \ifx\Hy@driver\Hy@temp
3229     \Hy@WarningNoLine{%
3230         Wrong driver '\Hy@driver.def';\MessageBreak
3231         VTeX is not running in HTML mode.\MessageBreak
3232         Using default driver%
3233     }%
3234     \let\Hy@driver\@empty
3235 \fi
3236 \fi
3237 \fi

```

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

```

3238 \ifx\Hy@driver\@empty
3239 \providecommand*{\Hy@defaultdriver}{hypertex}%
3240 \ifpdf
3241 \def\Hy@driver{hpdfTeX}%
3242 \else
3243 \ifxetex
3244 \def\Hy@driver{hdvipdfm}%
3245 \else
3246 \ifvtexhtml
3247 \def\Hy@driver{hvtexhtm}%
3248 \def\MaybeStopEarly{%
3249 \typeout{Hyperref stopped early}%
3250 \AfterBeginDocument{%
3251 \PDF@FinishDoc
3252 \gdef\PDF@FinishDoc{}%
3253 }%
3254 \endinput
3255 }%
3256 \else
3257 \ifvtexpdf
3258 \def\Hy@driver{hvtex}%
3259 \else
3260 \ifvtexps
3261 \def\Hy@driver{hvtex}%
3262 \else
3263 \let\Hy@driver\Hy@defaultdriver
3264 \fi
3265 \fi
3266 \fi
3267 \fi
3268 \fi
3269 \ifx\Hy@driver\Hy@defaultdriver
3270 \def\Hy@temp{hdwind}%
3271 \ifx\Hy@temp\Hy@driver
3272 \setkeys{Hyp}{colorlinks}%
3273 \PassOptionsToPackage{dviwindo}{color}%
3274 \fi
3275 \fi
3276 \typeout{*hyperref using default driver \Hy@driver*}%
3277 \else
3278 \typeout{*hyperref using driver \Hy@driver*}%
3279 \fi
3280 \input{\Hy@driver.def}%
3281 \let\@unprocessedoptions\relax
3282 \Hy@RestoreCatcodes
3283 }

```

```

3284 \newif\ifHy@DvipdfmxOutlineOpen
3285 \begingroup\expandafter\expandafter\endgroup
3286 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3287 \else
3288   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3289     \Hy@DvipdfmxOutlineOpen>true
3290   \fi
3291 \fi
3292 \Hy@DisableOption{tex4ht}
3293 \Hy@DisableOption{pdftex}
3294 \Hy@DisableOption{nativepdf}
3295 \Hy@DisableOption{dvipdfm}
3296 \Hy@DisableOption{dvipdfmx}
3297 \Hy@DisableOption{dvipdfmx-outline-open}
3298 \Hy@DisableOption{pdfmark}
3299 \Hy@DisableOption{dvips}
3300 \Hy@DisableOption{hypertex}
3301 \Hy@DisableOption{vtex}
3302 \Hy@DisableOption{vtexpdfmark}
3303 \Hy@DisableOption{dviwindo}
3304 \Hy@DisableOption{dvipsone}
3305 \Hy@DisableOption{textures}
3306 \Hy@DisableOption{latex2html}
3307 \Hy@DisableOption{ps2pdf}
3308 \Hy@DisableOption{xetex}
3309 \AtEndOfPackage{%
3310   \Hy@DisableOption{pdfversion}%
3311 }

```

15.3.2 Bookmarks

```

3312 \def\WriteBookmarks{0}
3313 \def\@bookmarkopenstatus#1{%
3314   \ifHy@bookmarksopen

```

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

```

3315     \ifnum#1<\expandafter\@firstofone\expandafter
3316       {\number\@bookmarkopenlevel} % explicit space
3317   \else
3318     -%
3319   \fi
3320 \else
3321   -%
3322 \fi
3323 }
3324 \ifHy@bookmarks
3325   \Hy@Info{Bookmarks ON}%
3326   \ifx\@pdfpagemode\@empty
3327     \def\@pdfpagemode{UseOutlines}%
3328   \fi
3329 \else
3330   \def\@bookmarkopenstatus#1{%
3331     \Hy@Info{Bookmarks OFF}%
3332     \AtEndOfPackage{%
3333       \global\let\ReadBookmarks\relax
3334       \global\let\WriteBookmarks\relax
3335     }%
3336   \ifx\@pdfpagemode\@empty

```

```

3337 \def\@pdfpagemode{UseNone}%
3338 \fi
3339 \fi
3340 \Hy@DisableOption{bookmarks}

```

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

```

3341 \def\Hy@CatcodeWrapper#1{%
3342   \def\Hy@EndWrap{}%
3343   \def\TMP@EnsureCode##1##2{%
3344     \edef\Hy@EndWrap{%
3345       \Hy@EndWrap
3346       \catcode##1 \the\catcode##1\relax
3347     }%
3348     \catcode##1 ##2\relax
3349   }%
3350   \TMP@EnsureCode{10}{12}% ^^J
3351   \TMP@EnsureCode{33}{12}% !
3352   \TMP@EnsureCode{34}{12}% "
3353   \TMP@EnsureCode{36}{3}% $ (math)
3354   \TMP@EnsureCode{38}{4}% & (alignment)
3355   \TMP@EnsureCode{39}{12}% '
3356   \TMP@EnsureCode{40}{12}% (
3357   \TMP@EnsureCode{41}{12}% )
3358   \TMP@EnsureCode{42}{12}% *
3359   \TMP@EnsureCode{43}{12}% +
3360   \TMP@EnsureCode{44}{12}% ,
3361   \TMP@EnsureCode{45}{12}% -
3362   \TMP@EnsureCode{46}{12}% .
3363   \TMP@EnsureCode{47}{12}% /
3364   \TMP@EnsureCode{58}{12}% :
3365   \TMP@EnsureCode{59}{12}% ;
3366   \TMP@EnsureCode{60}{12}% <
3367   \TMP@EnsureCode{61}{12}% =
3368   \TMP@EnsureCode{62}{12}% >
3369   \TMP@EnsureCode{63}{12}% ?
3370   \TMP@EnsureCode{91}{12}% [
3371   \TMP@EnsureCode{93}{12}% ]
3372   \TMP@EnsureCode{94}{7}% ^ (superscript)
3373   \TMP@EnsureCode{95}{8}% _ (subscript)
3374   \TMP@EnsureCode{96}{12}% '
3375   \TMP@EnsureCode{124}{12}% |
3376   \TMP@EnsureCode{126}{13}% ~ (active)
3377   #1\relax
3378   \Hy@EndWrap
3379 }

```

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

```

3380 \AtBeginDocument{%
3381   \ifHy@ocgcolorlinks
3382     \setkeys{Hyp}{colorlinks}%
3383     \ifHy@pdfa
3384       \Hy@Warning{%
3385         PDF/A: Optional Content Groups are prohibited,\MessageBreak
3386         using 'colorlinks' instead of 'ocgcolorlinks'%
3387       }%
3388       \Hy@ocgcolorlinksfalse
3389     \fi
3390   \fi

```

```

3391 \ifHy@ocgcolorlinks
3392 \else
3393   \Hy@DisableOption{ocgcolorlinks}%
3394 \fi
3395 \ifHy@colorlinks
3396   \def\@pdfborder{0 0 0}%
3397   \let\@pdfborderstyle\@empty
3398   \ifHy@typexml
3399   \else
3400     \Hy@CatcodeWrapper{%
3401       \RequirePackage{color}%
3402     }%
3403   \fi
3404   \def\Hy@colorlink#1{%
3405     \begingroup
3406     \HyColor@UseColor#1%
3407   }%
3408   \def\Hy@endcolorlink{\endgroup}%
3409   \Hy@Info{Link coloring ON}%
3410 \else
3411   \ifHy@frenchlinks
3412     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3413     \def\Hy@endcolorlink{\endgroup}%
3414     \Hy@Info{French linking ON}%
3415   \else
for grouping consistency:
3416     \def\Hy@colorlink#1{\begingroup}%
3417     \def\Hy@endcolorlink{\endgroup}%
3418     \Hy@Info{Link coloring OFF}%
3419   \fi
3420 \fi
3421 \Hy@DisableOption{colorlinks}%
3422 \Hy@DisableOption{frenchlinks}%
3423 \ifHy@texht
3424   \long\def\@firstoffive#1#2#3#4#5{#1}%
3425   \long\def\@secondoffive#1#2#3#4#5{#2}%
3426   \long\def\@thirdoffive#1#2#3#4#5{#3}%
3427   \long\def\@fourthoffive#1#2#3#4#5{#4}%
3428   \long\def\@fifthoffive#1#2#3#4#5{#5}%
3429   \providecommand*\@safe@activetrue{}%
3430   \providecommand*\@safe@activesfalse{}%
3431   \def\T@ref#1{%
3432     \Hy@safe@activetrue
3433     \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3434     \Hy@safe@activesfalse
3435   }%
3436   \def\T@pageref#1{%
3437     \Hy@safe@activetrue
3438     \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3439     \Hy@safe@activesfalse
3440   }%
3441 \else
3442   \ifHy@typexml
3443   \else
3444     \Hy@CatcodeWrapper{%
3445       \RequirePackage{nameref}%
3446     }%

```

```

3447 \fi
3448 \fi
3449 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3450 \DeclareRobustCommand\pageref{%
3451 \@ifstar\@pagerefstar\T@pageref
3452 }%
3453 }
3454 \AfterBeginDocument{%
3455 \ifHy@texht
3456 \else
3457 \Hy@CatcodeWrapper{%
3458 \ReadBookmarks
3459 }%
3460 \fi
3461 }
3462 \ifHy@backref
3463 \RequirePackage{backref}%
3464 \else
3465 \let\Hy@backout\@gobble
3466 \fi
3467 \Hy@DisableOption{backref}
3468 \Hy@DisableOption{pagebackref}
3469 \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.

```

3470 \begingroup
3471 \endlinechar=-1 %
3472 \catcode'\^^A=14 %
3473 \catcode'\^^M\active
3474 \catcode'\%\active
3475 \catcode'\#\active
3476 \catcode'\_\active
3477 \catcode'\$\active
3478 \catcode'\&\active
3479 \gdef\hyper@normalise{^^A
3480 \begingroup
3481 \catcode'\^^M\active
3482 \def^^M{ }^^A
3483 \catcode'\%\active
3484 \let%\@percentchar
3485 \let\%\@percentchar
3486 \catcode'\#\active
3487 \def#{\hyper@hash}^^A
3488 \def\#{\hyper@hash}^^A
3489 \@makeother\&^^A
3490 \edef&{\string&}^^A
3491 \edef\&{\string&}^^A
3492 \edef\textunderscore{\string_}^^A
3493 \let\_ \textunderscore

```

```

3494 \catcode'\_active
3495 \let\_textunderscore
3496 \let~\hyper@tilde
3497 \let\~\hyper@tilde
3498 \let\textasciitilde\hyper@tilde
3499 \let\\\@backslashchar
3500 \edef$\string$^^A
3501 \Hy@safe@activetrue
3502 \hyper@n@rmalise
3503 }^^A
3504 \catcode'\#=6 ^^A
3505 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3506 \gdef\hyper@n@rmalise#1#2{^^A
3507 \def\Hy@tempa{#2}^^A
3508 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3509 \Hy@ReturnAfterElseFi{^^A
3510 \hyper@@normalise{#1}^^A
3511 }^^A
3512 \else
3513 \Hy@ReturnAfterFi{^^A
3514 \hyper@@normalise{#1}{#2}^^A
3515 }^^A
3516 \fi
3517 }^^A
3518 \gdef\hyper@@normalise#1#2{^^A
3519 \edef\Hy@tempa{^^A
3520 \endgroup
3521 \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
3522 }^^A
3523 \Hy@tempa
3524 }^^A
3525 \gdef\Hy@RemovePercentCr#1%\^^M#2\@nil{^^A
3526 #1^^A
3527 \ifx\limits#2\limits
3528 \else
3529 \Hy@ReturnAfterFi{^^A
3530 \Hy@RemovePercentCr #2\@nil
3531 }^^A
3532 \fi
3533 }^^A
3534 \endgroup
3535 \providecommand*\hyper@chars{%
3536 \let#\hyper@hash
3537 \let%\@percentchar
3538 \Hy@safe@activetrue
3539 }
3540 \def\hyperlink#1#2{%
3541 \hyper@link{#1}{#2}%
3542 }
3543 \DeclareRobustCommand*\href{%
3544 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3545 }
3546 \def\Hy@href#1{%
3547 \hyper@normalise\href@
3548 }
3549 \begingroup
3550 \catcode'\$=6 %

```

```

3551 \catcode'\#=12 %
3552 \gdef\href$1{\expandafter\href@split$1##\}%
3553 \gdef\href@split$1#$2#$3\{\%
3554     \hyper@@link{$1}{$2}%
3555 }%
3556 \endgroup

```

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

```

3557 \RequirePackage{url}
3558 \let\HyOrg@url\url
3559 \def\Hurl{\begingroup \Url}
3560 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
3561 \def\nolinkurl@#1{\Hurl{#1}}
3562 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3563 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
3564 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3565 \providecommand\hyper@image[2]{#2}
3566 \def\hypertarget#1#2{%
3567     \ifHy@nesting
3568         \hyper@@anchor{#1}{#2}%
3569     \else
3570         \hyper@@anchor{#1}{\relax}#2%
3571     \fi
3572 }

```

`\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.

```

3573 \DeclareRobustCommand*\hyperref{\%
3574     \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3575 }
3576 \def\Hy@babelnormalise#1[#2]{%
3577     \begingroup
3578         \Hy@safe@activestrue
3579         \edef\Hy@tempa{%
3580             \endgroup
3581             \noexpand#1[#2]}%
3582     }%
3583     \Hy@tempa
3584 }
3585 \def\@hyperref{\hyper@normalise\@hyperref}
3586 \def\@hyperref#1#2#3{%
3587     \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
3588     \expandafter\tryhyper@link\ref@one\{#1}%
3589 }
3590 \def\tryhyper@link#1\#2{%
3591     \hyper@@link{#2}{#1}%
3592 }
3593 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}}
3594 \def\@hyperdef#1#2#3{%, category, name, text
3595     \ifHy@nesting
3596         \hyper@@anchor{#1.#2}{#3}%
3597     \else

```

```

3598 \hyper@@anchor{#1.#2}{\relax}#3%
3599 \fi
3600 }

```

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

```

3601 \def\label@hyperref[#1]{%
3602 \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
3603 }%
3604 \def\label@@hyperref#1#2#3{%
3605 \ifx#1\relax
3606 \protect\G@refundefinedtrue
3607 \latex@warning{%
3608 Hyper reference ‘#2’ on page \thepage \space undefined%
3609 }%
3610 \hyper@@link{}{??}{#3}%
3611 \else
3612 \hyper@@link{\expandafter\@fifthoffive#1}%
3613 {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3614 \fi
3615 }
3616 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3617 % anchor text
3618 \@bspack
3619 \if@filesw
3620 \protected@write\@auxout{%
3621 {\string\newlabel{#1}{#2}{#3}{#4}}%
3622 \fi
3623 \@espack
3624 \ifHy@nesting
3625 \hyper@@anchor{#2.#3}{#4}%
3626 \else
3627 \hyper@@anchor{#2.#3}{\relax}#4%
3628 \fi
3629 }

```

17 Underlying basic hypertext macros

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

```

3630 \def\hyper@@link{\let\Hy@reserved@a\relax
3631 \ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
3632 }
3633 \def\hyper@link@[#1]#2#3#4{%
3634 \begingroup
3635 \protected@edef\Hy@tempa{#2}%
3636 \Hy@safe@activestrue
3637 \edef\x{#3}%
3638 \ifx\Hy@tempa\@empty
3639 \toks0{\hyper@link{#1}}%
3640 \else
3641 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3642 \fi
3643 \toks2{%

```

```

3644     \Hy@safe@activesfalse
3645     #4%
3646   }%
3647   \edef\Hy@tempa{\the\toks2}%
3648   \edef\x{\endgroup
3649     \ifx\Hy@tempa\@empty
3650       \noexpand\Hy@Warning{Suppressing empty link}%
3651     \else
3652       \the\toks0 {\x}{\the\toks2}%%
3653     \fi
3654   }%
3655   \x
3656 }

```

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.

```

3657 \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.

```

3658   \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
3659 }

```

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

```

3660 \def\@pdftempwordfile{file}%
3661 \def\@pdftempwordrun{run}%
3662 \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 :

```

3663   \ifx\#6\%
3664     \expandafter\@hyper@linkfile file:#7\{#3}{#2}%
3665   \else
3666     \ifx\#4\%
3667       \expandafter\@hyper@linkfile file:#7\{#3}{#2}%
3668     \else

```

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

```

3669     \def\@pdftempa{#4}%
3670     \ifx\@pdftempa\@pdftempwordfile
3671       \expandafter\@hyper@linkfile#7\{#3}{#2}%
3672     \else

```

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

```

3673      \ifx\@pdftempa\@pdftempwordrun
3674      \ifHy@pdfa
3675      \PackageError{hyperref}{%
3676        PDF/A: Launch action is prohibited%
3677      }\@ehc
3678      \begingroup
3679      \leavevmode
3680      #2%
3681      \endgroup
3682      \else
3683      \expandafter\@hyper@launch#7\{#3}{#2}%
3684      \fi
3685      \else

```

otherwise its a URL

```

3686      \hyper@linkurl{#3}{#7\ifx\#2\\\else\hyper@hash#2\fi}%
3687      \fi
3688      \fi
3689      \fi
3690      \fi
3691  }

```

By default, turn run: into file:

```

3692 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
3693   \hyper@linkurl{#2}{%
3694     \Hy@linkfileprefix
3695     #1%
3696     \ifx\#3\\%
3697     \else
3698       \hyper@hash
3699       #3%
3700     \fi
3701   }%
3702 }

```

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

```

3703 \def\@hyper@linkfile file:#1\#2#3{%
3704   %file url,link string, name
3705   \filename@parse{#1}%
3706   \ifx\filename@ext\relax
3707     \edef\filename@ext{\XR@ext}%
3708   \fi
3709   \def\use@file{\filename@area\filename@base.\filename@ext}%
3710   \ifx\filename@ext\XR@ext
3711     \hyper@linkfile{#2}{\use@file}{#3}%
3712   \else
3713     \ifx\@baseurl\@empty
3714       \hyper@linkurl{#2}{%
3715         \Hy@linkfileprefix\use@file\ifx\#3\\\else\hyper@hash#3\fi
3716       }%
3717     \else
3718       \hyper@linkurl{#2}{\use@file\ifx\#3\\\else\hyper@hash#3\fi}%
3719     \fi
3720   \fi
3721 }

```

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.

```

3722 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3723 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3724   \ifx\#1\%
3725     #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3726   \else
3727     \def\anchor@spot{#2#3}%
3728     \let\put@me@back\@empty
3729     \ifx\relax#2\relax
3730     \else
3731       \ifHy@nesting
3732       \else
3733         \ifcat a\noexpand#2\relax
3734         \else
3735           \ifcat O\noexpand#2 \relax
3736           \else
3737             \typeout{Anchor start is not alphanumeric %
3738             on input line\the\inputlineno%
3739             }%
3740             \let\anchor@spot\@empty
3741             \def\put@me@back{#2#3}%
3742           \fi
3743         \fi
3744       \fi
3745     \fi
3746     \ifHy@activeanchor
3747       \anchor@spot
3748     \else
3749       \hyper@anchor{#1}%
3750     \fi
3751     \expandafter\put@me@back
3752   \fi
3753   \let\anchor@spot\@empty
3754 }
```

18 Compatibility with the *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.

```

3755 \let\htmladding\hyperimage
3756 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3757 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3758 \def\htmlref#1#2{% anchor text, label
3759   \label@hyperref[{#2}]{#1}%
3760 }
```

This is really too much. The \LaTeX html 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.

```

3761 \def\@@latextohtmlX{%
3762   \let\hhyperref\hyperref
3763   \def\hyperref##1##2##3##4{% anchor text for HTML
3764                               % text to print before label in print
3765                               % label
3766                               % post-label text in print
3767     ##2\ref{##4}##3%
3768   }%
3769 }
```

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.

```

3770 \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
3771 \def\HyField@NewFlag#1#2{%
3772   \lowercase{\HyField@NewOption{#2}}%
3773   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3774 }
```

```

\HyField@NewFlagOnly
3775 \def\HyField@NewFlagOnly#1#2{%
3776   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3777 }
```

```

\HyField@NewOption #1: option name
3778 \def\HyField@NewOption#1{%
3779   \expandafter\newif\csname ifFld@#1\endcsname
3780   \define@key{Field}{#1}[true]{%
3781     \lowercase{\Field@boolkey{##1}}{#1}%
3782   }%
3783 }
```

```

\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

```
3784 \def\HyField@NewBitsetFlag#1#2#3#4{%
3785   \begingroup
3786     \count@=#4\relax
3787     \advance\count@\m@ne
3788     \def\x##1{%
3789       \endgroup
3790       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
3791       \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
3792         \expandafter\edef\csname HyField@#3@##1\endcsname{%
3793           (\number#4) #2%
3794         }%
3795       \else
3796         \expandafter\edef\csname HyField@#3@##1\endcsname{%
3797           \csname HyField@#3@##1\endcsname
3798           /#2%
3799         }%
3800       \fi
3801     }%
3802   \expandafter\x\expandafter{\the\count@}%
3803 }
```

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

```
3804 \def\HyField@UseFlag#1#2{%
3805   \lowercase{\HyField@@UseFlag{#2}}{#1}%
3806 }
```

\HyField@@UseFlag

```
3807 \def\HyField@@UseFlag#1#2{%
3808   \bitsetSetValue{HyField@#2}{%
3809     \csname HyField@#2@#1\endcsname
3810   }{%
3811     \csname ifFld@#1\endcsname 1\else 0\fi
3812   }%
3813 }
```

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

```
3814 \def\HyField@SetFlag#1#2{%
3815   \lowercase{\HyField@@SetFlag{#2}}{#1}%
3816 }
```

\HyField@@SetFlag

```
3817 \def\HyField@@SetFlag#1#2{%
3818   \bitsetSetValue{HyField@#2}{%
3819     \csname HyField@#2@#1\endcsname
3820   }{1}%
3821 }
```

\HyField@PrintFlags

```
3822 \def\HyField@PrintFlags#1#2{%
3823   \ifHy@verbose
3824     \begingroup
3825       \let\Hy@temp\@empty
3826       \let\MessageBreak\relax
3827       \expandafter\@for\expandafter\x\expandafter:\expandafter=%
```

```

3828     \bitsetGetSetBitList{HyField@#1}\do{%
3829     \edef\Hy@temp{%
3830     \Hy@temp
3831     \csname HyField@#1@\x\endcsname\MessageBreak
3832     }%
3833     }%
3834 \edef\x{\endgroup
3835 \noexpand\Hy@Info{%
3836     Field flags: %
3837     \expandafter\ifx\@car#1\@nil S\else/\fi
3838     #1 %
3839     \bitsetGetDec{HyField@#1} %
3840     (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
3841     \Hy@temp
3842     for #2%
3843     }%
3844     }\x
3845 \fi
3846 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

3847 \HyField@NewFlag{Ff}{ReadOnly}{1}
3848 \HyField@NewFlag{Ff}{Required}{2}
3849 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

3850 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
3851 \HyField@NewFlag{Ff}{Radio}{16}
3852 \HyField@NewFlag{Ff}{Pushbutton}{17}
3853 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

3854 \HyField@NewFlag{Ff}{Multiline}{13}
3855 \HyField@NewFlag{Ff}{Password}{14}
3856 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
3857 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3858 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
3859 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
3860 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

3861 \HyField@NewFlag{Ff}{Combo}{18}
3862 \HyField@NewFlag{Ff}{Edit}{19}
3863 \HyField@NewFlag{Ff}{Sort}{20}
3864 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
3865 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3866 \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.

```

3867 \newif\ifFld@popdown
3868 \define@key{Field}{popdown}[true]{%
3869 \lowercase{\Field@boolkey{#1}}{popdown}%
3870 }

```

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.

```

3871 \HyField@NewFlag{F}{Invisible}{1}
3872 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
3873 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
3874 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
3875 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
3876 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
3877 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
3878 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
3879 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

3880 \ifHy@pdfa
3881   \def\HyField@PDFAFIWarning#1#2{%
3882     \Hy@Warning{%
3883       PDF/A: Annotation flag ‘#1’ must\MessageBreak
3884       be set to ‘#2’%
3885     }%
3886   }%
3887   \Fld@invisiblefalse
3888   \def\Fld@invisibletrue{%
3889     \HyField@PDFAFIWarning{invisible}{false}%
3890   }%
3891   \Fld@hiddenfalse
3892   \def\Fld@hiddentrue{%
3893     \HyField@PDFAFIWarning{hidden}{false}%
3894   }%
3895   \Fld@printtrue
3896   \def\Fld@printfalse{%
3897     \HyField@PDFAFIWarning{print}{true}%
3898   }%
3899   \Fld@nozoomtrue
3900   \def\Fld@nozoomfalse{%
3901     \HyField@PDFAFIWarning{nozoom}{true}%
3902   }%
3903   \Fld@norotatetrue
3904   \def\Fld@norotatefalse{%
3905     \HyField@PDFAFIWarning{norotate}{true}%
3906   }%
3907   \Fld@noviewfalse
3908   \def\Fld@noviewtrue{%
3909     \HyField@PDFAFIWarning{noview}{false}%
3910   }%
3911 \fi

```

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

```

3912 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
3913 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
3914 \HyField@NewFlag{Submit}{GetMethod}{4}
3915 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
3916 \HyField@NewFlagOnly{Submit}{XFDF}{6}
3917 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
3918 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
3919 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
3920 \HyField@NewFlag{Submit}{CanonicalFormat}{10}

```

```

3921 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
3922 \HyField@NewFlag{Submit}{ExclFKey}{12}
3923 \HyField@NewFlag{Submit}{EmbedForm}{14}

3924 \define@key{Field}{export}{%
3925   \lowercase{\def\Hy@temp{#1}}%
3926   \@ifundefined{Fld@export@\Hy@temp}{%
3927     \onelevel@sanitize\Hy@temp
3928     \PackageError{hyperref}{%
3929       Unknown export format '\Hy@temp'.\MessageBreak
3930       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
3931     }\@ehc
3932   }{%
3933     \let\Fld@export\Hy@temp
3934   }%
3935 }
3936 \def\Fld@export{fdf}
3937 \@namedef{Fld@export@fdf}{0}%
3938 \@namedef{Fld@export@html}{1}%
3939 \@namedef{Fld@export@xfdf}{2}%
3940 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

3941 \def\HyField@FlagsSubmit{%
3942   \bitsetReset{HyField@Submit}%
3943   \ifcase\@nameuse{Fld@export@\Fld@export} %
3944     % FDF
3945     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3946     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3947     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
3948     \HyField@UseFlag{Submit}{IncludeAnnotations}%
3949     \HyField@UseFlag{Submit}{CanonicalFormat}%
3950     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
3951     \HyField@UseFlag{Submit}{ExclFKey}%
3952     \HyField@UseFlag{Submit}{EmbedForm}%
3953   \or % HTML
3954     \HyField@SetFlag{Submit}{ExportFormat}%
3955     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3956     \HyField@UseFlag{Submit}{GetMethod}%
3957     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3958     \HyField@UseFlag{Submit}{CanonicalFormat}%
3959   \or % XFDF
3960     \HyField@SetFlag{Submit}{XFDF}%
3961     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3962     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3963     \HyField@UseFlag{Submit}{CanonicalFormat}%
3964   \or % PDF
3965     \HyField@SetFlag{Submit}{SubmitPDF}%
3966     \HyField@UseFlag{Submit}{GetMethod}%
3967   \fi
3968   \HyField@PrintFlags{Submit}{submit button field}%
3969   \bitsetIsEmpty{HyField@Submit}{%
3970     \def\Fld@submitflags{%
3971     }{%
3972     \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
3973   }%

```

```
3974 }
```

19.1.3 Set annot flags in fields

`\HyField@FlagsAnnot`

```
3975 \def\HyField@FlagsAnnot#1{%
3976   \bitsetReset{HyField@F}%
3977   \HyField@UseFlag{F}{Invisible}%
3978   \HyField@UseFlag{F}{Hidden}%
3979   \HyField@UseFlag{F}{Print}%
3980   \HyField@UseFlag{F}{NoZoom}%
3981   \HyField@UseFlag{F}{NoRotate}%
3982   \HyField@UseFlag{F}{NoView}%
3983   \HyField@UseFlag{F}{Locked}%
3984   \HyField@UseFlag{F}{ToggleNoView}%
3985   \HyField@UseFlag{F}{LockedContents}%
3986   \HyField@PrintFlags{F}{#1}%
3987   \bitsetIsEmpty{HyField@F}{%
3988     \def\Fld@annotflags{%
3989     }{%
3990       \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
3991     }%
3992 }
```

19.1.4 Pushbutton field

`\HyField@FlagsPushButton`

```
3993 \def\HyField@FlagsPushButton{%
3994   \HyField@FlagsAnnot{push button field}%
3995   \bitsetReset{HyField@Ff}%
3996   \HyField@UseFlag{Ff}{ReadOnly}%
3997   \HyField@UseFlag{Ff}{Required}%
3998   \HyField@UseFlag{Ff}{NoExport}%
3999   \HyField@SetFlag{Ff}{PushButton}%
4000   \HyField@PrintFlags{Ff}{push button field}%
4001   \bitsetIsEmpty{HyField@Ff}{%
4002     \def\Fld@flags{%
4003     }{%
4004       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4005     }%
4006 }
```

19.1.5 Check box field

`\HyField@FlagsCheckBox`

```
4007 \def\HyField@FlagsCheckBox{%
4008   \HyField@FlagsAnnot{check box field}%
4009   \bitsetReset{HyField@Ff}%
4010   \HyField@UseFlag{Ff}{ReadOnly}%
4011   \HyField@UseFlag{Ff}{Required}%
4012   \HyField@UseFlag{Ff}{NoExport}%
4013   \HyField@PrintFlags{Ff}{check box field}%
4014   \bitsetIsEmpty{HyField@Ff}{%
4015     \def\Fld@flags{%
4016     }{%
4017       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%

```

```

4018 }%
4019 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

4020 \def\HyField@FlagsRadioButton{%
4021   \HyField@FlagsAnnot{radio button field}%
4022   \bitsetReset{HyField@Ff}%
4023   \HyField@UseFlag{Ff}{ReadOnly}%
4024   \HyField@UseFlag{Ff}{Required}%
4025   \HyField@UseFlag{Ff}{NoExport}%
4026   \HyField@UseFlag{Ff}{NoToggleToOff}%
4027   \HyField@SetFlag{Ff}{Radio}%
4028   \HyField@UseFlag{Ff}{RadiosInUnison}%
4029   \HyField@PrintFlags{Ff}{radio button field}%
4030   \bitsetIsEmpty{HyField@Ff}{%
4031     \def\Fld@flags{%
4032     }{%
4033     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4034     }%
4035   }

```

19.1.7 Text fields

\HyField@FlagsText

```

4036 \def\HyField@FlagsText{%
4037   \HyField@FlagsAnnot{text field}%
4038   \bitsetReset{HyField@Ff}%
4039   \HyField@UseFlag{Ff}{ReadOnly}%
4040   \HyField@UseFlag{Ff}{Required}%
4041   \HyField@UseFlag{Ff}{NoExport}%
4042   \HyField@UseFlag{Ff}{Multiline}%
4043   \HyField@UseFlag{Ff}{Password}%
4044   \HyField@UseFlag{Ff}{FileSelect}%
4045   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4046   \HyField@UseFlag{Ff}{DoNotScroll}%
4047   \ifFld@comb
4048     \ifcase0\ifFld@multiline
4049       \else\ifFld@password
4050       \else\ifFld@fileselect
4051       \else 1\fi\fi\fi\relax
4052     \PackageError{hyperref}{%
4053       Field option ‘comb’ cannot used together with\MessageBreak
4054       ‘multiline’, ‘password’, or ‘fileselect’%
4055     }\@ehc
4056   \else
4057     \HyField@UseFlag{Ff}{Comb}%
4058   \fi
4059 \fi
4060 \HyField@UseFlag{Ff}{RichText}%
4061 \HyField@PrintFlags{Ff}{text field}%
4062 \bitsetIsEmpty{HyField@Ff}{%
4063   \def\Fld@flags{%
4064   }{%
4065     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%

```

```

4066 }%
4067 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

4068 \def\HyField@FlagsChoice{%
4069   \HyField@FlagsAnnot{choice field}%
4070   \bitsetReset{HyField@Ff}%
4071   \HyField@UseFlag{Ff}{ReadOnly}%
4072   \HyField@UseFlag{Ff}{Required}%
4073   \HyField@UseFlag{Ff}{NoExport}%
4074   \HyField@UseFlag{Ff}{Combo}%
4075   \ifFld@combo
4076     \HyField@UseFlag{Ff}{Edit}%
4077   \fi
4078   \HyField@UseFlag{Ff}{Sort}%
4079   \HyField@UseFlag{Ff}{MultiSelect}%
4080   \ifFld@combo
4081     \ifFld@edit
4082       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4083     \fi
4084   \fi
4085   \HyField@UseFlag{Ff}{CommitOnSelChange}%
4086   \HyField@PrintFlags{Ff}{choice field}%
4087   \bitsetIsEmpty{HyField@Ff}{%
4088     \def\Fld@flags{%
4089     }{%
4090     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4091     }%
4092 }

```

19.2 Choice field

4093 \RequirePackage{kvsetkeys}[2007/09/29]

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

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

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

```

4094 \def\HyField@PDFChoices#1{%
4095   \begingroup
4096     \gdef\Fld@choices{%
4097     \def\HyTmp@optlist{%
4098       \let\HyTmp@optitem\relax
4099       \count@=0 %
4100       \kv@parse{#1}{%
4101         \Hy@pdfstringdef\kv@key\kv@key
4102         \ifx\kv@value\relax
4103           \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4104             \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4105           \else
4106             \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4107           \fi
4108         \else
4109           \Hy@pdfstringdef\kv@value\kv@value
4110           \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@value)]}%
4111         \fi

```

```

4112 \edef\HyTmp@optlist{%
4113 \HyTmp@optlist
4114 \HyTmp@optitem{\the\count@}{\kv@key}0%
4115 }%
4116 \advance\count@ by 1 %
4117 \@gobbletwo
4118 }%
4119 \xdef\Fld@choices{/Opt[\Fld@choices]}%
4120 \ifFld@multiselect
4121 \HyField@@PDFChoices{DV}\Fld@default
4122 \HyField@@PDFChoices{V}\Fld@value
4123 \else
4124 \ifx\Fld@default\relax
4125 \else
4126 \pdfstringdef\Hy@gtemp\Fld@default
4127 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4128 \fi
4129 \ifx\Fld@value\relax
4130 \else
4131 \pdfstringdef\Hy@gtemp\Fld@value
4132 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4133 \fi
4134 \fi
4135 \endgroup
4136 }

```

\HyField@@PDFChoices

```

4137 \def\HyField@@PDFChoices#1#2{%
4138 \ifx#2\relax
4139 \else
4140 \count@=0 %
4141 \def\HyTmp@optitem##1##2##3{%
4142 \def\HyTmp@key{##2}%
4143 \ifx\HyTmp@key\Hy@gtemp
4144 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4145 \HyTmp@optlist
4146 \HyTmp@optitem{##1}-{##2}1%
4147 }%
4148 \let\HyTmp@found=Y%
4149 \else
4150 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4151 \HyTmp@optlist
4152 \HyTmp@optitem{##1}-{##2}##3%
4153 }%
4154 \fi
4155 }%
4156 \expandafter\comma@parse\expandafter{#2}{%
4157 \pdfstringdef\Hy@gtemp\comma@entry
4158 \let\HyTmp@found=N %
4159 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4160 \HyTmp@optlist
4161 \ifx\HyTmp@found Y%
4162 \advance\count@ by 1 %
4163 \else
4164 \@onelevel@sanitize\comma@entry
4165 \PackageWarning{hyperref}{%
4166 \string\ChoiceBox: Ignoring value '\comma@entry',%

```

```

4167         \MessageBreak
4168         it cannot be found in the choices%
4169     }%
4170 \fi
4171 \@gobble
4172 }%
4173 \def\HyTmp@optitem##1##2##3{%
4174     \ifnum##3=1 %
4175         (##2)%
4176     \fi
4177 }%
4178 \ifcase\count@
4179 \or
4180     \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4181 \else
4182     \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4183 \ifx#1V%
4184     \def\HyTmp@optitem##1##2##3{%
4185         \ifnum##3=1 %
4186             \@firstofone{ ##1}%
4187         \fi
4188     }%
4189     \edef\HyTmp@optlist{\HyTmp@optlist}%
4190     \xdef\Fld@choices{%
4191         \Fld@choices
4192         /I[\expandafter\@firstofone\HyTmp@optlist]}%
4193     }%
4194 \fi
4195 \fi
4196 \fi
4197 }

```

19.3 Forms

\HyField@SetKeys

```

4198 \def\HyField@SetKeys{%
4199     \setkeys{Field}%
4200 }

4201 \newif\ifFld@checked
4202 \newif\ifFld@disabled
4203 \Fld@checkedfalse
4204 \Fld@disabledfalse
4205 \newcount\Fld@menulength
4206 \newdimen\Fld@Width
4207 \newdimen\Fld@charsize
4208 \Fld@charsize=10\p@
4209 \def\Fld@maxlen{0}
4210 \def\Fld@align{0}
4211 \def\Fld@color{0 0 0 rg}
4212 \def\Fld@bcolor{1 1 1}
4213 \def\Fld@bordercolor{1 0 0}
4214 \def\Fld@bordersep{1\p@}
4215 \def\Fld@borderwidth{1}
4216 \def\Fld@borderstyle{S}
4217 \def\Fld@cbsymbol{4}
4218 \def\Fld@rotation{0}

```

```

4219 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4220 \def\endForm{\@endForm}
4221 \newif\ifForm@html
4222 \Form@htmlfalse
4223 \def\Form@boolkey#1#2{%
4224   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4225 }
4226 \define@key{Form}{action}{%
4227   \hyper@normalise\Hy@DefFormAction{#1}%
4228 }
4229 \def\Hy@DefFormAction{\def\Form@action}
4230 \def\enc@html{html}
4231 \define@key{Form}{encoding}{%
4232   \def\Hy@tempa{#1}%
4233   \ifx\Hy@tempa\enc@html
4234     \Form@htmltrue
4235     \def\Fld@export{html}%
4236   \else
4237     \typeout{hyperref: form 'encoding' key set to #1 %
4238       -- unknown type%
4239     }%
4240     \Form@htmlfalse
4241   \fi
4242 }
4243 \define@key{Form}{method}{%
4244   \lowercase{\def\Hy@temp{#1}}%
4245   \@ifundefined{Form@method@\Hy@temp}{%
4246     \@onelevel@sanitize\Hy@temp
4247     \PackageError{hyperref}{%
4248       Unknown method '\Hy@temp'.\MessageBreak
4249       Known values are 'post' and 'get'%
4250     }\@ehc
4251   }{%
4252     \let\Form@method\Hy@temp
4253     \ifcase\@nameuse{Form@method@\Hy@temp} %
4254       \Fld@getmethodfalse
4255     \else
4256       \Fld@getmethodtrue
4257     \fi
4258   }%
4259 }
4260 \def\Form@method{}
4261 \@namedef{Form@method@post}{0}
4262 \@namedef{Form@method@get}{1}
4263 \def\Field@boolkey#1#2{%
4264   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4265 }
4266 \newtoks\Field@toks
4267 \Field@toks={ }%
4268 \def\Field@addtoks#1#2{%
4269   \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
4270   \@processme
4271 }
4272 \def\Fld@checkequals#1=#2=#3\\{%
4273   \def\@currDisplay{#1}%
4274   \ifx\@#2\\%
4275     \def\@currValue{#1}%

```

```

4276 \else
4277     \def\@currValue{#2}%
4278 \fi
4279 }
4280 \define@key{Field}{loc}{%
4281     \def\Fld@loc{#1}%
4282 }
4283 \define@key{Field}{checked}[true]{%
4284     \lowercase{\Field@boolkey{#1}}{checked}%
4285 }
4286 \define@key{Field}{disabled}[true]{%
4287     \lowercase{\Field@boolkey{#1}}{disabled}%
4288 }
4289 \define@key{Field}{accesskey}{%
4290     \Field@addtoks{accesskey}{#1}%
4291 }
4292 \define@key{Field}{tabkey}{%
4293     \Field@addtoks{tabkey}{#1}%
4294 }
4295 \define@key{Field}{name}{%
4296     \def\Fld@name{#1}%
4297 }
4298 \define@key{Field}{width}{%
4299     \def\Fld@width{#1}%
4300     \Field@Width#1\setbox0=\hbox{m}%
4301 }
4302 \define@key{Field}{maxlen}{%
4303     \def\Fld@maxlen{#1}%
4304 }
4305 \define@key{Field}{menulength}{%
4306     \Fld@menulength=#1\relax
4307 }
4308 \define@key{Field}{height}{%
4309     \def\Fld@height{#1}%
4310 }
4311 \define@key{Field}{charsize}{%
4312     \Fld@charsize#1%
4313 }
4314 \define@key{Field}{borderwidth}{%
4315     \def\Fld@borderwidth{#1}%
4316 }
4317 \define@key{Field}{borderstyle}{%
4318     \def\Fld@borderstyle{#1}%
4319 }
4320 \define@key{Field}{bordersep}{%
4321     \def\Fld@bordersep{#1}%
4322 }
4323 \define@key{Field}{default}{%
4324     \def\Fld@default{#1}%
4325 }
4326 \define@key{Field}{align}{%
4327     \def\Fld@align{#1}%
4328 }
4329 \define@key{Field}{value}{%
4330     \def\Fld@value{#1}%
4331 }
4332 \define@key{Field}{checkboxsymbol}{%

```

```

4333 \def\Fld@cbsymbol{#1}%
4334 }

4335 \define@key{Field}{rotation}{%
4336 \def\Fld@rotation{#1}%
4337 }

4338 \define@key{Field}{backgroundcolor}{%
4339 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4340 }
4341 \define@key{Field}{bordercolor}{%
4342 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4343 }
4344 \define@key{Field}{color}{%
4345 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4346 }

4347 \def\Fld@format@code{}
4348 \def\Fld@validate@code{}
4349 \def\Fld@calculate@code{}
4350 \def\Fld@keystroke@code{}
4351 \def\Fld@onfocus@code{}
4352 \def\Fld@onblur@code{}
4353 \def\Fld@onmousedown@code{}
4354 \def\Fld@onmouseup@code{}
4355 \def\Fld@onenter@code{}
4356 \def\Fld@onexit@code{}
4357 \def\Hy@temp#1{%
4358 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4359 }
4360 \def\Hy@@temp#1#2{%
4361 \ifHy@pdfa
4362 \define@key{Field}{#2}{%
4363 \PackageError{hyperref}{%
4364 PDF/A: Additional action ‘#2’ is prohibited%
4365 }\@ehc
4366 }%
4367 \else
4368 \define@key{Field}{#2}{%
4369 \def#1{##1}%
4370 }%
4371 \fi
4372 }
4373 \Hy@temp{keystroke}
4374 \Hy@temp{format}
4375 \Hy@temp{validate}
4376 \Hy@temp{calculate}
4377 \Hy@temp{onfocus}
4378 \Hy@temp{onblur}
4379 \Hy@temp{onenter}
4380 \Hy@temp{onexit}
4381 \def\Hy@temp#1{%
4382 \define@key{Field}{#1}{%
4383 \Fld@addtoks{#1}{##1}%
4384 }%
4385 }
4386 \Hy@temp{onselect}
4387 \Hy@temp{onchange}
4388 \Hy@temp{ondblclick}

```

```

4389 \Hy@temp{onmousedown}
4390 \Hy@temp{onmouseup}
4391 \Hy@temp{onmouseover}
4392 \Hy@temp{onmousemove}
4393 \Hy@temp{onmouseout}
4394 \Hy@temp{onkeypress}
4395 \Hy@temp{onkeydown}
4396 \Hy@temp{onkeyup}
4397 \ifHy@pdfa
4398   \define@key{Field}{onclick}{%
4399     \PackageError{hyperref}{%
4400       PDF/A: Action 'onclick' is prohibited%
4401     }\@ehc
4402   }%
4403 \else
4404   \define@key{Field}{onclick}{%
4405     \def\Fld@onclick{#1}%
4406     \Field@addtoks{onclick}{#1}%
4407   }%
4408 \fi

4409 \DeclareRobustCommand\TextField{%
4410   \@ifnextchar[{\@TextField}{\@TextField[]}%
4411 }
4412 \DeclareRobustCommand\ChoiceMenu{%
4413   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4414 }
4415 \DeclareRobustCommand\CheckBox{%
4416   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4417 }
4418 \DeclareRobustCommand\PushButton{%
4419   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4420 }
4421 \DeclareRobustCommand\Gauge{%
4422   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4423 }
4424 \DeclareRobustCommand\Submit{%
4425   \@ifnextchar[{\@Submit}{\@Submit[]}%
4426 }
4427 \DeclareRobustCommand\Reset{%
4428   \@ifnextchar[{\@Reset}{\@Reset[]}%
4429 }
4430 \def\LayoutTextField#1#2{% label, field
4431   #1 #2%
4432 }
4433 \def\LayoutChoiceField#1#2{% label, field
4434   #1 #2%
4435 }
4436 \def\LayoutCheckField#1#2{% label, field
4437   #1 #2%
4438 }
4439 \def\LayoutPushButtonField#1{% button
4440   #1%
4441 }
4442 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4443 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4444 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4445 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}

```

```

4446 \def\MakeButtonField#1{%
4447   \sbox0{%
4448     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4449   }%
4450   \@tempdima\ht0 %
4451   \advance\@tempdima by \Fld@borderwidth bp %
4452   \advance\@tempdima by \Fld@borderwidth bp %
4453   \ht0\@tempdima
4454   \@tempdima\dp0 %
4455   \advance\@tempdima by \Fld@borderwidth bp %
4456   \advance\@tempdima by \Fld@borderwidth bp %
4457   \dp0\@tempdima
4458   \box0\relax
4459 }
4460 \def\DefaultHeightofSubmit{14pt}
4461 \def\DefaultWidthofSubmit{2cm}
4462 \def\DefaultHeightofReset{14pt}
4463 \def\DefaultWidthofReset{2cm}
4464 \def\DefaultHeightofCheckBox{\baselineskip}
4465 \def\DefaultWidthofCheckBox{\baselineskip}
4466 \def\DefaultHeightofChoiceMenu{\baselineskip}
4467 \def\DefaultWidthofChoiceMenu{\baselineskip}
4468 \def\DefaultHeightofText{\baselineskip}
4469 \def\DefaultHeightofTextMultiline{4\baselineskip}
4470 \def\DefaultWidthofText{3cm}
4471 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4472 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4473 \def\DefaultOptionsofPushButton{print}
4474 \def\DefaultOptionsofCheckBox{print}
4475 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

4476 \def\DefaultOptionsofListBox{print}
4477 \def\DefaultOptionsofComboBox{print,edit,sort}
4478 \def\DefaultOptionsofPopdownBox{print}
4479 \def\DefaultOptionsofRadio{print,notoggletooft}

```

20 Setup

```

4480 \ifHy@figures
4481   \Hy@Info{Hyper figures ON}%
4482 \else
4483   \Hy@Info{Hyper figures OFF}%
4484 \fi
4485 \ifHy@nesting
4486   \Hy@Info{Link nesting ON}%
4487 \else
4488   \Hy@Info{Link nesting OFF}%
4489 \fi
4490 \ifHy@hyperindex
4491   \Hy@Info{Hyper index ON}%
4492 \else
4493   \Hy@Info{Hyper index OFF}%
4494 \fi
4495 \ifHy@backref
4496   \Hy@Info{backreferencing ON}%
4497 \else

```

```

4498 \Hy@Info{backreferencing OFF}%
4499 \fi
4500 \ifHy@colorlinks
4501 \Hy@Info{Link coloring ON}%
4502 \else
4503 \Hy@Info{Link coloring OFF}%
4504 \fi
4505 \ifHy@ocgcolorlinks
4506 \Hy@Info{Link coloring with OCG ON}%
4507 \else
4508 \Hy@Info{Link coloring with OCG OFF}%
4509 \fi
4510 \ifHy@pdfa
4511 \Hy@Info{PDF/A mode ON}%
4512 \else
4513 \Hy@Info{PDF/A mode OFF}%
4514 \fi

```

21 Low-level utility macros

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

```

4515 \edef\hyper@hash{\string#}
4516 \edef\hyper@tilde{\string~}
4517 \edef\hyper@quote{\string"}
4518 \let\@currentHref\@empty
4519 \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.

```

4520 \AfterBeginDocument{%
4521 \Hy@pdfstringtrue
4522 \PDF@SetupDoc
4523 \let\PDF@SetupDoc\@empty
4524 \Hy@DisableOption{pdfpagescrop}%
4525 \Hy@DisableOption{pdfpagemode}%
4526 \Hy@DisableOption{pdfnonfullscreenpagemode}%
4527 \Hy@DisableOption{pdfdirection}%
4528 \Hy@DisableOption{pdfviewarea}%
4529 \Hy@DisableOption{pdfviewclip}%
4530 \Hy@DisableOption{pdfprintarea}%
4531 \Hy@DisableOption{pdfprintclip}%
4532 \Hy@DisableOption{pdfprintscaling}%
4533 \Hy@DisableOption{pdfduplex}%
4534 \Hy@DisableOption{pdfpicktraybypdfsize}%
4535 \Hy@DisableOption{pdfprintpagerange}%
4536 \Hy@DisableOption{pdfnumcopies}%
4537 \Hy@DisableOption{pdfstartview}%
4538 \Hy@DisableOption{pdfstartpage}%
4539 \Hy@DisableOption{pdftoolbar}%
4540 \Hy@DisableOption{pdfmenubar}%
4541 \Hy@DisableOption{pdfwindowui}%
4542 \Hy@DisableOption{pdfwindow}%
4543 \Hy@DisableOption{pdfcenterwindow}%
4544 \Hy@DisableOption{pdfdisplaydoctitle}%
4545 \Hy@DisableOption{pdfpagelayout}%
4546 \Hy@DisableOption{pdflang}%
4547 \Hy@DisableOption{baseurl}%

```

```

4548 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4549 \Hy@pdfstringfalse
4550 }

```

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.

```

4551 \def\NoHyper{%
4552   \def\hyper@link@{##1}##2##3##4{##4}%
4553   \def\hyper@@anchor##1{%
4554     \global\let\hyper@livelink\hyper@link
4555     \gdef\hyper@link##1##2##3{##3}%
4556     \def\hyper@anchorstart##1{%
4557       \let\hyper@anchorend\@empty
4558       \def\hyper@linkstart##1##2{%
4559         \let\hyper@linkend\@empty
4560         \def\hyper@linkurl##1##2{##1}%
4561         \def\hyper@linkfile##1##2##3{##1}%
4562         \def\hyper@link@{##1}##2##3{%
4563           \let\Hy@backout\@gobble
4564         }
4565       \def\stop@hyper{%
4566         \def\hyper@link@{##1}##2##3##4{##4}%
4567         \let\Hy@backout\@gobble
4568         \def\hyper@@anchor##1{%
4569           \def\hyper@link##1##2##3{##3}%
4570           \def\hyper@anchorstart##1{%
4571             \let\hyper@anchorend\@empty
4572             \def\hyper@linkstart##1##2{%
4573               \let\hyper@linkend\@empty
4574               \def\hyper@linkurl##1##2{##1}%
4575               \def\hyper@linkfile##1##2##3{##1}%
4576               \def\hyper@link@{##1}##2##3{%
4577             }
4578           \def\endNoHyper{%
4579             \global\let\hyper@link\hyper@livelink
4580           }
4581         }

```

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:

```

4582 \nohyperref
4583 \let\hyper@@anchor\@gobble
4584 \def\hyper@link##1##2##3{##3}%
4585 \let\hyper@anchorstart\@gobble

```

```

4586 \let\hyper@anchorend\@empty
4587 \let\hyper@linkstart\@gobbletwo
4588 \let\hyper@linkend\@empty
4589 \def\hyper@linkurl#1#2{#1}%
4590 \def\hyper@linkfile#1#2#3{#1}%
4591 \def\hyper@link@{#1}#2#3{#1}%
4592 \let\PDF@SetupDoc\@empty
4593 \let\PDF@FinishDoc\@empty
4594 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

4595 \def\Acrobatmenu#1#2{\leavevmode#2}
4596 \let\pdfstringdefDisableCommands\@gobbletwo
4597 \let\texorpdfstring\@firstoftwo
4598 \let\pdfbookmark\@undefined
4599 \newcommand\pdfbookmark[3][]{\{}
4600 \let\phantomsection\@empty
4601 \let\hypersetup\@gobble
4602 \let\hyperbaseurl\@gobble
4603 \let\href\@gobble
4604 \let\hyperdef\@gobbletwo
4605 \let\hyperlink\@gobble
4606 \let\hypertarget\@gobble
4607 \def\hyperref{%
4608   \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4609 }
4610 \long\def\@gobbleopt[#1]{\{}
4611 \let\hyperpage\@empty
4612 \</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}

```

4613 \*package>
4614 \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.

```

4615 \if@filesw
4616   \ifHy@typexml
4617     \immediate\closeout\@mainaux
4618     \immediate\openout\@mainaux\jobname.aux\relax
4619     \immediate\write\@auxout{<relaxxml>\relax}%
4620   \fi
4621   \immediate\write\@auxout{%
4622     \string\ifx\string\hyper@anchor\string\@undefined^^J%
4623     \global\let\string\oldcontentsline\string\contentsline^^J%
4624     \gdef\string\contentsline%
4625       \string#1\string#2\string#3\string#4{%
4626       \string\oldcontentsline%
4627       {\string#1}{\string#2}{\string#3}}^^J%
4628     \global\let\string\oldnewlabel\string\newlabel^^J%
4629     \gdef\string\newlabel\string#1\string#2{%

```

```

4630         \string\newlabelxx{\string#1}\string#2}^^J%
4631     \gdef\string\newlabelxx%
4632         \string#1\string#2\string#3\string#4\string#5\string#6{%
4633         \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.

```

4634         \string\AtEndDocument{%
4635         \let\string\contentsline\string\oldcontentsline^^J%
4636         \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.

```

4637     \string\else^^J%
4638     \global\let\string\hyper@last\relax^^J%
4639     \string\fi^^J%
4640 }%
4641 \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.

```

4642 \ifx\hyper@last\@undefined
4643 \def\@starttoc#1{%
4644 \begingroup
4645 \makeatletter
4646 \IfFileExists{\jobname.#1}{%
4647 \Hy@WarningNoLine{%
4648 old #1 file detected, not used; run LaTeX again%
4649 }%
4650 }{}%
4651 \if@filesw
4652 \expandafter\newwrite\csname tf@#1\endcsname
4653 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4654 \fi
4655 \@nobreakfalse
4656 \endgroup
4657 }%
4658 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
4659 \fi
4660 }

```

25 Title strings

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

```

4661 \ifHy@usetitle
4662 \let\HyOrg@title\title
4663 \let\HyOrg@author\author
4664 \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
4665 \def\Hy@scanopttitle[#1]{%
4666 \gdef\Hy@title{#1}%
4667 \HyOrg@title[#1]}%
4668 }%

```

```

4669 \def\Hy@scantitle#1{%
4670   \gdef\Hy@title{#1}%
4671   \HyOrg@title{#1}%
4672 }%
4673 \def\author{\ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4674 \def\Hy@scanoptauthor[#1]{%
4675   \gdef\Hy@author{#1}%
4676   \HyOrg@author[{#1}]%
4677 }%
4678 \def\Hy@scanauthor#1{%
4679   \gdef\Hy@author{#1}%
4680   \HyOrg@author{#1}%
4681 }%

```

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.

```

4682 \begingroup
4683   \def\process@me#1\@nil#2{%
4684     \expandafter\let\expandafter\x\csname @#2\endcsname
4685     \edef\y{\expandafter\strip@prefix\meaning\x}%
4686     \def\c##1##2\@nil{%
4687       \ifx\\##1\\%
4688         \else
4689           \expandafter\gdef\csname Hy@#2\expandafter\endcsname
4690             \expandafter{\x}%
4691         \fi
4692       }%
4693       \expandafter\c\y\relax#1\@nil
4694     }%
4695     \expandafter\process@me\string\@latex@\@nil{title}%
4696     \expandafter\process@me\string\@latex@\@nil{author}%
4697   \endgroup
4698 \fi
4699 \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.

```

4700 \def\Hy@UseMaketitleString#1{%
4701   \@ifundefined{Hy@#1}{\}%
4702   \begingroup
4703     \let\Hy@sav@hook\pdfstringdefPreHook
4704     \pdfstringdefDisableCommands{%
4705       \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
4706       \let\newline\\%
4707     }%
4708     \expandafter\ifx\csname @pdf#1\endcsname\@empty
4709       \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4710         \csname Hy@#1\endcsname\@empty
4711       }%
4712     \fi

```

```

4713     \global\let\pdfstringdefPreHook\Hy@saved@hook
4714     \endgroup
4715 }%
4716 }
4717 \def\Hy@newline@title#1{ #1}
4718 \def\Hy@newline@author#1{, #1}
4719 \def\Hy@UseMaketitleInfos{%
4720   \Hy@UseMaketitleString{title}%
4721   \Hy@UseMaketitleString{author}%
4722 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

4723 \RequirePackage{atbegshi}[2007/09/09]
4724 \def\Hy@EveryPageHook{}
4725 \def\Hy@EveryPageBoxHook{}
4726 \def\Hy@FirstPageHook{}
4727 \AtBeginShipout{%
4728   \Hy@EveryPageHook
4729   \ifx\Hy@EveryPageBoxHook\@empty
4730   \else
4731     \setbox\AtBeginShipoutBox=\vbox{%
4732       \offinterlineskip
4733       \Hy@EveryPageBoxHook
4734       \box\AtBeginShipoutBox
4735     }%
4736   \fi
4737 }
4738 \AtBeginShipoutFirst{%
4739   \Hy@FirstPageHook
4740 }
4741 \g@addto@macro\Hy@FirstPageHook{%
4742   \PDF@FinishDoc
4743   \gdef\PDF@FinishDoc{}%
4744 }

```

27.1 PDF /PageLabels

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

```

4745 \ifHy@pagelabels
4746   \begingroup\expandafter\expandafter\expandafter\endgroup
4747   \expandafter\ifx\csname thepage\endcsname\relax
4748     \Hy@pagelabelsfalse
4749     \Hy@WarningNoLine{%
4750       Option 'pdfpagelabels' is turned off\MessageBreak
4751       because \string\thepage\space is undefined%
4752     }%
4753     \csname fi\endcsname
4754     \csname iffalse\expandafter\endcsname
4755   \fi

```

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

```
4756 \def\thispdfpagelabel#1{%
4757   \gdef\HyPL@thisLabel{#1}%
4758 }%
4759 \global\let\HyPL@thisLabel\relax
```

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

```
4760 \def\HyPL@Labels{%
```

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

```
4761 \newcount\Hy@abspage
4762 \Hy@abspage=0 %
```

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

```
4763 \def\HyPL@LastType{init}%
4764 \def\HyPL@LastNumber{0}%
4765 \def\HyPL@LastPrefix{%
```

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

```
4766 \def\HyPL@arabic{D}%
4767 \def\HyPL@Roman{R}%
4768 \def\HyPL@roman{r}%
4769 \def\HyPL@Alph{A}%
4770 \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.

```
4771 \def\HyPL@EveryPage{%
4772   \begingroup
4773   \ifx\HyPL@thisLabel\relax
4774     \let\HyPL@page\thepage
4775   \else
4776     \let\HyPL@page\HyPL@thisLabel
4777     \global\let\HyPL@thisLabel\relax
4778   \fi
4779   \let\HyPL@Type\relax
4780   \ifnum\the\c@page>0 %
4781     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4782   \fi
4783   \let\Hy@temp Y%
4784   \ifx\HyPL@Type\HyPL@LastType
4785   \else
4786     \let\Hy@temp N%
4787   \fi
4788   \ifx\HyPL@Type\relax
4789     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4790   \else
4791     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4792   \fi
4793   \ifx\HyPL@Prefix\HyPL@LastPrefix
4794   \else
4795     \let\Hy@temp N%
4796   \fi
4797   \if Y\Hy@temp
4798     \advance\c@page by -1 %
4799     \ifnum\HyPL@LastNumber=\the\c@page\relax
```

```

4800     \else
4801         \let\Hy@temp N%
4802     \fi
4803     \Hy@StepCount\c@page
4804 \fi
4805 \if N\Hy@temp
4806     \ifx\HyPL@Type\relax
4807         \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
4808     \else
4809         \HyPL@StorePageLabel{%
4810             \ifx\HyPL@Prefix\@empty
4811             \else
4812                 /P(\HyPL@Prefix)%
4813             \fi
4814             /S/\csname HyPL\HyPL@Type\endcsname
4815             \ifnum\the\c@page=1 %
4816             \else
4817                 \space/St \the\c@page
4818             \fi
4819         }%
4820     \fi
4821 \fi
4822 \xdef\HyPL@LastNumber{\the\c@page}%
4823 \global\let\HyPL@LastType\HyPL@Type
4824 \global\let\HyPL@LastPrefix\HyPL@Prefix
4825 \endgroup
4826 \Hy@GlobalStepCount\Hy@abspage
4827 }%

```

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

```

4828 \def\HyPL@CheckThePage#1\@nil{%
4829     \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
4830 }%

```

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

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

```

4831 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4832     \def\Hy@tempa{#4}%
4833     \def\Hy@tempb{\csname\endcsname\c@page}%
4834     \ifx\Hy@tempa\Hy@tempb
4835         \expandafter\ifx\csname HyPL#3\endcsname\relax
4836     \else
4837         \def\HyPL@Type{#3}%
4838         \def\HyPL@Prefix{#2}%
4839     \fi
4840 \else
4841     \begingroup
4842         \let\Hy@next\endgroup
4843         \let\HyPL@found\@undefined
4844         \def\arabic{\HyPL@Format{arabic}}%
4845         \def\Roman{\HyPL@Format{Roman}}%
4846         \def\roman{\HyPL@Format{roman}}%
4847         \def\Alph{\HyPL@Format{Alph}}%
4848         \def\alph{\HyPL@Format{alph}}%
4849         \protected@edef\Hy@temp{#1}%

```

```

4850      \ifx\HyPL@found\relax
4851      \toks@{\expandafter{\Hy@temp}}%
4852      \edef\Hy@next{\endgroup
4853      \noexpand\HyPL@@@CheckThePage\the\toks@
4854      \noexpand\HyPL@found\relax\noexpand\@nil
4855      }%
4856      \fi
4857      \Hy@next
4858      \fi
4859      }%

```

\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`.

```

4860      \def\HyPL@Format#1#2{%
4861      \ifx\HyPL@found\@undefined
4862      \expandafter\ifx\csname c@#2\endcsname\c@page
4863      \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
4864      \else
4865      \expandafter\noexpand\csname#1\endcsname{#2}%
4866      \fi
4867      \else
4868      \expandafter\noexpand\csname#1\endcsname{#2}%
4869      \fi
4870      }%

```

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

```

4871      \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
4872      \def\Hy@tempa{#3}%
4873      \def\Hy@tempb{\HyPL@found\relax}%
4874      \ifx\Hy@tempa\Hy@tempb
4875      \def\HyPL@Type{#2}%
4876      \def\HyPL@Prefix{#1}%
4877      \fi
4878      }%

```

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

```

4879      \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`.

```

4880      \def\HyPL@Useless{0<</S/D>>}%
4881      \@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.

```

4882      \def\HyPL@SetPageLabels{%
4883      \@onelevel@sanitize\HyPL@Labels
4884      \ifx\HyPL@Labels\@empty
4885      \else
4886      \ifx\HyPL@Labels\HyPL@Useless
4887      \else
4888      \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
4889      \fi
4890      \fi
4891      }%

```

```

4892 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
4893 \fi

```

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

```

4894 \Hy@DisableOption{pdfpagelabels}
4895 \endpackage

```

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

```

4896 \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.

```

4897 \*vTeX
4898 \providecommand*{\XR@ext}{pdf}
4899 \edef\Hy@VTeXversion{%
4900   \ifx\VTeXversion\undefined
4901     \z@
4902   \else
4903     \ifx\VTeXversion\relax
4904       \z@
4905     \else
4906       \VTeXversion
4907     \fi
4908   \fi
4909 }
4910 \begingroup
4911   \ifnum\Hy@VTeXversion<660 %
4912     \gdef\Hy@PutCatalog#1{%
4913       \Hy@WarningNoLine{%
4914         VTeX 6.59g or above required for pdfpagelabels%
4915       }%
4916     }%
4917   \else
4918     \gdef\Hy@PutCatalog#1{%
4919       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
4920     }%
4921     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
4922       \ifx\#2\%
4923         \else
4924           \immediate\special{!pdfpagelabels #2}%
4925         \fi
4926       }%
4927     \fi
4928 \endgroup
4929 \*vTeX
4930 \*pdfTeX | vTeX

```

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

```

4931 \ifHy@pagelabels

```

```

4932 \def\HyPL@StorePageLabel#1{%
4933   \toks@\expandafter{\HyPL@Labels}%
4934   \xdef\HyPL@Labels{%
4935     \the\toks@
4936     \the\Hy@abspage<<#1>>%
4937   }%
4938 }%

```

At the end of the document, \clearpage tries to make sure, that no further pages will follow. Then the PDF catalog entry for \PageLabels is set.

```

4939 \@ifclassloaded{revtex4}{%
4940   \g@addto@macro\clear@document{\HyPL@SetPageLabels}%
4941 }{%
4942   \AtEndDocument{\clearpage\HyPL@SetPageLabels}%
4943 }%
4944 \fi
4945 </pdfTeX | vTeX>

```

27.1.2 pdfmarkbase, dvipdfm

```

4946 <*pdfmarkbase>
4947 \begingroup
4948   \toks@\expandafter{\Hy@FirstPageHook}%
4949   \xdef\Hy@FirstPageHook{%
4950     \noexpand\headerps@out{%
4951       systemdict /pdfmark known%
4952       {%
4953         userdict /?pdfmark systemdict /exec get put%
4954       }{%
4955         userdict /?pdfmark systemdict /pop get put %
4956         userdict /pdfmark systemdict /cleartomark get put%
4957       }%
4958       ifelse%
4959     }%
4960     \the\toks@
4961   }%
4962 \endgroup
4963 </pdfmarkbase>

```

\Hy@PutCatalog

```

4964 <dvipdfm>\def\Hy@PutCatalog#1{\pdfmark{docview << #1 >>}}
4965 <*pdfmarkbase>
4966 \def\Hy@PutCatalog#1{%
4967   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
4968 }
4969 </pdfmarkbase>

4970 <*pdfmarkbase | dvipdfm>
4971 \ifHy@pagelabels

```

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

```

4972 \def\HyPL@StorePageLabel#1{%
4973   \if@filesw
4974     \begingroup
4975       \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
4976       \immediate\write\@mainaux{%
4977         \string\HyPL@Entry{\Hy@tempa}%

```

```

4978     }%
4979     \endgroup
4980     \fi
4981 }%

```

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.

```

4982 \AfterBeginDocument{%
4983     \if@filesw
4984         \immediate\write\@mainaux{%
4985             \string\providecommand\string*\string\HyPL@Entry[1]{}%
4986         }%
4987     \fi
4988     \ifx\HyPL@Labels\@empty
4989         \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
4990     \else
4991         \HyPL@SetPageLabels
4992     \fi
4993     \let\HyPL@Entry\@gobble
4994 }%

```

`\HyPL@Entry`

```

4995 \def\HyPL@Entry#1{%
4996     \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
4997         \HyPL@Labels
4998         #1%
4999     }%
5000 }%

5001 \fi
5002 </pdfmarkbase | dvipdfm>

5003 <*package>

5004 \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

```

5005 \def\Hy@CounterExists#1{%
5006     \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

5007 \expandafter\ifx\csname c@#1\endcsname\relax
5008 \expandafter\@gobble
5009 \else
5010 \begingroup\expandafter\expandafter\expandafter\endgroup
5011 \expandafter\ifx\csname the#1\endcsname\relax
5012 \expandafter\expandafter\expandafter\@gobble
5013 \else
5014 \expandafter\expandafter\expandafter\@firstofone
5015 \fi
5016 \fi
5017 }
5018 \Hy@CounterExists{section}{%
5019 \newcommand\theHequation{\theHsection.\arabic{equation}}%
5020 }
5021 \Hy@CounterExists{part}{%
5022 \newcommand\theHpart{\arabic{part}}%
5023 }
5024 \@ifundefined{thechapter}{%
5025 \newcommand\theHsection {\arabic{section}}%
5026 \newcommand\theHfigure {\arabic{figure}}%
5027 \newcommand\theHtable {\arabic{table}}%
5028 }{%
5029 \newcommand\theHchapter {\arabic{chapter}}%
5030 \newcommand\theHfigure {\theHchapter.\arabic{figure}}%
5031 \newcommand\theHtable {\theHchapter.\arabic{table}}%
5032 \newcommand\theHsection {\theHchapter.\arabic{section}}%
5033 }
5034 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
5035 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5036 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
5037 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
5038 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
5039 \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.

```

5040 \let\H@item\item
5041 \newcounter{Item}
5042 \def\theHItem{\arabic{Item}}
5043 \def\item{%
5044 \@hyper@itemfalse
5045 \if@nmbrlist\@hyper@itemtrue\fi
5046 \H@item
5047 }
5048 \newcommand\theHenumi {\theHItem}
5049 \newcommand\theHenumii {\theHItem}
5050 \newcommand\theHenumiii {\theHItem}
5051 \newcommand\theHenumiv {\theHItem}
5052 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5053 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5054 \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.

```

5055 \let\H@refstepcounter\refstepcounter
5056 \edef\name@of@eq{equation}%
5057 \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.

```

5058 \newif\if@hyper@item
5059 \newif\if@skiphyperref
5060 \@hyper@itemfalse
5061 \@skiphyperreffalse
5062 \def\refstepcounter#1{%
5063   \ifHy@pdfstring
5064   \else
5065     \H@refstepcounter{#1}%
5066     \edef\This@name{#1}%
5067     \ifx\This@name\name@of@slide
5068     \else
5069       \if@skiphyperref
5070       \else
5071         \if@hyper@item
5072         \stepcounter{Item}%
5073         \hyper@refstepcounter{Item}%
5074         \@hyper@itemfalse
5075       \else
5076         \hyper@refstepcounter{#1}%
5077       \fi
5078     \fi
5079   \fi
5080 \fi
5081 }

```

AMST_{EX} processes all equations twice; we want to make sure that the hyper stuff is not executed twice, so we use the AMS `\ifmeasuring@`, initialized if AMS math is not used.

```

5082 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@measuring@false}

```

`\hyper@refstepcounter`

```

5083 \def\hyper@refstepcounter#1{%
5084   \edef\This@name{#1}%
5085   \ifx\This@name\name@of@eq
5086     \@ifundefined{theHequation}{%
5087       \make@stripped@name{\theequation}%
5088       \let\theHequation\newname
5089     }{}%
5090   \fi
5091   \@ifundefined{theH#1}{%
5092     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5093   }{}%
5094   \hyper@makecurrent{#1}%
5095   \ifmeasuring@
5096   \else
5097     \Hy@raisedlink{%
5098       \hyper@anchorstart{\@currentHref}\hyper@anchorend
5099     }%
5100   \fi
5101 }

```

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`.

```

5102 \begingroup\expandafter\expandafter\expandafter\endgroup
5103 \expandafter\ifx\csname chapter\endcsname\relax
5104   \def\Hy@chapterstring{section}%
5105 \else
5106   \def\Hy@chapterstring{chapter}%
5107 \fi
5108 \def\Hy@appendixstring{appendix}
5109 \def\Hy@chapapp{\Hy@chapterstring}
5110 \let\HyOrg@appendix\appendix
5111 \def\appendix{%
5112   \ifundefined{chapter}%
5113     {\gdef\theHsection{\Alph{section}}}%
5114     {\gdef\theHchapter{\Alph{chapter}}}%
5115   \xdef\Hy@chapapp{\Hy@appendixstring}%
5116   \HyOrg@appendix
5117 }
```

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

```

5118 \def\hyper@makecurrent#1{%
5119   \begingroup
5120     \edef\Hy@param{#1}%
5121     \ifx\Hy@param\Hy@chapterstring
5122       \let\Hy@param\Hy@chapapp
5123     \fi
5124     \ifHy@hypertextnames
5125       \let\@number\@firstofone
5126       \ifundefined{latin@Alph}{-}{%
5127         \ifx\@Alph\greek@Alph
5128           \def\@Alph{Alph\@arabic}%
5129         \fi
5130       }%
5131       \ifx\@Alph\@Alph@bul
5132         \def\@Alph{Alph\@arabic}%
5133       \fi
5134       \ifx\@alph\@alph@bul
5135         \def\@alph{alph\@arabic}%
5136       \fi
5137       \ifHy@naturalnames
5138         \let\textlatin\@firstofone
5139         \xdef\@currentHlabel{\csname the#1\endcsname}%
5140       \else
5141         \xdef\@currentHlabel{\csname theH#1\endcsname}%
5142       \fi
5143       \xdef\@currentHref{%
5144         \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5145       }%
5146     \else
5147       \Hy@GlobalStepCount\Hy@linkcounter
5148       \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
5149     \fi

```

```

5150 \endgroup
5151 }

5152 \@ifpackageloaded{fancyvrb}{%
5153   \@ifpackagelater{fancyvrb}{1998/05/20}{-}{%
5154     \def\FV@StepLineNo{%
5155       \FV@SetLineNo
5156       \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5157       \FV@StepLineNo
5158     }%
5159   }%
5160 }{-}

```

29 Package lastpage support

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

`\lastpage@putlabel`

```

5161 \AtBeginDocument{%
5162   \@ifclassloaded{revtex4}{%
5163     \@namedef{ver@lastpage.sty}{1994/06/25}%
5164   }{-}%
5165   \@ifpackageloaded{lastpage}{%
5166     \ifHy@pageanchor
5167     \else
5168       \Hy@WarningNoLine{%
5169         The \string\pageref{LastPage} link doesn't work\MessageBreak
5170         with disabled option 'pageanchor'%
5171       }%
5172     \fi
5173     \def\lastpage@putlabel{%
5174       \addtocounter{page}{-1}%
5175       \if@files
5176         \begingroup
5177           \let\@number\@firstofone
5178           \ifHy@pageanchor
5179             \ifHy@hypertexnames
5180               \ifHy@plainpages
5181                 \def\Hy@temp{\arabic{page}}%
5182               \else
5183                 \Hy@unicodedefalse
5184                 \pdfstringdef\Hy@temp{\thepage}%
5185               \fi
5186             \else
5187               \def\Hy@temp{\the\Hy@pagecounter}%
5188             \fi
5189           \fi
5190         \immediate\write\@auxout{%
5191           \string\newlabel
5192             {LastPage}{-}{\thepage}{-}{%
5193               \ifHy@pageanchor page.\Hy@temp\fi}{-}}%

```

```

5194         }%
5195         \endgroup
5196     \fi
5197     \addtocounter{page}{1}%
5198 }%
5199 \@ifclassloaded{revtex4}{%
5200     \begingroup
5201     \toks@\expandafter{\lastpage@putlabel}%
5202     \edef\x{\endgroup
5203         \def\noexpand\lastpage@putlabel{%
5204             \noexpand\stepcounter{page}%
5205             \the\toks@
5206             \noexpand\addtocounter{page}\noexpand\m@ne
5207         }%
5208     }%
5209     \x
5210 }{}%
5211 }{}%
5212 }
5213 \</package>
5214 \<*check>
5215 \checkpackage{lastpage}[1994/06/25]
5216 \checkcommand\def\lastpage@putlabel{%
5217     \addtocounter{page}{-1}%
5218     \immediate\write\@auxout{%
5219         \string\newlabel{LastPage}{{}\{\thepage}}%
5220     }%
5221     \addtocounter{page}{1}%
5222 }
5223 \</check>
5224 \<*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.

```

5225 \def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
5226 \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:

```

5227 \@ifpackageloaded{titlesec}{%
5228     \def\ttl@Hy@steplink#1{%
5229         \Hy@GlobalStepCount\Hy@linkcounter
5230         \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5231         \def\ttl@Hy@saveanchor{%
5232             \Hy@raisedlink{%
5233                 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5234             }%
5235         }%
5236     }%

```

```

5237 \def\ttl@Hy@refstepcounter#1{%
5238   \let\ttl@b\Hy@raisedlink
5239   \def\Hy@raisedlink##1{%
5240     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5241   }%
5242   \refstepcounter{#1}%
5243   \let\Hy@raisedlink\ttl@b
5244 }%
5245 }{}

```

Package titletoc support:

```

5246 \@ifpackageloaded{titletoc}{%
5247   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5248 }{}

```

32 Package varioref support

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

```

5249 \def\Hy@varioref@undefined{???}{??}{-}{-}{-}
5250 \@ifpackageloaded{varioref}{%
5251   \def\vref@pagenum#1#2{%
5252     \@ifundefined{r@#2}{%
5253       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5254     }{}%
5255     \edef#1{\getpagerefnumber{#2}}%
5256   }%
5257 }{}

```

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

```

5258 \@ifpackageloaded{longtable}{%
5259   \begingroup
5260     \def\y{\LT@array}%
5261     \@ifundefined{scr@LT@array}{-}{\def\y{\scr@LT@array}}%
5262     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5263       \expandafter\endgroup
5264       \expandafter\def\y[##1]##2{%
5265         \H@refstepcounter{#1}%
5266         \hyper@makecurrent{table}%
5267         \let\Hy@LT@currentHlabel\@currentHlabel
5268         \let\Hy@LT@currentHref\@currentHref
5269         #2\@sharp####4%
5270       }%
5271     }%
5272     \expandafter\expandafter\expandafter\x\y[##1][##2]\@nil

```

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

```

5273 \begingroup
5274 \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%

```

```

5275 \endgroup
5276 \def\LT@start{%
5277   #1%
5278   \let\@currentHlabel\Hy@LT@currentHlabel
5279   \let\@currentHref\Hy@LT@currentHref
5280   \Hy@raisedlink{%
5281     \hyper@anchorstart{\@currentHref}\hyper@anchorend
5282   }%
5283   \ifvoid\LT@firsthead\copy
5284   #2%
5285   }%
5286 }%
5287 \expandafter\x\LT@start\@nil
5288 }{}

```

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.

```

5289 \let\new@refstepcounter\refstepcounter
5290 \let\H@equation\equation
5291 \let\H@endequation\endequation

5292 \@ifpackageloaded{amsmath}{%
5293   \long\def\Hy@temp{%
5294     \incr@eqnum
5295     \mathdisplay@push
5296     \st@rredfalse \global\@eqnswtrue
5297     \mathdisplay{equation}%
5298   }%
5299   \ifx\Hy@temp\equation
5300     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5301       \csname iftrue\endcsname
5302   \else
5303     \long\def\equation{%
5304       \mathdisplay@push
5305       \st@rredfalse \global\@eqnswtrue
5306       \mathdisplay{equation}%
5307       \incr@eqnum
5308     }%
5309   \fi
5310 \fi
5311 }{%
5312 \def\equation{%
5313   \let\refstepcounter\H@refstepcounter
5314   \H@equation
5315   \@ifundefined{theHequation}{%
5316     \make@stripped@name{\theequation}%
5317     \let\theHequation\newname
5318   }{}%
5319   \hyper@makecurrent{equation}%
5320   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5321   \let\refstepcounter\new@refstepcounter

```

```

5322 }%
5323 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5324 }

```

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.

```

5325 \newif\if@eqnstar
5326 \@eqnstarfalse
5327 \let\H@eqnarray\eqnarray
5328 \let\H@endeqnarray\endeqnarray
5329 \def\eqnarray{%
5330   \let\Hy@reserved@a\relax
5331   \def\@currentHref{}%
5332   \H@eqnarray
5333   \if@eqnstar
5334   \else
5335     \ifx\\ \@currentHref\\%
5336     \else
5337       \@ifundefined{theHequation}{%
5338         \make@stripped@name{\theequation}%
5339         \let\theHequation\newname
5340       }{}%
5341       \hyper@makecurrent{equation}%
5342       \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5343     \fi
5344   \fi
5345 }
5346 \def\endeqnarray{%
5347   \H@endeqnarray
5348 }

```

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.

```

5349 \@namedef{eqnarray*}{%
5350   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
5351 }
5352 \@namedef{endeqnarray*}{%
5353   \nonumber\endeqnarray\@eqnstarfalse
5354 }

```

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

```

5355 \@ifundefined{subeqnarray}{}{%
5356   \let\H@subeqnarray\subeqnarray
5357   \let\H@endsubeqnarray\endsubeqnarray
5358   \def\subeqnarray{%
5359     \let\Hy@reserved@a\relax
5360     \H@subeqnarray
5361     \@ifundefined{theHequation}{%
5362       \make@stripped@name{\theequation}%
5363       \let\theHequation\newname
5364     }{}%
5365     \hyper@makecurrent{equation}%
5366     \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5367   }%
5368   \def\endsubeqnarray{%

```

```

5369 \H@endsubeqnarray
5370 }%
5371 \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5372 }

```

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

```

5373 \def\make@stripped@name#1{%
5374 \begingroup
5375 \escapechar\m@ne
5376 \global\let\newname\@empty
5377 \protected@edef\Hy@tempa{#1}%
5378 \edef\@tempb{%
5379 \noexpand\@tfor\noexpand\Hy@tempa:=%
5380 \expandafter\strip@prefix\meaning\Hy@tempa
5381 }%
5382 \@tempb\do{%
5383 \if\Hy@tempa\else
5384 \if\Hy@tempa\else
5385 \xdef\newname{\newname\Hy@tempa}%
5386 \fi
5387 \fi
5388 }%
5389 \endgroup
5390 }

```

Support for amsmath's subequations:

```

5391 \begingroup\expandafter\expandafter\expandafter\endgroup
5392 \expandafter\ifx\csname subequations\endcsname\relax
5393 \else
5394 \let\HyOrg@subequations\subequations
5395 \def\subequations{%
5396 \stepcounter{equation}%
5397 \protected@edef\theHparentequation{%
5398 \@ifundefined{theHequation}\theequation\theHequation
5399 }%
5400 \addtocounter{equation}{-1}%
5401 \HyOrg@subequations
5402 \def\theHequation{\theHparentequation\alph{equation}}%
5403 \ignorespaces
5404 }%
5405 \fi

```

Support for package amsthm (Daniel Müllner):

```

5406 \@ifpackageloaded{amsthm}{%
5407 \def\@thm#1#2#3{%
5408 \ifhmode
5409 \unskip\unskip\par
5410 \fi
5411 \normalfont
5412 \trivlist
5413 \let\thmheadnl\relax
5414 \let\thm@swap\@gobble
5415 \thm@notefont{\fontseries\mddefault\upshape}%
5416 \thm@headpunct{.}% add period after heading
5417 \thm@headsep 5\p@ plus\p@ minus\p@\relax
5418 \thm@space@setup
5419 #1% style overrides
5420 \@topsep \thm@preskip % used by thm head

```

```

5421 \topsepadd \thm@postskip % used by \endparenv
5422 \def\dth@counter{#2}%
5423 \ifx\@empty\dth@counter
5424 \def\@tempa{%
5425 \oparg{\@begintheorem{#3}{}}[]%
5426 }%
5427 \else
5428 \H@refstepcounter{#2}%
5429 \hyper@makecurrent{#2}%
5430 \def\@tempa{%
5431 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
5432 }%
5433 \fi
5434 \@tempa
5435 }%
5436 \dth@everypar={%
5437 \minipagefalse
5438 \global\@newlistfalse
5439 \@nparitemfalse
5440 \if@inlabel
5441 \global\@inlabelfalse
5442 \begingroup
5443 \setbox\z@\lastbox
5444 \ifvoid\z@
5445 \kern-\itemindent
5446 \fi
5447 \endgroup
5448 \ifx\@empty\dth@counter
5449 \else
5450 \Hy@raisedlink{%
5451 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5452 }%
5453 \fi
5454 \unhbox\@labels
5455 \fi
5456 \if@nobreak
5457 \clubpenaltyfalse \clubpenalty\@M
5458 \else
5459 \clubpenalty\clubpenalty \everypar{%
5460 \fi
5461 }%
5462 }{}

```

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.

```

5463 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5464 \ifHy@hyperfootnotes
5465 \newcounter{Hfootnote}%
5466 \let\H@footnotetext\@footnotetext
5467 \let\H@footnotemark\@footnotemark
5468 \def\@xfootnotenext[#1]{%

```

```

5469 \begingroup
5470 \csname c@\@mpfn\endcsname #1\relax
5471 \unrestored@protected@xdef\@thefnmark{\thempfn}%
5472 \endgroup
5473 \ifx\@footnotetext\@mpfootnotetext
5474 \expandafter\H@\@mpfootnotetext
5475 \else
5476 \expandafter\H@\@footnotetext
5477 \fi
5478 }%
5479 \def\@xfootnotemark[#1]{%
5480 \begingroup
5481 \c@footnote #1\relax
5482 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5483 \endgroup
5484 \H@\@footnotemark
5485 }%
5486 \let\H@\@mpfootnotetext\@mpfootnotetext
5487 \long\def\@mpfootnotetext#1{%
5488 \H@\@mpfootnotetext{%
5489 \ifHy@nesting
5490 \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5491 \else
5492 \Hy@raisedlink{%
5493 \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5494 }#1%
5495 \fi
5496 }%
5497 }%
5498 \long\def\@footnotetext#1{%
5499 \H@\@footnotetext{%
5500 \ifHy@nesting
5501 \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5502 \else
5503 \Hy@raisedlink{%
5504 \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5505 }%
5506 \let\@currentHlabel\Hy@footnote@currentHlabel
5507 \let\@currentHref\Hy@footnote@currentHref
5508 \let\@currentlabelname\@empty
5509 #1%
5510 \fi
5511 }%
5512 }%

```

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.

```

5513 \def\@footnotemark{%
5514 \leavevmode
5515 \ifhmode\edef\@xsf{\the\spacefactor}\nobreak\fi
5516 \stepcounter{Hfootnote}%
5517 \global\let\Hy@saved@currentHlabel\@currentHlabel
5518 \global\let\Hy@saved@currentHref\@currentHref
5519 \hyper@makecurrent{Hfootnote}%
5520 \global\let\Hy@footnote@currentHlabel\@currentHlabel
5521 \global\let\Hy@footnote@currentHref\@currentHref

```

```

5522 \global\let\@currentHlabel\Hy@saved@currentHlabel
5523 \global\let\@currentHref\Hy@saved@currentHref
5524 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5525 \@makefnmark
5526 \hyper@linkend
5527 \ifhmode\spacefactor\@x@sf\fi
5528 \relax
5529 }%

```

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

```

5530 \@ifpackageloaded{longtable}{%
5531   \CheckCommand*\LT@p@ftntext}[1]{%
5532     \edef\@tempa{%
5533       \the\LT@p@ftn
5534       \noexpand\footnotetext[\the\c@footnote]%
5535     }%
5536     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5537   }%
5538   \long\def\LT@p@ftntext#1{%
5539     \edef\@tempa{%
5540       \the\LT@p@ftn
5541       \begingroup
5542         \noexpand\c@footnote=\the\c@footnote\relax
5543         \noexpand\protected@xdef
5544           \noexpand\@thefnmark{\noexpand\thempfn}%
5545         \noexpand\protected@xdef\noexpand\@thefnmark{%
5546           \noexpand\thempfn
5547         }%
5548         \expandafter\expandafter\expandafter\noexpand
5549           \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5550           \expandafter\expandafter\expandafter{%
5551             \expandafter\Hy@footnote@currentHref\expandafter
5552             }\expandafter{\Hy@footnote@currentHlabel}%
5553       }%
5554       \global\LT@p@ftn\expandafter{%
5555         \@tempa{#1}%
5556       }\endgroup
5557     }%
5558   }%
5559   \long\def\Hy@LT@footnotetext#1#2#3{%
5560     \H@@footnotetext{%
5561       \ifHy@nesting
5562         \hyper@@anchor{#1}{#3}%
5563       \else
5564         \Hy@raisedlink{%
5565           \hyper@@anchor{#1}{\relax}%
5566         }%
5567         \def\@currentHlabel{#2}%
5568         \def\@currentHref{#1}%
5569         \let\@currentlabelname\@empty
5570         #3%
5571       \fi
5572     }%
5573   }%
5574 }{}%

```

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

```

5575 \ifpackageloaded{fancyvrb}{%
5576   \def\V@@footnotetext{%
5577     \insert\footins\bgroup
5578     \csname reset@font\endcsname
5579     \footnotesize
5580     \interlinepenalty\interfootnotelinepenalty
5581     \splittopskip\footnotesep
5582     \splitmaxdepth\dp\strutbox
5583     \floatingpenalty \@MM
5584     \hsize\columnwidth
5585     \@parboxrestore
5586     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5587     \@makefnintext{%
5588       \rule{\z@}{\footnotesep}%
5589     \bgroup
5590     \aftergroup\V@@@footnotetext
5591     \Hy@raisedlink{%
5592       \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5593     }%
5594     \let\@currentHlabel\Hy@footnote@currentHlabel
5595     \let\@currentHref\Hy@footnote@currentHref
5596     \let\@currentlabelname\@empty
5597     \ignorespaces
5598   }%
5599 }{}%
```

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.

```

5600 \let\HyOrg@maketitle\maketitle
5601 \def\maketitle{%
5602   \let\Hy@saved@footnotemark\@footnotemark
5603   \let\Hy@saved@footnotetext\@footnotetext
5604   \let\@footnotemark\H@@footnotemark
5605   \let\@footnotetext\H@@footnotetext
5606   \@ifnextchar[\Hy@maketitle@optarg{% ]
5607     \HyOrg@maketitle
5608     \Hy@maketitle@end
5609   }%
5610 }%
5611 \def\Hy@maketitle@optarg[#1]{%
5612   \HyOrg@maketitle[#1]%
5613   \Hy@maketitle@end
5614 }%
5615 \def\Hy@maketitle@end{%
5616   \ifx\@footnotemark\H@@footnotemark
5617     \let\@footnotemark\Hy@saved@footnotemark
5618   \fi
5619   \ifx\@footnotetext\H@@footnotetext
5620     \let\@footnotetext\Hy@saved@footnotetext
5621   \fi
5622 }%
```

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

```

5623 \def\realfootnote{%
5624   \@ifnextchar[\@xfootnote{%
5625     \stepcounter{\@mpfn}%
```

```

5626     \protected@xdef\@thefnmark{\thempfn}%
5627     \H@@footnotemark\H@@footnotetext
5628   }%
5629 }%

5630 \fi
5631 \Hy@DisableOption{hyperfootnotes}

5632 </package>
5633 <*check>
5634 \checklatex
5635 \checkcommand\def\@xfootnotenext[#1]{%
5636   \begingroup
5637     \csname c@\@mpfn\endcsname #1\relax
5638     \unrestored@protected@xdef\@thefnmark{\thempfn}%
5639   \endgroup
5640   \@footnotetext
5641 }
5642 \checkcommand\def\@xfootnotemark[#1]{%
5643   \begingroup
5644     \c@footnote #1\relax
5645     \unrestored@protected@xdef\@thefnmark{\thefnmark{\thefootnote}}%
5646   \endgroup
5647   \@footnotemark
5648 }
5649 \checkcommand\def\@footnotemark{%
5650   \leavevmode
5651   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5652   \@makefnmark
5653   \ifhmode\spacefactor\@x@sf\fi
5654   \relax
5655 }
5656 </check>
5657 <*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.

```

5658 \def\caption{%
5659   \ifx\@capttype\@undefined
5660     \@latexerror{\noexpand\caption outside float}\@ehd
5661     \expandafter\@gobble
5662   \else
5663     \H@refstepcounter\@capttype
5664     \let\Hy@tempa\@caption
5665     \ifundefined{float@caption}{%
5666       }{%
5667         \expandafter\ifx\csname @float@c@\@capttype\endcsname
5668           \float@caption
5669         \let\Hy@tempa\Hy@float@caption
5670       \fi
5671     }%
5672     \expandafter\@firstofone
5673   \fi
5674   {\@dblarg{\Hy@tempa\@capttype}}%
5675 }

```

```

5676 \long\def\@caption#1[#2]#3{%
5677   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5678     \csname iftrue\endcsname
5679     \global\let\@currentHref\hc@currentHref
5680   \else
5681     \hyper@makecurrent{\@captype}%
5682   \fi
5683   \def\@currentlabelname{#2}%
5684   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5685     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5686   }%
5687   \begingroup
5688     \@parboxrestore
5689     \if@minipage
5690       \setminipage
5691     \fi
5692     \normalsize
5693     \expandafter\ifx\csname if@capstart\expandafter\endcsname
5694       \csname iftrue\endcsname
5695       \global\@capstartfalse
5696       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5697     \else
5698       \@makecaption{\csname fnum@#1\endcsname}{%
5699         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

5700     \ifHy@nesting
5701       \hyper@@anchor{\@currentHref}{#3}%
5702     \else
5703       \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%
5704     \fi
5705   }%
5706 \fi
5707 \par
5708 \endgroup
5709 }

```

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.

```

5710 \let\Hy@float@caption\@caption
5711 \@ifpackageloaded{float}{%
5712   \def\Hy@float@caption{%
5713     \ifx\Hy@float@currentHref\@undefined
5714       \hyper@makecurrent{\@captype}%
5715       \global\let\Hy@float@currentHref\@currentHref
5716     \else
5717       \let\@currentHref\Hy@float@currentHref
5718     \fi
5719     \float@caption
5720   }%
5721   \let\HyOrg@float@makebox\float@makebox
5722   \renewcommand{\float@makebox}[1]{%
5723     \HyOrg@float@makebox{%
5724       #1\relax
5725       \ifx\Hy@float@currentHref\@undefined
5726       \else
5727         \hyper@@anchor{\Hy@float@currentHref}{\relax}%
5728       \global\let\Hy@float@currentHref\@undefined

```

```

5729     \fi
5730   }%
5731 }%
5732 }{}

5733 </package>
5734 <*check>
5735 \checklatex[1999/06/01 - 2000/06/01]
5736 \checkcommand\def\caption{%
5737   \ifx\@capytype\@undefined
5738     \latexerror{\noexpand\caption outside float}\@ehd
5739     \expandafter\@gobble
5740   \else
5741     \refstepcounter\@capytype
5742     \expandafter\@firstofone
5743   \fi
5744   {\@dblarg{\@caption\@capytype}}}%
5745 }
5746 \checkcommand\long\def\@caption#1[#2]#3{%
5747   \par
5748   \addcontentsline{\csname ext@#1\endcsname}{#1}%
5749   {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
5750   \begingroup
5751     \@parboxrestore
5752     \if@minipage
5753       \setminipage
5754     \fi
5755     \normalsize
5756     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5757   \endgroup
5758 }
5759 </check>
5760 <*package>

```

37 Bibliographic references

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

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

```

5761 \def\hyper@natlinkstart#1{%
5762   \Hy@backout{#1}%
5763   \hyper@linkstart{cite}{cite.#1}%
5764   \def\hyper@nat@current{#1}%
5765 }
5766 \def\hyper@natlinkend{%
5767   \hyper@linkend
5768 }
5769 \def\hyper@natlinkbreak#1#2{%
5770   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
5771 }
5772 \def\hyper@natanchorstart#1{%

```

```

5773 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
5774 }
5775 \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.

```

5776 \@ifundefined{NAT@parse}{%
5777 \providecommand*\@extra@binfo{}%
5778 \providecommand*\@extra@b@citeb{}%
5779 \def\bibcite#1#2{%
5780 \@newl@bel{b}{#1\@extra@binfo}{%
5781 \hyper@link[cite]{}{cite.#1\@extra@b@citeb}{#2}%
5782 }%
5783 }%
5784 \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.”.

```

5785 \let\Hy@bibcite\bibcite
5786 \begingroup
5787 \@ifundefined{bbl@cite@choice}{}{%
5788 \g@addto@macro\bbl@cite@choice{%
5789 \let\bibcite\Hy@bibcite
5790 }%
5791 }%
5792 \endgroup

```

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

```

5793 \providecommand*\@BIBLABEL{\@biblabel}%
5794 \def\@lbibitem[#1]#2{%
5795 \@skiphyperreftrue
5796 \H@item[%
5797 \ifx\Hy@raisedlink\@empty
5798 \hyper@anchorstart{cite.#2\@extra@b@citeb}%
5799 \@BIBLABEL{#1}%
5800 \hyper@anchorend
5801 \else
5802 \Hy@raisedlink{%
5803 \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
5804 }%
5805 \@BIBLABEL{#1}%
5806 \fi
5807 \hfill
5808 ]%
5809 \@skiphyperreffalse
5810 \if@filesw
5811 \begingroup
5812 \let\protect\noexpand
5813 \immediate\write\@auxout{%
5814 \string\bibcite{#2}{#1}%
5815 }%
5816 \endgroup
5817 \fi
5818 \ignorespaces
5819 }%

```

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

```

5820 \def\@bibitem#1{%
5821   \@skiphyperreftrue\H@item\@skiphyperreffalse
5822   \Hy@raisedlink{%
5823     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
5824   }%
5825   \if@filesw
5826     \begingroup
5827       \let\protect\noexpand
5828       \immediate\write\@auxout{%
5829         \string\bibcite{#1}{\the\value{\@listctr}}}%
5830       }%
5831     \endgroup
5832   \fi
5833   \ignorespaces
5834 }%
5835 }{}

5836 \</package>
5837 \<*check>
5838 \checklatex
5839 \checkcommand\def\@lbibitem[#1]#2{%
5840   \item[\@biblabel{#1}\hfill]%
5841   \if@filesw
5842     {%
5843       \let\protect\noexpand
5844       \immediate\write\@auxout{%
5845         \string\bibcite{#2}{#1}%
5846       }%
5847     }%
5848   \fi
5849   \ignorespaces
5850 }
5851 \checkcommand\def\@bibitem#1{%
5852   \item
5853   \if@filesw
5854     \immediate\write\@auxout{%
5855       \string\bibcite{#1}{\the\value{\@listctr}}}%
5856     }%
5857   \fi
5858   \ignorespaces
5859 }
5860 \</check>
5861 \<*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.

```

5862 \@ifclassloaded{revtex}{%
5863   \Hy@Info{*** compatibility with revtex **** }%
5864   \def\revtex@checking#1#2{%
5865     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
5866     \expandafter\def\csname b@#1\endcsname{#2}%
5867     \@SetMaxRnhfLabel{#1}%
5868     \expandafter\let\csname b@#1\endcsname\T@temp
5869   }%

```

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

```

5870 \ifundefined{CITE}{\def\CITE{\@cite}}{}%
5871 \providecommand*{\@extra@b@citeb}{}%
5872 \def\CITEX[#1]#2{%
5873   \let\@citea\@empty
5874   \leavevmode
5875   \unskip
5876   $^{}%
5877   \scriptstyle
5878   \CITE{%
5879     \@for\@citeb:=#2\do{%
5880       \@citea
5881       \def\@citea{,\penalty\@m\ }%
5882       \edef\@citeb{\expandafter\@firstofone\@citeb}%
5883       \if@filesw
5884         \immediate\write\@auxout{\string\citation{\@citeb}}%
5885       \fi
5886       \ifundefined{b@\@citeb\extra@b@citeb}{%
5887         \mbox{\reset@font\bfseries ?}%
5888         \G@refundefinedtrue
5889         \latex@warning{%
5890           Citation '\@citeb' on page \thepage \space undefined%
5891         }%
5892       }{%
5893         {\csname b@\@citeb\extra@b@citeb\endcsname}%
5894       }%
5895     }%
5896   }{#1}%
5897 }$%
5898 }%

```

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.

```

5899 \def\citex[#1]#2{%
5900   \let\@citea\@empty
5901   \@cite{%
5902     \@for\@citeb:=#2\do{%
5903       \@citea
5904       \def\@citea{,\penalty\@m\ }%
5905       \edef\@citeb{\expandafter\@firstofone\@citeb}%
5906       \if@filesw
5907         \immediate\write\@auxout{\string\citation{\@citeb}}%
5908       \fi
5909       \ifundefined{b@\@citeb\extra@b@citeb}{%
5910         \mbox{\reset@font\bfseries ?}%
5911         \G@refundefinedtrue
5912         \latex@warning{%
5913           Citation '\@citeb' on page \thepage \space undefined%
5914         }%
5915       }{%
5916         \hbox{\csname b@\@citeb\extra@b@citeb\endcsname}%
5917       }%
5918     }%
5919   }{#1}%
5920 }%
5921 }{}

```

37.1 Package harvard

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

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

```

5922 \ifpackageloaded{harvard}{%
5923   \AtBeginDocument{%
5924     \Hy@Info{*** compatibility with harvard *** }%
5925     \Hy@raiselinksfalse
5926     \def\harvardcite#1#2#3#4{%
5927       \global\@namedef{HAR@fn@#1}{\hyper@@link[cite]{}{cite.#1}{#2}}%
5928       \global\@namedef{HAR@an@#1}{\hyper@@link[cite]{}{cite.#1}{#3}}%
5929       \global\@namedef{HAR@yr@#1}{\hyper@@link[cite]{}{cite.#1}{#4}}%
5930       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
5931     }%
5932     \def\HAR@citetoaux#1{%
5933       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
5934       \ifHy@backref
5935         \ifx\@empty\@currentlabel
5936         \else
5937           \@bsphack
5938           \if@filesw
5939             \protected@write\@auxout{}{%
5940               \string\writefile{brf}{%
5941                 \string\backcite{#1}{%
5942                   {\thepage}{\@currentlabel}{\@currentHref}%
5943                 }%
5944               }%
5945             }%
5946           \fi
5947           \@esphack
5948         \fi
5949       \fi
5950     }%
5951     \def\harvarditem{%
5952       \ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
5953     }%
5954     \def\@harvarditem[#1]#2#3#4#5\par{%
5955       \item[]%
5956       \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
5957       \if@filesw
5958         \begingroup
5959           \def\protect##1{\string ##1\space}%
5960           \ifthenelse{\equal{#1}{\null}}{%
5961             {\def\next{{#4}{#2}{#3}}}%
5962             {\def\next{{#4}{#2}{#1}{#3}}}%
5963           \immediate\write\@auxout{\string\harvardcite\codeof\next}%
5964         \endgroup
5965       \fi
5966       \protect\hspace*{-\labelwidth}%
5967       \protect\hspace*{-\labelsep}%
5968       \ignorespaces
5969       #5%
5970       \ifHy@backref

```

```

5971      \newblock
5972      \backref{\csname br@#4\endcsname}%
5973      \fi
5974      \par
5975  }%

```

`\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`:

```

5976  \long\def\HAR@checkcitations#1#2#3#4{%
5977    \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
5978    \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
5979    \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
5980    \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
5981    \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
5982    \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
5983    \else
5984      \@tempswatrue
5985    \fi
5986  \else
5987    \@tempswatrue
5988  \fi
5989  \else
5990    \@tempswatrue
5991  \fi
5992  }%
5993 }%

5994 }{}

```

37.2 Package chicago

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

```

5995 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

5996  \def\citeN{%
5997    \def\@citesep{--1000}%
5998    \def\@cite##1##2{##1}%
5999    \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
6000    \@citedata@opt
6001  }%

```

`\shortciteN`

```

6002  \def\shortciteN{%
6003    \def\@citesep{--1000}%
6004    \def\@cite##1##2{##1}%
6005    \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
6006    \@citedata@opt
6007  }%

```

`\@citedata@opt`

```

6008  \def\@citedata@opt{%
6009    \let\@cite@opt\@empty
6010    \@ifnextchar [{%
6011      \@tempswatrue

```

```

6012     \@citedatax@opt
6013   }{%
6014     \@tempwafalse
6015     \@citedatax[]%
6016   }%
6017 }%

\@citedatax@opt

6018 \def\@citedatax@opt[#1]{%
6019   \def\@cite@opt{, #1}%
6020   \@citedatax[#1]%
6021 }%

6022 }{}

```

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.

```

6023 \def\Hy@EveryPageAnchor{%
6024   \Hy@DistillerDestFix
6025   \ifHy@pageanchor
6026     \ifHy@hypertextnames
6027     \ifHy@plainpages
6028       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
6029     \else
6030       \begingroup
6031         \let\@number\@firstofone
6032         \Hy@unicodedefalse
6033         \pdfstringdef\@theH@page{\thepage}%
6034       \endgroup
6035       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@theH@page}}%
6036     \fi
6037   \else
6038     \Hy@GlobalStepCount\Hy@pagecounter
6039     \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
6040   \fi
6041   \vbox to 0pt{%
6042     \kern\voffset
6043     \kern\topmargin
6044     \kern-1bp\relax
6045     \hbox to 0pt{%
6046       \kern\hoffset
6047       \kern\ifodd\value{page}%
6048         \oddsidemargin
6049       \else
6050         \evensidemargin
6051       \fi
6052       \kern-1bp\relax
6053       \Hy@TempPageAnchor
6054       \hss
6055     }%

```

```

6056      \vss
6057    }%
6058  \fi
6059 }
6060 \g@addto@macro\Hy@EveryPageBoxHook{%
6061   \Hy@EveryPageAnchor
6062 }

```

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.

```

6063 \begingroup\expandafter\expandafter\expandafter\endgroup
6064 \expandafter\ifx\csname chapter\endcsname\relax
6065   \def\toclevel@part{0}%
6066 \else
6067   \def\toclevel@part{-1}%
6068 \fi
6069 \def\toclevel@chapter{0}
6070 \def\toclevel@section{1}
6071 \def\toclevel@subsection{2}
6072 \def\toclevel@subsubsection{3}
6073 \def\toclevel@paragraph{4}
6074 \def\toclevel@subparagraph{5}
6075 \def\toclevel@figure{0}
6076 \def\toclevel@table{0}
6077 \@ifpackageloaded{listings}{%
6078   \providecommand*\theHlstlisting{\thelstlisting}%
6079   \providecommand*\toclevel@lstlisting{0}%
6080 }{}
6081 \@ifpackageloaded{listing}{%
6082   \providecommand*\theHlisting{\thelisting}%
6083   \providecommand*\toclevel@listing{0}%
6084 }{}
6085 \def\addcontentsline#1#2#3{% toc extension, type, tag
6086   \begingroup
6087     \let\label\@gobble
6088     \let\textlatin\@firstofone
6089     \ifx\@currentHref\@empty
6090       \Hy@Warning{%
6091         No destination for bookmark of \string\addcontentsline,%
6092         \MessageBreak destination is added%
6093       }%
6094     \phantomsection
6095   \fi
6096   \expandafter\ifx\csname toclevel@#2\endcsname\relax
6097     \begingroup
6098       \def\Hy@tempa{#1}%
6099       \ifx\Hy@tempa\Hy@bookmarkstype
6100         \Hy@WarningNoLine{%
6101           bookmark level for unknown #2 defaults to 0%
6102         }%
6103       \else
6104         \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6105       \fi

```

```

6106     \endgroup
6107     \expandafter\gdef\csname toplevel@#2\endcsname{0}%
6108     \fi
6109     \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
6110     \Hy@writebookmark{\csname the#2\endcsname}%
6111         {#3}%
6112         {\@currentHref}%
6113         {\Hy@toclevel}%
6114         {#1}%
6115     \ifHy@verbose
6116         \def\Hy@tempa{#3}%
6117         \@onelevel@sanitize\Hy@tempa
6118         \typeout{pdfTeX: bookmark at \the\inputlineno: %
6119             {\csname the#2\endcsname}%
6120             {\Hy@tempa}%
6121             {\@currentHref}%
6122             {\Hy@toclevel}%
6123             {#1}%
6124         }%
6125     \fi
6126     \addtocontents{#1}{%
6127         \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6128     }%
6129 \endgroup
6130 }
6131 \def\contentsline#1#2#3#4{%
6132     \ifx\#4\%
6133         \csname l@#1\endcsname{#2}{#3}%
6134     \else
6135         \ifcase\Hy@linktoc % none
6136             \csname l@#1\endcsname{#2}{#3}%
6137         \or % section
6138             \csname l@#1\endcsname{%
6139                 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6140             }{#3}%
6141         \or % page
6142             \csname l@#1\endcsname{#2}{#3}%
6143             \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6144         }%
6145         \else % all
6146             \csname l@#1\endcsname{%
6147                 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6148             }{#3}%
6149             \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6150         }%
6151     \fi
6152     \fi
6153 }
6154 \end{package}
6155 \end{check}
6156 \checklatex
6157 \checkcommand\def\addcontentsline#1#2#3{%
6158     \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
6159 }
6160 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6161 \end{check}
6162 \end{package}

```

40 New counters

The whole theorem business makes up new counters on the fly; we are going to intercept this. Sigh. Do it at the level where new counters are defined.

```
6163 \let\H@definecounter\@definecounter
6164 \def\@definecounter#1{%
6165   \H@definecounter{#1}%
6166   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6167 }
```

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.

```
6168 \let\H@newctr\@newctr
6169 \def\@newctr#1[#2]{%
6170   \H@newctr#1[#2]%
6171   \expandafter\def\csname theH#1\endcsname{%
6172     \csname the\@ifundefined{theH#2}{-}{H}#2\endcsname.\arabic{#1}%
6173   }%
6174 }
```

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.

```
6175 \ifpackageloaded{amsmath}{%
6176   \def\Hy@make@anchor{%
6177     \Hy@GlobalStepCount\Hy@linkcounter
6178     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6179     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6180   }%
6181   \def\Hy@make@df@tag@@#1{%
6182     \gdef\df@tag{%
6183       \maketag@@@{\Hy@make@anchor#1}%
6184       \def\@currentlabel{#1}%
6185     }%
6186   }%
6187   \def\Hy@make@df@tag@@@#1{%
6188     \gdef\df@tag{%
6189       \tagform@{\Hy@make@anchor#1}%
6190       \toks@{\xp{\p@equation{#1}}}%
6191       \edef\@currentlabel{\the\toks@}%
6192     }%
6193   }%
6194   \let\HyOrg@make@df@tag@@\make@df@tag@@
6195   \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
6196   \let\make@df@tag@@\Hy@make@df@tag@@
6197   \let\make@df@tag@@@ \Hy@make@df@tag@@@
6198 }{}
```

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

```
6199 \ifpackagewith{hyperref}{pdf $\TeX$ }{%}
```

```

6200 \let\H@seteqlabel\@seteqlabel
6201 \def\@seteqlabel#1{%
6202   \H@seteqlabel{#1}%
6203   \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6204   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6205 }%
6206 }{}

```

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.

```

6207 \let\HyOrg@addtoreset\@addtoreset
6208 \def\@addtoreset#1#2{%
6209   \HyOrg@addtoreset{#1}{#2}%
6210   \expandafter\xdef\csname theH#1\endcsname{%
6211     \expandafter\noexpand
6212     \csname the\@ifundefined{theH#2}{}H#2\endcsname
6213     .\noexpand\the\noexpand\value{#1}%
6214   }%
6215 }

```

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

```

6216 </package>
6217 <*check>
6218 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6219 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6220   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6221     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6222       \@addtoreset{#2}{#3}%
6223       \@xp\xdef\csname the#2\endcsname{%
6224         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6225       }%
6226     }%
6227   }%
6228 }%
6229 </check>
6230 <*package>
6231 \@ifpackageloaded{amsmath}{%
6232   \@ifpackagelater{amsmath}{1999/12/14}{%
6233     \renewcommand*\numberwithin[3][\arabic]{%
6234       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6235         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6236           \HyOrg@addtoreset{#2}{#3}%
6237           \@xp\xdef\csname the#2\endcsname{%

```

```

6238      \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6239      }%
6240      \exp\xdef\csname theH#2\endcsname{%
6241      \exp\@nx
6242      \csname the\@ifundefined{theH#3}{H#3\endcsname
6243      .\@nx#1{#2}%
6244      }%
6245      }%
6246      }%
6247      }%
6248      }{%
6249      \Hy@WarningNoLine{%
6250      \string\numberwithin\space of package ‘amsmath’ %
6251      only fixed\MessageBreak
6252      for version 2000/06/06 v2.12 or newer%
6253      }%
6254      }%
6255      }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

6256 \ifHy@figures
6257   \let\Hy@Gin@setfile\Gin@setfile
6258   \def\Gin@setfile#1#2#3{%
6259     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6260     }%
6261 \fi
6262 \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.

```

6263 \ifHy@hyperindex
6264   \def\HyInd@ParenLeft{(%}
6265   \def\HyInd@ParenRight{)%}
6266   \Hy@nextfalse
6267   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6268   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6269   \begingroup
6270     \lccode‘\|=\expandafter‘\HyInd@EncapChar\relax
6271     \lowercase{\endgroup
6272       \ifHy@next
6273         \let\HyInd@org@wrindex\@wrindex
6274         \def\@wrindex#1#2{\HyInd@wrindex{#1}#2||\}%
6275         \def\HyInd@wrindex#1#2|#3|#4\{\%

```

```

6276 \ifx\|#3\%
6277 \HyInd@org@wrindex{#1}{#2|hyperpage}%
6278 \else
6279 \def\Hy@temp@A{#3}%
6280 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6281 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6282 \relax
6283 \HyInd@org@wrindex{#1}{#2|#3}%
6284 \else
6285 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6286 \fi
6287 \fi
6288 }%
6289 \else
6290 \def\@wrindex#1{\@wrindex#1||\}%
6291 \def\@wrindex#1|#2|#3\{\%
6292 \if@files
6293 \ifx\|#2\%
6294 \protected@write\@indexfile{\%
6295 \string\indexentry{#1|hyperpage}{\thepage}%
6296 }%
6297 \else
6298 \def\Hy@temp@A{#2}%
6299 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6300 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6301 \relax
6302 \protected@write\@indexfile{\%
6303 \string\indexentry{#1|#2}{\thepage}%
6304 }%
6305 \else
6306 \protected@write\@indexfile{\%
6307 \string\indexentry{#1|#2hyperpage}{\thepage}%
6308 }%
6309 \fi
6310 \fi
6311 \fi
6312 \endgroup
6313 \@esphack
6314 }%
6315 \fi
6316 }%
6317 \fi
6318 \Hy@DisableOption{hyperindex}
6319 \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.

```
6320 \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.

```

6321 \def\hyperpage#1{\%
6322 \HyInd@hyperpage#1\nohyperpage{\@nil
6323 }
6324 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{\%
6325 \HyInd@hyperpage{#1}%
6326 #2%

```

```

6327 \def\Hy@temp{#3}%
6328 \ifx\Hy@temp\@empty
6329 \else
6330 \Hy@ReturnAfterFi{%
6331 \HyInd@hyperpage#3\@nil
6332 }%
6333 \fi
6334 }
6335 \def\HyInd@hyperpage#1{\@hyperpage#1----\}
6336 \def\@hyperpage#1--#2--#3\{\%
6337 \ifx\#2\%
6338 \commahyperpage{#1}%
6339 \else
6340 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6341 \fi
6342 }
6343 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6344 \def\@commahyperpage#1, #2,#3\{\%
6345 \ifx\#2\%
6346 \HyInd@pagelink{#1}%
6347 \else
6348 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6349 \fi
6350 }

```

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

```

6351 \def\HyInd@pagelink#1{%
6352 \begingroup
6353 \toks@={}%
6354 \HyInd@removespaces#1 \@nil
6355 \endgroup
6356 }
6357 \def\HyInd@removespaces#1 #2\@nil{%
6358 \toks@=\expandafter{\the\toks@#1}%
6359 \ifx\#2\%
6360 \edef\x{\the\toks@}%
6361 \ifx\x\@empty
6362 \else
6363 \hyperlink{page.\the\toks@}{\the\toks@}%
6364 \fi
6365 \else
6366 \Hy@ReturnAfterFi{%
6367 \HyInd@removespaces#2\@nil
6368 }%
6369 \fi
6370 }

```

44 Compatibility with foiltex

```

6371 \@ifclassloaded{foils}{%
6372 \providecommand*\ext@table{lot}%
6373 \providecommand*\ext@figure{lof}%
6374 }{}

```

45 Compatibility with seminar slide package

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

```
6375 \@ifclassloaded{seminar}{%
6376   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}%
6377 }{%
6378   \Hy@seminarslidesfalse
6379 }
6380 \@ifpackageloaded{slidesec}{%
6381   \newcommand\theHslidesection {\arabic{slidesection}}%
6382   \newcommand\theHslidesubsection{%
6383     \theHslidesection.\arabic{slidesubsection}}%
6384   }%
6385   \def\slide@heading[#1]#2{%
6386     \H@refstepcounter{slidesection}%
6387     \@addtoreset{slidesubsection}{slidesection}%
6388     \addtocontents{los}{%
6389       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6390       {\@SCTR}{\slideheading.\theslidesection}}%
6391   }%
6392   \def\Hy@tempa{#2}%
6393   \ifx\Hy@tempa\@empty
6394   \else
6395     {%
6396       \edef\@currentlabel{%
6397         \csname p@slidesection\endcsname\theslidesection
6398       }%
6399       \makeslideheading{#2}%
6400     }%
6401   \fi
6402   \gdef\theslideheading{#1}%
6403   \gdef\theslidesubheading{}%
6404   \ifHy@bookmarksnumbered
6405     \def\Hy@slidetitle{\theslidesection\space #1}%
6406   \else
6407     \def\Hy@slidetitle{#1}%
6408   \fi
6409   \ifHy@hypertextnames
6410     \ifHy@naturalnames
6411       \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6412       \Hy@writebookmark
6413         {\theslidesection}%
6414         {\Hy@slidetitle}%
6415         {slideheading.\theslidesection}%
6416         {1}%
6417         {toc}%
6418     \else
6419       \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6420       \Hy@writebookmark
6421         {\theslidesection}%
6422         {\Hy@slidetitle}%
6423         {slideheading.\theHslidesection}%
6424         {1}%
6425         {toc}%
6426     \fi
6427   \else
```

```

6428 \Hy@GlobalStepCount\Hy@linkcounter
6429 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6430 \Hy@writebookmark
6431   {\theslidesubsection}%
6432   {\Hy@slidetitle}%
6433   {slideheading.\the\Hy@linkcounter}%
6434   {1}%
6435   {toc}%
6436 \fi
6437 }%
6438 \def\slide@subheading[#1]#2{%
6439   \H@refstepcounter{slidesubsection}%
6440   \addtocontents{los}{%
6441     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6442     {\@SCTR}{slideheading.\theslidesubsection}%
6443   }%
6444   \def\Hy@tempa{#2}%
6445   \ifx\Hy@tempa\@empty
6446   \else
6447     {%
6448       \edef\@currentlabel{%
6449         \csname p@slidesubsection\endcsname\theslidesubsection
6450       }%
6451       \makeslidesubheading{#2}%
6452     }%
6453   \fi
6454   \gdef\theslidesubheading{#1}%
6455   \ifHy@bookmarksnumbered
6456     \def\Hy@slidetitle{\theslidesubsection\space #1}%
6457   \else
6458     \def\Hy@slidetitle{#1}%
6459   \fi
6460   \ifHy@hypertextnames
6461     \ifHy@naturalnames
6462       \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6463       \Hy@writebookmark
6464         {\theslidesubsection}%
6465         {\Hy@slidetitle}%
6466         {slideheading.\theslidesubsection}%
6467         {2}%
6468         {toc}%
6469     \else
6470       \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6471       \Hy@writebookmark
6472         {\theslidesubsection}%
6473         {\Hy@slidetitle}%
6474         {slideheading.\theHslidesubsection}%
6475         {2}%
6476         {toc}%
6477     \fi
6478   \else
6479     \Hy@GlobalStepCount\Hy@linkcounter
6480     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6481     \Hy@writebookmark
6482       {\theslidesubsection}%
6483       {\Hy@slidetitle}%
6484       {slideheading.\the\Hy@linkcounter}%

```

```

6485         {1}%
6486         {toc}%
6487     \fi
6488 }%
6489 \providecommand*{\listslidenam}{List of Slides}%
6490 \def\listofslides{%
6491     \section*{%
6492         \listslidenam
6493         \@mkboth{%
6494             \expandafter\MakeUppercase\listslidenam
6495         }{%
6496             \expandafter\MakeUppercase\listslidenam
6497         }%
6498     }%
6499     \def\l@slide##1##2##3##4{%
6500         \slide@undottedcline{%
6501             \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
6502         }{}%
6503     }%
6504     \let\l@subslide\l@slide
6505     \@startlos
6506 }%
6507 \def\slide@contents{%
6508     \def\l@slide##1##2##3##4{%
6509         \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6510     }%
6511     \let\l@subslide\@gobblefour
6512     \@startlos
6513 }%
6514 \def\Slide@contents{%
6515     \def\l@slide##1##2##3##4{%
6516         \ifcase\lslide@flag
6517             \message{##1 ** \the\c@slidesection}%
6518             \ifnum##1>\c@slidesection
6519                 \def\lslide@flag{1}%
6520                 {%
6521                     \large
6522                     \slide@ccline{%
6523                         \slidenumberline{$\rightarrow\bullet$}%
6524                         {\hyperlink{##4}{##2}}}%
6525                     }{##3}%
6526                 }%
6527             \else
6528                 {%
6529                     \large
6530                     \slide@ccline{%
6531                         \slidenumberline{$\surd\;\bullet$}%
6532                         {\hyperlink{##4}{##2}}}%
6533                     }{##3}%
6534                 }%
6535             \fi
6536         \or
6537             \def\lslide@flag{2}%
6538             {%
6539                 \large
6540                 \slide@ccline{%
6541                     \slidenumberline{$\bullet$}%

```

```

6542         {\hyperlink{##4}{##2}}%
6543     }{##3}%
6544 }%
6545 \or
6546 {%
6547     \large
6548     \slide@cline{%
6549         \slidenumberline{$\bullet$}%
6550         {\hyperlink{##4}{##2}}%
6551     }{##3}%
6552 }%
6553 \fi
6554 }%
6555 \def\l@subslide##1##2##3##4{%
6556     \ifnum\lslide@flag=1 %
6557         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6558     \fi
6559 }%
6560 \def\lslide@flag{0}%
6561 \@startlos
6562 }%
6563 }{}

```

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.)

```

6564 \ifHy@texht
6565     \expandafter\endinput
6566 \fi
6567 \let\real@setref\@setref
6568 \def\@setref#1#2#3{% csname, extract group, refname
6569     \ifx#1\relax
6570         \protect\G@refundefinedtrue
6571         \nfss@text{\reset@font\bfseries ??}%
6572         \@latex@warning{%
6573             Reference ‘#3’ on page \thepage \space undefined%
6574         }%
6575     \else
6576         \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6577     \fi
6578 }

```

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

```

6579 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6580     \begingroup
6581         \toks0={\hyper@@link{#5}{#4}}%
6582         \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6583         \edef\x{\endgroup
6584             \the\toks0 {\the\toks1 }%
6585         }%
6586     \x
6587 }
6588 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6589     \ifx#1\relax
6590         \protect\G@refundefinedtrue
6591         \nfss@text{\reset@font\bfseries ??}%
6592         \@latex@warning{%

```

```

6593      Reference ‘#3’ on page \thepage \space undefined%
6594    }%
6595  \else
6596    \protect\hyper@@link
6597      {\expandafter\@fifthoffive#1}%
6598      {page.\expandafter\@secondoffive#1}%
6599      {\expandafter\@secondoffive#1}%
6600  \fi
6601 }

6602 </package>
6603 <*check>
6604 \checklatex
6605 \checkcommand\def\@setref#1#2#3{%
6606   \ifx#1\relax
6607     \protect\G@refundefinedtrue
6608     \nfss@text{\reset@font\bfseries ??}%
6609     \@latex@warning{%
6610       Reference ‘#3’ on page \thepage\space undefined%
6611     }%
6612   \else
6613     \expandafter#2#1\null
6614   \fi
6615 }
6616 </check>
6617 <*package>

```

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

```

6618 \def\HyRef@StarSetRef#1{%
6619   \begingroup
6620     \Hy@safe@activetrue
6621     \edef\x{#1}%
6622     \@onelevel@sanitize\x
6623     \edef\x{\endgroup
6624       \noexpand\HyRef@@StarSetRef
6625       \expandafter\noexpand\csname r@\x\endcsname{\x}%
6626     }%
6627   \x
6628 }
6629 \def\HyRef@@StarSetRef#1#2#3{%
6630   \ifx#1\@undefined
6631     \let#1\relax
6632   \fi
6633   \real@setref#1#3{#2}%
6634 }
6635 \def\@refstar#1{%
6636   \HyRef@StarSetRef{#1}\@firstoffive
6637 }
6638 \def\@pagerefstar#1{%
6639   \HyRef@StarSetRef{#1}\@secondoffive
6640 }
6641 \AtBeginDocument{%
6642   \@ifpackageloaded{varioref}{%
6643     \def\@Refstar#1{%
6644       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6645     }%
6646     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%

```

```

6647 \MakeUppercase#1%
6648 }%
6649 \DeclareRobustCommand*{\Ref}{%
6650 \ifstar\@Refstar\HyRef@Ref
6651 }%
6652 \def\HyRef@Ref#1{%
6653 \hyperref[#{1}]{\Ref*{#1}}%
6654 }%
6655 \def\Vr@f#1{%
6656 \leavevmode\unskip\vref@space
6657 \hyperref[#{1}]{%
6658 \Ref*{#1}%
6659 \let\vref@space\nobreakspace
6660 \@vpageref[\unskip]{#1}%
6661 }%
6662 }%
6663 \def\vr@f#1{%
6664 \leavevmode\unskip\vref@space
6665 \begingroup
6666 \let\T@pageref\@pagerefstar
6667 \hyperref[#{1}]{%
6668 \ref*{#1}%
6669 \vpageref[\unskip]{#1}%
6670 }%
6671 \endgroup
6672 }%
6673 }{}%
6674 }
6675 \DeclareRobustCommand*{\autopageref}{%
6676 \ifstar{%
6677 \HyRef@autopagerefname\pageref*%
6678 }\HyRef@autopageref
6679 }
6680 \def\HyRef@autopageref#1{%
6681 \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%
6682 }
6683 \def\HyRef@autopagerefname{%
6684 \@ifundefined{pageautorefname}{%
6685 \@ifundefined{pagename}{%
6686 \Hy@Warning{No autoref name for 'page'}%
6687 }{%
6688 \pagename\nobreakspace
6689 }%
6690 }{%
6691 \pageautorefname\nobreakspace
6692 }%
6693 }
6694 \DeclareRobustCommand*{\autoref}{%
6695 \ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@link}%
6696 }
6697 \def\HyRef@autoref#1#2{%
6698 \begingroup
6699 \Hy@safe@activetrue
6700 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
6701 \endgroup
6702 }
6703 \def\HyRef@autosetref#1#2#3{% link command, csname, refname

```

```

6704 \HyRef@showkeysref{#2}%
6705 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6706 \edef\HyRef@thisref{%
6707 \expandafter\@fourthoffive#1\@empty\@empty\@empty
6708 }%
6709 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6710 \Hy@safe@activesfalse
6711 #3{%
6712 \expandafter\@fifthoffive#1\@empty\@empty\@empty
6713 }{%
6714 \expandafter\@fourthoffive#1\@empty\@empty\@empty
6715 }{%
6716 \HyRef@currentHtag
6717 \expandafter\@firstoffive#1\@empty\@empty\@empty
6718 \null
6719 }%
6720 \else
6721 \protect\G@refundefinedtrue
6722 \nfss@text{\reset@font\bfseries ??}%
6723 \@latex@warning{%
6724 Reference ‘#2’ on page \thepage\space undefined%
6725 }%
6726 \fi
6727 }
6728 \def\HyRef@testreftype#1.#2\{%
6729 \@ifundefined{#1autorefname}{%
6730 \@ifundefined{#1name}{%
6731 \HyRef@StripStar#1\*\*\@nil{#1}%
6732 \@ifundefined{\HyRef@name autorefname}{%
6733 \@ifundefined{\HyRef@name name}{%
6734 \def\HyRef@currentHtag{%
6735 \Hy@Warning{No autoref name for ‘#1’}%
6736 }{%
6737 \edef\HyRef@currentHtag{%
6738 \expandafter\noexpand\csname\HyRef@name name\endcsname
6739 \noexpand~%
6740 }%
6741 }%
6742 }{%
6743 \edef\HyRef@currentHtag{%
6744 \expandafter\noexpand\csname\HyRef@name autorefname\endcsname
6745 \noexpand~%
6746 }%
6747 }%
6748 }{%
6749 \edef\HyRef@currentHtag{%
6750 \expandafter\noexpand\csname#1name\endcsname
6751 \noexpand~%
6752 }%
6753 }%
6754 }{%
6755 \edef\HyRef@currentHtag{%
6756 \expandafter\noexpand\csname#1autorefname\endcsname
6757 \noexpand~%
6758 }%
6759 }%
6760 }

```

```

6761 \def\HyRef@StripStar#1*\#2\@nil#3{%
6762   \def\HyRef@name{#2}%
6763   \ifx\HyRef@name\HyRef@CaseStar
6764     \def\HyRef@name{#1}%
6765   \else
6766     \def\HyRef@name{#3}%
6767   \fi
6768 }
6769 \def\HyRef@CaseStar{*\\}
6770 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

6771 \let\HyRef@ShowKeysRef\@gobble
6772 \def\HyRef@ShowKeysInit{%
6773   \begingroup\expandafter\expandafter\expandafter\endgroup
6774   \expandafter\ifx\csname SK@@label\endcsname\relax
6775   \else
6776     \ifx\SK@ref\@empty
6777     \else
6778       \def\HyRef@ShowKeysRef{%
6779         \SK@\SK@@ref
6780       }%
6781     \fi
6782   \fi
6783 }
6784 \@ifpackageloaded{showkeys}{%
6785   \HyRef@ShowKeysInit
6786 }{%
6787   \AtBeginDocument{%
6788     \@ifpackageloaded{showkeys}{%
6789       \HyRef@ShowKeysInit
6790     }{%
6791     }%
6792 }

```

Defaults for the names that \autoref uses.

```

6793 \providecommand*\AMSautorefname{\equationautorefname}
6794 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
6795 \providecommand*\Itemautorefname{\itemautorefname}
6796 \providecommand*\itemautorefname{item}
6797 \providecommand*\equationautorefname{Equation}
6798 \providecommand*\footnoteautorefname{footnote}
6799 \providecommand*\itemautorefname{item}
6800 \providecommand*\figureautorefname{Figure}
6801 \providecommand*\tableautorefname{Table}
6802 \providecommand*\partautorefname{Part}
6803 \providecommand*\appendixautorefname{Appendix}
6804 \providecommand*\chapterautorefname{chapter}
6805 \providecommand*\sectionautorefname{section}
6806 \providecommand*\subsectionautorefname{subsection}
6807 \providecommand*\subsubsectionautorefname{subsubsection}
6808 \providecommand*\paragraphautorefname{paragraph}
6809 \providecommand*\subparagraphautorefname{subparagraph}
6810 \providecommand*\FancyVerbLineautorefname{line}
6811 \providecommand*\theoremautorefname{Theorem}
6812 \providecommand*\pageautorefname{page}

```

6813 \langle /package \rangle

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.

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

```
6814  $\langle$ *pdf $\TeX$  | dvipdfm | vtex | pdfmarkbase | dviwindo $\rangle$ 
6815 \RequirePackage{pdf $\TeX$ cmds}[2007/11/11]
6816 \begingroup\expandafter\expandafter\expandafter\endgroup
6817 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
6818   \begingroup
6819     \catcode'\!=0 %
6820     \@makeother\%
6821   \@firstofone{\endgroup
6822     |def|Hy@pstringdef#1#2{%
6823       |begingroup
6824         |edef~{|string~}%
6825         |xdef|Hy@gtemp{#2}%
6826       |endgroup
6827       |let#1|Hy@gtemp
6828       |@onelevel@sanitize#1%
6829       |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
6830       |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
6831       |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
6832     }%
6833     |def|Hy@ExchangeBackslash#1\#2|@nil{%
6834       #1%
6835       |ifx|\#2\|%%
6836       |else
6837         \|%
6838         |Hy@ReturnAfterFi{%
6839           |Hy@ExchangeBackslash#2|@nil
6840         }%
6841       |fi
6842     }%
6843   }%
6844   \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
6845     #1%
6846     \ifx\#2\|%%
6847     \else
6848       \@backslashchar(%
6849       \Hy@ReturnAfterFi{%
6850         \Hy@ExchangeLeftParenthesis#2\@nil
6851       }%
6852     \fi
6853   }%
6854   \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
6855     #1%
6856     \ifx\#2\|%%
```

```

6857 \else
6858 \backslashchar)%
6859 \Hy@ReturnAfterFi{%
6860 \Hy@ExchangeRightParenthesis#2\@nil
6861 }%
6862 \fi
6863 }%
6864 \else
6865 \def\Hy@pstringdef#1#2{%
6866 \begingroup
6867 \edef~{\string~}%
6868 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
6869 \endgroup
6870 \let#1\Hy@gtemp
6871 }%
6872 \fi
6873 </pdfTeX | dvipdfm | vTeX | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

6874 <*pdfTeX>
6875 \providecommand*{\XR@ext}{pdf}
6876 \Hy@setbreaklinks{true}

```

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

Set PDF version if requested by option `pdfversion`.

- pdfT_EX 1.10a, 2003-01-16: `\pdfoptionpdfminorversion`
- pdfT_EX 1.30, 2005-08-08: `\pdfminorversion`

```

6877 \let\Hy@pdfminorversion\relax
6878 \begingroup\expandafter\expandafter\expandafter\endgroup
6879 \expandafter\ifx\csname pdfminorversion\endcsname\relax
6880 \begingroup\expandafter\expandafter\expandafter\endgroup
6881 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
6882 \else
6883 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
6884 \fi
6885 \else
6886 \def\Hy@pdfminorversion{\pdfminorversion}%
6887 \fi
6888 \@ifundefined{Hy@pdfminorversion}{%
6889 \PackageInfo{hyperref}{%
6890 PDF version is not set, because pdfTeX is too old (<1.10a)%
6891 }%
6892 }{%
6893 \ifHy@ocgcolorlinks
6894 \ifnum\Hy@pdfminorversion<5 %
6895 \setkeys{Hyp}{pdfversion=1.5}%
6896 \fi
6897 \fi
6898 \ifHy@setpdfversion
6899 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
6900 \else
6901 \Hy@pdfminorversion=\Hy@pdfversion\relax
6902 \fi

```

```

6903     \PackageInfo{hyperref}{%
6904         \expandafter\string\Hy@pdfminorversion
6905         :=\number\Hy@pdfversion\space
6906     }%
6907     \fi
6908     \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
6909 }
6910 \Hy@DisableOption{pdfversion}%
6911 \ifHy@ocgcolorlinks
6912     \immediate\pdfobj{%
6913         <<%
6914             /Type/OCG%
6915             /Name(View)%
6916             /Usage<<%
6917                 /Print<<%
6918                     /PrintState/OFF%
6919                 >>%
6920             /View<<%
6921                 /ViewState/ON%
6922             >>%
6923         >>%
6924     }%
6925     \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
6926     \immediate\pdfobj{%
6927         <<%
6928             /Type/OCG%
6929             /Name(Print)%
6930             /Usage<<%
6931                 /Print<<%
6932                     /PrintState/ON%
6933                 >>%
6934             /View<<%
6935                 /ViewState/OFF%
6936             >>%
6937         >>%
6938     }%
6939     \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
6940     \immediate\pdfobj{%
6941         [%
6942             \OBJ@OCG@view\space\OBJ@OCG@print
6943         ]%
6944     }%
6945     \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
6946     \pdfcatalog{%
6947         /OCProperties<<%
6948             /OCGs \OBJ@OCGs
6949             /D<<%
6950                 /OFF[\OBJ@OCG@print]%
6951             /AS[%
6952                 <<%
6953                     /Event/View%
6954                     /OCGs \OBJ@OCGs
6955                     /Category[/View]%
6956                 >>%
6957             <<%

```

```

6960         /Event/Print%
6961         /OCGs \OBJ@OCGs
6962         /Category[/Print]%
6963     >>%
6964     <<%
6965         /Event/Export%
6966         /OCGs \OBJ@OCGs
6967         /Category[/Print]%
6968     >>%
6969     ]%
6970     >>%
6971     >>%
6972 }%
6973 \begingroup
6974 \edef\x{\endgroup
6975 \pdfpageresources{
6976     /Properties<<%
6977     /OCView \OBJ@OCG@view
6978     /OCPrint \OBJ@OCG@print
6979     >>%
6980 }%
6981 }%
6982 \x
6983 \AtBeginDocument{%
6984     \def\Hy@colorlink#1{%
6985         \begingroup
6986         \ifHy@ocgcolorlinks
6987             \def\Hy@ocgcolor{#1}%
6988             \setbox0=\color@hbox
6989         \else
6990             \HyColor@UseColor#1%
6991         \fi
6992     }%
6993     \def\Hy@endcolorlink{%
6994         \ifHy@ocgcolorlinks
6995             \color@endbox
6996             \mbox{%
6997                 \pdfliteral page{/OC/OCPrint BDC}%
6998                 \rlap{\copy0}%
6999                 \pdfliteral page{EMC/OC/OCView BDC}%
7000                 \begingroup
7001                     \expandafter\HyColor@UseColor\Hy@ocgcolor
7002                     \box0 %
7003                 \endgroup
7004                 \pdfliteral page{EMC}%
7005             }%
7006         \fi
7007     \endgroup
7008 }%
7009 }%
7010 \else
7011 \Hy@DisableOption{ocgcolorlinks}%
7012 \fi

```

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

```

7013 \def\setpdfinkmargin#1{\pdfinkmargin#1}
7014 \ifx\pdfstartlink\undefined% less than version 14
7015 \let\pdfstartlink\pdfannotlink

```

```

7016 \let\pdflinkmargin\@tempdima
7017 \let\pdfxform\pdfform
7018 \let\pdflastxform\pdflastform
7019 \let\pdfrefxform\pdfrefform
7020 \else
7021 \pdflinkmargin1pt %
7022 \fi

```

First set up the default linking

```
7023 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

7024 \def\new@pdflink#1{%
7025   \ifHy@verbose
7026     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
7027   \fi
7028   \Hy@SaveLastskip
7029   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7030   \Hy@DestName\Hy@pstringDest\@pdfview
7031   \Hy@RestoreLastskip
7032 }
7033 \let\pdf@endanchor\@empty

```

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

```

7034 \def\Hy@DestName#1#2{%
7035   \pdfdest name{#1}#2\relax
7036 }

```

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.

```

7037 \providecommand*\@pdfborder{0 0 1}
7038 \providecommand*\@pdfborderstyle{}
7039 \def\Hy@undefinedname{UNDEFINED}
7040 \def\find@pdflink#1#2{%
7041   \leavevmode
7042   \protected@edef\Hy@testname{#2}%
7043   \ifx\Hy@testname\@empty
7044     \Hy@Warning{%
7045       Empty destination name,\MessageBreak
7046       using '\Hy@undefinedname'%
7047     }%
7048     \let\Hy@testname\Hy@undefinedname
7049   \else
7050     \Hy@pstringdef\Hy@testname{%
7051       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7052     }%
7053   \fi
7054   \Hy@StartlinkName{%
7055     \ifHy@pdfa /F 4\fi
7056     \Hy@setpdfborder
7057     \ifx\@pdfhighlight\@empty
7058       \else
7059         /H\@pdfhighlight
7060       \fi
7061     \ifx\CurrentBorderColor\relax

```

```

7062     \else
7063         /C[\CurrentBorderColor]%
7064     \fi
7065 } \Hy@testname
7066 \expandafter \Hy@colorlink \csname @#1color\endcsname
7067 }
7068 \def \Hy@StartlinkName#1#2{%
7069     \pdfstartlink attr{#1}goto name{#2}\relax
7070 }
7071 \def \close@pdflink{\Hy@endcolorlink\pdfendlink}
7072 \def \hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
7073 \def \hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
7074 \def \hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
7075 \def \hyper@linkstart#1#2{%
7076     \ifundefined{@#1bordercolor}{%
7077         \let\CurrentBorderColor\relax
7078     }{%
7079         \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7080     }%
7081     \find@pdflink{#1}{#2}%
7082 }
7083 \def \hyper@linkend{\close@pdflink}
7084 \def \hyper@link#1#2#3{%
7085     \ifundefined{@#1bordercolor}{%
7086         \let\CurrentBorderColor\relax
7087     }{%
7088         \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7089     }%
7090     \find@pdflink{#1}{#2}#3%
7091     \close@pdflink
7092 }
7093 \let\CurrentBorderColor\@linkbordercolor
7094 \def \hyper@linkurl#1#2{%
7095     \begingroup
7096     \Hy@pstringdef \Hy@pstringURI{#2}%
7097     \hyper@chars
7098     \leavevmode
7099     \pdfstartlink
7100     attr{%
7101         \Hy@setpdfborder
7102         \ifx\@pdfhighlight\@empty
7103             \else
7104                 /H\@pdfhighlight
7105             \fi
7106         \ifx\@urlbordercolor\relax
7107             \else
7108                 /C[\@urlbordercolor]%
7109             \fi
7110     }%
7111     user{%
7112         /Subtype/Link%
7113         \ifHy@pdfa /F 4\fi
7114         /A<<%
7115             /Type/Action%
7116             /S/URI%
7117             /URI(\Hy@pstringURI)%
7118         >>%

```

```

7119     }%
7120     \relax
7121     \Hy@colorlink\@urlcolor#1%
7122     \close@pdflink
7123 \endgroup
7124 }
7125 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7126 \begingroup
7127   \Hy@pstringdef\Hy@pstringF{#2}%
7128   \Hy@pstringdef\Hy@pstringD{#3}%
7129   \leavevmode
7130   \pdfstartlink
7131   attr{%
7132     \Hy@setpdfborder
7133     \ifx\@pdfhighlight\@empty
7134     \else
7135       /H\@pdfhighlight
7136     \fi
7137     \ifx\@filebordercolor\relax
7138     \else
7139       /C[\@filebordercolor]%
7140     \fi
7141   }%
7142   user {%
7143     /Subtype/Link%
7144     \ifHy@pdfa /F 4\fi
7145     /A<<%
7146     /F(\Hy@pstringF)%
7147     /S/GoToR%
7148     \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}

```

```

7149     \ifx\#3\%
7150     /D[0 \@pdfstartview]%
7151     \else
7152     /D(\Hy@pstringD)%
7153     \fi
7154     >>%
7155     }%
7156     \relax
7157     \Hy@colorlink\@filecolor#1%
7158     \close@pdflink
7159 \endgroup
7160 }
7161 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
7162 \begingroup
7163   \Hy@pstringdef\Hy@pstringF{#1}%
7164   \Hy@pstringdef\Hy@pstringP{#3}%

```

```

7165 \leavevmode
7166 \pdfstartlink
7167   attr{%
7168     \Hy@setpdfborder
7169     \ifx\@pdfhighlight\@empty
7170     \else
7171       /H\@pdfhighlight
7172     \fi
7173     \ifx\@runbordercolor\relax
7174     \else
7175       /C[\@runbordercolor]%
7176     \fi
7177   }%
7178   user {%
7179     /Subtype/Link%
7180     \ifHy@pdfa /F 4\fi
7181     /A<<%
7182       /F(\Hy@pstringF)%
7183       /S/Launch%
7184       \Hy@SetNewWindow
7185       \ifx\#3\%
7186       \else
7187         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7188       \fi
7189     >>%
7190   }%
7191   \relax
7192   \Hy@colorlink\@runcolor#2%
7193   \close@pdflink
7194 \endgroup
7195 }

```

\@pdfproducer

```

7196 \ifx\@pdfproducer\relax
7197 \begin{group}\expandafter\expandafter\expandafter\endgroup
7198 \expandafter\ifx\csname luatexversion\endcsname\relax
7199   \def\@pdfproducer{pdfTeX}%
7200   \ifx\@eTeXversion\@undefined
7201   \else
7202     \ifx\@eTeXversion\relax
7203     \else
7204       \ifnum\@eTeXversion>0 %
7205       \def\@pdfproducer{pdfTeX}%
7206     \fi
7207   \fi
7208 \fi
7209 \ifx\pdfTeXversion\@undefined
7210 \else
7211   \ifnum\pdfTeXversion<100 %
7212   \edef\@pdfproducer{%
7213     \@pdfproducer
7214     \the\pdfTeXversion.\pdfTeXrevision
7215   }%
7216 \else
7217   \ifnum\pdfTeXversion<130 %
7218   \edef\@pdfproducer{%
7219     \@pdfproducer-

```

```

7220         \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7221         \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
7222         \pdfTeXrevision
7223     }%
7224 \else
7225     \ifnum\pdfTeXversion<140 %
7226     \else
7227         \def\@pdfproducer{pdfTeX}%
7228     \fi
7229     \edef\@pdfproducer{%
7230         \@pdfproducer-%
7231         \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7232         \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7233         \pdfTeXrevision
7234     }%
7235 \fi
7236 \fi
7237 \fi
7238 \else
7239     \begingroup
7240         \count@=\luatexversion
7241         \divide\count@ by 100 %
7242         \edef\x{\the\count@}%
7243         \count@=-\x\relax
7244         \multiply\count@ by 100 %
7245         \advance\count@ by \luatexversion
7246         \edef\x{\endgroup
7247             \def\noexpand\@pdfproducer{%
7248                 LuaTeX-\x.\the\count@.\luatexrevision
7249             }%
7250         }%
7251     \x
7252 \fi
7253 \fi

```

\PDF@SetupDox

```

7254 \def\PDF@SetupDoc{%
7255     \ifx\@pdfpagescrop\@empty
7256     \else
7257         \edef\process@me{%
7258             \pdfpagesattr={%
7259                 /CropBox[\@pdfpagescrop]%
7260                 \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
7261                 \else
7262                 ^^J\the\pdfpagesattr
7263             }%
7264         }%
7265     \process@me
7266 \fi
7267 \fi
7268 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7269 \pdfcatalog{%
7270     /PageMode/\@pdfpagemode
7271     \ifx\@baseurl\@empty
7272     \else
7273         /URI<</Base(\Hy@pstringB)>>%
7274     \fi

```

```

7275 }%
7276 \ifx\@pdfstartpage\@empty
7277 \else
7278   \ifx\@pdfstartview\@empty
7279   \else
7280     openaction goto page\@pdfstartpage{\@pdfstartview}%
7281   \fi
7282 \fi
7283 \edef\Hy@temp{%
7284   \ifHy@toolbar\else /HideToolbar true\fi
7285   \ifHy@menubar\else /HideMenubar true\fi
7286   \ifHy>windowui\else /HideWindowUI true\fi
7287   \ifHy@fitwindow /FitWindow true\fi
7288   \ifHy@centerwindow /CenterWindow true\fi
7289   \ifHy@displaydoctitle /DisplayDocTitle true\fi
7290   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7291   \Hy@UseNameKey{Direction}\@pdfdirection
7292   \Hy@UseNameKey{ViewArea}\@pdfviewarea
7293   \Hy@UseNameKey{ViewClip}\@pdfviewclip
7294   \Hy@UseNameKey{PrintArea}\@pdfprintarea
7295   \Hy@UseNameKey{PrintClip}\@pdfprintclip
7296   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7297   \Hy@UseNameKey{Duplex}\@pdfduplex
7298   \ifx\@pdfpicktraybypdfsize\@empty
7299   \else
7300     /PickTrayByPDFSize \@pdfpicktraybypdfsize
7301   \fi
7302   \ifx\@pdfprintpagerange\@empty
7303   \else
7304     /PrintPageRange[\@pdfprintpagerange]%
7305   \fi
7306   \ifx\@pdfnumcopies\@empty
7307   \else
7308     /NumCopies \@pdfnumcopies
7309   \fi
7310 }%
7311 \pdfcatalog{%
7312   \ifx\Hy@temp\@empty
7313   \else
7314     /ViewerPreferences<<\Hy@temp>>%
7315   \fi
7316   \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7317   \ifx\@pdflang\@empty
7318   \else
7319     /Lang(\@pdflang)%
7320   \fi
7321 }%
7322 }

```

\PDF@FinishDoc

```

7323 \def\PDF@FinishDoc{%
7324   \Hy@UseMaketitleInfos
7325   \pdfinfo{%
7326     /Author(\@pdfauthor)%
7327     /Title(\@pdftitle)%
7328     /Subject(\@pdfsubject)%
7329     /Creator(\@pdfcreator)%

```

```

7330 \ifx\@pdfcreationdate\@empty
7331 \else
7332 /CreationDate(\@pdfcreationdate)%
7333 \fi
7334 \ifx\@pdfmoddate\@empty
7335 \else
7336 /ModDate(\@pdfmoddate)%
7337 \fi
7338 \ifx\@pdfproducer\relax
7339 \else
7340 /Producer(\@pdfproducer)%
7341 \fi
7342 /Keywords(\@pdfkeywords)%
7343 }%
7344 \Hy@DisableOption{pdfauthor}%
7345 \Hy@DisableOption{pdftitle}%
7346 \Hy@DisableOption{pdfsubject}%
7347 \Hy@DisableOption{pdfcreator}%
7348 \Hy@DisableOption{pdfcreationdate}%
7349 \Hy@DisableOption{pdfmoddate}%
7350 \Hy@DisableOption{pdfproducer}%
7351 \Hy@DisableOption{pdfkeywords}%
7352 }

```

`\hyper@pagetransition` `\@pdfpagetransition` is initialized with `\relax`. So it indicates, if option `pdfpage-transition` is used. First previous `/Trans` entries are removed. If a new `/Trans` key exists, it is appended to `\pdfpageattr`.

```

7353 \def\hyper@pagetransition{%
7354 \ifx\@pdfpagetransition\relax
7355 \else
7356 \expandafter\Hy@RemoveTransPageAttr
7357 \the\pdfpageattr^^J/Trans{>>\END
7358 \ifx\@pdfpagetransition\@empty
7359 \else
7360 \edef\@processme{%
7361 \global\pdfpageattr{%
7362 \the\pdfpageattr
7363 ^^J/Trans << /S /\@pdfpagetransition\space >>%
7364 }%
7365 }%
7366 \@processme
7367 \fi
7368 \fi
7369 }

```

`\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.

```

7370 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7371 \ifx\#2\%
7372 \global\pdfpageattr{#1}%
7373 \else
7374 \Hy@RemoveTransPageAttr#1#4\END
7375 \fi
7376 }

```

`\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`.

```

7377 \def\hyper@pageduration{%
7378   \ifx\@pdfpageduration\relax
7379   \else
7380     \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
7381     \ifx\@pdfpageduration\@empty
7382     \else
7383       \edef\@processme{%
7384         \global\pdfpageattr{%
7385           \the\pdfpageattr
7386             ^^J/Dur \@pdfpageduration\space
7387         }%
7388       }%
7389       \@processme
7390     \fi
7391   \fi
7392 }
```

`\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.

```

7393 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7394   \ifx\#2\%
7395     \global\pdfpageattr{#1}%
7396   \else
7397     \Hy@RemoveDurPageAttr#1#4\END
7398   \fi
7399 }
```

`\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).

```

7400 \def\hyper@pagehidden{%
7401   \ifHy@useHidKey
7402     \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7403     \ifHy@pdfpagehidden
7404     \edef\@processme{%
7405       \global\pdfpageattr{%
7406         \the\pdfpageattr
7407           ^^J/Hid true % SPACE
7408       }%
7409     }%
7410     \@processme
7411   \fi
7412 \fi
7413 }
```

`\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.

```

7414 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7415   \ifx\#2\%
7416     \global\pdfpageattr{#1}%
7417   \else
7418     \Hy@RemoveHidPageAttr#1#4\END
7419   \fi
7420 }
```

```

7416 \global\pdfpageattr{#1}%
7417 \else
7418 \Hy@RemoveHidPageAttr#1#4\END
7419 \fi
7420 }

7421 \g@addto@macro\Hy@EveryPageHook{%
7422 \hyper@pagetransition
7423 \hyper@pageduration
7424 \hyper@pagehidden
7425 }

7426 \AtBeginDocument{%
7427 \ifHy@setpagesize
7428 \expandafter\@firstofone
7429 \else
7430 \expandafter\@gobble
7431 \fi
7432 {%
7433 \@ifclassloaded{seminar}{%
7434 \setlength{\pdfhorigin}{1truein}%
7435 \setlength{\pdfvorigin}{1truein}%
7436 \ifportrait
7437 \ifdim\paperwidth=\z@
7438 \else
7439 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7440 \fi
7441 \ifdim\paperheight=\z@
7442 \else
7443 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7444 \fi
7445 \else
7446 \ifdim\paperheight=\z@
7447 \else
7448 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7449 \fi
7450 \ifdim\paperwidth=\z@
7451 \else
7452 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7453 \fi
7454 \fi
7455 }{%
7456 \@ifundefined{stockwidth}{%
7457 \ifdim\paperwidth=\z@
7458 \else
7459 \setlength{\pdfpagewidth}{\paperwidth}%
7460 \fi
7461 \ifdim\paperheight=\z@
7462 \else
7463 \setlength{\pdfpageheight}{\paperheight}%
7464 \fi
7465 }{%
7466 \ifdim\stockwidth=\z@
7467 \else
7468 \setlength{\pdfpagewidth}{\stockwidth}%
7469 \fi
7470 \ifdim\stockheight=\z@
7471 \else
7472 \setlength{\pdfpageheight}{\stockheight}%

```

```

7473         \fi
7474     }%
7475 }%
7476 }%
7477 \Hy@DisableOption{setpagesize}%
7478 }
7479 \def\Acrobatmenu#1#2{%
7480 \Hy@Acrobatmenu{#1}{#2}{%
7481 \pdfstartlink
7482 attr{%
7483 \Hy@setpdfborder
7484 \ifx\@pdfhighlight\@empty
7485 \else
7486 /H\@pdfhighlight
7487 \fi
7488 \ifx\@menubordercolor\relax
7489 \else
7490 /C[\@menubordercolor]%
7491 \fi
7492 }%
7493 user{%
7494 /Subtype/Link%
7495 \ifHy@pdfa /F 4\fi
7496 /A<<%
7497 /S/Named/N/#1%
7498 >>%
7499 }%
7500 \relax
7501 \Hy@colorlink\@menucolor#2%
7502 \close@pdflink
7503 }%
7504 }

```

46.2.1 Fix for problem with different nesting levels

`\AtBeginShipoutFirst` adds an additional box layer around the first output page. This disturbs pdf_TE_X'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 pdf_TE_X— 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`.

```

7505 \def\Hy@FixNotFirstPage{%
7506 \gdef\Hy@FixNotFirstPage{%
7507 \setbox\AtBeginShipoutBox=\hbox{%
7508 \copy\AtBeginShipoutBox
7509 }%
7510 }%
7511 }
7512 \AtBeginShipout{\Hy@FixNotFirstPage}
7513 </pdfTeX>

```

46.3 hypertex

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

mands:

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.

```
7514 \*hypertext>
7515 \providecommand*{\XR@ext}{dvi}
7516 \def\PDF@FinishDoc{}
7517 \def\PDF@SetupDoc{%
7518   \ifx\@baseurl\@empty
7519   \else
7520     \special{html:<base href="\@baseurl">}%
7521   \fi
7522 }
7523 \def\hyper@anchor#1{%
7524   \Hy@SaveLastskip
7525   \begingroup
7526     \let\protect=\string
7527     \hyper@chars
7528     \special{html:<a name=%
7529       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7530   \endgroup
7531   \Hy@activeanchortrue
7532   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7533   \special{html:</a>}%
7534   \Hy@activeanchorfalse
7535   \Hy@RestoreLastskip
7536 }
7537 \def\hyper@anchorstart#1{%
7538   \Hy@SaveLastskip
7539   \begingroup
7540     \hyper@chars
7541     \special{html:<a name=%
```

```

7542     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7543 \endgroup
7544 \Hy@activeanchortrue
7545 }
7546 \def\hyper@anchorend{%
7547   \special{html:</a>}}%
7548 \Hy@activeanchorfalse
7549 \Hy@RestoreLastskip
7550 }
7551 \def\@urltype{url}
7552 \def\hyper@linkstart#1#2{%
7553   \expandafter\Hy@colorlink\csname @#1color\endcsname
7554   \def\Hy@tempa{#1}%
7555   \ifx\Hy@tempa\@urltype
7556     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7557   \else
7558     \begingroup
7559     \hyper@chars
7560     \special{html:<a href=%
7561       \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}}%
7562     \endgroup
7563   \fi
7564 }
7565 \def\hyper@linkend{%
7566   \special{html:</a>}}%
7567 \Hy@endcolorlink
7568 }
7569 \def\hyper@linkfile#1#2#3{%
7570   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi}%
7571 }
7572 \def\hyper@linkurl#1#2{%

```

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

```

7573 \leavevmode
7574 \ifHy@raiselinks
7575   \setbox\@tempboxa=\color@hbox #1\color@endbox
7576   \@linkdim\dp\@tempboxa
7577   \lower\@linkdim\hbox{%
7578     \hyper@chars
7579     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7580   }%
7581   \Hy@colorlink\@urlcolor#1%
7582   \@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).

```

7583   \advance\@linkdim by -6.5\p@
7584   \raise\@linkdim\hbox{\special{html:</a>}}%
7585   \Hy@endcolorlink
7586 \else
7587   \begingroup
7588   \hyper@chars
7589   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7590   \Hy@colorlink\@urlcolor#1%
7591   \special{html:</a>}}%

```

```

7592      \Hy@endcolorlink
7593      \endgroup
7594      \fi
7595 }

```

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

```

7596 \def\hyper@link#1#2#3{%
7597   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
7598 }

7599 \def\hyper@image#1#2{%
7600   \begingroup
7601     \hyper@chars
7602     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
7603   \endgroup
7604 }
7605 </hypertex>
7606 <*dviwindo>

```

46.4 dviwindo

[This was developed by David Carlisle]. Within a file `dviwindo` hyperlinking is used, for external URL's a call to `\wwwbrowser` is made. (You can define this command before or after loading the `hyperref` package if the default `c:/netscape/netscape` is not suitable) `Dviwindo` could in fact handle external links to dvi files on the same machine without calling a web browser, but that would mean parsing the URL to recognise such, and this is currently not done.

This was more or less blindly copied from the `hypertex` cfg. For `dviwindo`, \LaTeX must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by `\baselineskip` high is used.

```

7607 \providecommand*\XR@ext{dvi}
7608 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
7609 \def\hyper@anchor#1{%
7610   \Hy@SaveLastskip
7611   \begingroup
7612     \let\protect=\string
7613     \special{mark: #1}%
7614   \endgroup
7615   \Hy@activeanchortrue
7616   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7617   \Hy@activeanchorfalse
7618   \Hy@RestoreLastskip
7619 }
7620 \def\hyper@anchorstart#1{%
7621   \Hy@SaveLastskip
7622   \special{mark: #1}%
7623   \Hy@activeanchortrue
7624 }
7625 \def\hyper@anchorend{%
7626   \Hy@activeanchorfalse
7627   \Hy@RestoreLastskip
7628 }
7629 \def\hyper@linkstart#1#2{%
7630   \expandafter\Hy@colorlink\csname @#1color\endcsname
7631   \special{button: %
7632     10000000 %

```

```

7633 \number\baselineskip\space
7634 #2%
7635 }%
7636 }
7637 \def\hyper@linkend{%
7638 \Hy@endcolorlink
7639 }
7640 \def\hyper@link#1#2#3{%
7641 \setbox\@tempboxa=\color@hbox #3\color@endbox
7642 \leavevmode
7643 \ifHy@raiselinks
7644 \@linkdim\dp\@tempboxa
7645 \lower\@linkdim\hbox{%
7646 \special{button: %
7647 \number\wd\@tempboxa\space
7648 \number\ht\@tempboxa\space
7649 #2%
7650 }%
7651 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7652 \Hy@endcolorlink
7653 }%
7654 \@linkdim\ht\@tempboxa
7655 \advance\@linkdim by -6.5\p@
7656 \raise\@linkdim\hbox{}%
7657 \else
7658 \special{button: %
7659 \number\wd\@tempboxa\space
7660 \number\ht\@tempboxa\space
7661 #2%
7662 }%
7663 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7664 \Hy@endcolorlink
7665 \fi
7666 }
7667 \def\hyper@linkurl#1#2{%
7668 \begingroup
7669 \hyper@chars
7670 \leavevmode
7671 \setbox\@tempboxa=\color@hbox #1\color@endbox
7672 \ifHy@raiselinks
7673 \@linkdim\dp\@tempboxa
7674 \lower\@linkdim\hbox{%
7675 \special{button: %
7676 \number\wd\@tempboxa\space
7677 \number\ht\@tempboxa\space
7678 launch: \wwwbrowser\space
7679 #2%
7680 }%
7681 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7682 }%
7683 \@linkdim\ht\@tempboxa
7684 \advance\@linkdim by -6.5\p@
7685 \raise\@linkdim\hbox{}%
7686 \else
7687 \special{button: %
7688 \number\wd\@tempboxa\space
7689 \number\ht\@tempboxa\space

```

```

7690      launch: \wwwbrowser\space
7691      #2%
7692    }%
7693    \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7694  \fi
7695 \endgroup
7696 }
7697 \def\hyper@linkfile#1#2#3{%
7698 \begingroup
7699   \hyper@chars
7700   \leavevmode
7701   \setbox\@tempboxa=\color@hbox #1\color@endbox
7702   \ifHy@raiselinks
7703     \@linkdim\dp\@tempboxa
7704     \lower\@linkdim\hbox{%
7705       \special{button: %
7706         \number\wd\@tempboxa\space
7707         \number\ht\@tempboxa\space
7708         #3,%
7709         file: #2%
7710       }%
7711       \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7712     }%
7713     \@linkdim\ht\@tempboxa
7714     \advance\@linkdim by -6.5\p@
7715     \raise\@linkdim\hbox{}}%
7716   \else
7717     \special{button: %
7718       \number\wd\@tempboxa\space
7719       \number\ht\@tempboxa\space
7720       #3,%
7721       file: #2%
7722     }%
7723     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7724   \fi
7725 \endgroup
7726 }
7727 \ifx\@pdfproducer\relax
7728 \def\@pdfproducer{dviwindo + Distiller}%
7729 \fi
7730 \def\PDF@FinishDoc{%
7731   \Hy@UseMaketitleInfos
7732   \special{PDF: Keywords \@pdfkeywords}%
7733   \special{PDF: Title \@pdftitle}%
7734   \special{PDF: Creator \@pdfcreator}%
7735   \ifx\@pdfcreationdate\@empty
7736   \else
7737     \special{PDF: CreationDate \@pdfcreationdate}%
7738   \fi
7739   \ifx\@pdfmoddate\@empty
7740   \else
7741     \special{PDF: ModDate \@pdfmoddate}%
7742   \fi
7743   \special{PDF: Author \@pdfauthor}%
7744   \ifx\@pdfproducer\relax
7745   \else
7746     \special{PDF: Producer \@pdfproducer}%

```

```

7747 \fi
7748 \special{PDF: Subject \@pdfsubject}%
7749 \Hy@DisableOption{pdfauthor}%
7750 \Hy@DisableOption{pdftitle}%
7751 \Hy@DisableOption{pdfsubject}%
7752 \Hy@DisableOption{pdfcreator}%
7753 \Hy@DisableOption{pdfcreationdate}%
7754 \Hy@DisableOption{pdfmoddate}%
7755 \Hy@DisableOption{pdfproducer}%
7756 \Hy@DisableOption{pdfkeywords}%
7757 }
7758 \def\PDF@SetupDoc{%
7759 \ifx\@baseurl\@empty
7760 \else
7761 \special{PDF: Base \@baseurl}%
7762 \fi
7763 \ifx\@pdfpagescrop\@empty\else
7764 \special{PDF: BBox \@pdfpagescrop}%
7765 \fi
7766 \def\Hy@temp{%
7767 \ifx\@pdfstartpage\@empty
7768 \else
7769 \ifx\@pdfstartview\@empty
7770 \else
7771 \edef\Hy@temp{%
7772 ,Page=\@pdfstartpage
7773 ,View=\@pdfstartview
7774 }%
7775 \fi
7776 \fi
7777 \edef\Hy@temp{%
7778 \noexpand\pdfmark{%
7779 pdfmark=/DOCVIEW,%
7780 PageMode=/\@pdfpagemode
7781 \Hy@temp
7782 }%
7783 }%
7784 \Hy@temp
7785 \ifx\@pdfpagescrop\@empty
7786 \else
7787 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7788 \fi
7789 \edef\Hy@temp{%
7790 \ifHy@toolbar\else /HideToolbar true\fi
7791 \ifHy@menubar\else /HideMenubar true\fi
7792 \ifHy>windowui\else /HideWindowUI true\fi
7793 \ifHy@fitwindow /FitWindow true\fi
7794 \ifHy@centerwindow /CenterWindow true\fi
7795 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7796 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7797 \Hy@UseNameKey{Direction}\@pdfdirection
7798 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7799 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7800 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7801 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7802 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7803 \Hy@UseNameKey{Duplex}\@pdfduplex

```

```

7804 \ifx\@pdfpicktraybypdfsize\@empty
7805 \else
7806 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7807 \fi
7808 \ifx\@pdfprintpagerange\@empty
7809 \else
7810 /PrintPageRange[\@pdfprintpagerange]%
7811 \fi
7812 \ifx\@pdfnumcopies\@empty
7813 \else
7814 /NumCopies \@pdfnumcopies
7815 \fi
7816 }%
7817 \pdfmark{pdfmark=/PUT,%
7818 Raw={%
7819 \string{Catalog\string}<<%
7820 \ifx\Hy@temp\@empty
7821 \else
7822 /ViewerPreferences<<\Hy@temp>>%
7823 \fi
7824 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7825 \ifx\@pdflang\@empty
7826 \else
7827 /Lang(\@pdflang)%
7828 \fi
7829 >>%
7830 }%
7831 }%
7832 }
7833 </dviwindo>
7834 <*dvipdfm>

```

46.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

7835 \providecommand*\XR@ext\{pdf}
7836 \Hy@setbreaklinks{true}
7837 \newsavebox\@pdfm@box
7838 \def\@pdfm@mark#1\{special{pdf:#1}}
7839 \def\@pdfm@dest#1{%
7840 \Hy@SaveLastskip
7841 \begingroup
7842 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7843 \def\x{XYZ}%
7844 \ifx\x\@pdfview
7845 \def\x{XYZ @xpos @ypos null}%
7846 \else
7847 \def\x{FitH}%
7848 \ifx\x\@pdfview
7849 \def\x{FitH @ypos}%
7850 \else
7851 \def\x{FitBH}%
7852 \ifx\x\@pdfview
7853 \def\x{FitBH @ypos}%
7854 \else
7855 \def\x{FitV}%
7856 \ifx\x\@pdfview

```

```

7857         \def\x{FitV @xpos}%
7858     \else
7859         \def\x{FitBV}%
7860         \ifx\x\@pdfview
7861             \def\x{FitBV @xpos}%
7862         \else
7863             \def\x{Fit}%
7864             \ifx\x\@pdfview
7865                 \let\x\@pdfview
7866             \else
7867                 \def\x{FitB}%
7868                 \ifx\x\@pdfview
7869                     \let\x\@pdfview
7870             \else
7871                 \def\x{FitR}%
7872                 \ifx\x\@pdfview
7873                     \Hy@Warning{'pdfview=FitR' is not supported}%
7874                     \def\x{XYZ @xpos @ypos null}%
7875                 \else
7876                     \@onelevel@sanitize\@pdfview
7877                     \Hy@Warning{Unknown value '\@pdfview' for pdfview}%
7878                     \def\x{XYZ @xpos @ypos null}%
7879                 \fi
7880             \fi
7881         \fi
7882     \fi
7883 \fi
7884 \fi
7885 \fi
7886 \fi
7887 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
7888 \endgroup
7889 \Hy@RestoreLastskip
7890 }
7891 \providecommand*\@pdfview{XYZ}
7892 \providecommand*\@pdfborder{0 0 1}
7893 \providecommand*\@pdfborderstyle{}
7894 \def\hyper@anchor#1{%
7895     \@pdfm@dest{#1}%
7896 }
7897 \def\hyper@anchorstart#1{%
7898     \Hy@activeanchortrue
7899     \@pdfm@dest{#1}%
7900 }
7901 \def\hyper@anchorend{%
7902     \Hy@activeanchorfalse
7903 }
7904 \ifHy@ocgcolorlinks
7905     \def\OBJ@OCG@view{\OCG@view}%
7906     \@pdfm@mark{%
7907         obj \OBJ@OCG@view <<%
7908             /Type/OCG%
7909             /Name(View)%
7910             /Usage<<%
7911             /Print<<%
7912             /PrintState/OFF%
7913             >>%

```

```

7914         /View<<%
7915         /ViewState/ON%
7916     >>%
7917 >>%
7918 >>%
7919 }%
7920 \@pdfmark{close \OBJ@OCG@view}%
7921 \def\OBJ@OCG@print{@OCG@print}%
7922 \@pdfmark{%
7923     obj \OBJ@OCG@print <<%
7924     /Type/OCG%
7925     /Name(Print)%
7926     /Usage<<%
7927     /Print<<%
7928     /PrintState/ON%
7929     >>%
7930     /View<<%
7931     /ViewState/OFF%
7932     >>%
7933 >>%
7934 >>%
7935 }%
7936 \@pdfmark{close \OBJ@OCG@print}%
7937 \def\OBJ@OCGs{@OCGs}%
7938 \@pdfmark{%
7939     obj \OBJ@OCGs [%
7940         \OBJ@OCG@view\space\OBJ@OCG@print
7941     ]%
7942 }%
7943 \@pdfmark{close \OBJ@OCGs}%
7944 \@pdfmark{%
7945     put @catalog <<%
7946     /OCProperties<<%
7947     /OCGs \OBJ@OCGs
7948     /D<<%
7949     /OFF[\OBJ@OCG@print]%
7950     /AS[%
7951         <<%
7952         /Event/View%
7953         /OCGs \OBJ@OCGs
7954         /Category[/View]%
7955         >>%
7956         <<%
7957         /Event/Print%
7958         /OCGs \OBJ@OCGs
7959         /Category[/Print]%
7960         >>%
7961         <<%
7962         /Event/Export%
7963         /OCGs \OBJ@OCGs
7964         /Category[/Print]%
7965         >>%
7966     ]%
7967     >>%
7968 >>%
7969 >>%
7970 }%

```

```

7971 \AtBeginShipout{%
7972   \setbox\AtBeginShipoutBox=\hbox{%
7973     \copy\AtBeginShipoutBox
7974     \@pdfm@mark{%
7975       put @resources <<%
7976         /Properties<<%
7977         /OCView \OBJ@OCG@view
7978         /OCPrint \OBJ@OCG@print
7979       >>%
7980     >>%
7981   }%
7982 }%
7983 }%
7984 \AtBeginDocument{%
7985   \def\Hy@colorlink#1{%
7986     \begingroup
7987     \ifHy@ocgcolorlinks
7988       \def\Hy@ocgcolor{#1}%
7989       \setbox0=\color@hbox
7990     \else
7991       \HyColor@UseColor#1%
7992     \fi
7993   }%
7994   \def\Hy@endcolorlink{%
7995     \ifHy@ocgcolorlinks
7996       \color@endbox
7997       \mbox{%
7998         \@pdfm@mark{content /OC/OCPrint BDC}%
7999         \rlap{\copy0}%
8000         \@pdfm@mark{content EMC/OC/OCView BDC}%
8001       \begingroup
8002         \expandafter\HyColor@UseColor\Hy@ocgcolor
8003       \box0 %
8004       \endgroup
8005       \@pdfm@mark{content EMC}%
8006     }%
8007   \fi
8008 \endgroup
8009 }%
8010 }%
8011 \else
8012   \Hy@DisableOption{ocgcolorlinks}%
8013 \fi

8014 \def\Hy@undefinedname{UNDEFINED}
8015 \def\hyper@linkstart#1#2{%
8016   \protected@edef\Hy@testname{#2}%
8017   \ifx\Hy@testname\@empty
8018     \Hy@Warning{%
8019       Empty destination name,\MessageBreak
8020       using '\Hy@undefinedname'%
8021     }%
8022     \let\Hy@testname\Hy@undefinedname
8023   \else
8024     \Hy@pstringdef\Hy@testname{%
8025       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8026     }%
8027   \fi

```

```

8028 \pdfmark{
8029   bann<<
8030   /Type/Annot
8031   /Subtype/Link
8032   \ifHy@pdfa /F 4\fi
8033   \Hy@setpdfborder
8034   \expandafter\ifx\csname @#1bordercolor\endcsname\relax
8035   \else
8036     /C[\csname @#1bordercolor\endcsname]
8037   \fi
8038   /A<<
8039   /S/GoTo
8040   /D(\Hy@testname)
8041   >>
8042   >>
8043 }%
8044 \expandafter\Hy@colorlink\csname @#1color\endcsname
8045 }
8046 \def\hyper@linkend{
8047   \Hy@endcolorlink
8048   \pdfmark{eann}
8049 }
8050 \def\hyper@link#1#2#3{
8051   \hyper@linkstart{#1}{#2}{#3}\hyper@linkend
8052 }
8053 \def\hyper@linkfile#1#2#3{
8054   \Hy@pstringdef\Hy@pstringF{#2}
8055   \Hy@pstringdef\Hy@pstringD{#3}
8056   \leavevmode
8057   \pdfmark{
8058     bann<<
8059     /Type/Annot
8060     /Subtype/Link
8061     \ifHy@pdfa /F 4\fi
8062     \Hy@setpdfborder
8063     \ifx\@filebordercolor\relax
8064     \else
8065       /C[\@filebordercolor]
8066     \fi
8067     /A<<
8068     /S/GoToR
8069     /F(\Hy@pstringF)
8070     /D\ifx\#3\[\[0 \pdfstartview\else(\Hy@pstringD)\fi
8071     \Hy@SetNewWindow
8072     >>
8073     >>
8074   }%
8075   \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8076   \pdfmark{eann}
8077 }
8078 \def\hyper@linkurl#1#2{
8079   \Hy@pstringdef\Hy@pstringURI{#2}
8080   \leavevmode
8081   \pdfmark{
8082     bann<<
8083     /Type/Annot
8084     /Subtype/Link

```

```

8085 \ifHy@pdfa /F 4\fi
8086 \Hy@setpdfborder
8087 \ifx\@urlbordercolor\relax
8088 \else
8089 /C[\@urlbordercolor]%
8090 \fi
8091 /A<<%
8092 /S/URI%
8093 /URI(\Hy@pstringURI)%
8094 >>%
8095 >>%
8096 }%
8097 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8098 \@pdfm@mark{eann}%
8099 }
8100 \def\Acrobatmenu#1#2{%
8101 \Hy@Acrobatmenu{#1}{#2}{%
8102 \@pdfm@mark{%
8103 bann<<%
8104 /Type/Annot%
8105 /Subtype/Link%
8106 \ifHy@pdfa /F 4\fi
8107 /A<<%
8108 /S/Named%
8109 /N/#1%
8110 >>%
8111 \Hy@setpdfborder
8112 \ifx\@menubordercolor\relax
8113 \relax
8114 /C[\@menubordercolor]%
8115 \fi
8116 >>%
8117 }%
8118 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8119 \@pdfm@mark{eann}%
8120 }%
8121 }
8122 \ifx\@pdfproducer\relax
8123 \def\@pdfproducer{dvipdfm}%

```

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

```

8124 \begingroup\expandafter\expandafter\expandafter\endgroup
8125 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8126 \else
8127 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8128 \fi
8129 \fi
8130 \def\PDF@FinishDoc{%
8131 \Hy@UseMaketitleInfos
8132 \@pdfm@mark{%
8133 docinfo<<%
8134 /Title(\@pdftitle)%
8135 /Subject(\@pdfsubject)%
8136 /Creator(\@pdfcreator)%
8137 \ifx\@pdfcreationdate\empty
8138 \else
8139 /CreationDate(\@pdfcreationdate)%
8140 \fi

```

```

8141     \ifx\@pdfmoddate\@empty
8142     \else
8143         /ModDate(\@pdfmoddate)%
8144     \fi
8145     /Author(\@pdfauthor)%
8146     \ifx\@pdfproducer\relax
8147     \else
8148         /Producer(\@pdfproducer)%
8149     \fi
8150     /Keywords(\@pdfkeywords)%
8151     >>%
8152 }%
8153 \Hy@DisableOption{pdfauthor}%
8154 \Hy@DisableOption{pdftitle}%
8155 \Hy@DisableOption{pdfsubject}%
8156 \Hy@DisableOption{pdfcreator}%
8157 \Hy@DisableOption{pdfcreationdate}%
8158 \Hy@DisableOption{pdfmoddate}%
8159 \Hy@DisableOption{pdfproducer}%
8160 \Hy@DisableOption{pdfkeywords}%
8161 }

8162 \def\PDF@SetupDoc{%
8163     \edef\Hy@temp{%
8164         \ifHy@toolbar\else /HideToolbar true\fi
8165         \ifHy@menubar\else /HideMenubar true\fi
8166         \ifHy>windowui\else /HideWindowUI true\fi
8167         \ifHy@fitwindow /FitWindow true\fi
8168         \ifHy@centerwindow /CenterWindow true\fi
8169         \ifHy@displaydoctitle /DisplayDocTitle true\fi
8170         \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8171         \Hy@UseNameKey{Direction}\@pdfdirection
8172         \Hy@UseNameKey{ViewArea}\@pdfviewarea
8173         \Hy@UseNameKey{ViewClip}\@pdfviewclip
8174         \Hy@UseNameKey{PrintArea}\@pdfprintarea
8175         \Hy@UseNameKey{PrintClip}\@pdfprintclip
8176         \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8177         \Hy@UseNameKey{Duplex}\@pdfduplex
8178         \ifx\@pdfpicktraybypdfsize\@empty
8179         \else
8180             /PickTrayByPDFSize \@pdfpicktraybypdfsize
8181         \fi
8182         \ifx\@pdfprintpagerange\@empty
8183         \else
8184             /PrintPageRange[\@pdfprintpagerange]%
8185         \fi
8186         \ifx\@pdfnumcopies\@empty
8187         \else
8188             /NumCopies \@pdfnumcopies
8189         \fi
8190     }%
8191     \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8192     \@pdfmark{%
8193         docview<<%
8194         \ifx\@pdfstartpage\@empty
8195         \else
8196             \ifx\@pdfstartview\@empty
8197             \else

```

```

8198         /OpenAction[@page\@pdfstartpage\@pdfstartview]%
8199         \fi
8200     \fi
8201     \ifx\@baseurl\@empty
8202     \else
8203         /URI<</Base(\Hy@pstringB)>>%
8204     \fi
8205     /PageMode/\@pdfpagemode
8206     \ifx\Hy@temp\@empty
8207     \else
8208         /ViewerPreferences<<\Hy@temp>>%
8209     \fi
8210     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8211     \ifx\@pdflang\@empty
8212     \else
8213         /Lang(\@pdflang)%
8214     \fi
8215     >>%
8216 }%
8217 \ifx\@pdfpagescrop\@empty
8218 \else
8219     \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}}%
8220 \fi
8221 }

8222 \AtBeginShipoutFirst{%
8223     \ifx\special@paper\@empty
8224     \else
8225         \ifHy@setpagesize
8226             \special{papersize=\special@paper}%
8227         \fi
8228     \fi
8229     \Hy@DisableOption{setpagesize}%
8230 }
8231 </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.

```

8232 <*vtexhtml>
8233 \providecommand*{\XR@ext}{htm}
8234 \RequirePackage{vtexhtml}
8235 \newif\if@Localurl
8236 \def\PDF@FinishDoc{}
8237 \def\PDF@SetupDoc{%
8238     \ifx\@baseurl\@empty
8239     \else
8240         \special{!direct <base href="\@baseurl">}}%
8241     \fi
8242 }
8243 \def\@urltype{url}
8244 \def\hyper@link#1#2#3{%
8245     \leavevmode
8246     \special{!direct <a href=
8247         \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}}%
8248     #3%

```

```

8249 \special{!direct </a>}%
8250 }
8251 \def\hyper@linkurl#1#2{%
8252   \begingroup
8253     \hyper@chars
8254     \leavevmode
8255     \MathBSuppress=1\relax
8256     \special{!direct <a href=%
8257       \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8258     #1%
8259     \MathBSuppress=0\relax
8260     \special{!direct </a>}%
8261   \endgroup
8262 }
8263 \def\hyper@linkfile#1#2#3{%
8264   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
8265 }
8266 \def\hyper@linkstart#1#2{%
8267   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8268     \@Localurltrue
8269     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8270   \else
8271     \@Localurlfalse
8272     \begingroup
8273       \hyper@chars
8274       \special{!aref \HyperDestNameFilter{#2}}%
8275     \endgroup
8276   \fi
8277 }
8278 \def\hyper@linkend{%
8279   \if@Localurl
8280     \special{!endaref}%
8281   \else
8282     \special{!direct </a>}%
8283   \fi
8284 }
8285 \def\hyper@anchorstart#1{%
8286   \Hy@SaveLastskip
8287   \begingroup
8288     \hyper@chars
8289     \special{!aname #1}%
8290     \special{!direct <a name=%
8291       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8292   \endgroup
8293   \Hy@activeanchortrue
8294 }
8295 \def\hyper@anchorend{%
8296   \special{!direct </a>}%
8297   \Hy@activeanchorfalse
8298   \Hy@RestoreLastskip
8299 }
8300 \def\hyper@anchor#1{%
8301   \Hy@SaveLastskip
8302   \begingroup
8303     \let\protect=\string
8304     \hyper@chars
8305     \leavevmode

```

```

8306 \special{!aname #1}%
8307 \special{!direct <a name=%
8308 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8309 \endgroup
8310 \Hy@activeanchortrue
8311 \bgroup\anchor@spot\egroup
8312 \special{!direct </a>}%
8313 \Hy@activeanchorfalse
8314 \Hy@RestoreLastskip
8315 }
8316 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
8317 \def\@endForm{}
8318 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8319 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8320 }
8321 \def\@TextField[#1]#2{% parameters, label
8322 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8323 }
8324 \def\@CheckBox[#1]#2{% parameters, label
8325 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8326 }
8327 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8328 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8329 }
8330 \def\@PushButton[#1]#2{% parameters, label
8331 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8332 }
8333 \def\@Reset[#1]#2{%
8334 \typeout{Sorry, TeXpider does not yet support FORMs}%
8335 }
8336 \def\@Submit[#1]#2{%
8337 \typeout{Sorry, TeXpider does not yet support FORMs}%
8338 }
8339 </vtexhtml>
8340 <*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.

```

8341 \ifx\mediaheight\@undefined
8342 \else
8343 \ifx\mediaheight\relax
8344 \else
8345 \ifHy@setpagesize
8346 \providecommand*{\VTeXInitMediaSize}{%
8347 \ifundefined{stockwidth}{%
8348 \ifdim\paperheight>0pt %
8349 \setlength\mediaheight\paperheight
8350 \fi
8351 \ifdim\paperheight>0pt %
8352 \setlength\mediawidth\paperwidth
8353 \fi
8354 }{%
8355 \ifdim\stockheight>0pt %
8356 \setlength\mediaheight\stockheight
8357 \fi
8358 \ifdim\stockwidth>0pt %

```

```

8359         \setlength\mediawidth\stockwidth
8360     \fi
8361 }%
8362 }%
8363 \AtBeginDocument{\VTeXInitMediaSize}%
8364 \fi
8365 \Hy@DisableOption{setpagesize}%
8366 \fi
8367 \fi

```

Older versions of VTeX require xyz in lower case.

```

8368 \providecommand*\@pdfview{xyz}
8369 \providecommand*\@pdfborder{0 0 1}
8370 \providecommand*\@pdfborderstyle{}
8371 \let\CurrentBorderColor\@linkbordercolor
8372 \def\hyper@anchor#1{%
8373     \Hy@SaveLastskip
8374     \begingroup
8375         \let\protect=\string
8376         \hyper@chars
8377         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8378     \endgroup
8379     \Hy@activeanchortrue
8380     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8381     \Hy@activeanchorfalse
8382     \Hy@RestoreLastskip
8383 }
8384 \def\hyper@anchorstart#1{%
8385     \Hy@SaveLastskip
8386     \begingroup
8387         \hyper@chars
8388         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8389     \endgroup
8390     \Hy@activeanchortrue
8391 }
8392 \def\hyper@anchorend{%
8393     \Hy@activeanchorfalse
8394     \Hy@RestoreLastskip
8395 }
8396 \def\@urltype{url}
8397 \def\Hy@undefinedname{UNDEFINED}
8398 \def\hyper@linkstart#1#2{%
8399     \Hy@pstringdef\Hy@pstringURI{#2}%
8400     \expandafter\Hy@colorlink\csname @#1color\endcsname
8401     \@ifundefined{#@#1bordercolor}{%
8402         \let\CurrentBorderColor\relax
8403     }{%
8404         \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8405     }%
8406     \def\Hy@tempa{#1}%
8407     \ifx\Hy@tempa\@urltype
8408         \special{!%
8409             aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8410             a=<%
8411                 \ifHy@pdfa /F 4\fi
8412                 \Hy@setpdfborder
8413                 \ifx\CurrentBorderColor\relax
8414                     \else

```

```

8415         /C [\CurrentBorderColor]%
8416     \fi
8417     >%
8418 }%
8419 \else
8420     \protected@edef\Hy@testname{#2}%
8421     \ifx\Hy@testname\@empty
8422     \Hy@Warning{%
8423         Empty destination name,\MessageBreak
8424         using '\Hy@undefinedname'%
8425     }%
8426     \let\Hy@testname\Hy@undefinedname
8427 \fi
8428 \special{!%
8429     aref \expandafter\HyperDestNameFilter
8430     \expandafter{\Hy@testname};%
8431     a=<%
8432     \ifHy@pdfa /F 4\fi
8433     \Hy@setpdfborder
8434     \ifx\CurrentBorderColor\relax
8435     \else
8436         /C [\CurrentBorderColor]%
8437     \fi
8438     >%
8439 }%
8440 \fi
8441 }
8442 \def\hyper@linkend{%
8443     \special{!endaref}%
8444     \Hy@endcolorlink
8445 }
8446 \def\hyper@linkfile#1#2#3{%
8447     \leavevmode
8448     \special{!%
8449         aref <%
8450         \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8451         f=#2>#3;%
8452         a=<%
8453         \ifHy@pdfa /F 4\fi
8454         \Hy@setpdfborder
8455         \ifx\@filebordercolor\relax
8456         \else
8457             /C [\@filebordercolor]%
8458         \fi
8459         >%
8460     }%
8461     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8462     \special{!endaref}%
8463 }
8464 \def\hyper@linkurl#1#2{%
8465     \begingroup
8466     \Hy@pstringdef\Hy@pstringURI{#2}%
8467     \hyper@chars
8468     \leavevmode
8469     \special{!%
8470         aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8471         a=<%

```

```

8472         \ifHy@pdfa /F 4\fi
8473         \Hy@setpdfborder
8474         \ifx\@urlbordercolor\relax
8475         \else
8476         /C [\@urlbordercolor]%
8477         \fi
8478     >%
8479 }%
8480 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8481 \special{!endaref}%
8482 \endgroup
8483 }
8484 \def\hyper@link#1#2#3{%
8485     \@ifundefined{@#1bordercolor}{%
8486         \let\CurrentBorderColor\relax
8487     }{%
8488         \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8489     }%
8490     \leavevmode
8491     \protected@edef\Hy@testname{#2}%
8492     \ifx\Hy@testname\@empty
8493         \Hy@Warning{%
8494             Empty destination name,\MessageBreak
8495             using '\Hy@undefinedname'%
8496         }%
8497         \let\Hy@testname\Hy@undefinedname
8498     \fi
8499     \special{!%
8500         aref \expandafter\HyperDestNameFilter
8501             \expandafter{\Hy@testname};%
8502         a=<%
8503         \ifHy@pdfa /F 4\fi
8504         \Hy@setpdfborder
8505         \ifx\CurrentBorderColor\relax
8506         \else
8507         /C [\CurrentBorderColor]%
8508         \fi
8509     >%
8510 }%
8511 \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8512 \special{!endaref}%
8513 }
8514 \def\hyper@image#1#2{%
8515     \hyper@linkurl{#2}{#1}%
8516 }
8517 \def\@hyper@launch run:#1\#2#3{%
8518     \Hy@pstringdef\Hy@pstringF{#1}%
8519     \Hy@pstringdef\Hy@pstringP{#3}%
8520     \leavevmode
8521     \special{!aref %
8522         <u=%
8523         /Type/Action%
8524         /S/Launch%
8525         /F(\Hy@pstringF)%
8526         \Hy@SetNewWindow
8527         \ifx\#3\@empty /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
8528     >;%

```

```

8529     a=<%
8530     \ifHy@pdfa /F 4\fi
8531     \Hy@setpdfborder
8532     \ifx\@runbordercolor\relax
8533     \else
8534     /C[\@runbordercolor]%
8535     \fi
8536     >%
8537 }%
8538 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8539 \special{!endaref}%
8540 }
8541 \def\Acrobatmenu#1#2{%
8542 \Hy@Acrobatmenu{#1}{#2}{%
8543 \special{!%
8544   aref <u=/S /Named /N /#1>;%
8545   a=<%
8546   \ifHy@pdfa /F 4\fi
8547   \Hy@setpdfborder
8548   \ifx\@menubordercolor\relax
8549   \else
8550   /C[\@menubordercolor]%
8551   \fi
8552   >%
8553   }%
8554   \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8555   \special{!endaref}%
8556   }%
8557 }

```

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

The code below makes sense for VT_EX 7.02 or later.

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

```

8558 \ifnum\Hy@VTeXversion<702 %
8559 \else
8560 \def\hyper@pagetransition{%
8561 \ifx\@pdfpagetransition\relax
8562 \else
8563 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

8564 \else
8565 \hvtex@parse@trans\@pdfpagetransition
8566 \fi
8567 \fi
8568 }%

```

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:

```

8569 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8570 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8571 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8572 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8573 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8574 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8575 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

8576 \def\hvtex@par@dimension{/Dm}%
8577 \def\hvtex@par@direction{/Di}%
8578 \def\hvtex@par@duration{/D}%
8579 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

8580 \def\hvtex@gettoken{\expandafter\hvtex@gettoken@\hvtex@buffer\@nil}%

```

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

```

8581 \def\hvtex@gettoken@#1 #2\@nil{%
8582   \edef\hvtex@token{#1}%
8583   \edef\hvtex@buffer{#2}%
8584 }%
8585 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

8586 \let\hvtex@trans@code\@empty
8587 \let\hvtex@param@dimension\@empty
8588 \let\hvtex@param@direction\@empty
8589 \let\hvtex@param@duration\@empty
8590 \let\hvtex@param@motion\@empty
8591 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

8592 \hvtex@gettoken
8593 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

8594 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

8595 \else
8596 \hvtex@gettoken
8597 \fi
8598 \fi
8599 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

8600 \hvtex@trans@params
8601 }%

```

Reentrant macro to parse optional parameters.

```

8602 \def\hvtex@trans@params{%
8603   \ifx\hvtex@buffer\@empty
8604   \else
8605     \hvtex@gettoken
8606     \let\hvtex@trans@par\hvtex@token
8607     \ifx\hvtex@buffer\@empty
8608     \else
8609       \hvtex@gettoken
8610       \ifx\hvtex@trans@par\hvtex@par@duration

```

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

```

8611       \let\hvtex@param@duration\hvtex@token
8612       \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

8613       \expandafter\edef\expandafter\hvtex@param@motion
8614       \expandafter{\expandafter\@gobble\hvtex@token}%
8615       \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

8616       \expandafter\edef\expandafter\hvtex@param@dimension
8617       \expandafter{\expandafter\@gobble\hvtex@token}%
8618       \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).

```

8619       \let\hvtex@param@direction\hvtex@token
8620       \fi\fi\fi\fi
8621       \fi
8622       \fi
8623       \ifx\hvtex@buffer\@empty
8624       \let\next\hvtex@produce@trans
8625       \else
8626       \let\next\hvtex@trans@params
8627       \fi
8628       \next
8629   }%

```

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

```

8630 \def\hvtex@produce@trans{%
8631   \let\vtex@trans@special\@empty
8632   \if S\hvtex@trans@code
8633     \edef\vtex@trans@special{\hvtex@trans@code
8634       \hvtex@param@dimension\hvtex@param@motion}%
8635   \else\if B\hvtex@trans@code
8636     \edef\vtex@trans@special{%
8637       \hvtex@trans@code\hvtex@param@dimension
8638     }%
8639   \else\if X\hvtex@trans@code
8640     \edef\vtex@trans@special{%
8641       \hvtex@trans@code\hvtex@param@motion
8642     }%
8643   \else\if W\hvtex@trans@code
8644     \edef\vtex@trans@special{%
8645       \hvtex@trans@code\hvtex@param@direction
8646     }%
8647   \else\if D\hvtex@trans@code

```

```

8648     \let\vtex@trans@special\hvtex@trans@code
8649     \else\if R\hvtex@trans@code
8650         \let\vtex@trans@special\hvtex@trans@code
8651     \else\if G\hvtex@trans@code
8652         \edef\vtex@trans@special{%
8653             \hvtex@trans@code\hvtex@param@direction
8654         }%
8655     \fi\fi\fi\fi\fi\fi\fi
8656     \ifx\vtex@trans@special\@empty
8657     \else
8658         \ifx\hvtex@param@duration\@empty
8659         \else
8660             \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

8661         \multiply\dimen@\@m
8662         \edef\vtex@trans@special{%
8663             \vtex@trans@special,\strip@pt\dimen@
8664         }%
8665     \fi

```

And all the mess is just for this.

```

8666     \special{!trans \vtex@trans@special}%
8667     \fi
8668 }%

8669 \def\hyper@pageduration{%
8670     \ifx\@pdfpageduration\relax
8671     \else
8672         \ifx\@pdfpageduration\@empty
8673             \special{!duration-}%
8674         \else
8675             \special{!duration \@pdfpageduration}%
8676         \fi
8677     \fi
8678 }%
8679 \def\hyper@pagehidden{%
8680     \ifHy@useHidKey
8681         \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8682     \fi
8683 }%
8684 \g@addto@macro\Hy@EveryPageBoxHook{%
8685     \hyper@pagetransition
8686     \hyper@pageduration
8687     \hyper@pagehidden
8688 }%
8689 \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

```

8690 \ifx\@pdfproducer\relax
8691   \def\@pdfproducer{VTeX}%
8692   \ifnum\Hy@VTeXversion>\z@
8693     \count@\VTeXversion
8694     \divide\count@ 100 %
8695     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
8696     \multiply\count@ -100 %
8697     \advance\count@\VTeXversion
8698     \edef\@pdfproducer{%
8699       \@pdfproducer
8700       .\ifnum\count@<10 0\fi\the\count@
8701       \ifx\VTeXOS\undefined\else
8702         \ifnum\VTeXOS>0 %
8703           \ifnum\VTeXOS<6 %
8704             \space(%
8705             \ifcase\VTeXOS
8706               \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
8707             \fi
8708             )%
8709           \fi
8710         \fi
8711       ,\space
8712       \ifnum\OpMode=\@ne PDF\else PS\fi
8713       \space backend%
8714       \ifx\gexmode\undefined\else
8715         \ifnum\gexmode>\z@\space with GeX\fi
8716       \fi
8717     }%
8718   \fi
8719 \fi
8720 \fi

```

Current !pdfinfo key syntax:

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

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

```

8721 \def\PDF@SetupDoc{%
8722   \ifx\@pdfpagescrop\@empty
8723   \else
8724     \special{!pdfinfo b=<\@pdfpagescrop>}%
8725   \fi
8726   \ifx\@pdfstartpage\@empty
8727   \else
8728     \ifx\@pdfstartview\@empty
8729     \else
8730       \special{!onopen Page\@pdfstartpage}%
8731     \fi

```

```

8732 \fi
8733 \special{!pdfinfo p=</\@pdfpagemode>}%
8734 \ifx\@baseurl\@empty
8735 \else
8736 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
8737 \fi
8738 \special{!pdfinfo v=<<<%
8739 \ifHy@toolbar\else /HideToolbar true\fi
8740 \ifHy@menubar\else /HideMenubar true\fi
8741 \ifHy@windowui\else /HideWindowUI true\fi
8742 \ifHy@fitwindow /FitWindow true\fi
8743 \ifHy@centerwindow /CenterWindow true\fi
8744 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8745 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8746 \Hy@UseNameKey{Direction}\@pdfdirection
8747 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8748 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8749 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8750 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8751 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8752 \Hy@UseNameKey{Duplex}\@pdfduplex
8753 \ifx\@pdfpicktraybypdfsize\@empty
8754 \else
8755 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8756 \fi
8757 \ifx\@pdfprintpagerange\@empty
8758 \else
8759 /PrintPageRange[\@pdfprintpagerange]%
8760 \fi
8761 \ifx\@pdfnumcopies\@empty
8762 \else
8763 /NumCopies \@pdfnumcopies
8764 \fi
8765 >>>}%
8766 \ifx\@pdfpagelayout\@empty
8767 \else
8768 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
8769 \fi
8770 }%
8771 \def\PDF@FinishDoc{%
8772 \Hy@UseMaketitleInfos
8773 \special{!pdfinfo a=<\@pdfauthor>}%
8774 \special{!pdfinfo t=<\@pdftitle>}%
8775 \special{!pdfinfo s=<\@pdfsubject>}%
8776 \special{!pdfinfo c=<\@pdfcreator>}%
8777 \ifx\@pdfproducer\relax
8778 \else
8779 \special{!pdfinfo r=<\@pdfproducer>}%
8780 \fi
8781 \special{!pdfinfo k=<\@pdfkeywords>}%
8782 \Hy@DisableOption{pdfauthor}%
8783 \Hy@DisableOption{pdftitle}%
8784 \Hy@DisableOption{pdfsubject}%
8785 \Hy@DisableOption{pdfcreator}%
8786 \Hy@DisableOption{pdfcreationdate}%
8787 \Hy@DisableOption{pdfmoddate}%
8788 \Hy@DisableOption{pdfproducer}%

```

```

8789 \Hy@DisableOption{pdfkeywords}%
8790 }
8791 </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.

```

8792 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
8793 <package>\providecommand*\Hy@DistillerDestFix{}
8794 <*pdfmark | dviwindo>
8795 \def\Hy@DistillerDestFix{%
8796   \begingroup
8797     \let\x\literalps@out

```

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

```

8798   \ifnum \@ifundefined{OpMode}{0}{%
8799     \@ifundefined{gexmode}{0}{%
8800       \ifnum\gexmode>0 \OpMode\else 0\fi
8801     }>1 %
8802   \def\x##1{%
8803     \immediate\special{!=##1}%
8804   }%
8805 \fi
8806 \x{%
8807   /product where{%
8808     pop %
8809     product(Distiller)search{%
8810       pop pop pop %
8811       version(.)search{%
8812         exch pop exch pop%
8813         (3011)eq{%
8814           gsave %
8815           newpath 0 0 moveto closepath clip%
8816           /Courier findfont 10 scalefont setfont %
8817           72 72 moveto(.)show %
8818           grestore%
8819         }if%
8820       }{pop}ifelse%
8821     }{pop}ifelse%
8822   }if%
8823 }%
8824 \endgroup
8825 }
8826 </pdfmark | dviwindo>

```

46.8 Direct pdfmark support

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

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

and the correct definitions of the following PostScript procedures:

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

```

8827 <*pdfmark>
8828 \Hy@breaklinks@unsupported
8829 \def\hyper@anchor#1{%
8830   \Hy@SaveLastskip
8831   \beginngroup
8832     \pdfmark[\anchor@spot]{%
8833       pdfmark=/DEST,%
8834       linktype=anchor,%
8835       View=/\@pdfview \@pdfviewparams,%
8836       DestAnchor={#1}%
8837     }%
8838   \endgroup
8839   \Hy@RestoreLastskip
8840 }
8841 \@ifundefined{hyper@anchorstart}{-}{\endinput}
8842 \def\hyper@anchorstart#1{%
8843   \Hy@SaveLastskip
8844   \literalps@out{H.S}%
8845   \xdef\hyper@currentanchor{#1}%
8846   \Hy@activeanchortrue
8847 }
8848 \def\hyper@anchorend{%
8849   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
8850   \pdfmark{%
8851     pdfmark=/DEST,%
8852     linktype=anchor,%
8853     View=/\@pdfview \@pdfviewparams,%
8854     DestAnchor=\hyper@currentanchor,%
8855   }%
8856   \Hy@activeanchorfalse
8857   \Hy@RestoreLastskip
8858 }
8859 \def\hyper@linkstart#1#2{%
8860   \ifHy@breaklinks
8861   \else
8862     \leavevmode\hbox\bgroup
8863     \fi
8864     \expandafter\Hy@colorlink\csname @#1color\endcsname
8865     \literalps@out{H.S}%
8866     \xdef\hyper@currentanchor{#2}%
8867     \gdef\hyper@currentlinktype{#1}%
8868 }
8869 \def\hyper@linkend{%
8870   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
8871   \@ifundefined{@\hyper@currentlinktype bordercolor}{%
8872     \let\Hy@tempcolor\relax

```

```

8873 }{%
8874   \edef\Hy@tempcolor{%
8875     \csname @\hyper@currentlinktype bordercolor\endcsname
8876   }%
8877 }%
8878 \pdfmark{%
8879   pdfmark=/ANN,%
8880   linktype=link,%
8881   Subtype=/Link,%
8882   PDFAFlags=4,%
8883   Dest=\hyper@currentanchor,%
8884   AcroHighlight=\@pdfhighlight,%
8885   Border=\@pdfborder,%
8886   BorderStyle=\@pdfborderstyle,%
8887   Color=\Hy@tempcolor,%
8888   Raw=H.B%
8889 }%
8890 \Hy@endcolorlink
8891 \ifHy@breaklinks
8892 \else
8893   \egroup
8894 \fi
8895 }

```

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.

```

8896 \begingroup
8897 \catcode'P=12 %
8898 \catcode'T=12 %
8899 \lowercase{\endgroup
8900 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
8901 }
8902 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

8903 \def\hyper@pagetransition{%
8904   \ifx\@pdfpagetransition\relax
8905   \else
8906     \ifx\@pdfpagetransition\@empty
8907       % 1. Does an old entry have to be deleted?
8908       % 2. If 1=yes, how to delete?
8909     \else
8910       \pdfmark{%
8911         pdfmark=/PUT,%
8912         Raw={%
8913           \string{ThisPage\string}%
8914           <</Trans << /S /\@pdfpagetransition\space >> >>%
8915         }%
8916       }%
8917     \fi
8918   \fi
8919 }

```

\hyper@pageduration

```

8920 \def\hyper@pageduration{%
8921   \ifx\@pdfpageduration\relax

```

```

8922 \else
8923   \ifx\@pdfpageduration\@empty
8924     % 1. Does an old entry have to be deleted?
8925     % 2. If 1=yes, how to delete?
8926   \else
8927     \pdfmark{%
8928       pdfmark=/PUT,%
8929       Raw={%
8930         \string{ThisPage\string}%
8931         <</Dur \@pdfpageduration>>%
8932       }%
8933     }%
8934   \fi
8935 \fi
8936 }

```

\hyper@pagehidden

```

8937 \def\hyper@pagehidden{%
8938   \ifHy@useHidKey
8939     \pdfmark{%
8940       pdfmark=/PUT,%
8941       Raw={%
8942         \string{ThisPage\string}%
8943         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
8944       }%
8945     }%
8946   \fi
8947 }

8948 \g@addto@macro\Hy@EveryPageBoxHook{%
8949   \hyper@pagetransition
8950   \hyper@pageduration
8951   \hyper@pagehidden
8952 }

8953 \def\hyper@image#1#2{%
8954   \hyper@linkurl{#2}{#1}%
8955 }

8956 \def\Hy@undefinedname{UNDEFINED}
8957 \def\hyper@link#1#2#3{%
8958   \@ifundefined{#1bordercolor}{%
8959     \let\Hy@tempcolor\relax
8960   }{%
8961     \edef\Hy@tempcolor{\csname #1bordercolor\endcsname}%
8962   }%
8963   \begingroup
8964     \protected@edef\Hy@testname{#2}%
8965     \ifx\Hy@testname\@empty
8966       \Hy@Warning{%
8967         Empty destination name,\MessageBreak
8968         using '\Hy@undefinedname'%
8969       }%
8970     \let\Hy@testname\Hy@undefinedname
8971   \fi
8972   \pdfmark[#{#3}]{%
8973     Color=\Hy@tempcolor,%
8974     linktype={#1},%
8975     AcroHighlight=\@pdfhighlight,%

```

```

8976     Border=\@pdfborder,%
8977     BorderStyle=\@pdfborderstyle,%
8978     pdfmark=/ANN,%
8979     Subtype=/Link,%
8980     PDFAFlags=4,%
8981     Dest=\Hy@testname
8982 }%
8983 \endgroup
8984 }
8985 \newtoks\pdf@docset
8986 \def\PDF@FinishDoc{%
8987   \Hy@UseMaketitleInfos
8988   \let\Hy@temp\@empty
8989   \ifx\@pdfcreationdate\@empty
8990   \else
8991     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
8992   \fi
8993   \ifx\@pdfmoddate\@empty
8994   \else
8995     \expandafter\def\expandafter\Hy@temp\expandafter{%
8996       \Hy@temp
8997       ModDate=\@pdfmoddate,%
8998     }%
8999   \fi
9000   \ifx\@pdfproducer\relax
9001   \else
9002     \expandafter\def\expandafter\Hy@temp\expandafter{%
9003       \Hy@temp
9004       Producer=\@pdfproducer,%
9005     }%
9006   \fi
9007   \expandafter
9008   \pdfmark\expandafter{%
9009     \Hy@temp
9010     pdfmark=/DOCINFO,%
9011     Title=\@pdftitle,%
9012     Subject=\@pdfsubject,%
9013     Creator=\@pdfcreator,%
9014     Author=\@pdfauthor,%
9015     Keywords=\@pdfkeywords
9016   }%
9017   \Hy@DisableOption{pdfauthor}%
9018   \Hy@DisableOption{pdftitle}%
9019   \Hy@DisableOption{pdfsubject}%
9020   \Hy@DisableOption{pdfcreator}%
9021   \Hy@DisableOption{pdfcreationdate}%
9022   \Hy@DisableOption{pdfmoddate}%
9023   \Hy@DisableOption{pdfproducer}%
9024   \Hy@DisableOption{pdfkeywords}%
9025 }
9026 \def\PDF@SetupDoc{%
9027   \def\Hy@temp{}%
9028   \ifx\@pdfstartpage\@empty
9029   \else
9030     \ifx\@pdfstartview\@empty
9031     \else
9032       \edef\Hy@temp{%

```

```

9033         ,Page=\@pdfstartpage
9034         ,View=\@pdfstartview
9035     }%
9036 \fi
9037 \fi
9038 \edef\Hy@temp{%
9039     \noexpand\pdfmark{%
9040         pdfmark=/DOCVIEW,%
9041         PageMode=/\@pdfpagemode
9042     \Hy@temp
9043 }%
9044 }%
9045 \Hy@temp
9046 \ifx\@pdfpagescrop\@empty
9047 \else
9048     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9049 \fi
9050 \edef\Hy@temp{%
9051     \ifHy@toolbar\else /HideToolbar true\fi
9052     \ifHy@menubar\else /HideMenubar true\fi
9053     \ifHy>windowui\else /HideWindowUI true\fi
9054     \ifHy@fitwindow /FitWindow true\fi
9055     \ifHy@centerwindow /CenterWindow true\fi
9056     \ifHy@displaydoctitle /DisplayDocTitle true\fi
9057     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9058     \Hy@UseNameKey{Direction}\@pdfdirection
9059     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9060     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9061     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9062     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9063     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9064     \Hy@UseNameKey{Duplex}\@pdfduplex
9065     \ifx\@pdfpicktraybypdfsize\@empty
9066     \else
9067         /PickTrayByPDFSize \@pdfpicktraybypdfsize
9068     \fi
9069     \ifx\@pdfprintpagerange\@empty
9070     \else
9071         /PrintPageRange[\@pdfprintpagerange]%
9072     \fi
9073     \ifx\@pdfnumcopies\@empty
9074     \else
9075         /NumCopies \@pdfnumcopies
9076     \fi
9077 }%
9078 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9079 \pdfmark{%
9080     pdfmark=/PUT,%
9081     Raw={%
9082         \string{Catalog\string}<<%
9083         \ifx\Hy@temp\@empty
9084         \else
9085             /ViewerPreferences<<\Hy@temp>>%
9086         \fi
9087         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9088         \ifx\@pdflang\@empty
9089         \else

```

```

9090      /Lang(\@pdflang)%
9091      \fi
9092      \ifx\@baseurl\@empty
9093      \else
9094      /URI<</Base(\Hy@pstringB)>>%
9095      \fi
9096      >>%
9097      }%
9098      }%
9099  }
9100  </pdfmark>
9101  <*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.

```

9102 \newif\ifHy@pdfmarkerror
9103 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
9104 \def\pdfmark@[#1]#2{%
9105   \Hy@pdfmarkerrorfalse
9106   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9107   \@processme
9108   \let\pdf@type\relax
9109   \setkeys{PDF}{#2}%
9110   \ifHy@pdfmarkerror
9111   \else
9112     \ifx\pdf@type\relax
9113       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9114       \ifx\#1\%
9115       \else
9116         \pdf@rect{#1}%
9117       \fi
9118     \else
9119       \ifx\#1\%
9120         \literalps@out{%
9121           [\the\pdf@toks\space\pdf@type\space pdfmark%
9122           ]%
9123         \else
9124           \@ifundefined{@\pdf@linktype color}{%
9125             \Hy@colorlink\@linkcolor
9126           }{%
9127             \expandafter\Hy@colorlink
9128               \csname @\pdf@linktype color\endcsname
9129           }%
9130           \pdf@rect{#1}%
9131           \literalps@out{%
9132             [\the\pdf@toks\space\pdf@type\space pdfmark%
9133             ]%
9134             \Hy@endcolorlink
9135           \fi
9136         \fi
9137       \fi
9138     }

```

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

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

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

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

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

```
9139 \newsavebox{\pdf@box}
9140 \providecommand*{\Hy@setouterhbox}{\sbox}
9141 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
9142 \def\Hy@DEST{/DEST}
9143 \def\pdf@rect#1{%
9144   \leavevmode
9145   \ifHy@breaklinks
9146     \Hy@setouterhbox\pdf@box{#1}%
9147   \else
9148     \sbox\pdf@box{#1}%
9149   \fi
9150   \dimen@ \ht\pdf@box
9151   \ifdim\dp\pdf@box=\z@
9152     \literalps@out{H.S}%
9153   \else
9154     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9155   \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...).

```
9156   \ifHy@breaklinks
9157     \expandafter\Hy@breaklinksunhbox
9158   \else
9159     \expandafter\box
9160   \fi
9161   \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
```

```
9162 \ifdim\dimen@=\z@
9163   \literalps@out{H.R}%
9164 \else
9165   \raise\dimen@\hbox{\literalps@out{H.R}}%
9166 \fi
9167 \ifx\pdf@type\Hy@DEST
9168 \else
9169   \pdf@addtoksx{H.B}%
9170 \fi
9171 }
```

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.

```
9172 \newtoks\pdf@toks
9173 \newtoks\pdf@defaulttoks
9174 \pdf@defaulttoks={}
9175 \def\pdf@addtoks#1#2{%
```

```

9176 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9177 \@processme
9178 }
9179 \def\pdf@addtoksx#1{%
9180 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9181 \@processme
9182 }
9183 \def\PDFdefaults#1{%
9184 \pdf@defaulttoks={#1}%
9185 }

```

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

```

9186 % what is the type of pdfmark?
9187 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9188 % what is the link type?
9189 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
9190 \def\pdf@linktype{link}
9191 % parameter is a stream of PDF
9192 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
9193 % parameter is a name
9194 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9195 % parameter is a array
9196 \define@key{PDF}{Border}{%
9197 \edef\Hy@temp{#1}%
9198 \ifx\Hy@temp\@empty
9199 \else
9200 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
9201 \fi
9202 }
9203 \let\Hy@BorderArrayPatch\@empty
9204 % parameter is a dictionary
9205 \define@key{PDF}{BorderStyle}{%
9206 \edef\Hy@temp{#1}%
9207 \ifx\Hy@temp\@empty
9208 \else
9209 \pdf@addtoks{<<#1>>}{BS}%
9210 \fi
9211 }
9212 % parameter is a array
9213 \define@key{PDF}{Color}{%
9214 \ifx\relax#1\relax
9215 \else
9216 \pdf@addtoks{[#1]}{Color}% hash-ok
9217 \fi
9218 }
9219 % parameter is a string
9220 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9221 % parameter is a integer
9222 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9223 % parameter is a array
9224 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9225 % parameter is a string
9226 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9227 % parameter is a string or file
9228 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9229 % parameter is a destination
9230 \define@key{PDF}{Dest}{%
9231 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%

```

```

9232 \ifx\Hy@pstringDest\@empty
9233   \Hy@pdfmarkerrortrue
9234   \Hy@Warning{Destination with empty name ignored}%
9235 \else
9236   \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9237 \fi
9238 }
9239 \define@key{PDF}{DestAnchor}{%
9240   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9241   \ifx\Hy@pstringDest\@empty
9242     \Hy@pdfmarkerrortrue
9243     \Hy@Warning{Destination with empty name ignored}%
9244   \else
9245     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9246   \fi
9247 }
9248 % parameter is a string
9249 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9250 % parameter is a string
9251 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9252 % parameter is a int
9253 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9254 \define@key{PDF}{PDFAFlags}{%
9255   \ifHy@pdfa
9256     \pdf@addtoks{#1}{F}%
9257   \fi
9258 }
9259 % parameter is a name
9260 \define@key{PDF}{AcroHighlight}{%
9261   \begingroup
9262     \edef\x{#1}%
9263     \expandafter\endgroup\ifx\x\@empty
9264     \else
9265       \pdf@addtoks{#1}{H}%
9266     \fi
9267 }
9268 % parameter is a string
9269 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9270 % parameter is a string
9271 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9272 % parameter is a string
9273 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9274 % parameter is a string
9275 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9276 % parameter is a Boolean
9277 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9278 % parameter is a integer or name
9279 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9280 % parameter is a name
9281 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9282 % parameter is a string
9283 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9284 % parameter is a array
9285 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9286 % parameter is a integer
9287 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9288 % parameter is a name

```

```

9289 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9290 % parameter is a string
9291 \define@key{PDF}{Title}{\pdf@addtoks{#1}{Title}}
9292 % parameter is a string
9293 \define@key{PDF}{Unix}{\pdf@addtoks{#1}{Unix}}
9294 % parameter is a string
9295 \define@key{PDF}{UnixFile}{\pdf@addtoks{#1}{UnixFile}}
9296 % parameter is an array
9297 \define@key{PDF}{View}{\pdf@addtoks{#1}{View}}% hash-ok
9298 % parameter is a string
9299 \define@key{PDF}{WinFile}{\pdf@addtoks{#1}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9300 \define@key{PDF}{Author}{\pdf@addtoks{#1}{Author}}
9301 \define@key{PDF}{Creator}{\pdf@addtoks{#1}{Creator}}
9302 \define@key{PDF}{CreationDate}{\pdf@addtoks{#1}{CreationDate}}
9303 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
9304 \define@key{PDF}{Producer}{\pdf@addtoks{#1}{Producer}}
9305 \define@key{PDF}{Subject}{\pdf@addtoks{#1}{Subject}}
9306 \define@key{PDF}{Keywords}{\pdf@addtoks{#1}{Keywords}}
9307 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
9308 \define@key{PDF}{Base}{\pdf@addtoks{#1}{Base}}
9309 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
9310 </pdfmarkbase>
9311 <*pdfmark>
9312 \def\Acrobatmenu#1#2{%
9313   \Hy@Acrobatmenu{#1}{#2}{%
9314     \pdfmark[{#2}]{%
9315       linktype=menu,%
9316       pdfmark=/ANN,%
9317       AcroHighlight=\pdfhighlight,%
9318       Border=\pdfborder,%
9319       BorderStyle=\pdfborderstyle,%
9320       Action={<< /Subtype /Named /N /#1 >>},%
9321       Subtype=/Link,%
9322       PDFAPFlags=4%
9323     }%
9324   }%
9325 }

```

And now for some useful examples:

```

9326 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9327 \def\PDFNextPage@[#1]#2{%
9328   \pdfmark[{#2}]{%
9329     #1,%
9330     Border=\pdfborder,%
9331     BorderStyle=\pdfborderstyle,%
9332     Color=.2 .1 .5,%
9333     pdfmark=/ANN,%
9334     Subtype=/Link,%
9335     PDFAPFlags=4,%
9336     Page=/Next%
9337   }%
9338 }
9339 \def\PDFPreviousPage{%
9340   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9341 }
9342 \def\PDFPreviousPage@[#1]#2{%

```

```

9343 \pdfmark[{#2}]{%
9344     #1,%
9345     Border=\pdfborder,%
9346     BorderStyle=\pdfborderstyle,%
9347     Color=.4 .4 .1,%
9348     pdfmark=/ANN,%
9349     Subtype=/Link,%
9350     PDFAFlags=4,%
9351     Page=/Prev%
9352 }%
9353 }
9354 \def\PDFOpen#1{%
9355     \pdfmark{#1,pdfmark=/DOCVIEW}%
9356 }

```

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

```

9357 \def\hyper@linkurl#1#2{%
9358     \begingroup
9359     \Hy@pstringdef\Hy@pstringURI{#2}%
9360     \hyper@chars
9361     \leavevmode
9362     \pdfmark[{#1}]{%
9363         pdfmark=/ANN,%
9364         linktype=url,%
9365         AcroHighlight=\pdfhighlight,%
9366         Border=\pdfborder,%
9367         BorderStyle=\pdfborderstyle,%
9368         Color=\urlbordercolor,%
9369         Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9370         Subtype=/Link,%
9371         PDFAFlags=4%
9372     }%
9373     \endgroup
9374 }
9375 \def\hyper@linkfile#1#2#3{%
9376     \begingroup
9377     \Hy@pstringdef\Hy@pstringF{#2}%
9378     \Hy@pstringdef\Hy@pstringD{#3}%
9379     \leavevmode
9380     \pdfmark[{#1}]{%
9381         pdfmark=/ANN,%
9382         Subtype=/Link,%
9383         PDFAFlags=4,%
9384         AcroHighlight=\pdfhighlight,%
9385         Border=\pdfborder,%
9386         BorderStyle=\pdfborderstyle,%
9387         linktype=file,%
9388         Color=\filebordercolor,%
9389         Action={%
9390             <<%
9391             /S/GoToR%
9392             \Hy@SetNewWindow
9393             /F(\Hy@pstringF)%
9394             /D\ifx\#3\ [O \pdfstartview]\else(\Hy@pstringD)cvn\fi
9395             >>%
9396         }%
9397     }%
9398     \endgroup

```

```

9399 }
9400 \def\@hyper@launch run:#1\#2#3{%
9401   \begingroup
9402     \Hy@pstringdef\Hy@pstringF{#1}%
9403     \Hy@pstringdef\Hy@pstringP{#3}%
9404     \leavevmode
9405     \pdfmark[{#2}]{%
9406       pdfmark=/ANN,%
9407       Subtype=/Link,%
9408       PDFAFlags=4,%
9409       AcroHighlight=\@pdfhighlight,%
9410       Border=\@pdfborder,%
9411       BorderStyle=\@pdfborderstyle,%
9412       linktype=run,%
9413       Color=\@runbordercolor,%
9414       Action={%
9415         <<%
9416           /S/Launch%
9417           \Hy@SetNewWindow
9418           /F(\Hy@pstringF)%
9419           \ifx\#3\%
9420             \else
9421               /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9422             \fi
9423           >>%
9424         }%
9425       }%
9426   \endgroup
9427 }
9428 \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.

```

9429 < *dvips>
9430 \providecommand*\XR@ext}{pdf}
9431 \def\Hy@raisedlink{}
9432 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9433 \def\headerps@out#1{\special{! #1}}%
9434 \input{pdfmark.def}%
9435 \ifx\@pdfproducer\relax
9436   \def\@pdfproducer{dvips + Distiller}%
9437 \fi
9438 \providecommand*\@pdfborder{0 0 1}
9439 \providecommand*\@pdfborderstyle{}
9440 \providecommand*\@pdfview{XYZ}
9441 \providecommand*\@pdfviewparams{ H.V}
9442 \def\Hy@BorderArrayPatch{BorderArrayPatch}
9443 \g@addto@macro\Hy@FirstPageHook{%
9444   \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.

```
9445 /DvipsToPDF{72.27 mul Resolution div} def%
9446 /PDFToDvips{72.27 div Resolution mul} def%
9447 /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.

```
9448 /BorderArrayPatch{%
9449   [exch%
9450     dup dup type/integertype eq exch type/realtype eq or%
9451     {BPToDvips}if%
9452     }forall]%
9453   }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.

```
9454 /HyperBorder {1 PDFToDvips} def%
9455 /H.V {pdf@hoff pdf@voff null} def%
9456 /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

```
9457 /H.S {%
9458   currentpoint %
9459   HyperBorder add /pdf@lly exch def %
9460   dup DvipsToPDF 72 add /pdf@hoff exch def %
9461   HyperBorder sub /pdf@llx exch def%
9462 } 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

```
9463 /H.L {%
9464   2 sub dup%
9465   /HyperBasePt exch def %
9466   PDFToDvips /HyperBaseDvips exch def %
9467   currentpoint %
9468   HyperBaseDvips sub /pdf@ury exch def%
9469   /pdf@urx exch def%
9470 } def%
9471 /H.A {%
```

```

9472      H.L %
9473 % |/\pdf@voff| = the distance from the top of the page to a point
9474 % |/\baselineskip| above the current point in PDF coordinates
9475      currentpoint exch pop %
9476      vsize 72 sub exch DvipsToPDF %
9477      HyperBasePt sub % baseline skip
9478      sub /\pdf@voff exch def%
9479    } def%
9480    /H.R {%
9481      currentpoint %
9482      HyperBorder sub /\pdf@ury exch def %
9483      HyperBorder add /\pdf@urx exch def %
9484 % |/\pdf@voff| = the distance from the top of the page to the current point, in
9485 % PDF coordinates
9486      currentpoint exch pop vsize 72 sub %
9487      exch DvipsToPDF sub /\pdf@voff exch def%
9488    } def%
9489  }%
9490 }
9491 \AfterBeginDocument{%
9492   \ifx\special@paper\@empty\else
9493     \ifHy@setpagesize
9494       \special{papersize=\special@paper}%
9495     \fi
9496   \fi
9497   \Hy@DisableOption{setpagesize}%
9498 }
9499 </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.

```

9500 <*vtexpdfmark>
9501 \providecommand*{\XR@ext}{pdf}
9502 \def\Hy@raisedlink{}
9503 \def\literalps@out#1{\special{pS:#1}}%
9504 \def\headerps@out#1{\immediate\special{pS:#1}}%
9505 \input{pdfmark.def}%
9506 \ifx\@pdfproducer\relax
9507   \ifnum\OpMode=\@ne
9508     \def\@pdfproducer{VTeX}%
9509   \else
9510     \def\@pdfproducer{VTeX + Distiller}%
9511   \fi
9512 \fi
9513 \providecommand*\@pdfborder{0 0 1}
9514 \providecommand*\@pdfborderstyle{}
9515 \providecommand*\@pdfview{XYZ}
9516 \providecommand*\@pdfviewparams{ H.V}
9517 \g@addto@macro\Hy@FirstPageHook{%
9518   \headerps@out{%
9519     /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.

```

9520    /HyperBorder {1} def%
9521    /H.V {pdf@hoff pdf@voff null} def%
9522    /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9523    /H.S {%
9524        currentpoint %
9525        HyperBorder sub%
9526        /pdf@lly exch def %
9527        dup 72 add /pdf@hoff exch def %
9528        HyperBorder sub%
9529        /pdf@llx exch def%
9530    } def%

```

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

```

9531    /H.L {%
9532        2 sub%
9533        /HyperBasePt exch def %
9534        currentpoint %
9535        HyperBasePt add HyperBorder add%
9536        /pdf@ury exch def %
9537        HyperBorder add%
9538        /pdf@urx exch def%
9539    } def%
9540    /H.A {%
9541        H.L %
9542        currentpoint exch pop %
9543        vsize 72 sub exch %
9544        HyperBasePt add add%
9545        /pdf@voff exch def%
9546    } def%

```

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

```

9547    /H.R {%
9548        currentpoint %
9549        HyperBorder add%
9550        /pdf@ury exch def %
9551        HyperBorder add%
9552        /pdf@urx exch def %
9553        currentpoint exch pop vsize 72 sub add%
9554        /pdf@voff exch def%
9555    } def%
9556    }%
9557 }
9558 </vtxpdfmark>

```

46.11 Textures

```

9559 <*textures>
9560 \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.

```

9561 \begingroup
9562   \obeylines %
9563   \gdef\Hy@ps@CR{\noexpand
9564     }%
9565 \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`.

```

9566 \def\literalps@out#1{%
9567   \special{postscript 0 0 transform}%
9568   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9569 }%
9570 %

```

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.

```

9571 \def\headerps@out#1{%
9572   \special{%
9573     prepostscript TeXdict begin\Hy@ps@CR
9574       #1\Hy@ps@CR
9575     end%
9576   }%
9577 }%
9578 %

```

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.

```

9579 \g@addto@macro\Hy@FirstPageHook{%
9580   \headerps@out{%
9581     /betterpdfmark {%
9582       systemdict begin %
9583         dup /BP eq%
9584         {cleartomark gsave nulldevice []}%
9585         {dup /EP eq%
9586           {cleartomark cleartomark grestore}%
9587           {cleartomark}}%
9588         ifelse%
9589       }ifelse %
9590     end%
9591   }def\Hy@ps@CR
9592   __pdfmark__ not{/pdfmark /betterpdfmark load def}if%

```

```

9593 }% end of \headerps@out
9594 }% end of \AtBeginShipoutFirst
9595 %
9596 \input{pdfmark.def}%
9597 %
9598 \ifx\@pdfproducer\relax
9599 \def\@pdfproducer{Textures + Distiller}%
9600 \fi
9601 \providecommand*\@pdfborder{0 0 1}
9602 \providecommand*\@pdfborderstyle{}
9603 \providecommand*\@pdfview{XYZ}
9604 \providecommand*\@pdfviewparams{ H.V}
9605 %

```

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 .

```

9606 \headerps@out{%

```

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

```

9607 /vsize {\Hy@pageheight} def%
9608 /DvipsToPDF {} def%
9609 /PDFToDvips {} def%
9610 /BPToDvips {} def%
9611 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9612 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9613 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9614 /H.S {%
9615     currentpoint %
9616     HyperBorder add /pdf@lly exch def %
9617     dup DvipsToPDF 72 add /pdf@hoff exch def %
9618     HyperBorder sub /pdf@llx exch def%
9619 } def\Hy@ps@CR
9620 /H.L {%
9621     2 sub %
9622     PDFToDvips /HyperBase exch def %
9623     currentpoint %
9624     HyperBase sub /pdf@ury exch def%
9625     /pdf@urx exch def%
9626 } def\Hy@ps@CR
9627 /H.A {%
9628     H.L %
9629     currentpoint exch pop %
9630     vsize 72 sub exch DvipsToPDF %
9631     HyperBase sub % baseline skip
9632     sub /pdf@voff exch def%
9633 } def\Hy@ps@CR
9634 /H.R {%
9635     currentpoint %
9636     HyperBorder sub /pdf@ury exch def %
9637     HyperBorder add /pdf@urx exch def %
9638     currentpoint exch pop vsize 72 sub %
9639     exch DvipsToPDF sub /pdf@voff exch def%
9640 } def\Hy@ps@CR
9641 }

```

```

9642 \AfterBeginDocument{%
9643   \ifHy@colorlinks
9644     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9645   \fi
9646 }

```

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.

```

9647 \expandafter\let\expandafter\keepPDF@SetupDoc
9648 \csname PDF@SetupDoc\endcsname
9649 \def\PDF@SetupDoc{%
9650   \ifx\@baseurl\@empty
9651   \else
9652     \special{html:<base href="\@baseurl">}%
9653   \fi
9654   \keepPDF@SetupDoc
9655 }
9656 \def\hyper@anchor#1{%
9657   \Hy@SaveLastskip
9658   \begingroup
9659     \let\protect=\string
9660     \special{html:<a name=%
9661       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9662   \endgroup
9663   \Hy@activeanchortrue
9664   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9665   \special{html:</a>}%
9666   \Hy@activeanchorfalse
9667   \Hy@RestoreLastskip
9668 }
9669 \def\hyper@anchorstart#1{%
9670   \Hy@SaveLastskip
9671   \begingroup
9672     \hyper@chars
9673     \special{html:<a name=%
9674       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9675   \endgroup
9676   \Hy@activeanchortrue
9677 }
9678 \def\hyper@anchorend{%
9679   \special{html:</a>}%
9680   \Hy@activeanchorfalse
9681   \Hy@RestoreLastskip
9682 }
9683 \def\@urltype{url}
9684 \def\hyper@linkstart#1#2{%
9685   \expandafter\Hy@colorlink\csname @#1color\endcsname
9686   \def\Hy@tempa{#1}%
9687   \ifx\Hy@tempa\@urltype
9688     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9689   \else
9690     \begingroup
9691       \hyper@chars
9692       \special{html:<a href=%
9693         \hyper@quote\#HyperDestNameFilter{#2}\hyper@quote>}%
9694     \endgroup
9695   \fi
9696 }

```

```

9697 \def\hyper@linkend{%
9698   \special{html:</a>}%
9699   \Hy@endcolorlink
9700 }
9701 \def\hyper@linkfile#1#2#3{%
9702   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9703 }
9704 \def\hyper@linkurl#1#2{%
9705   \leavevmode
9706   \ifHy@raiselinks
9707     \setbox\@tempboxa=\color@hbox #1\color@endbox
9708     \@linkdim\dp\@tempboxa
9709     \lower\@linkdim\hbox{%
9710       \hyper@chars
9711       \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9712   }%
9713   \Hy@colorlink\@urlcolor#1%
9714   \@linkdim\ht\@tempboxa
9715   \advance\@linkdim by -6.5\p@
9716   \raise\@linkdim\hbox{\special{html:</a>}}%
9717   \Hy@endcolorlink
9718 \else
9719   \begingroup
9720   \hyper@chars
9721   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9722   \Hy@colorlink\@urlcolor#1%
9723   \special{html:</a>}}%
9724   \Hy@endcolorlink
9725 \endgroup
9726 \fi
9727 }

```

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

```

9728 \def\hyper@link#1#2#3{%
9729   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}}%
9730 }
9731 \def\hyper@image#1#2{%
9732   \begingroup
9733   \hyper@chars
9734   \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
9735 \endgroup
9736 }
9737 </textures>

```

46.12 dvipsone

```

9738 % \subsection{dvipsone driver}
9739 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
9740 % |\special| commands.
9741 <*dvipsone>
9742 \providecommand*\XR@ext}{pdf}
9743 \def\Hy@raisedlink{}
9744 \providecommand*\@pdfborder{0 0 1}
9745 \providecommand*\@pdfborderstyle{}
9746 \def\literalps@out#1{\special{ps:#1}}%
9747 \def\headerps@out#1{\special{headertext=#1}}%
9748 \input{pdfmark.def}%
9749 \ifx\@pdfproducer\relax

```

```

9750 \def\@pdfproducer{dvipsone + Distiller}%
9751 \fi
9752 \def\PDF@FinishDoc{%
9753   \Hy@UseMaketitleInfos
9754   \special{PDF: Keywords \@pdfkeywords}%
9755   \special{PDF: Title \@pdftitle}%
9756   \special{PDF: Creator \@pdfcreator}%
9757   \ifx\@pdfcreationdate\@empty
9758   \else
9759     \special{PDF: CreationDate \@pdfcreationdate}%
9760   \fi
9761   \ifx\@pdfmoddate\@empty
9762   \else
9763     \special{PDF: ModDate \@pdfmoddate}%
9764   \fi
9765   \special{PDF: Author \@pdfauthor}%
9766   \ifx\@pdfproducer\relax
9767   \else
9768     \special{PDF: Producer \@pdfproducer}%
9769   \fi
9770   \special{PDF: Subject \@pdfsubject}%
9771   \Hy@DisableOption{pdfauthor}%
9772   \Hy@DisableOption{pdftitle}%
9773   \Hy@DisableOption{pdfsubject}%
9774   \Hy@DisableOption{pdfcreator}%
9775   \Hy@DisableOption{pdfcreationdate}%
9776   \Hy@DisableOption{pdfmoddate}%
9777   \Hy@DisableOption{pdfproducer}%
9778   \Hy@DisableOption{pdfkeywords}%
9779 }
9780 \def\PDF@SetupDoc{%
9781   \def\Hy@temp{%
9782     \ifx\@pdfstartpage\@empty
9783     \else
9784       \ifx\@pdfstartview\@empty
9785       \else
9786         \edef\Hy@temp{%
9787           ,Page=\@pdfstartpage
9788           ,View=\@pdfstartview
9789         }%
9790       \fi
9791     \fi
9792     \edef\Hy@temp{%
9793       \noexpand\pdfmark{%
9794         pdfmark=/DOCVIEW,%
9795         PageMode=/\@pdfpagemode
9796         \Hy@temp
9797       }%
9798     }%
9799     \Hy@temp
9800     \ifx\@pdfpagescrop\@empty
9801     \else
9802       \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9803     \fi
9804     \edef\Hy@temp{%
9805       \ifHy@toolbar\else /HideToolbar true\fi
9806       \ifHy@menubar\else /HideMenubar true\fi

```

```

9807 \ifHy@windowui\else /HideWindowUI true\fi
9808 \ifHy@fitwindow /FitWindow true\fi
9809 \ifHy@centerwindow /CenterWindow true\fi
9810 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9811 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9812 \Hy@UseNameKey{Direction}\@pdfdirection
9813 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9814 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9815 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9816 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9817 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9818 \Hy@UseNameKey{Duplex}\@pdfduplex
9819 \ifx\@pdfpicktraybypdfsize\@empty
9820 \else
9821 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9822 \fi
9823 \ifx\@pdfprintpagerange\@empty
9824 \else
9825 /PrintPageRange[\@pdfprintpagerange]%
9826 \fi
9827 \ifx\@pdfnumcopies\@empty
9828 \else
9829 /NumCopies \@pdfnumcopies
9830 \fi
9831 }%
9832 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9833 \pdfmark{%
9834 pdfmark=/PUT,%
9835 Raw={%
9836 \string{Catalog\string}<<%
9837 \ifx\Hy@temp\@empty
9838 \else
9839 /ViewerPreferences<<\Hy@temp>>%
9840 \fi
9841 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9842 \ifx\@pdflang\@empty
9843 \else
9844 /Lang(\@pdflang)%
9845 \fi
9846 \ifx\@baseurl\@empty
9847 \else
9848 /URI<</Base(\Hy@pstringB)>>%
9849 \fi
9850 >>%
9851 }%
9852 }%
9853 }
9854 \providecommand*\@pdfview{XYZ}
9855 \providecommand*\@pdfviewparams{ %
9856 gsave revscl currentpoint grestore %
9857 72 add exch pop null exch null%
9858 }
9859 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called

at the LL and UR corners of a box known to \TeX .

```
9860 \g@addto@macro\Hy@FirstPageHook{%
9861   \headerps@out{%
```

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

```
9862   /DvipsToPDF { 65781 div } def%
9863   /PDFToDvips { 65781 mul } def%
9864   /BPToDvips{65781 mul}def%
9865   /HyperBorder { 1 PDFToDvips } def%
9866   /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.

```
9867   /BorderArrayPatch{%
9868     [exch{%
9869       dup dup type/integertype eq exch type/realtype eq or%
9870       {BPToDvips}if%
9871     }forall]%
9872   }def%

9873   /H.S {%
9874     currentpoint %
9875     HyperBorder add /pdf@lly exch def %
9876     dup DvipsToPDF 72 add /pdf@hoff exch def %
9877     HyperBorder sub /pdf@llx exch def%
9878   } def%

9879   /H.L {%
9880     2 sub %
9881     PDFToDvips /HyperBase exch def %
9882     currentpoint %
9883     HyperBase sub /pdf@ury exch def%
9884     /pdf@urx exch def%
9885   } def%

9886   /H.A {%
9887     H.L %
9888     currentpoint exch pop %
9889     HyperBase sub % baseline skip
9890     DvipsToPDF /pdf@voff exch def%
9891   } def%

9892   /H.R {%
9893     currentpoint %
9894     HyperBorder sub /pdf@ury exch def %
9895     HyperBorder add /pdf@urx exch def %
9896     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
9897   } def%

9898   }%
9899 }
9900 </dvipsone>
```

46.13 TeX4ht

```
9901 <*tex4ht>
9902 \providecommand*\XR@ext}{html}
9903 \def\Hy@raisedlink{}
9904 \@ifpackageloaded{tex4ht}{%
9905   \typeout{hyperref tex4ht: tex4ht already loaded}%
9906 }{%
9907   \RequirePackage[htex4ht]{tex4ht}%
9908 }
```

```

9909 \hyperlinkfileprefix{}
9910 \def\PDF@FinishDoc{}
9911 \def\PDF@SetupDoc{%
9912   \ifx\@baseurl\@empty
9913   \else
9914     \special{t4ht=<base href="\@baseurl">}%
9915   \fi
9916 }
9917 \def\hyper@anchor#1{%
9918   \Hy@SaveLastskip
9919   \begingroup
9920     \let\protect=\string
9921     \special{t4ht=<a name=%
9922       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9923   \endgroup
9924   \Hy@Activeanchortrue
9925   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9926   \special{t4ht=</a>}%
9927   \Hy@Activeanchorfalse
9928   \Hy@RestoreLastskip
9929 }
9930 \def\hyper@anchorstart#1{%
9931   \Hy@SaveLastskip
9932   \begingroup
9933     \hyper@chars\special{t4ht=<a name=%
9934       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9935   \endgroup
9936   \Hy@Activeanchortrue
9937 }
9938 \def\hyper@anchorend{%
9939   \special{t4ht=</a>}%
9940   \Hy@Activeanchorfalse
9941   \Hy@RestoreLastskip
9942 }
9943 \def\@urltype{url}
9944 \def\hyper@linkstart#1#2{%
9945   \expandafter\Hy@colorlink\csname @#1color\endcsname
9946   \def\Hy@tempa{#1}%
9947   \ifx\Hy@tempa\@urltype
9948     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9949   \else
9950     \begingroup
9951       \hyper@chars
9952       \special{t4ht=<a href=%
9953         \hyper@quote\#HyperDestNameFilter{#2}\hyper@quote>}%
9954     \endgroup
9955   \fi
9956 }
9957 \def\hyper@linkend{%
9958   \special{t4ht=</a>}%
9959   \Hy@endcolorlink
9960 }
9961 \def\hyper@linkfile#1#2#3{%
9962   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
9963 }
9964 \def\hyper@linkurl#1#2{%
9965   \leavevmode

```

```

9966 \ifHy@raiselinks
9967   \setbox\@tempboxa=\color@hbox #1\color@endbox
9968   \@linkdim\dp\@tempboxa
9969   \lower\@linkdim\hbox{%
9970     \begingroup
9971       \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
9972     \endgroup
9973   }%
9974   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9975   \@linkdim\ht\@tempboxa
9976   \advance\@linkdim by -6.5\p@
9977   \raise\@linkdim\hbox{\special{t4ht=</a>}}%
9978 \else
9979   \begingroup
9980     \hyper@chars
9981     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
9982     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9983     \special{t4ht=</a>}}%
9984   \endgroup
9985 \fi
9986 }

```

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

```

9987 \def\hyper@link#1#2#3{%
9988   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
9989 }
9990 \def\hyper@image#1#2{%
9991   \begingroup
9992     \hyper@chars
9993     \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}}%
9994   \endgroup
9995 }
9996 \let\autoref\ref
9997 \ifx \rEfLiNK \UnDef
9998   \def\rEfLiNK #1#2{#2}%
9999 \fi
10000 \def\backref#1{}
10001 </tex4ht>
10002 <*tex4htcfg>
10003 \IfFileExists{\jobname.cfg}{\endinput}{}
10004 \Preamble{html}
10005   \begin{document}%
10006 \EndPreamble
10007 \def\TeX{TeX}
10008 \def\OMEGA{\Omega}
10009 \def\LaTeX{LaTeX}
10010 \def\LaTeXe{\LaTeX2e}
10011 \def\eTeX{e-TeX}
10012 \def\MF{Metafont}
10013 \def\MP{MetaPost}
10014 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

10015 <*pdfmark>
10016 \long\def\@Form[#1]{%

```

```

10017 \g@addto@macro\Hy@FirstPageHook{%
10018 \headerps@out{%
10019 [%
10020   /_objdef{pdfDocEncoding}%
10021   /type/dict%
10022 /OBJ pdfmark%
10023 [%
10024   {pdfDocEncoding}%
10025   <<%
10026     /Type/Encoding%
10027     /Differences[%
10028       24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
10029       /tilde %
10030       39/quotesingle %
10031       96/grave %
10032       128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10033       /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10034       /quotedblbase/quotedblleft/quotedblright/quoteleft%
10035       /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
10036       /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10037       164/currency %
10038       166/brokenbar %
10039       168/dieresis/copyright/ordfeminine %
10040       172/logicalnot/.notdef/registered/macron/degree/plusminus%
10041       /twosuperior/threesuperior/acute/mu %
10042       183/periodcentered/cedilla/onesuperior/ordmasculine %
10043       188/onequarter/onehalf/threequarters %
10044       192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10045       /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10046       /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10047       /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10048       /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10049       /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10050       /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10051       /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
10052       /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
10053       /ucircumflex/udieresis/yacute/thorn/ydieresis%
10054     ]%
10055   >>%
10056 /PUT pdfmark%
10057 [%
10058   /_objdef{ZaDb}%
10059   /type/dict%
10060 /OBJ pdfmark%
10061 [%
10062   {ZaDb}%
10063   <<%
10064     /Type/Font%
10065     /Subtype/Type1%
10066     /Name/ZaDb%
10067     /BaseFont/ZapfDingbats%
10068   >>%
10069 /PUT pdfmark%
10070 [%
10071   /_objdef{Helv}%
10072   /type/dict%
10073 /OBJ pdfmark%

```

```

10074 [%
10075   {Helv}%
10076   <<%
10077     /Type/Font%
10078     /Subtype/Type1%
10079     /Name/Helv%
10080     /BaseFont/Helvetica%
10081     /Encoding{pdfDocEncoding}%
10082   >>%
10083 /PUT pdfmark%
10084 [%
10085   /_objdef{aform}%
10086   /type/dict%
10087 /OBJ pdfmark%
10088 [%
10089   /_objdef{afields}%
10090   /type/array%
10091 /OBJ pdfmark%
10092 {%
10093   [%
10094     /BBox[0 0 100 100]%
10095     /_objdef{Check}%
10096   /BP pdfmark %
10097   1 0 0 setrgbcolor%
10098   /ZapfDingbats 80 selectfont %
10099   20 20 moveto%
10100   (4)show%
10101   [/EP pdfmark%
10102   [%
10103     /BBox[0 0 100 100]%
10104     /_objdef{Cross}%
10105   /BP pdfmark %
10106   1 0 0 setrgbcolor%
10107   /ZapfDingbats 80 selectfont %
10108   20 20 moveto%
10109   (8)show%
10110   [/EP pdfmark%
10111   [%
10112     /BBox[0 0 250 100]%
10113     /_objdef{Submit}%
10114   /BP pdfmark %
10115   0.6 setgray %
10116   0 0 250 100 rectfill %
10117   1 setgray %
10118   2 2 moveto %
10119   2 98 lineto %
10120   248 98 lineto %
10121   246 96 lineto %
10122   4 96 lineto %
10123   4 4 lineto %
10124   fill %
10125   0.34 setgray %
10126   248 98 moveto %
10127   248 2 lineto %
10128   2 2 lineto %
10129   4 4 lineto %
10130   246 4 lineto %

```

```

10131 246 96 lineto %
10132 fill%
10133 /Helvetica 76 selectfont %
10134 0 setgray %
10135 8 22.5 moveto%
10136 (Submit)show%
10137 [/EP pdfmark%
10138 [%
10139   /BBox[0 0 250 100]%
10140   /_objdef{SubmitP}%
10141 /BP pdfmark %
10142 0.6 setgray %
10143 0 0 250 100 rectfill %
10144 0.34 setgray %
10145 2 2 moveto %
10146 2 98 lineto %
10147 248 98 lineto %
10148 246 96 lineto %
10149 4 96 lineto %
10150 4 4 lineto %
10151 fill %
10152 1 setgray %
10153 248 98 moveto %
10154 248 2 lineto %
10155 2 2 lineto %
10156 4 4 lineto %
10157 246 4 lineto %
10158 246 96 lineto %
10159 fill%
10160 /Helvetica 76 selectfont %
10161 0 setgray %
10162 10 20.5 moveto%
10163 (Submit)show%
10164 [/EP pdfmark%
10165 } ?pdfmark%
10166 [%
10167 {aform}%
10168 <<%
10169   /Fields{afields}%
10170   /DR<<%
10171     /Font<<%
10172       /ZaDb{ZaDb}%
10173       /Helv{Helv}%
10174     >>%
10175   >>%
10176   /DA(/Helv 10 Tf 0 g)%
10177   /CO{corder}%
10178   \ifHy@pdfa
10179   \else
10180     /NeedAppearances true%
10181   \fi
10182 >>%
10183 /PUT pdfmark%
10184 [%
10185 {Catalog}%
10186 <<%
10187   /AcroForm{aform}%

```

```

10188 >>%
10189 /PUT pdfmark%
10190 [%
10191   /_objdef{corder}%
10192   /type/array%
10193 /OBJ pdfmark% dps
10194 }}%
10195   \setkeys{Form}{#1}%
10196 }
10197 \def\@endForm{}
10198 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10199   \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10200 }
10201 \def\@TextField[#1]#2{% parameters, label
10202   \def\Fld@name{#2}%
10203   \def\Fld@default{}%
10204   \let\Fld@value\@empty
10205   \def\Fld@width{\DefaultWidthofText}%
10206   \def\Fld@height{%
10207     \ifFld@multiline
10208       \DefaultHeightofTextMultiline
10209     \else
10210       \DefaultHeightofText
10211     \fi
10212   }%
10213   \begingroup
10214     \Fld@toks={ }%
10215     \expandafter\HyField@SetKeys\expandafter{%
10216       \DefaultOptionsofText,#1%
10217     }%
10218     \HyField@FlagsText
10219     \ifFld@hidden\def\Fld@width{1sp}\fi
10220     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10221     \LayoutTextField{#2}{%
10222       \Hy@escapeform\PDFForm@Text
10223       \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10224         pdfmark=/ANN,Raw={\PDFForm@Text}%
10225       }%
10226     }%
10227   \endgroup
10228 }
10229 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10230   \def\Fld@name{#2}%
10231   \let\Fld@default\relax
10232   \let\Fld@value\relax
10233   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10234   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10235   \begingroup
10236     \Fld@menulength=0 %
10237     \@tempdima\z@
10238     \@for\@curropt:=#3\do{%
10239       \expandafter\Fld@checkequals\@curropt==\%
10240       \Hy@StepCount\Fld@menulength
10241       \settowidth{\@tempdimb}{\@currDisplay}%
10242       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10243     }%
10244     \advance\@tempdima by 15\p@

```

```

10245 \Field@toks={ }%
10246 \begingroup
10247 \HyField@SetKeys{#1}%
10248 \edef\x{\endgroup
10249 \noexpand\expandafter
10250 \noexpand\HyField@SetKeys
10251 \noexpand\expandafter{%
10252 \expandafter\noexpand\csname DefaultOptionsof%
10253 \ifFld@radio
10254 Radio%
10255 \else
10256 \ifFld@combo
10257 \ifFld@popdown
10258 PopdownBox%
10259 \else
10260 ComboBox%
10261 \fi
10262 \else
10263 ListBox%
10264 \fi
10265 \fi
10266 \endcsname
10267 }%
10268 }\x
10269 \HyField@SetKeys{#1}%
10270 \ifFld@hidden\def\Fld@width{1sp}\fi
10271 \ifx\Fld@value\relax
10272 \let\Fld@value\Fld@default
10273 \fi
10274 \LayoutChoiceField{#2}{%
10275 \ifFld@radio
10276 \HyField@FlagsRadioButton
10277 \@@Radio{#3}%
10278 \else
10279 \begingroup
10280 \HyField@FlagsChoice
10281 \ifdim\Fld@width<\@tempdima
10282 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10283 \edef\Fld@width{\the\@tempdima}%
10284 \fi
10285 \ifFld@combo
10286 \else
10287 \@tempdima=\the\Fld@menulength\Fld@charsize
10288 \advance\@tempdima by \Fld@borderwidth bp %
10289 \advance\@tempdima by \Fld@borderwidth bp %
10290 \edef\Fld@height{\the\@tempdima}%
10291 \fi
10292 \@@ListBox{#3}%
10293 \endgroup
10294 \fi
10295 }%
10296 \endgroup
10297 }
10298 \def\@@Radio#1{%
10299 \Fld@listcount=0 %
10300 \@for\@curropt:=#1\do{%
10301 \expandafter\Fld@checkequals\@curropt==\%

```

```

10302 \Hy@StepCount\Fld@listcount
10303 \@currDisplay\space
10304 \Hy@escapeform\PDFForm@Radio
10305 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10306 pdfmark=/ANN,%
10307 Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
10308 } % deliberate space between radio buttons
10309 }%
10310 }
10311 \newcount\Fld@listcount
10312 \def\@@ListBox#1{%
10313 \HyField@PDFChoices{#1}%
10314 \Hy@escapeform\PDFForm@List
10315 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10316 pdfmark=/ANN,Raw={\PDFForm@List}%
10317 }%
10318 }
10319 \def\@PushButton[#1]#2{% parameters, label
10320 \def\Fld@name{#2}%
10321 \begingroup
10322 \Field@toks={}%
10323 \expandafter\HyField@SetKeys\expandafter{%
10324 \DefaultOptionsofPushButton,#1%
10325 }%
10326 \ifHy@pdfa
10327 \PackageError{hyperref}{%
10328 PDF/A: Push button with JavaScript is prohibited%
10329 }\@ehc
10330 \LayoutPushButtonField{%
10331 \leavevmode
10332 \MakeButtonField{#2}%
10333 }%
10334 \else
10335 \HyField@FlagsPushButton
10336 \ifFld@hidden\def\Fld@width{1sp}\fi
10337 \LayoutPushButtonField{%
10338 \leavevmode
10339 \Hy@escapeform\PDFForm@Push
10340 \pdfmark[\MakeButtonField{#2}]{%
10341 pdfmark=/ANN,Raw={\PDFForm@Push}%
10342 }%
10343 }%
10344 \fi
10345 \endgroup
10346 }
10347 \def\@Submit[#1]#2{%
10348 \Field@toks={}%
10349 \def\Fld@width{\DefaultWidthofSubmit}%
10350 \def\Fld@height{\DefaultHeightofSubmit}%
10351 \begingroup
10352 \expandafter\HyField@SetKeys\expandafter{%
10353 \DefaultOptionsofSubmit,#1%
10354 }%
10355 \HyField@FlagsPushButton
10356 \HyField@FlagsSubmit
10357 \ifFld@hidden\def\Fld@width{1sp}\fi
10358 \Hy@escapeform\PDFForm@Submit

```

```

10359 \pdfmark[\MakeButtonField{#2}]{%
10360 pdfmark=/ANN,%
10361 Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10362 }%
10363 \endgroup
10364 }
10365 \def\@Reset[#1]#2{%
10366 \Field@toks={ }%
10367 \def\Fld@width{\DefaultWidthofReset}%
10368 \def\Fld@height{\DefaultHeightofReset}%
10369 \begingroup
10370 \expandafter\HyField@SetKeys\expandafter{%
10371 \DefaultOptionsofReset,#1%
10372 }%
10373 \leavevmode
10374 \ifHy@pdfa
10375 \PackageError{hyperref}{%
10376 PDF/A: Reset action is prohibited%
10377 }{@ehc
10378 \MakeButtonField{#2}%
10379 \else
10380 \HyField@FlagsPushButton
10381 \ifFld@hidden\def\Fld@width{1sp}\fi
10382 \Hy@escapeform\PDFForm@Reset
10383 \pdfmark[\MakeButtonField{#2}]{%
10384 pdfmark=/ANN,Raw={\PDFForm@Reset}%
10385 }%
10386 \fi
10387 \endgroup
10388 }%
10389 \def\@CheckBox[#1]#2{% parameters, label
10390 \def\Fld@name{#2}%
10391 \def\Fld@default{0}%
10392 \begingroup
10393 \def\Fld@width{\DefaultWidthofCheckBox}%
10394 \def\Fld@height{\DefaultHeightofCheckBox}%
10395 \Field@toks={ }%
10396 \expandafter\HyField@SetKeys\expandafter{%
10397 \DefaultOptionsofCheckBox,#1%
10398 }%
10399 \HyField@FlagsCheckBox
10400 \ifFld@hidden\def\Fld@width{1sp}\fi
10401 \LayoutCheckField{#2}{%
10402 \Hy@escapeform\PDFForm@Check
10403 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10404 pdfmark=/ANN,Raw={\PDFForm@Check}%
10405 }%
10406 }%
10407 \endgroup
10408 }
10409 </pdfmark>

```

47.2 HyperTeX

```

10410 <*hypertex>
10411 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10412 \def\@endForm{}
10413 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum

```

```

10414 \typeout{Sorry, HyperTeX does not support FORM gauges}%
10415 }
10416 \def\@TextField[#1]#2{% parameters, label
10417 \typeout{Sorry, HyperTeX does not support FORM text fields}%
10418 }
10419 \def\@CheckBox[#1]#2{% parameters, label
10420 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10421 }
10422 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10423 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10424 }
10425 \def\@PushButton[#1]#2{% parameters, label
10426 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10427 }
10428 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10429 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10430 \</hypertex>

```

47.3 TeX4ht

```

10431 \<tex4ht>
10432 \def\@Form[#1]{%
10433 \setkeys{Form}{#1}%
10434 \HCode{<form action="\Form@action" method="\Form@method">}%
10435 }
10436 \def\@endForm{\HCode{</form>}}
10437 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10438 \typeout{Sorry, TeX4ht does not support gauges}%
10439 }
10440 \def\@TextField[#1]#2{% parameters, label
10441 \let\Hy@reserved@a\@empty
10442 \def\Fld@name{#2}%
10443 \def\Fld@default{}%
10444 \bgroup
10445 \Field@toks={ }%
10446 \setkeys{Field}{#1}%
10447 \HCode{<label for="\Fld@name">#2</label>}%
10448 \ifFld@password
10449 \@@PasswordField
10450 \else
10451 \@@TextField
10452 \fi
10453 \egroup
10454 }
10455 \def\@@PasswordField{%
10456 \HCode{%
10457 <input type="password" %
10458 id="\Fld@name" %
10459 name="\Fld@name" %
10460 \ifFld@hidden type="hidden" \fi
10461 value="\Fld@default" %
10462 \the\Fld@toks
10463 >%
10464 }%
10465 }
10466 \def\@@TextField{%
10467 \ifFld@multiline
10468 \HCode{<textarea %

```

```

10469     \ifFld@readonly readonly \fi
10470     id="\Fld@name" %
10471     name="\Fld@name" %
10472     \ifFld@hidden type="hidden" \fi
10473     \the\Field@toks>%
10474 }%
10475 \Fld@default
10476 \HCode{</textarea>}%
10477 \else
10478 \HCode{<input type="textbox" %
10479     \ifFld@readonly readonly \fi
10480     id="\Fld@name" %
10481     name="\Fld@name" %
10482     \ifFld@hidden type="hidden" \fi
10483     value="\Fld@default" %
10484     \the\Field@toks>%
10485 }%
10486 \fi
10487 }
10488 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10489 \def\Fld@name{#2}%
10490 \def\Fld@default{}%
10491 \let\Hy@reserved@a\relax
10492 \begingroup
10493 \expandafter\Fld@findlength#3\\%
10494 \Field@toks={ }%
10495 \setkeys{Field}{#1}%
10496 #2%
10497 \ifFld@radio
10498 \expandafter\@@Radio#3\\%
10499 \else
10500 \expandafter\@@Menu#3\\%
10501 \fi
10502 \endgroup
10503 }
10504 \def\Fld@findlength#1\\{%
10505 \Fld@menulength=0 %
10506 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10507 }
10508 \def\@@Menu#1\\{%
10509 \HCode{<select size="\the\Fld@menulength" %
10510     name="\Fld@name" %
10511     \the\Field@toks>%
10512 }%
10513 \@for\@curropt:=#1\do{%
10514 \expandafter\Fld@checkequals\@curropt==\\%
10515 \HCode{<option %
10516     \ifx\@curropt\Fld@default selected \fi
10517     value="\@currValue">\@currDisplay</option>%
10518 }%
10519 }%
10520 \HCode{</select>}%
10521 }
10522 \def\@@Radio#1\\{%
10523 \@for\@curropt:=#1\do{%
10524 \expandafter\Fld@checkequals\@curropt==\\%
10525 \HCode{<input type="radio" %

```

```

10526     \ifx\@currOpt\Fld@default checked \fi
10527     name="\Fld@name" %
10528     value="\@currValue" %
10529     \the\Fld@toks>%
10530 }%
10531 \@currDisplay
10532 }%
10533 }
10534 \def\@PushButton[#1]#2{% parameters, label
10535   \def\Fld@name{#2}%
10536   \bgroup
10537     \Fld@toks={ }%
10538     \setkeys{Field}{#1}%
10539     \HCode{<input type="button" %
10540       name="\Fld@name" %
10541       value="#2" %
10542       \the\Fld@toks>%
10543     }%
10544     \HCode{</button>}%
10545   \egroup
10546 }
10547 \def\@Submit[#1]#2{%
10548   \HCode{<button type="submit">#2</button>}%
10549 }
10550 \def\@Reset[#1]#2{%
10551   \HCode{<button type="reset">#2</button>}%
10552 }
10553 \def\@CheckBox[#1]#2{% parameters, label
10554   \let\Hy@reserved@a\@empty
10555   \def\Fld@name{#2}%
10556   \def\Fld@default{0}%
10557   \bgroup
10558     \Fld@toks={ }%
10559     \setkeys{Field}{#1}%
10560     \HCode{<input type="checkbox" %
10561       \ifFld@checked checked \fi
10562       \ifFld@disabled disabled \fi
10563       \ifFld@readonly readonly \fi
10564       name="\Fld@name" %
10565       \ifFld@hidden type="hidden" \fi
10566       value="\Fld@default" %
10567       \the\Fld@toks>%
10568     #2%
10569   }%
10570   \egroup
10571 }
10572 </tex4ht>

```

47.4 pdfTeX

```

10573 <*pdfTeX>
10574 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10575   \typeout{Sorry, pdfTeX does not support FORM gauges}%
10576 }
10577 \def\MakeFieldObject#1#2{\sbox0{#1}%
10578   \immediate\pdfxform0 %
10579   \expandafter\edef\csname #2object\endcsname{%
10580     \the\pdflastxform\space 0 R%

```

```

10581 }%
10582 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
10583 }%
10584 \def\HyField@afields{}
10585 \begingroup\expandafter\expandafter\expandafter\endgroup
10586 \expandafter\ifx\csname pdfastlink\endcsname\relax
10587 \let\HyField@AddToFields\relax
10588 \PackageInfo{hyperref}{%
10589   You need pdfTeX 1.40.0 for setting the /Fields entry.\MessageBreak
10590   Adobe Reader/Acrobat accepts an empty /Field array,\MessageBreak
10591   but other PDF viewers might complain%
10592 }%
10593 \else
10594 \def\HyField@AddToFields{%
10595   \xdef\HyField@afields{%
10596     \ifx\HyField@afields\empty
10597     \else
10598       \HyField@afields
10599       \space
10600     \fi
10601     \the\pdfastlink\space 0 R%
10602   }%
10603 }%
10604 \fi
10605 \def\@Form[#1]{%
10606   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10607   \setkeys{Form}{#1}%
10608   \ifnum\pdftexversion>13 %
10609     \pdfrefobj\OBJ@pdfdocencoding
10610     \pdfrefobj\OBJ@ZaDb
10611     \pdfrefobj\OBJ@Helv
10612   \fi
10613   \AtEndDocument{%
10614     \immediate\pdfobj{%
10615       <<%
10616         /Fields[\HyField@afields]%
10617         /DR<<%
10618           /Font<<%
10619             /ZaDb \OBJ@ZaDb\space 0 R%
10620             /Helv \OBJ@Helv\space 0 R%
10621           >>%
10622         >>%
10623         /DA(/Helv 10 Tf 0 g)%
10624         \ifHy@pdfa
10625         \else
10626           /NeedAppearances true%
10627         \fi
10628       >>%
10629     }%
10630     \edef\OBJ@acroform{\the\pdfastobj}%
10631     \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10632   }%
10633   \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

10634   \begingroup
10635     \fontfamily{pzd}%
10636     \fontencoding{U}%

```

```

10637     \fontseries{m}%
10638     \fontshape{n}%
10639     \selectfont
10640     \char123 %
10641   \endgroup
10642 }{Ding}%
10643 \MakeFieldObject{%
10644   \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10645 }{Submit}%
10646 \MakeFieldObject{%
10647   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10648 }{SubmitP}%
10649 }
10650 \def\@endForm{}
10651 \def\@TextField[#1]#2{% parameters, label
10652   \def\Fld@name{#2}%
10653   \def\Fld@default{}%
10654   \let\Fld@value\@empty
10655   \def\Fld@width{\DefaultWidthofText}%
10656   \def\Fld@height{%
10657     \ifFld@multiline
10658       \DefaultHeightofTextMultiline
10659     \else
10660       \DefaultHeightofText
10661     \fi
10662   }%
10663   \beginngroup
10664     \Field@toks={ }%
10665     \expandafter\HyField@SetKeys\expandafter{%
10666       \DefaultOptionsofText,#1%
10667     }%
10668     \PDFForm@Name
10669     \HyField@FlagsText
10670     \ifFld@hidden\def\Fld@width{1sp}\fi
10671     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10672     \LayoutTextField{#2}{%
10673       \Hy@escapeform\PDFForm@Text
10674       \pdfstartlink user {\PDFForm@Text}\relax
10675       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
10676       \HyField@AddToFields
10677     }%
10678   \endgroup
10679 }
10680 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10681   \def\Fld@name{#2}%
10682   \let\Fld@default\relax
10683   \let\Fld@value\relax
10684   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10685   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10686   \beginngroup
10687     \Fld@menulength=0 %
10688     \@tempdima\z@
10689     \for\@curropt:=#3\do{%
10690       \expandafter\Fld@checkequals\@curropt==\%
10691       \Hy@StepCount\Fld@menulength
10692       \settowidth{\@tempdimb}{\@currDisplay}%
10693       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi

```

```

10694 }%
10695 \advance\@tempdima by 15\p@
10696 \Field@toks={ }%
10697 \beginngroup
10698 \HyField@SetKeys{#1}%
10699 \edef\x{\endgroup
10700 \noexpand\expandafter
10701 \noexpand\HyField@SetKeys
10702 \noexpand\expandafter{%
10703 \expandafter\noexpand\csname DefaultOptionsof%
10704 \ifFld@radio
10705 Radio%
10706 \else
10707 \ifFld@combo
10708 \ifFld@popdown
10709 PopdownBox%
10710 \else
10711 ComboBox%
10712 \fi
10713 \else
10714 ListBox%
10715 \fi
10716 \fi
10717 \endcsname
10718 }%
10719 }\x
10720 \HyField@SetKeys{#1}%
10721 \PDFForm@Name
10722 \ifFld@hidden\def\Fld@width{1sp}\fi
10723 \ifx\Fld@value\relax
10724 \let\Fld@value\Fld@default
10725 \fi
10726 \LayoutChoiceField{#2}{%
10727 \ifFld@radio
10728 \HyField@FlagsRadioButton
10729 \@@Radio{#3}%
10730 \else
10731 \beginngroup
10732 \HyField@FlagsChoice
10733 \ifdim\Fld@width<\@tempdima
10734 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10735 \edef\Fld@width{\the\@tempdima}%
10736 \fi
10737 \ifFld@combo
10738 \else
10739 \@tempdima=\the\Fld@menulength\Fld@charsize
10740 \advance\@tempdima by \Fld@borderwidth bp %
10741 \advance\@tempdima by \Fld@borderwidth bp %
10742 \edef\Fld@height{\the\@tempdima}%
10743 \fi
10744 \@@ListBox{#3}%
10745 \endgroup
10746 \fi
10747 }%
10748 \endgroup
10749 }
10750 \def\@@Radio#1{%

```

```

10751 \Fld@listcount=0 %
10752 \@for\@curropt:=#1\do{%
10753   \expandafter\Fld@checkequals\@curropt==\%
10754   \Hy@StepCount\Fld@listcount
10755   \@currDisplay\space
10756   \leavevmode
10757   \Hy@escapeform\PDFForm@Radio
10758   \pdfstartlink user {%
10759     \PDFForm@Radio
10760     /AP<<%
10761     /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.

```

10762     /\@currValue\space \DingObject
10763     >>%
10764     >>%
10765     }%
10766     \relax
10767     \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10768     \ifnum\Fld@listcount=1 %
10769       \HyField@AddToFields
10770     \fi
10771     \space % deliberate space between radio buttons
10772   }%
10773 }
10774 \newcount\Fld@listcount
10775 \def\@@ListBox#1{%
10776   \HyField@PDFChoices{#1}%
10777   \leavevmode
10778   \Hy@escapeform\PDFForm@List
10779   \pdfstartlink user {\PDFForm@List}\relax
10780   \MakeChoiceField{\Fld@width}{\Fld@height}%
10781   \pdfendlink
10782   \HyField@AddToFields
10783 }
10784 \def\@PushButton[#1]#2{% parameters, label
10785   \def\Fld@name{#2}%
10786   \begingroup
10787     \Field@toks={ }%
10788     \expandafter\HyField@SetKeys\expandafter{%
10789       \DefaultOptionsofPushButton,#1%
10790     }%
10791     \PDFForm@Name
10792     \ifHy@pdfa
10793       \PackageError{hyperref}{%
10794         PDF/A: Push button with JavaScript is prohibited%
10795       }\@ehc
10796       \LayoutPushButtonField{%
10797         \leavevmode
10798         \MakeButtonField{#2}%
10799       }%
10800     \else
10801       \HyField@FlagsPushButton
10802       \ifFld@hidden\def\Fld@width{1sp}\fi
10803       \LayoutPushButtonField{%
10804         \leavevmode

```

```

10805         \Hy@escapeform\PDFForm@Push
10806         \pdfstartlink user {\PDFForm@Push}\relax
10807         \MakeButtonField{#2}%
10808         \pdfendlink
10809         \HyField@AddToFields
10810     }%
10811     \fi
10812 \endgroup
10813 }
10814 \def\@Submit[#1]#2{%
10815     \Field@toks={ }%
10816     \def\Fld@width{\DefaultWidthofSubmit}%
10817     \def\Fld@height{\DefaultHeightofSubmit}%
10818     \begingroup
10819         \expandafter\HyField@SetKeys\expandafter{%
10820             \DefaultOptionsofSubmit,#1%
10821         }%
10822         \HyField@FlagsPushButton
10823         \HyField@FlagsSubmit
10824         \ifFld@hidden\def\Fld@width{1sp}\fi
10825         \leavevmode
10826         \Hy@escapeform\PDFForm@Submit
10827         \pdfstartlink user {%
10828             \PDFForm@Submit
10829             /AP<</N \SubmitObject/D \SubmitPObject>>%
10830         }%
10831         \relax
10832         \MakeButtonField{#2}%
10833         \pdfendlink
10834         \HyField@AddToFields
10835     \endgroup
10836 }
10837 \def\@Reset[#1]#2{%
10838     \Field@toks={ }%
10839     \def\Fld@width{\DefaultWidthofReset}%
10840     \def\Fld@height{\DefaultHeightofReset}%
10841     \begingroup
10842         \expandafter\HyField@SetKeys\expandafter{%
10843             \DefaultOptionsofReset,#1%
10844         }%
10845         \leavevmode
10846         \ifHy@pdfa
10847             \PackageError{hyperref}{%
10848                 PDF/A: Reset action is prohibited%
10849             }\@ehc
10850             \MakeButtonField{#2}%
10851         \else
10852             \HyField@FlagsPushButton
10853             \ifFld@hidden\def\Fld@width{1sp}\fi
10854             \Hy@escapeform\PDFForm@Reset
10855             \pdfstartlink user {\PDFForm@Reset}\relax
10856             \MakeButtonField{#2}%
10857             \pdfendlink
10858             \HyField@AddToFields
10859         \fi
10860     \endgroup
10861 }

```

```

10862 \def\@CheckBox[#1]#2{% parameters, label
10863   \def\Fld@name{#2}%
10864   \def\Fld@default{0}%
10865   \begingroup
10866     \def\Fld@width{\DefaultWidthofCheckBox}%
10867     \def\Fld@height{\DefaultHeightofCheckBox}%
10868     \Field@toks={ }%
10869     \expandafter\HyField@SetKeys\expandafter{%
10870       \DefaultOptionsofCheckBox,#1%
10871     }%
10872     \PDFForm@Name
10873     \HyField@FlagsCheckBox
10874     \ifFld@hidden\def\Fld@width{1sp}\fi
10875     \LayoutCheckField{#2}{%
10876       \Hy@escapeform\PDFForm@Check
10877       \pdfstartlink user {\PDFForm@Check}\relax
10878       \MakeCheckField{\Fld@width}{\Fld@height}%
10879       \pdfendlink
10880       \HyField@AddToFields
10881     }%
10882   \endgroup
10883 }
10884 \pdfobj {%
10885   <<%
10886     /Type/Encoding%
10887     /Differences[%
10888       24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
10889       /ring/tilde %
10890       39/quotesingle %
10891       96/grave %
10892       128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10893       /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10894       /quotedblbase/quotedblleft/quotedblright/quoteleft%
10895       /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
10896       /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10897       164/currency %
10898       166/brokenbar %
10899       168/dieresis/copyright/ordfeminine %
10900       172/logicalnot/.notdef/registered/macron/degree/plusminus%
10901       /twosuperior/threesuperior/acute/mu %
10902       183/periodcentered/cedilla/onesuperior/ordmasculine %
10903       188/onequarter/onehalf/threequarters %
10904       192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10905       /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10906       /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10907       /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10908       /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10909       /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10910       /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10911       /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
10912       /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
10913       /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
10914     ]%
10915   >>%
10916 }
10917 \edef\OBJ@pdfdocencoding{\the\pdflastobj}
10918 \pdfobj{%

```

```

10919 <<%
10920   /Type/Font%
10921   /Subtype/Type1%
10922   /Name/ZaDb%
10923   /BaseFont/ZapfDingbats%
10924 >>%
10925 }
10926 \edef\OBJ@ZaDb{\the\pdflastobj}
10927 \pdfobj{%
10928   <<%
10929     /Type/Font%
10930     /Subtype/Type1%
10931     /Name/Helv%
10932     /BaseFont/Helvetica%
10933     /Encoding \OBJ@pdfdocencoding\space 0 R%
10934   >>%
10935 }
10936 \edef\OBJ@Helv{\the\pdflastobj}
10937 \pdfTeX

```

47.5 dvipdfm

D. P. Story adapted the pdf_TE_X forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

10938 \*dvipdfm

```

\@Gauge

```

10939 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10940   \typeout{Sorry, dvipdfm does not support FORM gauges}%
10941 }

```

\@Form

```

10942 \def\@Form[#1]{%
10943   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10944   \setkeys{Form}{#1}%
10945   \@pdfm@mark{obj @afields []}%
10946   \@pdfm@mark{obj @corder []}%
10947   \@pdfm@mark{%
10948     obj @aform <<%
10949       /Fields @afields%
10950       /DR<<%
10951         /Font<<%
10952           /ZaDb @OBJ@ZaDb%
10953           /Helv @OBJ@Helv%
10954         >>%
10955       >>%
10956       /DA(/Helv 10 Tf 0 g)%
10957       /CO @corder%
10958       \ifHy@pdfa
10959       \else
10960         /NeedAppearances true%
10961       \fi
10962     >>%
10963   }%
10964   \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
10965 }

```

\@endForm

10966 \def \@endForm{}

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

10967 \def \dvipdfm@setdim{%
10968 height \the\ht\pdfm@box\space
10969 width \the\wd\pdfm@box\space
10970 depth \the\dp\pdfm@box\space
10971 }

\HyField@AnnotCount

10972 \newcount\HyField@AnnotCount
10973 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount

10974 \def \HyField@AdvanceAnnotCount{%
10975 \global\advance\HyField@AnnotCount\@ne
10976 }

\HyField@TheAnnotCount

10977 \def \HyField@TheAnnotCount{%
10978 \the\HyField@AnnotCount
10979 }

\@TextField

10980 \def \@TextField[#1]#2{% parameters, label
10981 \def \Fld@name{#2}%
10982 \def \Fld@default{}%
10983 \let \Fld@value \@empty
10984 \def \Fld@width{\DefaultWidthofText}%
10985 \def \Fld@height{%
10986 \ifFld@multiline
10987 \DefaultHeightofTextMultiline
10988 \else
10989 \DefaultHeightofText
10990 \fi
10991 }%
10992 \begingroup
10993 \Field@toks={ }%
10994 \expandafter\HyField@SetKeys\expandafter{%
10995 \DefaultOptionsofText,#1%
10996 }%
10997 \PDFForm@Name
10998 \HyField@FlagsText
10999 \ifFld@hidden\def \Fld@width{1sp}\fi
11000 \ifx\Fld@value \@empty\def \Fld@value{\Fld@default}\fi
11001 \setbox\pdfm@box=\hbox{%
11002 \MakeTextField{\Fld@width}{\Fld@height}%
11003 }%
11004 \HyField@AdvanceAnnotCount
11005 \LayoutTextField{#2}{%
11006 \Hy@escapeform\PDFForm@Text
11007 \@pdfm@mark{%
11008 ann @text\HyField@TheAnnotCount\space
11009 \dvipdfm@setdim << \PDFForm@Text >>%
11010 }%

```

11011 }%
11012 \unhbox\pdfm@box
11013 \@pdfm@mark{put \@fields \@text\HyField@TheAnnotCount}%
11014 % record in \@fields array
11015 \endgroup
11016 }

```

\@ChoiceMenu

```

11017 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11018 \def\Fld@name{#2}%
11019 \let\Fld@default\relax
11020 \let\Fld@value\relax
11021 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11022 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11023 \begingroup
11024 \Fld@menulength=0 %
11025 \@tempdima\z@
11026 \@for\@curropt:=#3\do{%
11027 \expandafter\Fld@checkequals\@curropt==\%
11028 \Hy@StepCount\Fld@menulength
11029 \settowidth{\@tempdimb}{\@currDisplay}%
11030 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11031 }%
11032 \advance\@tempdima by 15\p@
11033 \Field@toks={ }%
11034 \begingroup
11035 \HyField@SetKeys{#1}%
11036 \edef\x{\endgroup
11037 \noexpand\expandafter
11038 \noexpand\HyField@SetKeys
11039 \noexpand\expandafter{%
11040 \expandafter\noexpand\csname DefaultOptionsof%
11041 \ifFld@radio
11042 Radio%
11043 \else
11044 \ifFld@combo
11045 \ifFld@popdown
11046 PopdownBox%
11047 \else
11048 ComboBox%
11049 \fi
11050 \else
11051 ListBox%
11052 \fi
11053 \fi
11054 \endcsname
11055 }%
11056 }\x
11057 \HyField@SetKeys{#1}%
11058 \PDFForm@Name
11059 \ifFld@hidden\def\Fld@width{1sp}\fi
11060 \ifx\Fld@value\relax
11061 \let\Fld@value\Fld@default
11062 \fi
11063 \LayoutChoiceField{#2}{%
11064 \ifFld@radio
11065 \HyField@FlagsRadioButton

```

```

11066         \@@Radio{#3}%
11067     \else
11068         \beginingroup
11069             \HyField@FlagsChoice
11070             \ifdim\Fld@width<\@tempdima
11071                 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11072                 \edef\Fld@width{\the\@tempdima}%
11073             \fi
11074             \ifFld@combo
11075             \else
11076                 \@tempdima=\the\Fld@menulength\Fld@charsize
11077                 \advance\@tempdima by \Fld@borderwidth bp %
11078                 \advance\@tempdima by \Fld@borderwidth bp %
11079                 \edef\Fld@height{\the\@tempdima}%
11080             \fi
11081             \@@ListBox{#3}%
11082         \endgroup
11083     \fi
11084 }%
11085 \endgroup
11086 }

\@@Radio
11087 \def\@@Radio#1{%
11088     \Fld@listcount=0 %
11089     \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
11090     \@for\@curropt:=#1\do{%
11091         \expandafter\Fld@checkequals\@curropt==\%
11092         \Hy@StepCount\Fld@listcount
11093         \@currDisplay\space
11094         \leavevmode
11095         \Hy@escapeform\PDFForm@Radio
11096         \ifnum\Fld@listcount=1 %
11097             \HyField@AdvanceAnnotCount
11098         \fi
11099         \@pdfm@mark{%
11100             ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi
11101             \dvi pdfm@setdim
11102             <<%
11103                 \PDFForm@Radio
11104                 /AP<</N<</\@currValue /null>>>>%
11105             >>%
11106         }%
11107         \unhcopy\pdfm@box\space% deliberate space between radio buttons
11108         \ifnum\Fld@listcount=1 %
11109             \@pdfm@mark{put @afields @radio\HyField@TheAnnotCount}%
11110         \fi
11111     }%
11112 }

\Fld@listcount
11113 \newcount\Fld@listcount

\@@ListBox
11114 \def\@@ListBox#1{%
11115     \HyField@PDFChoices{#1}%
11116     \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%

```

```

11117 \leavevmode
11118 \Hy@escapeform\PDFForm@List
11119 \HyField@AdvanceAnnotCount
11120 \@pdfm@mark{%
11121   ann @list\HyField@TheAnnotCount\space
11122   \dvi pdfm@setdim
11123   <<\PDFForm@List>>%
11124 }%
11125 \unhbox\pdfm@box
11126 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
11127 }

```

\@PushButton

```

11128 \def\@PushButton[#1]#2{% parameters, label
11129   \def\Fld@name{#2}%
11130   \begingroup
11131     \Field@toks={ }%
11132     \expandafter\HyField@SetKeys\expandafter{%
11133       \DefaultOptionsofPushButton,#1%
11134     }%
11135     \PDFForm@Name
11136     \ifHy@pdfa
11137       \PackageError{hyperref}{%
11138         PDF/A: Push button with JavaScript is prohibited%
11139       }\@ehc
11140       \LayoutPushButtonField{%
11141         \leavevmode
11142         \MakeButtonField{#2}%
11143       }%
11144     \else
11145       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11146       \HyField@FlagsPushButton
11147       \ifFld@hidden\def\Fld@width{1sp}\fi
11148       \HyField@AdvanceAnnotCount
11149       \LayoutPushButtonField{%
11150         \leavevmode
11151         \Hy@escapeform\PDFForm@Push
11152         \@pdfm@mark{%
11153           ann @push\HyField@TheAnnotCount\space
11154           \dvi pdfm@setdim
11155           <<\PDFForm@Push>>%
11156         }%
11157       }%
11158       \unhbox\pdfm@box
11159       \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
11160     \fi
11161   \endgroup
11162 }

```

\@Submit

```

11163 \def\@Submit[#1]#2{%
11164   \Field@toks={ }%
11165   \def\Fld@width{\DefaultWidthofSubmit}%
11166   \def\Fld@height{\DefaultHeightofSubmit}%
11167   \begingroup
11168     \expandafter\HyField@SetKeys\expandafter{%
11169       \DefaultOptionsofSubmit,#1%

```

```

11170 }%
11171 \HyField@FlagsPushButton
11172 \HyField@FlagsSubmit
11173 \ifFld@hidden\def\Fld@width{1sp}\fi
11174 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11175 \leavevmode
11176 \Hy@escapeform\PDFForm@Submit
11177 \HyField@AdvanceAnnotCount
11178 \@pdfm@mark{%
11179   ann @submit\HyField@TheAnnotCount\space
11180   \dvi pdfm@setdim
11181   <<\PDFForm@Submit>>%
11182 }%
11183 \unhbox\pdfm@box%
11184 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
11185 \endgroup
11186 }

```

\@Reset

```

11187 \def\@Reset[#1]#2{%
11188   \Field@toks={ }%
11189   \def\Fld@width{\DefaultWidthofReset}%
11190   \def\Fld@height{\DefaultHeightofReset}%
11191   \begingroup
11192     \expandafter\HyField@SetKeys\expandafter{%
11193       \DefaultOptionsofReset,#1%
11194     }%
11195     \leavevmode
11196     \ifHy@pdfa
11197       \PackageError{hyperref}{%
11198         PDF/A: Reset action is prohibited%
11199       }\@ehc
11200       \MakeButtonField{#2}%
11201     \else
11202       \HyField@FlagsPushButton
11203       \ifFld@hidden\def\Fld@width{1sp}\fi
11204       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11205       \Hy@escapeform\PDFForm@Reset
11206       \HyField@AdvanceAnnotCount
11207       \@pdfm@mark{%
11208         ann @reset\HyField@TheAnnotCount\space
11209         \dvi pdfm@setdim
11210         <<\PDFForm@Reset>>%
11211       }%
11212       \unhbox\pdfm@box
11213       \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11214     \fi
11215   \endgroup
11216 }

```

\@CheckBox

```

11217 \def\@CheckBox[#1]#2{% parameters, label
11218   \def\Fld@name{#2}%
11219   \def\Fld@default{0}%
11220   \begingroup
11221     \def\Fld@width{\DefaultWidthofCheckBox}%
11222     \def\Fld@height{\DefaultHeightofCheckBox}%

```

```

11223 \Field@toks={ }%
11224 \expandafter\HyField@SetKeys\expandafter{%
11225 \DefaultOptionsofCheckBox,#1%
11226 }%
11227 \PDFForm@Name
11228 \HyField@FlagsCheckBox
11229 \ifFld@hidden\def\Fld@width{1sp}\fi
11230 \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
11231 \HyField@AdvanceAnnotCount
11232 \LayoutCheckField{#2}{%
11233 \Hy@escapeform\PDFForm@Check
11234 \@pdfm@mark{%
11235 ann @check\HyField@TheAnnotCount\space
11236 \dvipdfm@setdim
11237 <<\PDFForm@Check>>%
11238 }%
11239 \unhbox\pdfm@box
11240 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11241 }%
11242 \endgroup
11243 }

11244 \@pdfm@mark{obj @OBJpdfdocencoding%
11245 <<%
11246 /Type/Encoding%
11247 /Differences[%
11248 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11249 39/quotesingle %
11250 96/grave %
11251 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11252 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11253 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11254 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11255 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11256 164/currency %
11257 166/brokenbar %
11258 168/dieresis/copyright/ordfeminine %
11259 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11260 /twosuperior/threesuperior/acute/mu %
11261 183/periodcentered/cedilla/onesuperior/ordmasculine %
11262 188/onequarter/onehalf/threequarters %
11263 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11264 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11265 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11266 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11267 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11268 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11269 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11270 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
11271 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11272 /thorn/ydieresis%
11273 ]%
11274 >>%
11275 }

11276 \@pdfm@mark{obj @OBJZaDb%
11277 <<%
11278 /Type/Font%
11279 /Subtype/Type1%

```

```

11280 /Name/ZaDb%
11281 /BaseFont/ZapfDingbats%
11282 >>%
11283 }
11284 \pdfmark{obj @OBJHelv%
11285 <<%
11286 /Type/Font%
11287 /Subtype/Type1%
11288 /Name/Helv%
11289 /BaseFont/Helvetica%
11290 /Encoding @OBJpdfdocencoding%
11291 >>%
11292 }
11293 </dvipdfm>

```

47.6 Common forms part

```
11294 <*pdfform>
```

\Hy@escapestring

```

11295 \begingroup\expandafter\expandafter\expandafter\endgroup
11296 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11297 \let\Hy@escapestring\@firstofone
11298 \def\Hy@escapeform#1{%
11299 \ifHy@escapeform
11300 \def\Hy@escapestring##1{%
11301 \noexpand\Hy@escapestring{\noexpand##1}%
11302 }%
11303 \edef\Hy@temp{#1}%
11304 \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
11305 \def\Hy@escapestring##1{%
11306 \@ifundefined{Hy@esc@\string##1}{%
11307 ##1%
11308 \ThisShouldNotHappen
11309 }{%
11310 \csname Hy@esc@\string##1\endcsname
11311 }%
11312 }%
11313 \else
11314 \let\Hy@escapestring\@firstofone
11315 \fi
11316 }%
11317 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11318 \ifx\#3\%
11319 \else
11320 \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11321 \Hy@ReturnAfterFi{%
11322 \Hy@@escapeform#3\@nil
11323 }%
11324 \fi
11325 }%
11326 \else
11327 \def\Hy@escapeform#1{%
11328 \ifHy@escapeform
11329 \let\Hy@escapestring\pdfescapestring
11330 \else
11331 \let\Hy@escapestring\@firstofone

```

```

11332     \fi
11333   }%
11334   \Hy@escapeform{}%
11335 \fi

```

\PDFForm@Name

```

11336 \def\PDFForm@Name{%
11337   \begingroup
11338     \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11339       \ifHy@unicode
11340         \Hy@unicodedefalse
11341       \fi
11342     \fi
11343     \pdfstringdef\Hy@gtemp\Fld@name
11344   \endgroup
11345   \let\Fld@name\Hy@gtemp
11346 }

```

\PDFForm@Check

```

11347 \def\PDFForm@Check{%
11348   /Subtype/Widget%
11349   \Fld@annotflags
11350   /T(\Fld@name)%
11351   /FT/Btn%
11352   \Fld@flags
11353   /Q \Fld@align
11354   /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11355   /MK<<%
11356     \ifnum\Fld@rotation=\z@
11357     \else
11358       /R \Fld@rotation
11359     \fi
11360     \ifx\Fld@bordercolor\relax
11361     \else
11362       /BC[\Fld@bordercolor]%
11363     \fi
11364     \ifx\Fld@bcolor\relax
11365     \else
11366       /BG[\Fld@bcolor]%
11367     \fi
11368     /CA(\Hy@escapestring{\Fld@cbsymbol})%
11369   >>%
11370   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11371     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11372   /H/P%
11373   \ifFld@checked /V/Yes\else /V/Off\fi
11374 }

```

\PDFForm@Push

```

11375 \ifHy@pdfa
11376 \else
11377   \def\PDFForm@Push{%
11378     /Subtype/Widget%
11379     \Fld@annotflags
11380     /T(\Fld@name)%
11381     /FT/Btn%
11382     \Fld@flags

```

```

11383 /H/P%
11384 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11385 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11386 \ifx\Fld@bordercolor\relax\else 1\fi
11387 \space
11388 \else
11389 /MK<<%
11390 \ifnum\Fld@rotation=\z@
11391 \else
11392 /R \Fld@rotation
11393 \fi
11394 \ifx\Fld@bordercolor\relax
11395 \else
11396 /BC[\Fld@bordercolor]%
11397 \fi
11398 >>%
11399 \fi
11400 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick})>>%
11401 }%
11402 \fi

```

\Fld@additionalactions

```

11403 \def\Fld@@additionalactions{%
K input (keystroke) format
11404 \ifx\Fld@keystroke@code\@empty
11405 \else
11406 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11407 \fi
F display format
11408 \ifx\Fld@format@code\@empty
11409 \else
11410 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11411 \fi
V validation
11412 \ifx\Fld@validate@code\@empty
11413 \else
11414 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11415 \fi
C calculation
11416 \ifx\Fld@calculate@code\@empty
11417 \else
11418 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11419 \fi
Fo receiving the input focus
11420 \ifx\Fld@onfocus@code\@empty
11421 \else
11422 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11423 \fi
Bl loosing the input focus (blurred)
11424 \ifx\Fld@onblur@code\@empty
11425 \else
11426 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11427 \fi

```

D pressing the mouse button (down)

```
11428 \ifx\Fld@onmousedown@code\@empty
11429 \else
11430 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11431 \fi
```

U releasing the mouse button (up)

```
11432 \ifx\Fld@onmouseup@code\@empty
11433 \else
11434 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11435 \fi
```

E cursor enters the annotation's active area.

```
11436 \ifx\Fld@onenter@code\@empty
11437 \else
11438 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11439 \fi
```

X cursor exits the annotation's active area.

```
11440 \ifx\Fld@onexit@code\@empty
11441 \else
11442 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11443 \fi
```

```
11444 }
```

```
11445 \def\Fld@additionalactions{%
11446 \if-\Fld@@additionalactions-%
11447 \else
11448 \ifHy@pdfa
11449 \else
11450 /AA<<\Fld@@additionalactions>>%
11451 \fi
11452 \fi
11453 }
```

\PDFForm@List

```
11454 \def\PDFForm@List{%
11455 /Subtype/Widget%
11456 \Fld@annotflags
11457 /T(\Fld@name)%
11458 /FT/Ch%
11459 \Fld@flags
11460 /Q \Fld@align
11461 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11462 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11463 \ifx\Fld@bordercolor\relax\else 1\fi
11464 \ifx\Fld@bcolor\relax \else 1\fi
11465 \space
11466 \else
11467 /MK<<%
11468 \ifnum\Fld@rotation=\z@
11469 \else
11470 /R \Fld@rotation
11471 \fi
11472 \ifx\Fld@bordercolor\relax
11473 \else
11474 /BC[\Fld@bordercolor]%
11475 \fi
11476 \ifx\Fld@bcolor\relax
```

```

11477         \else
11478             /BG[\Fld@bcolor]%
11479         \fi
11480     >>%
11481 \fi
11482 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11483     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11484 \Fld@choices
11485 \Fld@additionalactions
11486 }

```

\PDFForm@Radio

```

11487 \def\PDFForm@Radio{%
11488     /Subtype/Widget%
11489     \Fld@annotflags
11490     /T(\Fld@name)%
11491     /FT/Btn%
11492     \Fld@flags
11493     /H/P%
11494     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11495     /MK<<%
11496         \ifnum\Fld@rotation=\z@
11497         \else
11498             /R \Fld@rotation
11499         \fi
11500         \ifx\Fld@bordercolor\relax
11501         \else
11502             /BC[\Fld@bordercolor]%
11503         \fi
11504         \ifx\Fld@bcolor\relax
11505         \else
11506             /BG[\Fld@bcolor]%
11507         \fi
11508         /CA(H)%
11509     >>%
11510     /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11511         \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11512     \ifx\@currValue\Fld@default
11513         /V/\Fld@default
11514     \else
11515         /V/Off%
11516     \fi
11517     \Fld@additionalactions
11518 }

```

\PDFForm@Text

```

11519 \def\PDFForm@Text{%
11520     /Subtype/Widget%
11521     \Fld@annotflags
11522     /T(\Fld@name)%
11523     /FT/Tx%
11524     \Fld@flags
11525     /Q \Fld@align
11526     /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11527     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11528         \ifx\Fld@bordercolor\relax\else 1\fi
11529         \ifx\Fld@bcolor\relax \else 1\fi

```

```

11530         \space
11531     \else
11532         /MK<<%
11533         \ifnum\Fld@rotation=\z@
11534         \else
11535             /R \Fld@rotation
11536         \fi
11537         \ifx\Fld@bordercolor\relax
11538         \else
11539             /BC[\Fld@bordercolor]%
11540         \fi
11541         \ifx\Fld@bcolor\relax
11542         \else
11543             /BG[\Fld@bcolor]%
11544         \fi
11545     >>%
11546 \fi
11547 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11548     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11549 /DV(\Hy@escapestring{\Fld@default})%
11550 /V(\Hy@escapestring{\Fld@value})%
11551 \Fld@additionalactions
11552 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11553 }

```

\PDFForm@Submit

```

11554 \def\PDFForm@Submit{%
11555     /Subtype/Widget%
11556     \Fld@annotflags
11557     /T(\Fld@name)%
11558     /FT/Btn%
11559     \Fld@flags
11560     /H/P%
11561     /BS<</W \Fld@borderwidth/S\Fld@borderstyle>>%
11562     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11563         \ifx\Fld@bordercolor\relax\else 1\fi
11564         \space
11565     \else
11566         /MK<<%
11567         \ifnum\Fld@rotation=\z@
11568         \else
11569             /R \Fld@rotation
11570         \fi
11571         \ifx\Fld@bordercolor\relax
11572         \else
11573             /BC[\Fld@bordercolor]%
11574         \fi
11575     >>%
11576 \fi
11577 /A<<%
11578     /S/SubmitForm%
11579     /F<<%
11580         /FS/URL%
11581         /F(\Hy@escapestring{\Form@action})%
11582     >>%
11583     \Fld@submitflags
11584 >>%

```

```

11585 }

\PDFForm@Reset

11586 \ifHy@pdfa
11587 \else
11588   \def\PDFForm@Reset{%
11589     /Subtype/Widget%
11590     \Fld@annotflags
11591     /T(\Fld@name)%
11592     /FT/Btn%
11593     \Fld@flags
11594     /H/P%
11595     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11596     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11597       \ifx\Fld@bordercolor\relax\else 1\fi
11598       \space
11599   \else
11600     /MK<<%
11601       \ifnum\Fld@rotation=\z@
11602       \else
11603         /R \Fld@rotation
11604       \fi
11605       \ifx\Fld@bordercolor\relax
11606       \else
11607         /BC[\Fld@bordercolor]%
11608       \fi
11609     /CA (Clear)
11610     /AC (Done)
11611     >>%
11612   \fi
11613   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11614   /A<</S/ResetForm>>%
11615 }%
11616 \fi

11617 </pdfform>
11618 <*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`

```

11619 \def\phantomsection{%
11620   \Hy@GlobalStepCount\Hy@linkcounter
11621   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11622   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11623 }
11624 </package>

```

48.1 Bookmarks

11625 `*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.pdf and slides.pdf in the doc directory of hyperref.

```
11626 \def\Hy@writebookmark#1#2#3#4#5{%
11627   % section number, text, label, level, file
11628   \ifx\WriteBookmarks\relax%
11629   \else
11630     \ifnum#4>\Hy@bookmarksdepth\relax
11631     \else
11632       \@writetorep{#1}{#2}{#3}{#4}{#5}%
11633     \fi
11634   \fi
11635 }
11636 \def\Hy@currentbookmarklevel{0}
11637 \def\Hy@numberline#1{#1 }
11638 \def\@writetorep#1#2#3#4#5{%
11639   \begingroup
11640     \edef\Hy@tempa{#5}%
11641     \ifx\Hy@tempa\Hy@bookmarkstype
11642       \edef\Hy@level{#4}%
11643       \ifx\Hy@levelcheck Y%
11644         \@tempcnta\Hy@level\relax
11645         \advance\@tempcnta by -1 %
11646         \ifnum\Hy@currentbookmarklevel<\@tempcnta
11647           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
11648           \advance\@tempcnta by 1 %
11649           \Hy@Warning{%
11650             Difference (\the\@tempcnta) between bookmark levels is %
11651             greater \MessageBreak than one, level fixed%
11652           }%
11653           \@tempcnta\Hy@currentbookmarklevel
11654           \advance\@tempcnta by 1 %
11655           \edef\Hy@level{\the\@tempcnta}%
11656         \fi
11657       \else
11658         \global\let\Hy@levelcheck Y%
11659       \fi
11660       \global\let\Hy@currentbookmarklevel\Hy@level
11661       \@tempcnta\Hy@level\relax
11662       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
11663       \advance\@tempcnta by -1 %
11664       \edef\Hy@tempa{#3}%
11665       \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
11666       \ifx\Hy@tempa\Hy@tempb
11667         \Hy@Warning{%
11668           The anchor of a bookmark and its parent's must not%
11669           \MessageBreak be the same. Added a new anchor%
11670         }%
11671       \phantomsection
11672     \fi
11673     \ifHy@bookmarksnumbered
11674       \let\numberline\Hy@numberline
```

```

11675      \let\partnumberline\Hy@numberline
11676      \let\chapternumberline\Hy@numberline
11677      \else
11678        \let\numberline\@gobble
11679        \let\partnumberline\@gobble
11680        \let\chapternumberline\@gobble
11681      \fi
11682      \pdfstringdef\Hy@tempa{#2}%
11683      \if@files
11684        \protected@write\@outlinefile{}{%
11685          \protect\BOOKMARK
11686            [\Hy@level] [\@bookmarkopenstatus{\Hy@level}] {#3}%
11687            {\Hy@tempa}{\Hy@tempb}%
11688        }%
11689      \fi
11690    \fi
11691  \endgroup
11692 }

```

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

```

11693 \newcommand{\currentpdfbookmark}{%
11694   \pdfbookmark[\Hy@currentbookmarklevel]%
11695 }
11696 \newcommand{\subpdfbookmark}{%
11697   \@tempcnta\Hy@currentbookmarklevel
11698   \Hy@StepCount\@tempcnta
11699   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
11700 }
11701 \newcommand{\belowpdfbookmark}[2]{%
11702   \@tempcnta\Hy@currentbookmarklevel
11703   \Hy@StepCount\@tempcnta
11704   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
11705   \advance\@tempcnta by -1 %
11706   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
11707 }

```

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.

```

11708 \renewcommand\pdfbookmark[3][0]{%
11709   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
11710   \hyper@anchorstart{#3.#1}\hyper@anchorend
11711 }
11712 \def\BOOKMARK{\@ifnextchar[{\@BOOKMARK}{\@BOOKMARK[1] [-]}}
11713 \def\@BOOKMARK[#1]{\@ifnextchar[{\@BOOKMARK[#1] {\@BOOKMARK[#1] [-]}}

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

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

```

11714 <*vtex>
11715 \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.

```

11716 \begingroup
11717   \catcode'\'=12 %
11718   \ifnum\Hy@VTeXversion<650 %
11719     \catcode'\=12 %
11720     \gdef\hv@pdf@char#1#2#3{%
11721       \char
11722       \ifcase'#1#2#3 %
11723         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
11724         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
11725         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
11726         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
11727         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
11728         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
11729         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
11730         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
11731         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
11732         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
11733         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
11734         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
11735         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
11736         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
11737         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
11738         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
11739         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
11740         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
11741         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
11742         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
11743         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
11744         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
11745         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
11746         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
11747         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
11748         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
11749         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
11750         \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
11751         \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
11752         \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
11753         \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
11754         \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
11755       \fi
11756     }%
11757   \else
11758     \gdef\hv@pdf@char{\char'}%
11759   \fi
11760 \endgroup

```

\@@BOOKMARK

```

11761 \def\@@BOOKMARK[#1][#2]#3#4#5{%
11762   \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
11763   \edef\@mycount{\the\@serial@counter}%
11764   \Hy@StepCount\@serial@counter
11765   \edef\@parcount{%
11766     \expandafter\ifx\csname @count@#5\endcsname\relax
11767       0%
11768     \else
11769       \csname @count@#5\endcsname
11770     \fi

```

```

11771 }%
11772 \immediate\special{%
11773   !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
11774   s=\ifx#2-c\else o\fi,t=#4%
11775 }%
11776 }%

```

\ReadBookmarks

```

11777 \def\ReadBookmarks{%
11778   \begingroup
11779     \def\0{\hv@pdf@char 0}%
11780     \def\1{\hv@pdf@char 1}%
11781     \def\2{\hv@pdf@char 2}%
11782     \def\3{\hv@pdf@char 3}%
11783     \def\({}%
11784     \def\)}%
11785     \def\do##1{%
11786       \ifnum\the\catcode'##1=\active
11787         \@makeother##1%
11788       \fi
11789     }%
11790     \dospecials
11791     \InputIfFileExists{\jobname.out}{\}{}%
11792   \endgroup
11793   \ifx\WriteBookmarks\relax
11794   \else
11795     \if@filesw
11796       \newwrite\@outlinefile
11797       \immediate\openout\@outlinefile=\jobname.out\relax
11798       \ifHy@typexml
11799         \immediate\write\@outlinefile{<relaxxml>\relax}%
11800       \fi
11801     \fi
11802   \fi
11803 }

11804 </vtex>

11805 <!*vtex>
11806 \def\ReadBookmarks{%
11807   \begingroup
11808     \escapechar='\\%
11809     \let\escapechar\@gobble %
11810     \def\@@BOOKMARK[##1][##2]##3##4##5{\calc@bm@number{##5}}%
11811     \InputIfFileExists{\jobname.out}{\}{}%
11812     \ifx\WriteBookmarks\relax
11813       \global\let\WriteBookmarks\relax
11814     \fi
11815     \def\@@BOOKMARK[##1][##2]##3##4##5{%
11816       \def\Hy@temp{##4}%
11817   <*pdfTeX>
11818     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11819     \Hy@OutlineName{}\Hy@pstringName{%
11820       ##2\check@bm@number{##3}%
11821     }{%
11822       \expandafter\strip@prefix\meaning\Hy@temp
11823     }%
11824 </pdfTeX>

```

```

11825 <*pdfmark>
11826     \pdfmark{%
11827         pdfmark=/OUT,%
11828         Count={##2\check@bm@number{##3}},%
11829         Dest={##3},%
11830         Title=\expandafter\strip@prefix\meaning\Hy@temp
11831     }%
11832 </pdfmark>
11833 <*dvipdfm>
11834     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11835     \@pdfm@mark{%
11836         outline \ifHy@DvipdfmxOutlineOpen
11837             [%
11838             \ifnum##21>\z@
11839             \else
11840             -%
11841             \fi
11842             ] %
11843             \fi
11844             ##1<<%
11845             /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
11846             /A<<%
11847             /S/GoTo%
11848             /D(\Hy@pstringName)%
11849             >>%
11850             >>%
11851         }%
11852 </dvipdfm>
11853 }%
11854 {%
11855     \def\WriteBookmarks{0}%
11856     \InputIfFileExists{\jobname.out}{-}{-}%
11857 }%
11858 {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
11859 \ifx\WriteBookmarks\relax
11860 \else
11861     \if@files
11862         \newwrite\@outlinefile
11863         \immediate\openout\@outlinefile=\jobname.out\relax
11864         \ifHy@typexml
11865             \immediate\write\@outlinefile{<relaxxml>\relax}%
11866         \fi
11867     \fi
11868 \fi
11869 \endgroup
11870 }
11871 <*pdfTeX>
11872 \def\Hy@OutlineName#1#2#3#4{%
11873     \pdfoutline goto name{#2}count#3{#4}%
11874 }
11875 </pdfTeX>
11876 \def\check@bm@number#1{%
11877     \expandafter\ifx\csname B_#1\endcsname\relax
11878         0%
11879     \else
11880         \csname B_#1\endcsname
11881     \fi

```

```

11882 }
11883 \def\calc@bm@number#1{%
11884   \@tempcnta=\check@bm@number{#1}\relax
11885   \advance\@tempcnta by 1 %
11886   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
11887 }
11888 </!vtex>

11889 \ifHy@implicit
11890 \else
11891   \expandafter\endinput
11892 \fi

11893 </outlines>
11894 <*outlines | hypertex>

11895 \let\H@old@ssect\@ssect
11896 \def\@ssect#1#2#3#4#5{%
11897   \H@old@ssect{#1}{#2}{#3}{#4}{#5}%
11898   \phantomsection
11899 }
11900 \let\H@old@schapter\@schapter
11901 \def\@schapter#1{%
11902   \H@old@schapter{#1}%
11903   \begingroup
11904     \let\@mkboth\@gobbletwo
11905     \Hy@GlobalStepCount\Hy@linkcounter
11906     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11907     \Hy@raisedlink{%
11908       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11909     }%
11910   \endgroup
11911 }

```

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:

```

11912 \@ifundefined{@chapter}{}{%
11913   \let\Hy@org@chapter\@chapter
11914   \def\@chapter{%
11915     \def\Hy@next{%
11916       \Hy@GlobalStepCount\Hy@linkcounter
11917       \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11918       \Hy@raisedlink{%
11919         \hyper@anchorstart{\@currentHref}\hyper@anchorend
11920       }%
11921     }%
11922     \ifnum\c@secnumdepth>\m@ne
11923       \@ifundefined{if@mainmatter}%
11924       \iftrue{\csname if@mainmatter\endcsname}%
11925       \let\Hy@next\relax
11926     \fi
11927   \fi
11928   \Hy@next
11929   \Hy@org@chapter
11930 }%
11931 }

11932 \let\H@old@part\@part
11933 \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

11934 \expandafter\ifx\csname chapter\endcsname\relax
11935   \let\Hy@secnum@part\z@
11936 \else
11937   \let\Hy@secnum@part\m@ne
11938 \fi
11939 \def\@part{%
11940   \ifnum\Hy@secnum@part>\c@secnumdepth
11941     \phantomsection
11942   \fi
11943   \H@old@part
11944 }

11945 \let\H@old@spart\@spart
11946 \def\@spart#1{%
11947   \H@old@spart{#1}%
11948   \Hy@GlobalStepCount\Hy@linkcounter
11949   \xdef\@currentHref{part*.\the\Hy@linkcounter}%
11950   \Hy@raisedlink{%
11951     \hyper@anchorstart{\@currentHref}\hyper@anchorend
11952   }%
11953 }

11954 \let\H@old@sect\@sect
11955 \def\@sect#1#2#3#4#5#6[#7]#8{%
11956   \ifnum #2>\c@secnumdepth
11957     \Hy@GlobalStepCount\Hy@linkcounter
11958     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11959   \fi
11960   \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%
11961   \ifnum #2>\c@secnumdepth
11962     \Hy@raisedlink{%
11963       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11964     }%
11965   \fi
11966 }

11967 </outlines | hypertex>
11968 <*outlines>

11969 \expandafter\def\csname Parent-4\endcsname{}
11970 \expandafter\def\csname Parent-3\endcsname{}
11971 \expandafter\def\csname Parent-2\endcsname{}
11972 \expandafter\def\csname Parent-1\endcsname{}
11973 \expandafter\def\csname Parent0\endcsname{}
11974 \expandafter\def\csname Parent1\endcsname{}
11975 \expandafter\def\csname Parent2\endcsname{}
11976 \expandafter\def\csname Parent3\endcsname{}
11977 \expandafter\def\csname Parent4\endcsname{}

11978 </outlines>

```

49 Compatibility with koma-script classes

```
11979 <*outlines | hypertex>
```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias.Isenberg@gmx.de. With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

11980 \def\Hy@tempa{%
11981   \def\@addchap[##1]##2{%

```

```

11982 \typeout{##2}%
11983 \if@twoside
11984 \mkboth{##1}{}%
11985 \else
11986 \mkboth{}{##1}%
11987 \fi
11988 \addtocontents{lof}{\protect\addvspace{10\p@}}%
11989 \addtocontents{lot}{\protect\addvspace{10\p@}}%
11990 \Hy@GlobalStepCount\Hy@linkcounter
11991 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11992 \Hy@raisedlink{%
11993 \hyper@anchorstart{\@currentHref}\hyper@anchorend
11994 }%
11995 \if@twocolumn
11996 \topnewpage[\@makeschapterhead{##2}]%
11997 \else
11998 \@makeschapterhead{##2}%
11999 \afterheading
12000 \fi
12001 \addcontentsline{toc}{chapter}{##1}%
12002 }%
12003 }
12004 \@ifclassloaded{scrbook}{%
12005 \@ifclasslater{scrbook}{2001/01/01}{%
12006 \let\Hy@tempa\@empty
12007 }{}%
12008 }{%
12009 \@ifclassloaded{scrreprt}{%
12010 \@ifclasslater{scrreprt}{2001/01/01}{%
12011 \let\Hy@tempa\@empty
12012 }{}%
12013 }{%
12014 \let\Hy@tempa\@empty
12015 }%
12016 }%
12017 \Hy@tempa
12018 </outlines | hypertex>

```

50 Encoding definition files for encodings of PDF strings

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

50.1 PD1 encoding

```

12019 <*pd1enc>
12020 \DeclareFontEncoding{PD1}{}{}

```

Accents

```

12021 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
12022 \DeclareTextAccent{\'}{PD1}{\textacute}
12023 \DeclareTextAccent{\~}{PD1}{\textasciicircum}
12024 \DeclareTextAccent{\~}{PD1}{\texttilde}
12025 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
12026 \DeclareTextAccent{\r}{PD1}{\textring}
12027 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
12028 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
12029 \DeclareTextAccent{\c}{PD1}{\textcedilla}

```

```

12030 \DeclareTextAccent{=} {PD1} {\textasciimacron}
12031 \DeclareTextAccent{b} {PD1} {\textmacronbelow}
12032 \DeclareTextAccent{d} {PD1} {\textdotbelow}
12033 \DeclareTextCompositeCommand{' } {PD1} {\@empty} {\textasciigrave}
12034 \DeclareTextCompositeCommand{' } {PD1} {\@empty} {\textacute}
12035 \DeclareTextCompositeCommand{^} {PD1} {\@empty} {\textasciicircum}
12036 \DeclareTextCompositeCommand{~} {PD1} {\@empty} {\texttilde}
12037 \DeclareTextCompositeCommand{"} {PD1} {\@empty} {\textasciidieresis}
12038 \DeclareTextCompositeCommand{\r} {PD1} {\@empty} {\textring}
12039 \DeclareTextCompositeCommand{\v} {PD1} {\@empty} {\textasciicaron}
12040 \DeclareTextCompositeCommand{.} {PD1} {\@empty} {\textdotaccent}
12041 \DeclareTextCompositeCommand{c} {PD1} {\@empty} {\textcedilla}
12042 \DeclareTextCompositeCommand{=} {PD1} {\@empty} {\textasciimacron}
12043 \DeclareTextCompositeCommand{b} {PD1} {\@empty} {\textmacronbelow}
12044 \DeclareTextCompositeCommand{d} {PD1} {\@empty} {\textdotbelow}
12045 \DeclareTextCompositeCommand{' } {PD1} {\ } {\textasciigrave}
12046 \DeclareTextCompositeCommand{' } {PD1} {\ } {\textacute}
12047 \DeclareTextCompositeCommand{^} {PD1} {\ } {\textasciicircum}
12048 \DeclareTextCompositeCommand{~} {PD1} {\ } {\texttilde}
12049 \DeclareTextCompositeCommand{"} {PD1} {\ } {\textasciidieresis}
12050 \DeclareTextCompositeCommand{\r} {PD1} {\ } {\textring}
12051 \DeclareTextCompositeCommand{\v} {PD1} {\ } {\textasciicaron}
12052 \DeclareTextCompositeCommand{.} {PD1} {\ } {\textdotaccent}
12053 \DeclareTextCompositeCommand{c} {PD1} {\ } {\textcedilla}
12054 \DeclareTextCompositeCommand{=} {PD1} {\ } {\textasciimacron}
12055 \DeclareTextCompositeCommand{b} {PD1} {\ } {\textmacronbelow}
12056 \DeclareTextCompositeCommand{d} {PD1} {\ } {\textdotbelow}
12057 \DeclareTextCommand{\k} {PD1} [1] {\TextSymbolUnavailable{\k{#1}}#1}
12058 \DeclareTextCommand{\t} {PD1} [1] {\TextSymbolUnavailable{\t{#1}}#1}
12059 \DeclareTextCommand{\newtie} {PD1} [1] {\TextSymbolUnavailable{\newtie{#1}}#1}

```

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

```

12060 % U+0009 (CHARACTER TABULATION)
12061 \DeclareTextCommand{\textHT} {PD1} {\011}% U+0009
12062 % U+000A (LINE FEED)
12063 \DeclareTextCommand{\textLF} {PD1} {\012}% U+000A
12064 % U+000D (CARRIAGE RETURN)
12065 \DeclareTextCommand{\textCR} {PD1} {\015}% U+000D

```

Accent glyph names

```

12066 % U+02D8 BREVE; breve
12067 \DeclareTextCommand{\textasciibreve} {PD1} {\030}% U+02D8
12068 % U+02C7 CARON; caron
12069 \DeclareTextCommand{\textasciicaron} {PD1} {\031}% U+02C7
12070 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
12071 \DeclareTextCommand{\textcircumflex} {PD1} {\032}% U+02C6
12072 % U+02D9 DOT ABOVE; dotaccent
12073 \DeclareTextCommand{\textdotaccent} {PD1} {\033}% U+02D9
12074 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
12075 \DeclareTextCommand{\texthungarumlaut} {PD1} {\034}% U+02DD
12076 % U+02DB OGONEK; ogonek
12077 \DeclareTextCommand{\textogonek} {PD1} {\035}% U+02DB
12078 % U+02DA RING ABOVE; ring
12079 \DeclareTextCommand{\textring} {PD1} {\036}% U+02DA
12080 % U+02DC SMALL TILDE; ilde, *tilde
12081 \DeclareTextCommand{\texttilde} {PD1} {\037}% U+02DC

```

\040: U+0020 SPACE; *space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

12082 % U+0022 QUOTATION MARK; quotedbl
 12083 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
 12084 % U+0023 NUMBER SIGN; numbersign
 12085 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
 12086 % U+0024 DOLLAR SIGN; dollar
 12087 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
 12088 % U+0025 PERCENT SIGN; percent
 12089 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
 12090 % U+0026 AMPERSAND; ampersand
 12091 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026
 \047: U+0027 APOSTROPHE; quotesingle

 12092 % U+0028 LEFT PARENTHESIS; parenleft
 12093 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028
 12094 % U+0029 RIGHT PARENTHESIS; parenright
 12095 \DeclareTextCommand{\textparenright}{PD1}{\string\)%}% \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
 12096 % U+002E FULL STOP; period
 12097 \DeclareTextCommand{\textdotbelow}{PD1}{.}% \056 U+002E
 \057: U+002F SOLIDUS; slash
 \060: U+0030 DIGIT ZERO; zero
 ...
 \071: U+0039 DIGIT NINE; nine
 \072: U+003A COLON; colon
 \073: U+003B SEMICOLON; semicolon
 12098 % U+003C LESS-THAN SIGN; less
 12099 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
 \075: U+003D EQUALS SIGN; equal
 12100 % U+003E GREATER-THAN SIGN; greater
 12101 \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
 12102 % U+005C REVERSE SOLIDUS; backslash
 12103 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 12104 % U+005E CIRCUMFLEX ACCENT; asciicircum
 12105 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 12106 % U+005F LOW LINE; underscore
 12107 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 12108 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 12109 % U+0060 GRAVE ACCENT; grave
 12110 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h

12111 % U+0069 LATIN SMALL LETTER I; i
 12112 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 12113 % U+007B LEFT CURLY BRACKET; braceleft
 12114 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 12115 % U+007C VERTICAL LINE; *bar, verticalbar
 12116 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 12117 % U+007D RIGHT CURLY BRACKET; braceright
 12118 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 12119 % U+007E TILDE; asciitilde
 12120 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 12121 % U+2022 BULLET; bullet
 12122 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 12123 % U+2020 DAGGER; dagger
 12124 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 12125 % U+2021 DOUBLE DAGGER; daggerdbl
 12126 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 12127 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 12128 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 12129 % U+2014 EM DASH; emdash
 12130 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 12131 % U+2013 EN DASH; endash
 12132 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 12133 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 12134 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 12135 % U+2044 FRACTION SLASH; fraction
 12136 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 12137 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft
 12138 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039
 12139 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright
 12140 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A
 12141 % U+2212 MINUS SIGN; minus
 12142 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 12143 % U+2030 PER MILLE SIGN; perthousand
 12144 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 12145 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 12146 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 12147 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 12148 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 12149 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 12150 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
 12151 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 12152 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
 12153 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 12154 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
 12155 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 12156 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 12157 % U+2122 TRADE MARK SIGN; trademark
 12158 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 12159 % U+FB01 LATIN SMALL LIGATURE FI; fi
 12160 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
 12161 % U+FB02 LATIN SMALL LIGATURE FL; fl
 12162 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
 12163 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash

12164 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
12165 % U+0152 LATIN CAPITAL LIGATURE OE; OE
12166 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
12167 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
12168 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
12169 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
12170 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178
12171 \DeclareTextCommand{\IJ}{PD1}{\230}
12172 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
12173 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
12174 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
12175 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
12176 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
12177 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
12178 % U+0153 LATIN SMALL LIGATURE OE; oe
12179 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
12180 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
12181 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
12182 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
12183 \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.
12184 % U+20AC EURO SIGN; *Euro, euro
12185 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
12186 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
12187 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
12188 % U+00A2 CENT SIGN; cent
12189 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
12190 % U+00A3 POUND SIGN; sterling
12191 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
12192 % U+00A4 CURRENCY SIGN; currency
12193 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
12194 % U+00A5 YEN SIGN; yen
12195 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
12196 % U+00A6 BROKEN BAR; brokenbar
12197 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
12198 % U+00A7 SECTION SIGN; section
12199 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
12200 % U+00A8 DIAERESIS; dieresis
12201 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
12202 % U+00A9 COPYRIGHT SIGN; copyright
12203 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
12204 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
12205 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
12206 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
12207 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
12208 % U+00AC NOT SIGN; logicalnot
12209 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
12210 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not

No glyph \255 in PDFDocEncoding.
12211 % U+00AE REGISTERED SIGN; registered
12212 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
12213 % U+00AF MACRON; *macron, overscore
12214 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
12215 % U+00B0 DEGREE SIGN; degree
12216 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
12217 % U+00B1 PLUS-MINUS SIGN; plusminus

12218 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
12219 % U+00B2 SUPERSCRIPT TWO; twosuperior
12220 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
12221 % U+00B3 SUPERSCRIPT THREE; threesuperior
12222 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
12223 % U+00B4 ACUTE ACCENT; acute
12224 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
12225 % U+00B5 MICRO SIGN; mu, mu1
12226 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
12227 % U+00B6 PILCROW SIGN; paragraph
12228 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
12229 % U+00B7 MIDDLE DOT; middot, *periodcentered
12230 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
12231 % U+00B8 CEDILLA; cedilla
12232 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
12233 % U+00B9 SUPERSCRIPT ONE; onesuperior
12234 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
12235 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
12236 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
12237 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
12238 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
12239 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
12240 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
12241 % U+00BD VULGAR FRACTION ONE HALF; onehalf
12242 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
12243 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
12244 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
12245 % U+00BF INVERTED QUESTION MARK; questiondown
12246 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
12247 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
12248 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
12249 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
12250 \DeclareTextCompositeCommand{\' }{PD1}{A}{\301}% U+00C1
12251 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
12252 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
12253 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
12254 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
12255 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
12256 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
12257 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
12258 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
12259 % U+00C6 LATIN CAPITAL LETTER AE; AE
12260 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
12261 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
12262 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
12263 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
12264 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
12265 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
12266 \DeclareTextCompositeCommand{\' }{PD1}{E}{\311}% U+00C9
12267 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
12268 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
12269 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
12270 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
12271 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
12272 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
12273 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
12274 \DeclareTextCompositeCommand{\' }{PD1}{I}{\315}% U+00CD

12275 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
12276 \DeclareTextCompositeCommand{\`}{PD1}{I}{\316}% U+00CE
12277 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
12278 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
12279 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
12280 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
12281 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
12282 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
12283 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
12284 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
12285 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
12286 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
12287 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
12288 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
12289 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
12290 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
12291 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
12292 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
12293 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
12294 % U+00D7 MULTIPLICATION SIGN; multiply
12295 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
12296 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
12297 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
12298 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
12299 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
12300 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
12301 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
12302 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
12303 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
12304 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
12305 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
12306 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
12307 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
12308 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
12309 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
12310 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
12311 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
12312 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
12313 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
12314 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
12315 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
12316 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
12317 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
12318 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
12319 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
12320 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
12321 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
12322 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
12323 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
12324 % U+00E6 LATIN SMALL LETTER AE; ae
12325 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
12326 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
12327 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
12328 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
12329 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8
12330 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
12331 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9

12332 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
 12333 \DeclareTextCompositeCommand{\`}{PD1}{e}{\352}% U+00EA
 12334 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
 12335 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
 12336 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
 12337 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
 12338 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
 12339 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
 12340 \DeclareTextCompositeCommand{\`}{PD1}{i}{\355}% U+00ED
 12341 \DeclareTextCompositeCommand{\`}{PD1}{i}{\355}% U+00ED
 12342 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
 12343 \DeclareTextCompositeCommand{\`}{PD1}{i}{\356}% U+00EE
 12344 \DeclareTextCompositeCommand{\`}{PD1}{i}{\356}% U+00EE
 12345 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
 12346 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
 12347 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
 12348 % U+00F0 LATIN SMALL LETTER ETH; eth
 12349 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
 12350 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
 12351 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
 12352 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
 12353 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
 12354 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
 12355 \DeclareTextCompositeCommand{\`}{PD1}{o}{\363}% U+00F3
 12356 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
 12357 \DeclareTextCompositeCommand{\`}{PD1}{o}{\364}% U+00F4
 12358 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
 12359 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
 12360 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 12361 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
 12362 % U+00F7 DIVISION SIGN; divide
 12363 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
 12364 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 12365 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
 12366 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 12367 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
 12368 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 12369 \DeclareTextCompositeCommand{\`}{PD1}{u}{\372}% U+00FA
 12370 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 12371 \DeclareTextCompositeCommand{\`}{PD1}{u}{\373}% U+00FB
 12372 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 12373 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
 12374 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 12375 \DeclareTextCompositeCommand{\`}{PD1}{y}{\375}% U+00FD
 12376 % U+00FE LATIN SMALL LETTER THORN; thorn
 12377 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
 12378 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 12379 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
 12380 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

12381 \DeclareTextCommand{\SS}{PD1}{SS}
 12382 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

12383 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
 12384 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
 12385 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
 12386 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}

```

12387 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
12388 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
12389 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
12390 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

12391 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
12392 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
12393 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
12394 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
12395 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
12396 \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;

```

12397 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
12398 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
12399 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
12400 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
12401 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
12402 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
12403 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
12404 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
12405 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
12406 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
12407 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
12408 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
12409 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
12410 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

```

12411 </pdlenc>

```

50.2 PU encoding

```

12412 <*puenc>
12413 \DeclareFontEncoding{PU}{-}{}

```

50.2.1 NFSS2 accents

```

12414 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
12415 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
12416 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
12417 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
12418 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
12419 \DeclareTextCommand{\`}{PU}[1]{#1\83\002}% U+0302
12420 % U+0303 COMBINING TILDE; tildecmb, *tildecomb
12421 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
12422 % U+0304 COMBINING MACRON; macroncmb
12423 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
12424 % U+0306 COMBINING BREVE; brevecmb
12425 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
12426 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
12427 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
12428 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
12429 % U+0308 COMBINING DIAERESIS; dieresiscmb
12430 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
12431 % U+030A COMBINING RING ABOVE; ringcmb
12432 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
12433 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
12434 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
12435 % U+030C COMBINING CARON; caroncmb

```

```

12436 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
12437 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
12438 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
12439 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
12440 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
12441 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
12442 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
12443 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
12444 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
12445 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
12446 % U+0327 COMBINING CEDILLA; cedillacmb
12447 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
12448 % U+0328 COMBINING OGONEK; ogonekcmb
12449 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
12450 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
12451 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
12452 % U+20DD COMBINING ENCLOSING CIRCLE
12453 \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.

```

12454 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}
12455 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12456 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciicircum}
12457 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
12458 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
12459 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12460 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
12461 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
12462 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12463 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
12464 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
12465 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
12466 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
12467 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
12468 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
12469 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
12470 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
12471 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
12472 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
12473 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
12474 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
12475 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciicircum}
12476 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
12477 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
12478 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
12479 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
12480 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
12481 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
12482 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
12483 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
12484 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
12485 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
12486 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
12487 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
12488 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
12489 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
12490 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}

```

12491 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

Accents for capitals (see encoding TS1)

12492 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}

12493 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}

12494 \DeclareTextCommand{\capitalgrave}{PU}[1]{\'{#1}}

12495 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}

12496 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}

12497 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}

12498 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}

12499 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}

12500 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}

12501 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}

12502 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}

12503 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}

12504 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1}}

12505 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}

12506 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

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

Special white space escape characters.

12507 % U+0009 (CHARACTER TABULATION)

12508 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009

12509 % U+000A (LINE FEED)

12510 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A

12511 % U+000D (CARRIAGE RETURN)

12512 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic

\80\041: U+0021 EXCLAMATION MARK; exclam

12513 % U+0022 QUOTATION MARK; quotedbl

12514 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022

12515 % U+0023 NUMBER SIGN; numbersign

12516 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023

12517 % U+0024 DOLLAR SIGN; dollar

12518 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024

12519 % U+0025 PERCENT SIGN; percent

12520 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025

12521 % U+0026 AMPERSAND; ampersand

12522 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026

12523 % U+0027 APOSTROPHE; quotesingle

12524 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027

12525 % U+0028 LEFT PARENTHESIS; parenleft

12526 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028

12527 % U+0029 RIGHT PARENTHESIS; parenright

12528 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029

12529 % U+002A ASTERISK; asterisk

12530 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A (?)

\80\053: U+002B PLUS SIGN; plus

\80\054: U+002C COMMA; comma

\80\055: U+002D HYPHEN-MINUS; hyphen

\80\056: U+002E FULL STOP; period

\80\057: U+002F SOLIDUS; slash

\80\060: U+0030 DIGIT ZERO; zero

...

\80\071: U+0039 DIGIT NINE; nine

\80\072: U+003A COLON; colon
 \80\073: U+003B SEMICOLON; semicolon
 12531 % U+003C LESS-THAN SIGN; less
 12532 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
 \80\075: U+003D EQUALS SIGN; equal
 12533 % U+003E GREATER-THAN SIGN; greater
 12534 \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
 12535 % U+005C REVERSE SOLIDUS; backslash
 12536 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright
 12537 % U+005E CIRCUMFLEX ACCENT; asciicircum
 12538 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 12539 % U+005F LOW LINE; underscore
 12540 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 12541 % U+0060 GRAVE ACCENT; grave
 12542 \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
 12543 % U+0069 LATIN SMALL LETTER I; i
 12544 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069
 12545 \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
 12546 % U+007B LEFT CURLY BRACKET; braceleft
 12547 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 12548 % U+007C VERTICAL LINE; *bar, verticalbar
 12549 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 12550 % U+007D RIGHT CURLY BRACKET; braceright
 12551 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 12552 % U+007E TILDE; asciitilde
 12553 \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
 12554 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 12555 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 12556 % U+00A2 CENT SIGN; cent
 12557 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 12558 % U+00A3 POUND SIGN; sterling
 12559 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 12560 % U+00A4 CURRENCY SIGN; currency
 12561 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 12562 % U+00A5 YEN SIGN; yen
 12563 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5

12564 % U+00A6 BROKEN BAR; brokenbar
 12565 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
 12566 % U+00A7 SECTION SIGN; section
 12567 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 12568 % U+00A8 DIAERESIS; dieresis
 12569 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
 12570 % U+00A9 COPYRIGHT SIGN; copyright
 12571 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
 12572 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 12573 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 12574 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
 12575 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 12576 % U+00AC NOT SIGN; logicalnot
 12577 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 12578 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
 12579 % U+00AE REGISTERED SIGN; registered
 12580 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
 12581 % U+00AF MACRON; *macron, overscore
 12582 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
 12583 % U+00B0 DEGREE SIGN; degree
 12584 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
 12585 % U+00B1 PLUS-MINUS SIGN; plusminus
 12586 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
 12587 % U+00B2 SUPERSCRIPT TWO; twosuperior
 12588 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
 12589 % U+00B3 SUPERSCRIPT THREE; threesuperior
 12590 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
 12591 % U+00B4 ACUTE ACCENT; acute
 12592 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
 12593 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
 12594 % U+00B5 MICRO SIGN; mu, mu1
 12595 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
 12596 % U+00B6 PILCROW SIGN; paragraph
 12597 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
 12598 % U+00B7 MIDDLE DOT; middot, *periodcentered
 12599 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
 12600 % U+00B8 CEDILLA; cedilla
 12601 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
 12602 % U+00B9 SUPERSCRIPT ONE; onesuperior
 12603 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
 12604 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 12605 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
 12606 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
 12607 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
 12608 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
 12609 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
 12610 % U+00BD VULGAR FRACTION ONE HALF; onehalf
 12611 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
 12612 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
 12613 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
 12614 % U+00BF INVERTED QUESTION MARK; questiondown
 12615 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
 12616 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
 12617 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
 12618 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
 12619 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1

12620 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
 12621 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
 12622 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
 12623 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
 12624 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
 12625 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
 12626 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
 12627 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
 12628 % U+00C6 LATIN CAPITAL LETTER AE; AE
 12629 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
 12630 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
 12631 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
 12632 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
 12633 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
 12634 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
 12635 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
 12636 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
 12637 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
 12638 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
 12639 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
 12640 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
 12641 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
 12642 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
 12643 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
 12644 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
 12645 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
 12646 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
 12647 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
 12648 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
 12649 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
 12650 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
 12651 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
 12652 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
 12653 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
 12654 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
 12655 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
 12656 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
 12657 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
 12658 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
 12659 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
 12660 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
 12661 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
 12662 % U+00D7 MULTIPLICATION SIGN; multiply
 12663 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
 12664 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
 12665 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
 12666 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
 12667 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
 12668 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
 12669 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
 12670 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
 12671 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
 12672 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
 12673 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
 12674 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
 12675 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
 12676 % U+00DE LATIN CAPITAL LETTER THORN; Thorn

12677 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
12678 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
12679 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
12680 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
12681 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
12682 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
12683 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
12684 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
12685 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
12686 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
12687 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
12688 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
12689 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
12690 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
12691 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
12692 % U+00E6 LATIN SMALL LETTER AE; ae
12693 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
12694 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
12695 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
12696 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
12697 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
12698 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
12699 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
12700 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
12701 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
12702 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
12703 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
12704 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
12705 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
12706 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
12707 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
12708 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
12709 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
12710 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
12711 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
12712 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
12713 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
12714 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
12715 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
12716 % U+00F0 LATIN SMALL LETTER ETH; eth
12717 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
12718 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
12719 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
12720 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
12721 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
12722 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
12723 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
12724 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
12725 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4
12726 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
12727 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
12728 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
12729 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
12730 % U+00F7 DIVISION SIGN; divide
12731 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
12732 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
12733 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8

12734 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 12735 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
 12736 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 12737 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 12738 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 12739 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
 12740 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 12741 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
 12742 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 12743 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 12744 % U+00FE LATIN SMALL LETTER THORN; thorn
 12745 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 12746 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 12747 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

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

12748 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 12749 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
 12750 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 12751 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
 12752 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 12753 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 12754 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 12755 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 12756 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 12757 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 12758 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
 12759 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
 12760 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
 12761 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
 12762 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
 12763 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
 12764 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
 12765 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
 12766 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
 12767 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
 12768 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
 12769 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
 12770 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
 12771 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
 12772 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
 12773 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
 12774 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
 12775 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
 12776 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
 12777 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
 12778 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
 12779 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
 12780 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
 12781 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
 12782 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
 12783 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
 12784 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
 12785 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
 12786 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
 12787 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113

12788 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
12789 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
12790 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
12791 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
12792 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
12793 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
12794 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
12795 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
12796 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
12797 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
12798 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
12799 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
12800 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
12801 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
12802 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
12803 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
12804 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
12805 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
12806 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
12807 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
12808 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
12809 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
12810 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
12811 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
12812 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
12813 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
12814 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
12815 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
12816 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent
12817 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
12818 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
12819 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
12820 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
12821 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
12822 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
12823 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
12824 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
12825 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
12826 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
12827 \DeclareTextCommand{\textHslash}{PU}{\81\047}% U+0127
12828 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
12829 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
12830 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
12831 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
12832 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
12833 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
12834 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
12835 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
12836 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
12837 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
12838 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
12839 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
12840 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
12841 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
12842 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
12843 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
12844 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E

```

12845 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
12846 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
12847 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
12848 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
12849 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
12850 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
12851 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
12852 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
12853 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
12854 % U+0133 LATIN SMALL LIGATURE IJ; ij
12855 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
12856 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
12857 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
12858 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
12859 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
12860 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
12861 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
12862 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
12863 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
12864 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

```

The canonical name of U+0138, small letter kra, would be `\textkgreenlandic`, following the glyph naming convention. However `latex/base/inputenc.dtx` has chosen `\textkra`.

```

12865 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
12866 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
12867 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
12868 \DeclareTextCompositeCommand{\' }{PU}{L}{\81\071}% U+0139
12869 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
12870 \DeclareTextCompositeCommand{\' }{PU}{l}{\81\072}% U+013A
12871 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent
12872 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
12873 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
12874 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
12875 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
12876 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
12877 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
12878 \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`.

```

12879 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
12880 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
12881 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
12882 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
12883 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
12884 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
12885 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
12886 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
12887 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
12888 \DeclareTextCompositeCommand{\' }{PU}{N}{\81\103}% U+0143
12889 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
12890 \DeclareTextCompositeCommand{\' }{PU}{n}{\81\104}% U+0144
12891 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
12892 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
12893 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
12894 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
12895 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron

```

12896 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
12897 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
12898 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
12899 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
12900 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
12901 % U+014A LATIN CAPITAL LETTER ENG; Eng
12902 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
12903 % U+014B LATIN SMALL LETTER ENG; eng
12904 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
12905 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
12906 \DeclareTextCompositeCommand{=} {PU}{O}{\81\114}% U+014C
12907 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
12908 \DeclareTextCompositeCommand{=} {PU}{o}{\81\115}% U+014D
12909 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
12910 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
12911 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
12912 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
12913 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
12914 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
12915 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
12916 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
12917 % U+0152 LATIN CAPITAL LIGATURE OE; OE
12918 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
12919 % U+0153 LATIN SMALL LIGATURE OE; oe
12920 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
12921 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
12922 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
12923 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
12924 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
12925 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
12926 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
12927 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
12928 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
12929 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
12930 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
12931 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
12932 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
12933 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
12934 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
12935 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
12936 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
12937 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
12938 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
12939 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
12940 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
12941 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
12942 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
12943 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
12944 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
12945 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
12946 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
12947 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
12948 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
12949 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent
12950 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
12951 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
12952 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163

12953 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
 12954 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
 12955 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
 12956 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
 12957 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
 12958 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
 12959 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
 12960 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
 12961 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
 12962 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
 12963 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
 12964 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
 12965 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
 12966 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
 12967 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
 12968 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
 12969 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
 12970 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
 12971 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
 12972 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
 12973 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
 12974 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
 12975 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
 12976 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
 12977 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut
 12978 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
 12979 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut
 12980 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
 12981 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
 12982 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
 12983 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
 12984 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
 12985 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
 12986 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
 12987 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
 12988 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
 12989 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
 12990 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
 12991 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 12992 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
 12993 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 12994 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
 12995 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 12996 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
 12997 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 12998 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
 12999 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdotaccent
 13000 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 13001 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 13002 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 13003 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 13004 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 13005 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 13006 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 13007 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 13008 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

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

13009 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
13010 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
13011 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
13012 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
13013 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
13014 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
13015 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
13016 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
13017 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
13018 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
13019 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
13020 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
13021 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
13022 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
13023 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
13024 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
13025 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
13026 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
13027 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
13028 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
13029 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
13030 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
13031 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
13032 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
13033 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
13034 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
13035 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
13036 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
13037 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
13038 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
13039 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
13040 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
13041 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
13042 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
13043 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
13044 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
13045 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
13046 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
13047 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
13048 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
13049 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
13050 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
13051 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
13052 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8
13053 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
13054 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9
13055 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
13056 \DeclareTextCompositeCommand{\'}{PU}{AE}{\81\374}% U+01FC
13057 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
13058 \DeclareTextCompositeCommand{\'}{PU}{ae}{\81\375}% U+01FD
13059 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslashacute, Ostrokeacut
13060 \DeclareTextCompositeCommand{\'}{PU}{O}{\81\376}% U+01FE
13061 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslashacute, ostrokeacute
13062 \DeclareTextCompositeCommand{\'}{PU}{o}{\81\377}% U+01FF
13063 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
13064 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200

13065 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
 13066 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
 13067 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
 13068 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
 13069 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
 13070 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
 13071 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
 13072 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
 13073 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
 13074 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 13075 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 13076 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
 13077 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
 13078 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
 13079 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
 13080 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
 13081 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
 13082 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
 13083 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
 13084 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
 13085 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
 13086 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
 13087 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
 13088 % U+021E LATIN CAPITAL LETTER H WITH CARON
 13089 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
 13090 % U+021F LATIN SMALL LETTER H WITH CARON
 13091 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
 13092 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 13093 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 13094 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 13095 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 13096 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 13097 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 13098 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 13099 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 13100 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 13101 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 13102 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 13103 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 13104 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 13105 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 13106 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 13107 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 13108 % U+0237 LATIN SMALL LETTER DOTLESS J
 13109 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

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

13110 % U+02C7 CARON; caron
 13111 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 13112 % U+02D8 BREVE; breve
 13113 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 13114 % U+02D9 DOT ABOVE; dotaccent
 13115 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 13116 % U+02DA RING ABOVE; ring
 13117 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 13118 % U+02DB OGONEK; ogonek
 13119 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB

13120 % U+02DC SMALL TILDE; ilde, *tilde
 13121 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 13122 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 13123 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 13124 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 13125 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 13126 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 13127 % U+02F7 MODIFIER LETTER LOW TILDE
 13128 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

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

13129 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 13130 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 13131 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 13132 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 13133 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
 13134 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 13135 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 13136 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
 13137 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 13138 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

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

13139 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 13140 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
 13141 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
 13142 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
 13143 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos
 13144 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
 13145 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
 13146 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
 13147 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
 13148 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
 13149 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
 13150 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
 13151 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos
 13152 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
 13153 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos
 13154 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
 13155 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
 13156 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
 13157 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadieresis
 13158 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390
 13159 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
 13160 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
 13161 % U+0392 GREEK CAPITAL LETTER BETA; Beta
 13162 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
 13163 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
 13164 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
 13165 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
 13166 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
 13167 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
 13168 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
 13169 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
 13170 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
 13171 % U+0397 GREEK CAPITAL LETTER ETA; Eta
 13172 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397

13173 % U+0398 GREEK CAPITAL LETTER THETA; Theta
13174 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
13175 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
13176 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
13177 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
13178 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
13179 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
13180 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
13181 % U+039C GREEK CAPITAL LETTER MU; Mu
13182 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
13183 % U+039D GREEK CAPITAL LETTER NU; Nu
13184 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
13185 % U+039E GREEK CAPITAL LETTER XI; Xi
13186 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
13187 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
13188 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
13189 % U+03A0 GREEK CAPITAL LETTER PI; Pi
13190 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
13191 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
13192 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
13193 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
13194 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
13195 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
13196 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
13197 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
13198 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
13199 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
13200 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
13201 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
13202 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
13203 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
13204 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
13205 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
13206 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
13207 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
13208 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
13209 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\252}% U+03AA
13210 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilondieresis
13211 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\253}% U+03AB
13212 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
13213 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}% U+03AC
13214 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
13215 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}% U+03AD
13216 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
13217 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE
13218 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
13219 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF
13220 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilondieresis
13221 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\260}% U+03B0
13222 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
13223 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
13224 % U+03B2 GREEK SMALL LETTER BETA; beta
13225 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
13226 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
13227 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
13228 % U+03B4 GREEK SMALL LETTER DELTA; delta
13229 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4

13230 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
13231 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
13232 % U+03B6 GREEK SMALL LETTER ZETA; zeta
13233 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
13234 % U+03B7 GREEK SMALL LETTER ETA; eta
13235 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
13236 % U+03B8 GREEK SMALL LETTER THETA; theta
13237 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
13238 % U+03B9 GREEK SMALL LETTER IOTA; iota
13239 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
13240 % U+03BA GREEK SMALL LETTER KAPPA; kappa
13241 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
13242 % U+03BB GREEK SMALL LETTER LAMDA; lambda
13243 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
13244 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
13245 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
13246 % U+03BD GREEK SMALL LETTER NU; nu
13247 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
13248 % U+03BE GREEK SMALL LETTER XI; xi
13249 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
13250 % U+03BF GREEK SMALL LETTER OMICRON; omicron
13251 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
13252 % U+03C0 GREEK SMALL LETTER PI; pi
13253 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
13254 % U+03C1 GREEK SMALL LETTER RHO; rho
13255 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
13256 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
13257 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
13258 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
13259 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
13260 % U+03C4 GREEK SMALL LETTER TAU; tau
13261 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
13262 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
13263 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
13264 % U+03C6 GREEK SMALL LETTER PHI; phi
13265 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
13266 % U+03C7 GREEK SMALL LETTER CHI; chi
13267 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
13268 % U+03C8 GREEK SMALL LETTER PSI; psi
13269 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
13270 % U+03C9 GREEK SMALL LETTER OMEGA; omega
13271 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
13272 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
13273 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
13274 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; upsilondieresis
13275 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
13276 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
13277 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
13278 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
13279 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
13280 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
13281 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
13282 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
13283 % U+03DA GREEK LETTER STIGMA; Stigmatreek
13284 \DeclareTextCommand{\textStigmatreek}{PU}{\83\332}% U+03DA
13285 % U+03DB GREEK SMALL LETTER STIGMA
13286 \DeclareTextCommand{\textstigmatreek}{PU}{\83\333}% U+03DB

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13287 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
13288 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
13289 % U+03DD GREEK SMALL LETTER DIGAMMA
13290 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
13291 % U+03DE GREEK LETTER KOPPA; Koppagreek
13292 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
13293 % U+03DF GREEK SMALL LETTER KOPPA
13294 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
13295 % U+03E0 GREEK LETTER SAMPI; Sampigreek
13296 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
13297 % U+03E1 GREEK SMALL LETTER SAMPI
13298 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

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50.2.9 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

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13299 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
13300 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
13301 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
13302 \DeclareTextCommand{\CYRIO}{PU}{\84\001}% U+0401
13303 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???
13304 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
13305 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
13306 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
13307 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
13308 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
13309 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
13310 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
13311 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
13312 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, *afii10055
13313 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
13314 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
13315 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
13316 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
13317 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
13318 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
13319 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
13320 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
13321 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
13322 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
13323 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
13324 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
13325 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
13326 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
13327 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
13328 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D
13329 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
13330 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
13331 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
13332 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
13333 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
13334 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
13335 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
13336 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
13337 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
13338 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
13339 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412

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13340 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
13341 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
13342 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
13343 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
13344 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
13345 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
13346 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
13347 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
13348 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
13349 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
13350 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
13351 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
13352 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
13353 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
13354 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
13355 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
13356 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
13357 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
13358 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
13359 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
13360 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
13361 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
13362 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
13363 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
13364 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
13365 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
13366 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
13367 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
13368 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
13369 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
13370 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
13371 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
13372 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
13373 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
13374 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
13375 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
13376 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
13377 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
13378 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
13379 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
13380 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
13381 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
13382 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
13383 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
13384 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
13385 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
13386 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
13387 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
13388 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
13389 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
13390 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
13391 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
13392 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
13393 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
13394 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
13395 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
13396 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E

13397 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afiii10049
13398 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
13399 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afiii10065
13400 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
13401 % U+0431 CYRILLIC SMALL LETTER BE; *afiii10066, becyrillic
13402 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
13403 % U+0432 CYRILLIC SMALL LETTER VE; *afiii10067, vecyrillic
13404 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
13405 % U+0433 CYRILLIC SMALL LETTER GHE; *afiii10068, gecyrillic
13406 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
13407 % U+0434 CYRILLIC SMALL LETTER DE; *afiii10069, decyrillic
13408 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
13409 % U+0435 CYRILLIC SMALL LETTER IE; *afiii10070, iecyrillic
13410 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
13411 % U+0436 CYRILLIC SMALL LETTER ZHE; *afiii10072, zhecyrillic
13412 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436
13413 % U+0437 CYRILLIC SMALL LETTER ZE; *afiii10073, zecyrillic
13414 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
13415 % U+0438 CYRILLIC SMALL LETTER I; *afiii10074, iicyrillic
13416 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
13417 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afiii10075, iishortcyrillic
13418 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
13419 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
13420 % U+043A CYRILLIC SMALL LETTER KA; *afiii10076, kacyrillic
13421 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
13422 % U+043B CYRILLIC SMALL LETTER EL; *afiii10077, elcyrillic
13423 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B
13424 % U+043C CYRILLIC SMALL LETTER EM; *afiii10078, emcyrillic
13425 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
13426 % U+043D CYRILLIC SMALL LETTER EN; *afiii10079, encyrillic
13427 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
13428 % U+043E CYRILLIC SMALL LETTER O; *afiii10080, ocyrillic
13429 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
13430 % U+043F CYRILLIC SMALL LETTER PE; *afiii10081, pecyrillic
13431 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
13432 % U+0440 CYRILLIC SMALL LETTER ER; *afiii10082, ercyrillic
13433 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
13434 % U+0441 CYRILLIC SMALL LETTER ES; *afiii10083, escyrillic
13435 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441
13436 % U+0442 CYRILLIC SMALL LETTER TE; *afiii10084, tecyrillic
13437 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
13438 % U+0443 CYRILLIC SMALL LETTER U; *afiii10085, ucyrillic
13439 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
13440 % U+0444 CYRILLIC SMALL LETTER EF; *afiii10086, efcyrillic
13441 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
13442 % U+0445 CYRILLIC SMALL LETTER HA; *afiii10087, khacyrillic
13443 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
13444 % U+0446 CYRILLIC SMALL LETTER TSE; *afiii10088, tsecyrillic
13445 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
13446 % U+0447 CYRILLIC SMALL LETTER CHE; *afiii10089, checyrillic
13447 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
13448 % U+0448 CYRILLIC SMALL LETTER SHA; *afiii10090, shacyrillic
13449 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
13450 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afiii10091, shhacyrillic
13451 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
13452 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afiii10092, hardsigncyrillic
13453 \DeclareTextCommand{\cyrhdsn}{PU}{\84\112}% U+044A

13454 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
13455 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
13456 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
13457 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% U+044C
13458 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
13459 \DeclareTextCommand{\cyrrerev}{PU}{\84\115}% U+044D
13460 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
13461 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E
13462 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
13463 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F
13464 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
13465 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
13466 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
13467 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
13468 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
13469 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
13470 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
13471 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
13472 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
13473 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
13474 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
13475 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
13476 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
13477 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyrillic
13478 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
13479 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
13480 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457
13481 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457
13482 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
13483 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
13484 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
13485 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459
13486 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
13487 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
13488 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
13489 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
13490 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
13491 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
13492 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
13493 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
13494 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
13495 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
13496 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
13497 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
13498 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
13499 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
13500 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
13501 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
13502 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
13503 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
13504 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
13505 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
13506 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
13507 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
13508 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
13509 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
13510 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465

13511 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
13512 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
13513 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
13514 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
13515 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleiotifiedcyrillic
13516 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
13517 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleiotifiedcyrillic
13518 \DeclareTextCommand{\cyrriotlyus}{PU}{\84\151}% U+0469
13519 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
13520 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
13521 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
13522 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
13523 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotifiedcyrillic
13524 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
13525 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyrillic
13526 \DeclareTextCommand{\cyrriotbyus}{PU}{\84\155}% U+046D
13527 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
13528 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
13529 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
13530 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
13531 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
13532 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
13533 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
13534 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
13535 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
13536 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
13537 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
13538 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
13539 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
13540 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
13541 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
13542 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
13543 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; Izhitsadblgravecyrillic
13544 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
13545 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; izhitsadblgravecyrillic
13546 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
13547 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
13548 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
13549 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
13550 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
13551 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic
13552 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
13553 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
13554 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
13555 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic
13556 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
13557 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic
13558 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
13559 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
13560 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
13561 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
13562 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
13563 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
13564 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
13565 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
13566 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
13567 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic

13568 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrillicmb
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrillicmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrillicmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 13569 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 13570 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 13571 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 13572 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 13573 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 13574 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 13575 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 13576 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 13577 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 13578 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 13579 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 13580 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 13581 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, *afii10050
 13582 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 13583 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, gheupturncyrillic
 13584 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 13585 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic
 13586 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 13587 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 13588 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 13589 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic
 13590 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 13591 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic
 13592 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 13593 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic
 13594 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 13595 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic
 13596 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 13597 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic
 13598 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 13599 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 13600 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic
 13601 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
 13602 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 13603 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic
 13604 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
 13605 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic
 13606 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
 13607 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kavertikalstrokecyrillic
 13608 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 13609 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kavertikalstrokecyrillic
 13610 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
 13611 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
 13612 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
 13613 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic

13614 \DeclareTextCommand{\cyrkhrs}{PU}{\84\237}% U+049F
13615 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
13616 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
13617 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
13618 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
13619 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
13620 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
13621 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic
13622 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
13623 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
13624 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
13625 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
13626 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
13627 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
13628 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
13629 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
13630 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
13631 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
13632 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
13633 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
13634 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
13635 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
13636 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
13637 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
13638 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
13639 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
13640 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
13641 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
13642 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
13643 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
13644 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD
13645 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
13646 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
13647 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
13648 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF
13649 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
13650 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
13651 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic
13652 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1
13653 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescendercyrillic
13654 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
13655 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
13656 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
13657 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
13658 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
13659 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
13660 \DeclareTextCommand{\cyrтетse}{PU}{\84\265}% U+04B5
13661 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic
13662 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
13663 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
13664 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7
13665 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Cheverticalstrokecyrillic
13666 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
13667 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; cheverticalstrokecyrillic
13668 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
13669 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
13670 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA

13671 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
13672 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
13673 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic
13674 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
13675 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
13676 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
13677 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic
13678 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
13679 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
13680 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic
13681 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
13682 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
13683 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
13684 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
13685 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
13686 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
13687 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
13688 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
13689 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
13690 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
13691 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
13692 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
13693 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
13694 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
13695 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
13696 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
13697 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
13698 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
13699 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
13700 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
13701 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic
13702 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
13703 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic
13704 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
13705 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
13706 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
13707 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
13708 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
13709 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
13710 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
13711 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
13712 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
13713 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic
13714 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2
13715 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
13716 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3
13717 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
13718 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
13719 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
13720 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
13721 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevecyrillic
13722 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
13723 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevecyrillic
13724 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
13725 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
13726 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8

13727 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
13728 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
13729 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadieresiscyrillic
13730 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA
13731 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadieresiscyrillic
13732 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB
13733 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresiscyrillic
13734 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
13735 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic
13736 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\335}% U+04DD
13737 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic
13738 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
13739 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic
13740 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
13741 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic
13742 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
13743 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic
13744 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
13745 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
13746 \DeclareTextCompositeCommand{=}{PU}{\CYRI}{\84\342}% U+04E2
13747 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
13748 \DeclareTextCompositeCommand{=}{PU}{\cyri}{\84\343}% U+04E3
13749 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
13750 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
13751 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
13752 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
13753 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic
13754 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
13755 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
13756 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
13757 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
13758 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
13759 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
13760 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
13761 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic
13762 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
13763 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic
13764 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
13765 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
13766 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
13767 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
13768 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
13769 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
13770 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE
13771 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
13772 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% U+04EF
13773 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
13774 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
13775 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
13776 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
13777 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic
13778 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
13779 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic
13780 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
13781 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic
13782 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4
13783 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic

13784 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
 13785 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 13786 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 13787 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
 13788 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 13789 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresis Cyrillic
 13790 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
 13791 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresis Cyrillic
 13792 \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
 13793 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 13794 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 13795 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 13796 \DeclareTextCommand{\cyrhkh}{PU}{\84\375}% U+04FD
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

50.2.10 Thai: U+0E00 to U+0E7F

13797 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 13798 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

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

13799 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 13800 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02
 13801 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 13802 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03
 13803 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
 13804 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
 13805 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
 13806 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
 13807 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
 13808 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A
 13809 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
 13810 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B
 13811 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
 13812 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
 13813 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
 13814 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
 13815 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
 13816 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
 13817 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
 13818 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
 13819 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
 13820 \DeclareTextCompositeCommand{.}{PU}{F}{\9036\036}% U+1E1E
 13821 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
 13822 \DeclareTextCompositeCommand{.}{PU}{f}{\9036\037}% U+1E1F
 13823 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
 13824 \DeclareTextCompositeCommand{=}{PU}{G}{\9036\040}% U+1E20
 13825 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
 13826 \DeclareTextCompositeCommand{=}{PU}{g}{\9036\041}% U+1E21
 13827 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
 13828 \DeclareTextCompositeCommand{.}{PU}{H}{\9036\042}% U+1E22
 13829 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
 13830 \DeclareTextCompositeCommand{.}{PU}{h}{\9036\043}% U+1E23

13831 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
13832 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26
13833 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
13834 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27
13835 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
13836 \DeclareTextCompositeCommand{c}{PU}{H}{\9036\050}% U+1E28
13837 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
13838 \DeclareTextCompositeCommand{c}{PU}{h}{\9036\051}% U+1E29
13839 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
13840 \DeclareTextCompositeCommand{'}{PU}{K}{\9036\060}% U+1E30
13841 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
13842 \DeclareTextCompositeCommand{'}{PU}{k}{\9036\061}% U+1E31
13843 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
13844 \DeclareTextCompositeCommand{b}{PU}{K}{\9036\064}% U+1E34
13845 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
13846 \DeclareTextCompositeCommand{b}{PU}{k}{\9036\065}% U+1E35
13847 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
13848 \DeclareTextCompositeCommand{b}{PU}{L}{\9036\072}% U+1E3A
13849 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
13850 \DeclareTextCompositeCommand{b}{PU}{l}{\9036\073}% U+1E3B
13851 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
13852 \DeclareTextCompositeCommand{'}{PU}{M}{\9036\076}% U+1E3E
13853 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
13854 \DeclareTextCompositeCommand{'}{PU}{m}{\9036\077}% U+1E3F
13855 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
13856 \DeclareTextCompositeCommand{.}{PU}{M}{\9036\100}% U+1E40
13857 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
13858 \DeclareTextCompositeCommand{.}{PU}{m}{\9036\101}% U+1E41
13859 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
13860 \DeclareTextCompositeCommand{.}{PU}{N}{\9036\104}% U+1E44
13861 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
13862 \DeclareTextCompositeCommand{.}{PU}{n}{\9036\105}% U+1E45
13863 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
13864 \DeclareTextCompositeCommand{b}{PU}{N}{\9036\110}% U+1E48
13865 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
13866 \DeclareTextCompositeCommand{b}{PU}{n}{\9036\111}% U+1E49
13867 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
13868 \DeclareTextCompositeCommand{'}{PU}{P}{\9036\124}% U+1E54
13869 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
13870 \DeclareTextCompositeCommand{'}{PU}{p}{\9036\125}% U+1E55
13871 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
13872 \DeclareTextCompositeCommand{.}{PU}{P}{\9036\126}% U+1E56
13873 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
13874 \DeclareTextCompositeCommand{.}{PU}{p}{\9036\127}% U+1E57
13875 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
13876 \DeclareTextCompositeCommand{.}{PU}{R}{\9036\130}% U+1E58
13877 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
13878 \DeclareTextCompositeCommand{.}{PU}{r}{\9036\131}% U+1E59
13879 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
13880 \DeclareTextCompositeCommand{b}{PU}{R}{\9036\136}% U+1E5E
13881 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
13882 \DeclareTextCompositeCommand{b}{PU}{r}{\9036\137}% U+1E5F
13883 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
13884 \DeclareTextCompositeCommand{.}{PU}{S}{\9036\140}% U+1E60
13885 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
13886 \DeclareTextCompositeCommand{.}{PU}{s}{\9036\141}% U+1E61
13887 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow

13888 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
13889 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
13890 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
13891 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
13892 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
13893 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
13894 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
13895 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
13896 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
13897 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
13898 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
13899 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
13900 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
13901 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
13902 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
13903 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
13904 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
13905 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
13906 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
13907 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
13908 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
13909 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
13910 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
13911 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
13912 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
13913 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
13914 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
13915 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
13916 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C
13917 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
13918 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D
13919 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
13920 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
13921 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
13922 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
13923 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
13924 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
13925 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
13926 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
13927 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
13928 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
13929 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
13930 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
13931 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
13932 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
13933 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
13934 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97
13935 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
13936 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
13937 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
13938 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
13939 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent
13940 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
13941 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
13942 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
13943 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
13944 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD

13945 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 13946 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2
 13947 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 13948 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3
 13949 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 13950 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 13951 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 13952 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

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

13953 % U+200C ZERO WIDTH NON-JOINER; *afii61664, zerowidthnonjoiner
 13954 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 13955 % U+2013 EN DASH; endash
 13956 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 13957 % U+2014 EM DASH; emdash
 13958 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 13959 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 13960 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 13961 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 13962 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 13963 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 13964 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 13965 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 13966 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 13967 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 13968 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 13969 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 13970 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 13971 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 13972 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 13973 % U+2020 DAGGER; dagger
 13974 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
 13975 % U+2021 DOUBLE DAGGER; daggerdbl
 13976 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 13977 % U+2022 BULLET; bullet
 13978 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
 13979 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 13980 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 13981 % U+2030 PER MILLE SIGN; perthousand
 13982 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 13983 % U+2031 PER TEN THOUSAND SIGN
 13984 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 13985 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft
 13986 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
 13987 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright
 13988 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
 13989 % U+203B REFERENCE MARK; referencemark
 13990 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 13991 % U+203D INTERROBANG
 13992 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 13993 % U+2044 FRACTION SLASH; fraction
 13994 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 13995 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 13996 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 13997 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 13998 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 13999 % U+2052 COMMERCIAL MINUS SIGN

14000 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

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

14001 % U+2070 SUPERSCRIPT ZERO; zerosuperior
14002 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
14003 % U+2074 SUPERSCRIPT FOUR; foursuperior
14004 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
14005 % U+2075 SUPERSCRIPT FIVE; fivesuperior
14006 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
14007 % U+2076 SUPERSCRIPT SIX; sixsuperior
14008 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
14009 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
14010 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
14011 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
14012 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
14013 % U+2079 SUPERSCRIPT NINE; ninesuperior
14014 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
14015 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
14016 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
14017 % U+207B SUPERSCRIPT MINUS
14018 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
14019 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
14020 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}
14021 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
14022 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
14023 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
14024 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
14025 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
14026 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
14027 % U+2080 SUBSCRIPT ZERO; zeroinferior
14028 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
14029 % U+2081 SUBSCRIPT ONE; oneinferior
14030 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
14031 % U+2082 SUBSCRIPT TWO; twoinferior
14032 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
14033 % U+2083 SUBSCRIPT THREE; threeinferior
14034 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
14035 % U+2084 SUBSCRIPT FOUR; fourinferior
14036 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
14037 % U+2085 SUBSCRIPT FIVE; fiveinferior
14038 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
14039 % U+2086 SUBSCRIPT SIX; sixinferior
14040 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086
14041 % U+2087 SUBSCRIPT SEVEN; seveninferior
14042 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
14043 % U+2088 SUBSCRIPT EIGHT; eightinferior
14044 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
14045 % U+2089 SUBSCRIPT NINE; nineinferior
14046 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
14047 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
14048 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
14049 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
14050 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

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

14051 % U+20A1 COLON SIGN; *colonmonetary, colonsign
14052 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1

14053 % U+20A4 LIRA SIGN; afii08941, *lira
 14054 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 14055 % U+20A6 NAIRA SIGN
 14056 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 14057 % U+20A7 PESETA SIGN; peseta
 14058 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 14059 % U+20A9 WON SIGN; won
 14060 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 14061 % U+20AB DONG SIGN; dong
 14062 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 14063 % U+20AC EURO SIGN; *Euro, euro
 14064 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 14065 % U+20B1 PESO SIGN
 14066 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 14067 % U+20B2 GUARANI SIGN
 14068 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

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

14069 % U+2103 DEGREE CELSIUS; centigrade
 14070 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 14071 % U+2116 NUMERO SIGN; *afii61352, numero
 14072 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
 14073 % U+2117 SOUND RECORDING COPYRIGHT
 14074 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
 14075 % U+211E PRESCRIPTION TAKE; prescription
 14076 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
 14077 % U+2120 SERVICE MARK
 14078 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
 14079 % U+2122 TRADE MARK SIGN; trademark
 14080 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
 14081 % U+2126 OHM SIGN; Ohm, Omega
 14082 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
 14083 % U+2127 INVERTED OHM SIGN
 14084 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
 14085 % U+212B ANGSTROM SIGN; angstrom
 14086 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
 14087 % U+212E ESTIMATED SYMBOL; estimated
 14088 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
 14089 % U+2135 ALEF SYMBOL; aleph
 14090 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

14091 % U+2190 LEFTWARDS ARROW; arrowleft
 14092 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
 14093 % U+2191 UPWARDS ARROW; arrowup
 14094 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
 14095 % U+2192 RIGHTWARDS ARROW; arrowright
 14096 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
 14097 % U+2193 DOWNWARDS ARROW; arrowdown
 14098 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

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

14099 % U+2212 MINUS SIGN; minus
 14100 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
 14101 % U+221A SQUARE ROOT; radical
 14102 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

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

14103 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
14104 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
14105 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
14106 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

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

14107 % U+2422 BLANK SYMBOL
14108 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
14109 % U+2423 OPEN BOX; blank
14110 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

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

14111 % U+2460 CIRCLED DIGIT ONE; onecircle
14112 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
14113 % U+2461 CIRCLED DIGIT TWO; twocircle
14114 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
14115 % U+2462 CIRCLED DIGIT THREE; threecircle
14116 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
14117 % U+2463 CIRCLED DIGIT FOUR; fourcircle
14118 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
14119 % U+2464 CIRCLED DIGIT FIVE; fivecircle
14120 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
14121 % U+2465 CIRCLED DIGIT SIX; sixcircle
14122 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
14123 % U+2466 CIRCLED DIGIT SEVEN; sevencircle
14124 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
14125 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
14126 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
14127 % U+2468 CIRCLED DIGIT NINE; ninecircle
14128 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
14129 % U+2469 CIRCLED NUMBER TEN; tencircle
14130 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
14131 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
14132 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
14133 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
14134 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
14135 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
14136 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
14137 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
14138 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
14139 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
14140 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
14141 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
14142 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
14143 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
14144 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
14145 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
14146 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
14147 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
14148 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
14149 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
14150 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
14151 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
14152 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
14153 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
14154 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7

14155 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
14156 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
14157 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
14158 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
14159 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
14160 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
14161 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
14162 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
14163 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
14164 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
14165 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
14166 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
14167 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
14168 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
14169 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
14170 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
14171 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
14172 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
14173 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
14174 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
14175 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
14176 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
14177 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
14178 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
14179 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
14180 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
14181 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
14182 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
14183 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
14184 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
14185 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
14186 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
14187 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
14188 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
14189 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
14190 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
14191 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
14192 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
14193 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
14194 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
14195 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
14196 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
14197 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
14198 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
14199 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
14200 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
14201 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
14202 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
14203 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
14204 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
14205 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
14206 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
14207 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
14208 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
14209 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
14210 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
14211 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle

14212 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
 14213 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
 14214 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
 14215 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
 14216 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
 14217 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 14218 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 14219 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 14220 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
 14221 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
 14222 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 14223 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
 14224 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
 14225 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 14226 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 14227 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 14228 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 14229 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
 14230 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 14231 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 14232 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
 14233 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 14234 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 14235 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 14236 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 14237 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 14238 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 14239 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 14240 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 14241 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 14242 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 14243 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 14244 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 14245 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 14246 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 14247 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 14248 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 14249 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 14250 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
 14251 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 14252 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 14253 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 14254 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 14255 % U+24EA CIRCLED DIGIT ZERO
 14256 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

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

14257 % U+25E6 WHITE BULLET; *openbullet, whitebullet
 14258 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
 14259 % U+25EF LARGE CIRCLE; largecircle
 14260 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

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

14261 % U+266A EIGHTH NOTE; musicalnote
 14262 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
 14263 % U+26AD MARRIAGE SYMBOL
 14264 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD

```

14265 % U+26AE DIVORCE SYMBOL
14266 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

```

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

```

14267 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
14268 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
14269 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
14270 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

```

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

```

14271 % U+FB01 LATIN SMALL LIGATURE FI; fi
14272 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
14273 % U+FB02 LATIN SMALL LIGATURE FL; fl
14274 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

```

50.2.25 Miscellaneous

```

14275 \DeclareTextCommand{\SS}{PU}{SS}

```

50.2.26 Aliases

Aliases (german.sty)

```

14276 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
14277 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
14278 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
14279 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
14280 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
14281 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
14282 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
14283 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

14284 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
14285 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
14286 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
14287 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
14288 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
14289 </puenc>

```

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

14290 <*puvnenc>

14291 \DeclareTextCommand{\abreve}{PU}{\81\003}
14292 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
14293 \DeclareTextCommand{\dj}{PU}{\81\021}
14294 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
14295 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
14296 \DeclareTextCommand{\ohorn}{PU}{\81\241}
14297 \DeclareTextCommand{\uhorn}{PU}{\81\260}
14298 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
14299 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
14300 \DeclareTextCommand{\DJ}{PU}{\81\020}
14301 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
14302 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
14303 \DeclareTextCommand{\OHORN}{PU}{\81\240}
14304 \DeclareTextCommand{\UHORN}{PU}{\81\257}

```

14305 \DeclareTextCompositeCommand{'}{PU}{a}{\80\341}
14306 \DeclareTextCompositeCommand{d}{PU}{a}{\9036\241}
14307 \DeclareTextCompositeCommand{'}{PU}{a}{\80\340}
14308 \DeclareTextCompositeCommand{h}{PU}{a}{\9036\243}
14309 \DeclareTextCompositeCommand{~}{PU}{a}{\80\343}
14310 \DeclareTextCompositeCommand{'}{PU}{\abreve}{\9036\257}
14311 \DeclareTextCompositeCommand{d}{PU}{\abreve}{\9036\267}
14312 \DeclareTextCompositeCommand{'}{PU}{\abreve}{\9036\261}
14313 \DeclareTextCompositeCommand{h}{PU}{\abreve}{\9036\263}
14314 \DeclareTextCompositeCommand{~}{PU}{\abreve}{\9036\265}
14315 \DeclareTextCompositeCommand{'}{PU}{\acircumflex}{\9036\245}
14316 \DeclareTextCompositeCommand{d}{PU}{\acircumflex}{\9036\255}
14317 \DeclareTextCompositeCommand{'}{PU}{\acircumflex}{\9036\247}
14318 \DeclareTextCompositeCommand{h}{PU}{\acircumflex}{\9036\251}
14319 \DeclareTextCompositeCommand{~}{PU}{\acircumflex}{\9036\253}
14320 \DeclareTextCompositeCommand{'}{PU}{e}{\80\351}
14321 \DeclareTextCompositeCommand{d}{PU}{e}{\9036\271}
14322 \DeclareTextCompositeCommand{'}{PU}{e}{\80\350}
14323 \DeclareTextCompositeCommand{h}{PU}{e}{\9036\273}
14324 \DeclareTextCompositeCommand{~}{PU}{e}{\9036\275}
14325 \DeclareTextCompositeCommand{'}{PU}{\ecircumflex}{\9036\277}
14326 \DeclareTextCompositeCommand{d}{PU}{\ecircumflex}{\9036\307}
14327 \DeclareTextCompositeCommand{'}{PU}{\ecircumflex}{\9036\301}
14328 \DeclareTextCompositeCommand{h}{PU}{\ecircumflex}{\9036\303}
14329 \DeclareTextCompositeCommand{~}{PU}{\ecircumflex}{\9036\305}
14330 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}
14331 \DeclareTextCompositeCommand{d}{PU}{i}{\9036\313}
14332 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}
14333 \DeclareTextCompositeCommand{h}{PU}{i}{\9036\311}
14334 \DeclareTextCompositeCommand{~}{PU}{i}{\81\051}
14335 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}
14336 \DeclareTextCompositeCommand{d}{PU}{o}{\9036\315}
14337 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362}
14338 \DeclareTextCompositeCommand{h}{PU}{o}{\9036\317}
14339 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365}
14340 \DeclareTextCompositeCommand{'}{PU}{\ocircumflex}{\9036\321}
14341 \DeclareTextCompositeCommand{d}{PU}{\ocircumflex}{\9036\331}
14342 \DeclareTextCompositeCommand{'}{PU}{\ocircumflex}{\9036\323}
14343 \DeclareTextCompositeCommand{h}{PU}{\ocircumflex}{\9036\325}
14344 \DeclareTextCompositeCommand{~}{PU}{\ocircumflex}{\9036\327}
14345 \DeclareTextCompositeCommand{'}{PU}{\ohorn}{\9036\333}
14346 \DeclareTextCompositeCommand{d}{PU}{\ohorn}{\9036\343}
14347 \DeclareTextCompositeCommand{'}{PU}{\ohorn}{\9036\335}
14348 \DeclareTextCompositeCommand{h}{PU}{\ohorn}{\9036\337}
14349 \DeclareTextCompositeCommand{~}{PU}{\ohorn}{\9036\341}
14350 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}
14351 \DeclareTextCompositeCommand{d}{PU}{u}{\9036\345}
14352 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371}
14353 \DeclareTextCompositeCommand{h}{PU}{u}{\9036\347}
14354 \DeclareTextCompositeCommand{~}{PU}{u}{\81\151}
14355 \DeclareTextCompositeCommand{'}{PU}{\uhorn}{\9036\351}
14356 \DeclareTextCompositeCommand{d}{PU}{\uhorn}{\9036\361}
14357 \DeclareTextCompositeCommand{'}{PU}{\uhorn}{\9036\353}
14358 \DeclareTextCompositeCommand{h}{PU}{\uhorn}{\9036\355}
14359 \DeclareTextCompositeCommand{~}{PU}{\uhorn}{\9036\357}
14360 \DeclareTextCompositeCommand{'}{PU}{y}{\80\375}
14361 \DeclareTextCompositeCommand{d}{PU}{y}{\9036\365}

14362 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}
14363 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
14364 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}
14365 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
14366 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
14367 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
14368 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
14369 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
14370 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
14371 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
14372 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
14373 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
14374 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}
14375 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}
14376 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}
14377 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
14378 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}
14379 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}
14380 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}
14381 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}
14382 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}
14383 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
14384 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}
14385 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}
14386 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
14387 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}
14388 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
14389 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
14390 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}
14391 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
14392 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
14393 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
14394 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
14395 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
14396 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
14397 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
14398 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
14399 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
14400 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
14401 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
14402 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
14403 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
14404 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
14405 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
14406 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
14407 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
14408 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
14409 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
14410 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
14411 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
14412 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
14413 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
14414 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
14415 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
14416 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
14417 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
14418 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}

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14419 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
14420 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
14421 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
14422 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
14423 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
14424 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
14425 </puvnc>

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50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

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14426 <*puarenc>
14427 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
14428 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA
14429 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA
14430 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA
14431 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HA
14432 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
14433 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
14434 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
14435 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
14436 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
14437 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
14438 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
14439 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
14440 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
14441 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
14442 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
14443 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
14444 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
14445 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
14446 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
14447 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
14448 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
14449 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
14450 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
14451 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
14452 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN
14453 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
14454 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
14455 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
14456 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
14457 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
14458 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
14459 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
14460 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
14461 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
14462 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA
14463 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH
14464 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
14465 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
14466 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
14467 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
14468 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
14469 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
14470 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA

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14471 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

Farsi

14472 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
14473 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
14474 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
14475 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii?????;FARSI LETTER KAF
14476 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
14477 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii?????;FARSI LETTER YEH

14478 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
14479 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

14480 </puarenc>

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51 End of file hycheck.tex

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14481 <*check>
14482 \typeout{}
14483 \begin{document}
14484 \end{document}
14485 </check>

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