

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\textP\textparagraph
412 \let\ldots\textellipsis
413 \let\dots\textellipsis
```

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

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

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

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

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

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

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

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

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

```

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

```

Package color.

```

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

```

Upper- and lowercase.

```

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

```

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

```

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

```

```

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

```

Disable \cyr, used in russianb.ldf.

```

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

```

Package german.

```

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

```

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

Package FrenchPro. This package uses:

```

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

```

AMS classes.

```

481 \HyPsd@AMSclassfix

```

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

```

482 \let\hspace\HyPsd@hspace

```

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

```

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

```

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

```

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

```

Miscellaneous commands.

```

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

```

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

```

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

```

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

Support for package 'xargs':

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

6.2.2 Expansion

There are several possibilities to expand tokens within \LaTeX :

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

`\csname`: First the string is expanded within a `\csname` and `\endcsname`. Then the command name is converted to characters with catcode 12 by `\string` and the first escape character removed by `\@gobble`. This method has the great *advantage* that stomach tokens that aren't allowed in PDF strings are detected by \TeX and reported as errors in order to force the user to write correct things. So he get no wrong results by forgetting the proofreading of his text. But the *disadvantage* is that old wrong code cannot 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 PDF encoding. Because the protecting mechanism of \LaTeX doesn't work within an `\edef`, there are situations thinkable where code can break. For example, assignments and definitions aren't performed and so undefined command errors or argument parsing errors can occur. But this is only a compatibility problem with old texts. Now there are possibilities to write code that gives correct PDF strings (see `\texorpdfstring`). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don't cause an error like with `\csname`. However a PDF reader isn't \TeX , so these tokens are viewed verbatim. So this version detects them now, and removes them with an descriptive warning for the user. As additional features xspace support is possible and grouping characters can be used without problems, because they are removed silently.

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

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

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

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

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

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

```

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

```

6.2.3 Postprocessing

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

```

536      \ifx#1\@empty
537      \else

```

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

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

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

```

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

```

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

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

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

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

```

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

```

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

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

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

```

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

```

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

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

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

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

```

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

```

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


```

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

```

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

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

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

```

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

```

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

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

```

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

```

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

```

594 \let\HyPsd@empty\@empty

```

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

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

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

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

With Unicode the spaces are replaced by their octal sequences.

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

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

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

Try conversion back to PDFDocEncoding.

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

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

```
627 \pdfstringdefPostHook#1%
628 \endgroup
629 }
```

`\Hy@pdfstringdef`

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

6.3 Encodings

6.3.1 Workaround for package linguex

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

6.3.2 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L^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.

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

6.3.3 PU encoding

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

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

```

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

```

6.4 Additional user commands

6.4.1 `\texorpdfstring`

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

```

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

```

6.4.2 Hooks for `\pdfstringdef`

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

```

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

```

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

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

```

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

```

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

```

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

```

`\HyPsd@DisableCommands`

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

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

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

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

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

6.5 Help macros for expansion

6.5.1 `\ignorespaces`

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

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

6.5.2 Babel languages

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

Nothing to do for english.

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

```

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

```

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

```

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

```

```

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

```

```

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

```



```

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

```

6.5.3 CJK bookmarks

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

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

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

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

```

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

```

```

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

```

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

```

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

```

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

```

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

```

```

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

```

6.5.4 \@inmathwarn-Patch

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

To understand the patch easier, the original code of \@current@cmd and \@changed@cmd follows (L^AT_EX 2_ε release [1998/12/01]). In the normal case \pdfstringdef is executed in a context where \protect has the meaning of \@typesetprotect (=relax).

```

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

```

```

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

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

```

\HyPsd@add@accent

```

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

```

6.5.5 Unexpandable spaces

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

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

These properties are used in \HyPsd@CheckCatcodes.

```

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

```

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

```

1028 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.6 Marker for commands

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

```

1029 \edef\HyPsd@XSPACE{\string#\string X}
1030 \edef\HyPsd@ITALCORR{\string#\string I}
1031 \edef\HyPsd@GLYPHERR{\string#\string G}

```

6.5.7 \hspace fix

\HyPsd@hspace

```
1032 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1033 \def\HyPsd@@hspace#1*#2\END{%
1034   \ifx\#2\%
1035     \HyPsd@hspacetest{#1}%
1036   \else
1037     \expandafter\HyPsd@hspacetest
1038   \fi
1039 }
```

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

```
1040 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

6.5.8 Fix for AMS classes

```
1041 \@ifundefined{tocsection}{%
1042   \let\HyPsd@AMSclassfix\relax
1043 }{%
1044   \def\HyPsd@AMSclassfix{%
1045     \let\tocpart\HyPsd@tocsection
1046     \let\tocchapter\HyPsd@tocsection
1047     \let\tocappendix\HyPsd@tocsection
1048     \let\tocsection\HyPsd@tocsection
1049     \let\tocsubsection\HyPsd@tocsection
1050     \let\tocsubsubsection\HyPsd@tocsection
1051     \let\tocparagraph\HyPsd@tocsection
1052   }%
1053   \def\HyPsd@tocsection#1#2#3{%
1054     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1055     #3%
1056   }%
1057 }
```

6.5.9 Reference commands

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

```
1058 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1059 \def\HyPsd@@ref#1*#2\END{%
1060   \ifx\#2\%
1061     \HyPsd@@@ref{#1}%
1062   \else
1063     \expandafter\HyPsd@@@ref
1064   \fi
1065 }
```

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

```
1066 \def\HyPsd@@@ref#1{%
1067   \expandafter\ifx\csname r@#1\endcsname\relax
1068     ??%
```

```

1069 \else
1070   \expandafter\expandafter\expandafter
1071   \@car\csname r@#1\endcsname\@nil
1072 \fi
1073 }

\HyPsd@pageref Macro \HyPsd@pageref calls the macro \HyPsd@@pageref for star checking. The same
methods like in \HyPsd@hspace is used.
1074 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

\HyPsd@@pageref Macro \HyPsd@@pageref checks if a star is present.
1075 \def\HyPsd@@pageref#1*#2\END{%
1076   \ifx\#2\%
1077     \HyPsd@@@pageref{#1}%
1078   \else
1079     \expandafter\HyPsd@@@pageref
1080   \fi
1081 }

\HyPsd@@@pageref \HyPsd@@@pageref does the work and extracts the second argument.
1082 \def\HyPsd@@@pageref#1{%
1083   \expandafter\ifx\csname r@#1\endcsname\relax
1084     ??%
1085   \else
1086     \expandafter\expandafter\expandafter\expandafter
1087     \expandafter\expandafter\expandafter\@car
1088     \expandafter\expandafter\expandafter\@gobble
1089     \csname r@#1\endcsname{}\@nil
1090   \fi
1091 }

\HyPsd@nameref Macro \HyPsd@nameref calls the macro \HyPsd@@nameref for star checking. The same
methods like in \HyPsd@hspace is used.
1092 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

\HyPsd@@nameref Macro \HyPsd@@nameref checks if a star is present.
1093 \def\HyPsd@@nameref#1*#2\END{%
1094   \ifx\#2\%
1095     \HyPsd@@@nameref{#1}%
1096   \else
1097     \expandafter\HyPsd@@@nameref
1098   \fi
1099 }

\HyPsd@@@nameref \HyPsd@@@nameref does the work and extracts the third argument.
1100 \def\HyPsd@@@nameref#1{%
1101   \expandafter\ifx\csname r@#1\endcsname\relax
1102     ??%
1103   \else
1104     \expandafter\expandafter\expandafter\expandafter
1105     \expandafter\expandafter\expandafter\@car
1106     \expandafter\expandafter\expandafter\@gobbletwo
1107     \csname r@#1\endcsname{}\@nil
1108   \fi
1109 }

```

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

```
1110 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```
1111 \def\HyPsd@@autoref#1*#2\END{%
1112   \ifx\#2\%
1113     \HyPsd@@@autoref{#1}%
1114   \else
1115     \expandafter\HyPsd@@@autoref
1116   \fi
1117 }
```

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

```
1118 \def\HyPsd@@@autoref#1{%
1119   \expandafter\ifx\csname r@#1\endcsname\relax
1120     ??%
1121   \else
1122     \expandafter\expandafter\expandafter\HyPsd@autorefname
1123       \csname r@#1\endcsname{}{}{}{}\@nil
1124     \expandafter\expandafter\expandafter
1125       \@car\csname r@#1\endcsname\@nil
1126   \fi
1127 }
```

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

```
1128 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1129   \ifx\#4\%
1130   \else
1131     \HyPsd@@autorefname#4.\@nil
1132   \fi
1133 }
```

`\HyPsd@@autorefname`

```
1134 \def\HyPsd@@autorefname#1.#2\@nil{%
1135   \@ifundefined{#1autorefname}{%
1136     \@ifundefined{#1name}{%
1137       }{%
1138         \csname#1name\endcsname\space
1139       }%
1140     }{%
1141       \csname#1autorefname\endcsname\space
1142     }%
1143 }
```

6.5.10 Redefining the defining commands

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

Active characters cannot be defined with this trick. It is possible to define all undefined active characters (perhaps that they have the meaning of `\relax`). To avoid side

effects this should be done in `\pdfstringdef` shortly before the `\xdef` job. But checking and defining all possible active characters of the full range (0 until 255) would take a while. `\pdfstringdef` is slow enough, so this isn't done.

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

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

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

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

```
\HyPsd@DefCommand
\HyPsd@LetCommand 1144 \begingroup
1145   \def\x#1#2{%
1146     \endgroup
1147     \let#1\def
1148     \def\HyPsd@DefCommand##1##2##{%
1149       #1%
1150       \expandafter\noexpand
1151       \csname\expandafter@gobble\string##1\@empty\endcsname
1152       \@gobble
1153     }%
1154     \let#2\let
1155     \def\HyPsd@@LetCommand##1{%
1156       \expandafter\ifx\csname##1\expandafter\endcsname
1157         \csname iftrue\endcsname
1158         \pdfstringdefWarn\let
1159         \expandafter@gobble
1160       \else
1161         \expandafter\ifx\csname##1\expandafter\endcsname
1162           \csname iffalse\endcsname
1163           \pdfstringdefWarn\let
1164           \expandafter\expandafter\expandafter@gobble
1165         \else
1166           #2%
1167           \expandafter\noexpand
1168           \csname##1\expandafter\expandafter\expandafter\endcsname
1169         \fi
1170       \fi
1171     }%
1172   }%
1173   \expandafter\x\csname <def>-command\expandafter\endcsname
1174     \csname <let>-command\endcsname
1175   \def\HyPsd@LetCommand#1{%
1176     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1177     \expandafter\expandafter\expandafter{%
1178       \expandafter@gobble\string#1\@empty
```



```

1179 }%
1180 }

```

6.5.11 \ifnextchar

`\HyPsd@ifnextchar` In `\pdfstringdef \@ifnextchar` is disabled via a `\let` command to save time. First a warning message is given, then the three arguments are canceled. `\@ifnextchar` cannot work in a correct manner, because it uses `\futurelet`, but this is a stomach feature, that doesn't work in an expanding context. There are several variants of `\@ifnextchar`:

- `\@ifnextchar`
- `\kernel@ifnextchar`
- `\new@ifnextchar` from package `amsgen.sty` (bug report latex/3662).

```

1181 \def\HyPsd@ifnextchar#1{%
1182   \pdfstringdefWarn#1%
1183   \expandafter\@gobbletwo\@gobble
1184 }

```

6.5.12 \@protected@testoptifnextchar

`\HyPsd@protected@testopt` Macros with optional arguments doesn't work properly, because they call `\@ifnextchar` to detect the optional argument (see the explanation of `\HyPsd@ifnextchar`). But a warning, that `\@ifnextchar` doesn't work, doesn't help the user very much. Therefore `\@protected@testopt` is also disabled, because its first argument is the problematic macro with the optional argument and it is called before `\@ifnextchar`.

```

1185 \def\HyPsd@protected@testopt#1{%
1186   \pdfstringdefWarn#1%
1187   \@gobbletwo
1188 }

```

6.6 Help macros for postprocessing

6.6.1 Generic warning.

`\HyPsd@Warning` For several reasons `\space` is masked and does not have its normal meaning. But it is used in warning messages, so it is redefined locally:

```

1189 \def\HyPsd@Warning#1{%
1190   \begingroup
1191     \def\space{ }%
1192     \Hy@Warning{#1}%
1193   \endgroup
1194 }

```

6.6.2 Protecting spaces

```

1195 \RequirePackage{etexcmds}[2007/09/09]
1196 \ifetex@unexpanded
1197   \expandafter\@secondoftwo
1198 \else
1199   \expandafter\@firstoftwo
1200 \fi
1201 {%

```

`\HyPsd@ProtectSpaces` `\HyPsd@ProtectSpaces` calls with the expanded string `\HyPsd@@ProtectSpacesFi`. The expanded string is protected by `|` at the beginning and end of the expanded string.

Because of this there can be no group at the beginning or end of the string and grouping characters are not removed by the call of `\HyPsd@@ProtectSpacesFi`.

```

1202 \def\HyPsd@ProtectSpaces#1{%
1203   \iftrue
1204     \expandafter\HyPsd@@ProtectSpacesFi
1205     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1206   \fi
1207 }%

```

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

```

1208 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1209   \fi
1210   \ifx\scrollmode#2\scrollmode
1211     \HyPsd@RemoveMask#1\HyPsd@End#3%
1212   \else
1213     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1214     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1215   \fi
1216 }%

```

Remove mask.

`\HyPsd@RemoveMask` `\HyPsd@RemoveMask` removes the protecting `|`. It is used by `\HyPsd@@ProtectSpacesFi` and by the code in `\pdfstringdef` that removes the grouping characters.

```

1217 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1218   \toks@{\expandafter{#1}}%
1219   \xdef#2{\the\toks@}%
1220 }%

1221 }{%
1222 \let\HyPsd@fi\fi
1223 \def\HyPsd@ProtectSpaces#1{%
1224   \xdef#1{%
1225     \iftrue
1226       \expandafter\HyPsd@@ProtectSpacesFi
1227       \expandafter|\expandafter\@empty#1| %
1228     \HyPsd@fi
1229   }%
1230   \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1231 }%
1232 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1233   \fi
1234   \etex@unexpanded{#1}%
1235   \ifx\scrollmode#2\scrollmode
1236   \else
1237     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1238   \HyPsd@fi
1239 }%
1240 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1241   \xdef#2{\etex@unexpanded\expandafter{#1}}%
1242 }%
1243 }

```

6.6.3 Remove grouping braces

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

```

1244 \def\HyPsd@RemoveBraces#1{%
1245   \ifx\scrollmode#1\scrollmode
1246   \else
1247     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1248   \fi
1249 }

```

`\HyPsd@@RemoveBraces` `\HyPsd@@RemoveBraces` is called with the expanded string, the end marked by `\HyPsd@End`, the expanded string again, but enclosed in braces and the string command. The first expanded string is scanned by the parameter text `#1#2`. By a comparison with the original form in `#3` we can decide whether `#1` is a single token or a group. To avoid the case that `#2` is a group, the string is extended by a `|` before.

While removing the grouping braces an italic correction marker is inserted for supporting package `xspace` and letting ligatures broken.

Because the string is already expanded, the `\if` commands should disappeared. So we can move some parts out of the argument of `\Hy@ReturnAfterFi`.

```

1250 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1251   \fi
1252   \def\Hy@temp@A{#1#2}%
1253   \def\Hy@temp@B{#3}%
1254   \ifx\Hy@temp@A\Hy@temp@B
1255     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1256       \HyPsd@String#1%
1257     }%
1258     \ifx\scrollmode#2\scrollmode
1259     \else
1260       \Hy@ReturnAfterFiFiEnd{%
1261         \HyPsd@RemoveBraces{#2}%
1262       }%
1263     \fi
1264   \else
1265     \def\Hy@temp@A{#1}%
1266     \HyPsd@AppendItalcorr\HyPsd@String
1267     \ifx\Hy@temp@A\@empty
1268       \Hy@ReturnAfterElseFiFiEnd{%
1269         \HyPsd@RemoveBraces{#2}%
1270       }%
1271     \else
1272       \HyPsd@ProtectSpaces\Hy@temp@A
1273       \HyPsd@AppendItalcorr\Hy@temp@A
1274       \Hy@ReturnAfterFiFiEnd{%
1275         \expandafter\HyPsd@RemoveBraces\expandafter
1276           {\Hy@temp@A#2}%
1277       }%
1278     \fi
1279   \fi
1280   \Hy@ReturnEnd
1281 }

```

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

```

1282 \def\HyPsd@AppendItalcorr#1{%
1283   \expandafter\HyPsd@@AppendItalcorr\expandafter{/}#1%
1284 }
1285 \def\HyPsd@@AppendItalcorr#1#2{%
1286   \expandafter\def\expandafter#2\expandafter{#2#1}%
1287 }

```

6.6.4 Catcode check

Check catcodes.

`\HyPsd@CheckCatcodes` Because `\ifcat` expands its arguments, this is prevented by `\noexpand`. In case of command tokens and active characters `\ifcat` now sees a `\relax`. After protecting spaces and removing braces #1 should be a single token, no group of several tokens, nor an empty group. (So the `\expandafter\relax` between `\ifcat` and `\noexpand` is only for safety and it should be possible to remove it.)

`\protect` and `\relax` should be removed silently. But it is too dangerous and breaks some code giving them the meaning of `\@empty`. So commands with the meaning of `\protect` are removed here. (`\protect` should have the meaning of `\typeset@protect` that is equal to `\relax`).

```

1288 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1289   \global\let\HyPsd@Rest\relax
1290   \ifcat\relax\noexpand#1\relax
1291     \ifx#1\protect
1292     \else
1293       \ifx#1\penalty
1294         \setbox\z@=\hbox{%
1295           \afterassignment\HyPsd@AfterCountRemove
1296           \count@=#2\HyPsd@End
1297         }%
1298       \else
1299         \ifx#1\kern
1300         \setbox\z@=\hbox{%
1301           \afterassignment\HyPsd@AfterDimenRemove
1302           \dimen@=#2\HyPsd@End
1303         }%
1304       \else
1305         \ifx#1\hskip
1306         \setbox\z@=\hbox{%
1307           \afterassignment\HyPsd@AfterSkipRemove
1308           \skip@=#2\HyPsd@End
1309         }%
1310       \else
1311         \HyPsd@CatcodeWarning{#1}%
1312       \fi
1313     \fi
1314   \fi
1315 \fi
1316 \else
1317   \ifcat#1A% letter
1318   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1319     \HyPsd@String#1%
1320   }%
1321 \else
1322   \ifcat#1 % SPACE
1323   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1324     \HyPsd@String\HyPsd@SPACEOPTI
1325   }%
1326 \else
1327   \ifcat$#1%
1328   \HyPsd@CatcodeWarning{math shift}%
1329 \else
1330   \ifcat&#1%
1331   \HyPsd@CatcodeWarning{alignment tab}%

```

```

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

```

Remove counts, dimens, skips.

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

```

1366 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1367     \gdef\HyPsd@Rest{#1}%
1368 }

```

\HyPsd@AfterDimenRemove If the value of the dimen (\kern) is zero, it can be removed silently. All other values are difficult to interpret. Negative values do not work in bookmarks. Should positive values be removed or should they be replaced by space(s)? The following code replaces positive values greater than 1ex with a space and removes them else.

```

1369 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1370     \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@ \fi > 1ex %
1371         \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1372         \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1373     \else
1374         \ifdim\dimen@=\z@
1375         \else
1376             \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1377         \fi
1378         \gdef\HyPsd@Rest{#1}%
1379     \fi

```

1380 }

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

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

Catcode warnings.

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

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

`\HyPsd@RemoveSpaceWarning`

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

\HyPsd@ReplaceSpaceWarning

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

6.6.5 Check for wrong glyphs

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

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

Spaces.

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

```

1471 \def\HyPsd@spaceopti#1{ % first space
1472   \ifx\HyPsd@spaceopti#1%
1473     \O40%
1474   \else
1475     #1%
1476   \fi
1477 }%

```

6.6.6 Replacing tokens

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

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

```

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

```

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

```

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

```

6.6.7 Support for package `xspace`

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

```

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

```



```

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

```

6.6.8 Converting to Unicode

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

```

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

```

\HyPsd@ConvertToUnicode

```

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

```

\HyPsd@DoConvert

```

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

```

\HyPsd@DoEscape

```

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

```

```

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

```

\HyPsd@GetTwoBytes

```

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

```

\HyPsd@GetOneByte

```

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

```

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

```

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

```

\HyPsd@Char

```

1578 \begingroup
1579 \catcode0=9 %
1580 \catcode'\^=7 %
1581 \catcode'\^^=12 %
1582 \def\x{^^^0000}%
1583 \expandafter\endgroup
1584 \ifx\x\@empty
1585 \def\HyPsd@Char#1{%
1586 \ifnum'#1<128 %
1587 \@backslashchar 000#1%
1588 \else
1589 \ifnum'#1<65536 %
1590 \expandafter\HyPsd@CharTwoByte\number'#1!%
1591 \else
1592 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
1593 \intcalcSub{ '#1}{65536}!%
1594 \fi
1595 \fi
1596 }%
1597 \def\HyPsd@CharTwoByte#1!{%
1598 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1599 \IntCalcDiv#1!256!!%
1600 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1601 \IntCalcMod#1!256!!%
1602 }%

```

```

1603 \def\HyPsd@CharOctByte#1!{%
1604   \@backslashchar
1605   \IntCalcDiv#1!64!%
1606   \intcalcDiv{\IntCalcMod#1!64!}{8}%
1607   \IntCalcMod#1!8!%
1608 }%
1609 \def\HyPsd@CharSurrogate#1!{%
1610   \@backslashchar 33%
1611   \IntCalcDiv#1!262144!%
1612   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1613   \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1614   \@backslashchar 33%
1615   \expandafter\expandafter\expandafter\IntCalcAdd
1616   \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1617   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1618   \IntCalcMod#1!256!%
1619 }%
1620 \else
1621   \def\HyPsd@Char#1{%
1622     \@backslashchar 000#1%
1623   }%
1624 \fi

```

6.6.9 Support for UTF-8 input encoding

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

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

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

```

1625 \begingroup\expandafter\expandafter\expandafter\endgroup
1626 \expandafter\ifx\csname numexpr\endcsname\relax
1627   \let\HyPsd@UTFviii\relax
1628 \else
1629   \begingroup
1630     \lccode'\~='^^f4\relax
1631   \lowercase{\endgroup
1632     \def\HyPsd@UTFviii{%
1633       \let\UTFviii@two@octets\HyPsd@UTFviii@two
1634       \let\UTFviii@three@octets\HyPsd@UTFviii@three
1635       \let\UTFviii@four@octets\HyPsd@UTFviii@four
1636       \ifx~\HyPsd@UTFviii@ccxliv@undef
1637         \let~\HyPsd@UTFviii@ccxliv@def
1638       \fi
1639       \let\unichar\HyPsd@unichar
1640     }%
1641   }%
1642   \def\HyPsd@UTFviii@ccxliv@undef{\@inpencl@undefined@{utf8}}%
1643   \edef\HyPsd@UTFviii@ccxliv@def{%
1644     \noexpand\UTFviii@four@octets\string ^^f4%
1645   }%

```

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.

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

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

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

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

$$(5)$$

```

1646 \def\HyPsd@UTFviii@two#1#2{%
1647   \expandafter\HyPsd@UTFviii@two
1648   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1649   \number'#1\expandafter|
1650   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|
1651   \number'#2 \@nil
1652 }%
1653 \def\HyPsd@UTFviii@two#1|#2|#3|#4\@nil{%
1654   \expandafter\8%
1655   \number\numexpr #1-48\expandafter\relax
1656   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1657   \number\numexpr #3-8*%
1658   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1659   \number\numexpr #4-8*#3\relax
1660 }%
```

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

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

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

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

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

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

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

$$(12)$$

```

1661 \def\HyPsd@UTFviii@three#1#2#3{%
1662   \expandafter\HyPsd@UTFviii@three
1663   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1664   \number'#1\expandafter|
1665   \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|
1666   \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|
1667   \number'#2\expandafter|
1668   \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|
1669   \number'#3 \@nil
1670 }%
1671 \def\HyPsd@UTFviii@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1672   \expandafter\9%
1673   \number\numexpr #1-56\expandafter\relax
1674   \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1675   \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1676   \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1677   \number\numexpr #6-16\expandafter\relax
1678   \number\numexpr #7-8*#6\relax
1679 }%
```

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

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

```
1680 \def\HyPsd@UTFviii@four#1#2{%
1681   \expandafter\HyPsd@UTFviii@four\number
1682   \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1683   \expandafter\| \number
1684   \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp|}%
1685 }%
1686 \def\HyPsd@@UTFviii@four#1|#2|#3{%
1687   \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1688   \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1689   \ifodd#2 %
1690     \number\dimexpr(#2-1)/2\relax
1691   \else
1692     \number\dimexpr#2/2\relax
1693   \fi
1694   \number\dimexpr\ifodd#2 4+\fi
1695   \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1696   \933%
1697   \expandafter\HyPsd@@@UTFviii@four\number
1698   \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp|}%
1699 }%
1700 \def\HyPsd@@@UTFviii@four#1|#2{%
1701   \number\dimexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1702   \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1703   \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1704   \number\dimexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1705 }%
```

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

```
1706 \def\HyPsd@unichar#1{%
1707   \ifHy@unicode
1708     \ifnum#1>"10FFFF %
1709       \HyPsd@UnicodeReplacementCharacter % illegal
1710     \else
1711       \ifnum#1>"FFFF %
```

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

```
1712   \expandafter\HyPsd@unichar\expandafter{%
1713     \number\dimexpr 55296+
1714     \dimexpr.0009765625\dimexpr\number#1sp-\p@
1715     \relax\relax\relax
1716   }%
```

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

```
1717   \expandafter\HyPsd@unichar\expandafter{%
1718     \number\dimexpr#1-9216
1719     -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1720     \relax\relax\relax
1721   }%
1722   \else
1723     \ifnum#1>"7FF %
```

```

1724         \9%
1725         \expandafter\HyPsd@unichar@first@byte\expandafter{%
1726         \number
1727         \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1728     }%
1729     \else
1730         \8%
1731         \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1732     \fi
1733     \expandafter\HyPsd@unichar@second@byte\expandafter{%
1734     \number
1735     \numexpr#1-256*\number
1736     \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1737 }%
1738 \fi
1739 \fi
1740 \else
1741     .% unsupported (Unicode -> PDF Doc Encoding)
1742 \fi
1743 }%
1744 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1745 \def\HyPsd@unichar@first@byte#1{%
1746     \number\dimexpr.015625\dimexpr#1sp\relax\relax
1747     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1748     \number
1749     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1750     \relax\relax\relax
1751 }%
1752 }%
1753 \def\HyPsd@unichar@second@byte#1{%
1754     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1755     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1756     \number
1757     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1758     \relax\relax\relax
1759 }%
1760 }%
1761 \def\HyPsd@unichar@octtwo#1{%
1762     \number\dimexpr.125\dimexpr#1sp\relax\relax
1763     \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1764     \relax\relax\relax
1765 }%
1766 \fi

```

7 Support of other packages

7.1 Class memoir

```

1767 \@ifclassloaded{memoir}{%
1768     \AtEndOfPackage{\RequirePackage{memhfixc}}}%
1769 }{}

```

7.2 Package subfigure

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

```

1770 \@ifpackageloaded{subfigure}{%
1771     \@ifundefined{sub@label}{%

```

```

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

```

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:

```
1804 \@ifundefined{XR@addURL}{%
1805 }{%
```

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.

```

1806 \def\XR@addURL#1{\XR@dURL#1{-}{-}{-}\}%
1807 \def\XR@dURL#1#2#3#4#5\{\%
1808   {#1}{#2}%
1809   \if!#4!%
1810   \else
1811     {#3}{#4}{\XR@URL}%
1812   \fi
1813 }%
1814 }

```

```
1815 \def\Hy@true{true}
1816 \def\Hy@false{false}
```

Providing dummy definitions.

```
1817 \let\literalps@out\@gobble
1818 \newcommand\pdfbookmark[3][]{}
```

```

1819 \def\Acrobatmenu#1#2{\leavevmode#2}
1820 \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

```

1821 \let\HyperRaiseLinkHook\@empty
1822 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

1823 \def\Hy@raisedlink#1{%
1824   \ifvmode
1825     #1%
1826   \else
1827     \penalty\@M
1828     \smash{%
1829       \begingroup
1830         \let\HyperRaiseLinkLength\@tempdima
1831         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1832         \HyperRaiseLinkHook
1833       \expandafter\endgroup
1834       \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
1835     }%
1836   \fi
1837 }

```

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

```

1838 \def\Hy@SaveLastskip{%
1839   \let\Hy@RestoreLastskip\relax
1840   \ifvmode
1841     \ifdim\lastskip=\z@
1842       \let\Hy@RestoreLastskip\nobreak
1843     \else
1844       \begingroup
1845         \skip@=-\lastskip
1846         \edef\x{%
1847           \endgroup
1848           \def\noexpand\Hy@RestoreLastskip{%
1849             \noexpand\ifvmode
1850               \noexpand\nobreak
1851               \vskip\the\skip@
1852               \vskip\the\lastskip\relax
1853             \noexpand\fi
1854           }%
1855         }%

```



```

1856     \x
1857     \fi
1858 \else
1859     \ifhmode
1860         \ifdim\lastskip=\z@
1861             \let\Hy@RestoreLastskip\nobreak
1862         \else
1863             \begingroup
1864                 \skip@=-\lastskip
1865                 \edef\x{%
1866                     \endgroup
1867                     \def\noexpand\Hy@RestoreLastskip{%
1868                         \noexpand\ifhmode
1869                             \noexpand\nobreak
1870                             \hskip\the\skip@
1871                             \hskip\the\lastskip\relax
1872                     \noexpand\fi
1873                 }%
1874             }%
1875         \x
1876     \fi
1877 \fi
1878 \fi
1879 }%

```

9 Options

9.1 Help macros

\Hy@boolkey

```

1880 \def\Hy@boolkey{\@dblarg\Hy@boolkey}
1881 \def\Hy@boolkey[#1]#2#3{%
1882     \edef\Hy@tempa{#3}%
1883     \lowercase\expandafter{%
1884         \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
1885     }%
1886     \ifx\Hy@tempa\@empty
1887         \let\Hy@tempa\Hy@true
1888     \fi
1889     \ifx\Hy@tempa\Hy@true
1890     \else
1891         \ifx\Hy@tempa\Hy@false
1892         \else
1893             \let\Hy@tempa\relax
1894         \fi
1895     \fi
1896     \ifx\Hy@tempa\relax
1897         \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
1898     \else
1899         \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
1900         \csname Hy@#2\Hy@tempa\endcsname
1901     \fi
1902 }

```

\Hy@WarnOptionValue

```

1903 \def\Hy@WarnOptionValue#1#2#3{%

```

```

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

```

\Hy@DisableOption

```

1910 \def\Hy@DisableOption#1{%
1911   \@ifundefined{KV@Hyp@#1@default}{%
1912     \define@key{Hyp}{#1}%
1913   }{%
1914     \define@key{Hyp}{#1}[]%
1915   }%
1916   {\Hy@WarnOptionDisabled{#1}}%
1917 }

```

\Hy@WarnOptionDisabled

```

1918 \def\Hy@WarnOptionDisabled#1{%
1919   \Hy@Warning{%
1920     Option ‘#1’ has already been used,\MessageBreak
1921     setting the option has no effect%
1922   }%
1923 }

```

\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.

```

1924 \def\Hy@CheckOptionValue#1#2#3{%
1925   \begingroup
1926     \edef\x{#1}%
1927     \@onelevel@sanitize\x
1928     \let\y=y%
1929     \def\do##1##2{%
1930       \def\z{##1}%
1931       \@onelevel@sanitize\z
1932       \ifx\x\z
1933         \let\y=n%
1934         \let\do\@gobbletwo
1935       \fi
1936     }%
1937     #3%
1938     \ifx\y y%
1939       \def\do##1##2{%
1940         * ‘##1’%
1941         \ifx\\##2\\\else\space(##2)\fi
1942         \MessageBreak
1943       }%
1944       \Hy@Warning{%
1945         Values of option ‘#2’:\MessageBreak
1946         #3%
1947         * An empty value disables the option.\MessageBreak
1948         Unknown value ‘\x’%
1949       }%
1950     \fi
1951   \endgroup
1952 }

```

```

\Hy@DefNameKey #1: option name
#2: \do list with known values, first argument of \do is value, second argument is a
comment.
1953 \def\Hy@DefNameKey#1{%
1954   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
1955 }

\Hy@@DefNameKey #1: macro for value storage
#2: option name
#3: \do list with known values.
1956 \def\Hy@@DefNameKey#1#2#3{%
1957   \define@key{Hyp}{#2}{%
1958     \edef#1{##1}%
1959     \ifx#1\@empty
1960     \else
1961       \Hy@CheckOptionValue{##1}{#2}{#3}%
1962     \fi
1963   }%
1964   \let#1\@empty
1965 }

\Hy@UseNameKey
1966 \def\Hy@UseNameKey#1#2{%
1967   \ifx#2\@empty
1968   \else
1969     /#1/#2%
1970   \fi
1971 }

```

9.2 Defining the options

```

1972 \define@key{Hyp}{implicit}[true]{%
1973   \Hy@boolkey{implicit}{#1}%
1974 }
1975 \define@key{Hyp}{draft}[true]{%
1976   \Hy@boolkey{draft}{#1}%
1977 }
1978 \define@key{Hyp}{final}[true]{%
1979   \Hy@boolkey{final}{#1}%
1980 }
1981 \let\KV@Hyp@nolinks\KV@Hyp@draft
1982 \define@key{Hyp}{a4paper}[true]{%
1983   \def\special@paper{210mm,297mm}%
1984   \def\Hy@pageheight{842}%
1985 }
1986 \define@key{Hyp}{a5paper}[true]{%
1987   \def\special@paper{148mm,210mm}%
1988   \def\Hy@pageheight{595}%
1989 }
1990 \define@key{Hyp}{b5paper}[true]{%
1991   \def\special@paper{176mm,250mm}%
1992   \def\Hy@pageheight{709}%
1993 }
1994 \define@key{Hyp}{letterpaper}[true]{%
1995   \def\special@paper{8.5in,11in}%
1996   \def\Hy@pageheight{792}%

```

```

1997 }
1998 \define@key{Hyp}{legalpaper}[true]{%
1999   \def\special@paper{8.5in,14in}%
2000   \def\Hy@pageheight{1008}%
2001 }
2002 \define@key{Hyp}{executivepaper}[true]{%
2003   \def\special@paper{7.25in,10.5in}%
2004   \def\Hy@pageheight{720}%
2005 }
2006 \define@key{Hyp}{setpagesize}[true]{%
2007   \Hy@boolkey{setpagesize}{#1}%
2008 }
2009 \define@key{Hyp}{debug}[true]{%
2010   \Hy@boolkey[debug]{verbose}{#1}%
2011 }
2012 \define@key{Hyp}{linktocpage}[true]{%
2013   \Hy@boolkey{linktocpage}{#1}%
2014   \ifHy@linktocpage
2015     \let\Hy@linktoc\Hy@linktoc@page
2016   \else
2017     \let\Hy@linktoc\Hy@linktoc@section
2018   \fi
2019 }
2020 \chardef\Hy@linktoc@none=0 %
2021 \chardef\Hy@linktoc@section=1 %
2022 \chardef\Hy@linktoc@page=2 %
2023 \chardef\Hy@linktoc@all=3 %
2024 \ifHy@linktocpage
2025   \let\Hy@linktoc\Hy@linktoc@page
2026 \else
2027   \let\Hy@linktoc\Hy@linktoc@section
2028 \fi
2029 \define@key{Hyp}{linktoc}{%
2030   \@ifundefined{Hy@linktoc@#1}{%
2031     \Hy@Warning{%
2032       Unexpected value ‘#1’ of\MessageBreak
2033       option ‘linktoc’ instead of ‘none’,\MessageBreak
2034       ‘section’, ‘page’ or ‘all’%
2035     }%
2036   }{%
2037     \expandafter\let\expandafter\Hy@linktoc
2038     \csname Hy@linktoc@#1\endcsname
2039   }%
2040 }
2041 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2042 \let\XR@ext\relax
2043 \define@key{Hyp}{verbose}[true]{%
2044   \Hy@boolkey{verbose}{#1}%
2045 }
2046 \define@key{Hyp}{typexml}[true]{%
2047   \Hy@boolkey{typexml}{#1}%
2048 }

```

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.

```

2049 \define@key{Hyp}{raiselinks}[true]{%

```

```

2050 \Hy@boolkey{raiselinks}{#1}%
2051 }

```

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

```

2052 \def\Hy@setbreaklinks#1{%
2053   \csname breaklinks#1\endcsname
2054 }

2055 \def\Hy@breaklinks@unsupported{%
2056   \ifx\Hy@setbreaklinks@gobble
2057     \ifHy@breaklinks
2058       \Hy@WarningNoLine{%
2059         You have enabled option 'breaklinks'.\MessageBreak
2060         But driver '\Hy@driver.def' does not support this.\MessageBreak
2061         Expect trouble with the link areas of broken links%
2062       }%
2063     \fi
2064   \fi
2065 }

2066 \define@key{Hyp}{breaklinks}[true]{%
2067   \Hy@boolkey{breaklinks}{#1}%
2068   \let\Hy@setbreaklinks@gobble
2069 }

```

Determines whether an automatic anchor is put on each page

```

2070 \define@key{Hyp}{pageanchor}[true]{%
2071   \Hy@boolkey{pageanchor}{#1}%
2072 }

```

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.

```

2073 \define@key{Hyp}{plainpages}[true]{%
2074   \Hy@boolkey{plainpages}{#1}%
2075 }

```

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

```

2076 \define@key{Hyp}{naturalnames}[true]{%
2077   \Hy@boolkey{naturalnames}{#1}%
2078 }

```

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

```

2079 \define@key{Hyp}{hypertexnames}[true]{%
2080   \Hy@boolkey{hypertexnames}{#1}%
2081 }

```

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

```

2082 \define@key{Hyp}{nesting}[true]{%
2083   \Hy@boolkey{nesting}{#1}%
2084 }

2085 \define@key{Hyp}{unicode}[true]{%
2086   \Hy@boolkey{unicode}{#1}%
2087   \ifHy@unicode
2088     \def\HyPsd@pdfencoding{unicode}%
2089   \else
2090     \def\HyPsd@pdfencoding{pdfdoc}%
2091   \fi
2092   \HyPsd@LoadUnicode
2093 }

2094 \def\HyPsd@LoadUnicode{%

```

```

2095 \@ifundefined{T@PU}{%
2096   \input{puenc.def}%
2097   \HyLingux@Restore
2098 }{}%
2099 \DeclareFontFamily{PU}{pdf}{}%
2100 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
2101 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2102 \global\let\HyPsd@LoadUnicode\relax
2103 }
2104 \AtBeginDocument{%
2105   \ifx\HyPsd@LoadUnicode\relax
2106   \else
2107     \def\HyPsd@LoadUnicode{%
2108       \PackageError{hyperref}{%
2109         Unicode support for bookmarks is not available.\MessageBreak
2110         Activate unicode support by using one of the options\MessageBreak
2111         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2112         in the preamble%
2113       }@ehc
2114       \global\let\HyPsd@LoadUnicode\relax
2115       \global\Hy@unicodetrue
2116       \global\let\Hy@unicodetrue\Hy@unicodetrue
2117     }%
2118   \fi
2119 }

2120 \define@key{Hyp}{pdfencoding}{%
2121   \edef\HyPsd@temp{#1}%
2122   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2123     \let\HyPsd@pdfencoding\HyPsd@temp
2124     \Hy@unicodetrue
2125   \else
2126     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2127       \z@
2128     \else
2129       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2130         \z@
2131       \else
2132         \@ne
2133       \fi
2134     \fi
2135     \let\HyPsd@pdfencoding\HyPsd@temp
2136     \hypersetup{unicode}%
2137     \ifHy@unicode
2138       \def\HyPsd@pdfencoding{#1}%
2139       \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2140         \HyPsd@LoadStringEncoding
2141       \fi
2142     \else
2143       \Hy@Warning{Cannot switch to unicode bookmarks}%
2144       \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2145     \fi
2146   \else
2147     \@onelevel@sanitize\HyPsd@temp
2148     \Hy@Warning{%
2149       Values of option 'pdfencoding':\MessageBreak
2150       'pdfdoc', 'unicode', 'auto'.\MessageBreak
2151       Ignoring unknown value '\HyPsd@temp'%

```

```

2152     }%
2153     \fi
2154 \fi
2155 }
2156 \def\HyPsd@pdfencoding@auto{auto}
2157 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2158 \def\HyPsd@pdfencoding@unicode{unicode}
2159 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2160 \def\HyPsd@LoadStringEnc{%
2161   \RequirePackage{stringenc}[2007/06/14]%
2162   \let\HyPsd@LoadStringEnc\relax
2163 }
2164 \AtBeginDocument{%
2165   \ifpackageloaded{stringenc}{%
2166     \let\HyPsd@LoadStringEnc\relax
2167   }{%
2168     \def\HyPsd@LoadStringEnc{%
2169       \Hy@WarningNoLine{%
2170         Missing package ‘stringenc’. Use ‘pdfencoding=auto’\MessageBreak
2171         in the preamble or load the package there%
2172       }%
2173     }%
2174   }%
2175 }

2176 \newif\ifHy@setpdfversion
2177 \define@key{Hyp}{pdfversion}{%
2178   \ifundefined{Hy@pdfversion@#1}{%
2179     \PackageWarning{hyperref}{%
2180       Unsupported PDF version ‘#1’.\MessageBreak
2181       Valid values: 1.2 until 1.9%
2182     }%
2183   }{%
2184     \Hy@setpdfversiontrue
2185     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2186   }%
2187 }

2188 \@namedef{Hy@pdfversion@1.2}{2}%
2189 \@namedef{Hy@pdfversion@1.3}{3}%
2190 \@namedef{Hy@pdfversion@1.4}{4}%
2191 \@namedef{Hy@pdfversion@1.5}{5}%
2192 \@namedef{Hy@pdfversion@1.6}{6}%
2193 \@namedef{Hy@pdfversion@1.7}{7}%
2194 \@namedef{Hy@pdfversion@1.8}{8}%
2195 \@namedef{Hy@pdfversion@1.9}{9}%
2196 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2197 \define@key{Hyp}{hyperref}[true]{}
2198 \define@key{Hyp}{tex4ht}[true]{}
2199 \Hy@texhttrue
2200 \setkeys{Hyp}{colorlinks=true}%
2201 \def\BeforeTeXIVht{\usepackage{color}}%
2202 \def\Hy@driver{htex4ht}%
2203 \def\MaybeStopEarly{%
2204   \typeout{Hyperref stopped early}%
2205   \AfterBeginDocument{}

```

```

2206     \PDF@FinishDoc
2207     \gdef\PDF@FinishDoc{}%
2208 }%
2209 \endinput
2210 }%
2211 }
2212 \define@key{Hyp}{pdftex}[true]{%
2213   \def\Hy@driver{hpdftex}%
2214 }
2215 \define@key{Hyp}{nativepdf}[true]{%
2216   \def\Hy@driver{hdvips}%
2217 }
2218 \define@key{Hyp}{dvipdfm}[true]{%
2219   \def\Hy@driver{hdvipdfm}%
2220 }
2221 \define@key{Hyp}{dvipdfmx}[true]{%
2222   \def\Hy@driver{hdvipdfm}%
2223 }
2224 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2225   \expandafter\ifx\csname if#1\expandafter\endcsname
2226     \csname iftrue\endcsname
2227     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2228   \else
2229     \chardef\SpecialDvipdfmxOutlineOpen\z@
2230   \fi
2231 }
2232 \define@key{Hyp}{xetex}[true]{%
2233   \def\Hy@driver{hdvipdfm}%
2234 }
2235 \define@key{Hyp}{pdfmark}[true]{%
2236   \def\Hy@driver{hdvips}%
2237 }
2238 \define@key{Hyp}{dvips}[true]{%
2239   \def\Hy@driver{hdvips}%
2240 }
2241 \define@key{Hyp}{hypertex}[true]{%
2242   \def\Hy@driver{hypertex}%
2243 }
2244 \let\Hy@MaybeStopNow\relax
2245 \define@key{Hyp}{vtex}[true]{%
2246   \begingroup\expandafter\expandafter\expandafter\endgroup
2247   \expandafter\ifx\csname OpMode\endcsname\relax
2248     \@latex@error{Non-VTeX processor}{}%
2249     \global\let\Hy@MaybeStopNow\endinput
2250   \endinput
2251   \else
2252     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2253     \def\Hy@driver{hvtex}%
2254   \else
2255     \ifnum\OpMode=10\relax
2256       \def\Hy@driver{hvtexhtm}%
2257       \def\MaybeStopEarly{%
2258         \typeout{Hyperref stopped early}%
2259         \AfterBeginDocument{%
2260           \PDF@FinishDoc
2261           \gdef\PDF@FinishDoc{}%
2262         }%

```



```

2263         \endinput
2264     }%
2265     \else
2266         \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2267         \global\let\Hy@MaybeStopNow\endinput
2268         \endinput
2269     \fi
2270 \fi
2271 \fi
2272 }
2273 \define@key{Hyp}{vtexpdfmark}[true]{%
2274     \begingroup\expandafter\expandafter\expandafter\endgroup
2275     \expandafter\ifx\cname OpMode\endcsname\relax
2276         \@latex@error{Non-VTeX processor}{}%
2277         \let\Hy@MaybeStopNow\endinput
2278         \endinput
2279     \else
2280         \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2281         \def\Hy@driver{hvtexmrk}%
2282     \else
2283         \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2284         \let\Hy@MaybeStopNow\endinput
2285         \endinput
2286     \fi
2287 \fi
2288 }
2289 \define@key{Hyp}{dviwindo}[true]{%
2290     \def\Hy@driver{hdviwind}%
2291     \setkeys{Hyp}{colorlinks}%
2292     \PassOptionsToPackage{dviwindo}{color}%
2293 }
2294 \define@key{Hyp}{dvipsone}[true]{%
2295     \def\Hy@driver{hdvipson}%
2296 }
2297 \define@key{Hyp}{textures}[true]{%
2298     \def\Hy@driver{htexture}%
2299 }
2300 \define@key{Hyp}{latex2html}[true]{%
2301     \AtBeginDocument{\@@latextohtmlX}%
2302 }

```

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

```

2303 \define@key{Hyp}{ps2pdf}[true]{%
2304     \def\Hy@driver{hdvips}%
2305     \providecommand*\@pdfborder{0 0 1}%
2306 }

```

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.

```

2307 \define@key{Hyp}{hyperfigures}[true]{%
2308     \Hy@boolkey[hyperfigures]{figures}{#1}%
2309 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2310 \define@key{Hyp}{hyperfootnotes}[true]{%
2311     \Hy@boolkey[hyperfootnotes]{#1}%

```

2312 }

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

```
2313 \def\back@none{none}
2314 \def\back@section{section}
2315 \def\back@page{page}
2316 \def\back@slide{slide}
2317 \define@key{Hyp}{backref}[section]{%
2318   \lowercase{\def\Hy@tempa{#1}}%
2319   \ifx\Hy@tempa\@empty
2320     \let\Hy@tempa\back@section
2321   \fi
2322   \ifx\Hy@tempa\Hy@false
2323     \let\Hy@tempa\back@none
2324   \fi
2325   \ifx\Hy@tempa\back@slide
2326     \let\Hy@tempa\back@section
2327   \fi
2328   \ifx\Hy@tempa\back@page
2329     \PassOptionsToPackage{hyperpageref}{backref}%
2330     \Hy@backreftrue
2331   \else
2332     \ifx\Hy@tempa\back@section
2333       \PassOptionsToPackage{hyperref}{backref}%
2334       \Hy@backreftrue
2335     \else
2336       \ifx\Hy@tempa\back@none
2337         \Hy@backreffalse
2338       \else
2339         \Hy@WarnOptionValue{#1}{backref}{%
2340           'section', 'slide', 'page', 'none', \MessageBreak
2341           or 'false'}%
2342       \fi
2343     \fi
2344   \fi
2345 }
2346 \define@key{Hyp}{pagebackref}[true]{%
2347   \edef\Hy@tempa{#1}%
2348   \lowercase\expandafter{%
2349     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2350   }%
2351   \ifx\Hy@tempa\@empty
2352     \let\Hy@tempa\Hy@true
2353   \fi
2354   \ifx\Hy@tempa\Hy@true
2355     \PassOptionsToPackage{hyperpageref}{backref}%
2356     \Hy@backreftrue
2357   \else
2358     \ifx\Hy@tempa\Hy@false
2359       \Hy@backreffalse
2360     \else
2361       \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
2362     \fi
2363   \fi
2364 }
```

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

```

2365 \define@key{Hyp}{hyperindex}[true]{%
2366   \Hy@boolkey{hyperindex}{#1}%
2367 }

```

Configuration of encap char.

```

2368 \define@key{Hyp}{encap}[|]{%
2369   \def\HyInd@EncapChar{#1}%
2370 }

```

12 Language options

The \autoref feature depends on the language.

```

2371 \def\HyLang@afrikaans{%
2372   \def\equationautorefname{Vergelyking}%
2373   \def\footnoteautorefname{Voetnota}%
2374   \def\itemautorefname{Item}%
2375   \def\figureautorefname{Figuur}%
2376   \def\tableautorefname{Tabel}%
2377   \def\partautorefname{Deel}%
2378   \def\appendixautorefname{Bylae}%
2379   \def\chapterautorefname{Hoofstuk}%
2380   \def\sectionautorefname{Afdeling}%
2381   \def\subsectionautorefname{Subafdeling}%
2382   \def\subsubsectionautorefname{Subsubafdeling}%
2383   \def\paragraphautorefname{Paragraaf}%
2384   \def\subparagraphautorefname{Subparagraaf}%
2385   \def\FancyVerbLineautorefname{Lyn}%
2386   \def\theoremautorefname{Teorema}%
2387   \def\pageautorefname{Bladsy}%
2388 }
2389 \def\HyLang@english{%
2390   \def\equationautorefname{Equation}%
2391   \def\footnoteautorefname{footnote}%
2392   \def\itemautorefname{item}%
2393   \def\figureautorefname{Figure}%
2394   \def\tableautorefname{Table}%
2395   \def\partautorefname{Part}%
2396   \def\appendixautorefname{Appendix}%
2397   \def\chapterautorefname{chapter}%
2398   \def\sectionautorefname{section}%
2399   \def\subsectionautorefname{subsection}%
2400   \def\subsubsectionautorefname{subsubsection}%
2401   \def\paragraphautorefname{paragraph}%
2402   \def\subparagraphautorefname{subparagraph}%
2403   \def\FancyVerbLineautorefname{line}%
2404   \def\theoremautorefname{Theorem}%
2405   \def\pageautorefname{page}%
2406 }
2407 \def\HyLang@french{%
2408   \def\equationautorefname{\`Equation}%
2409   \def\footnoteautorefname{note}%
2410   \def\itemautorefname{item}%
2411   \def\figureautorefname{Figure}%
2412   \def\tableautorefname{Tableau}%
2413   \def\partautorefname{Partie}%
2414   \def\appendixautorefname{Appendice}%
2415   \def\chapterautorefname{chapitre}%

```

```

2416 \def\sectionautorefname{section}%
2417 \def\subsectionautorefname{sous-section}%
2418 \def\subsubsectionautorefname{sous-sous-section}%
2419 \def\paragraphautorefname{paragraphe}%
2420 \def\subparagraphautorefname{sous-paragraphe}%
2421 \def\FancyVerbLineautorefname{ligne}%
2422 \def\theoremautorefname{Th\'eor\'eme}%
2423 \def\pageautorefname{page}%
2424 }
2425 \def\HyLang@german{%
2426 \def\equationautorefname{Gleichung}%
2427 \def\footnoteautorefname{Fu\ss note}%
2428 \def\itemautorefname{Punkt}%
2429 \def\figureautorefname{Abbildung}%
2430 \def\tableautorefname{Tabelle}%
2431 \def\partautorefname{Teil}%
2432 \def\appendixautorefname{Anhang}%
2433 \def\chapterautorefname{Kapitel}%
2434 \def\sectionautorefname{Abschnitt}%
2435 \def\subsectionautorefname{Unterabschnitt}%
2436 \def\subsubsectionautorefname{Unterunterabschnitt}%
2437 \def\paragraphautorefname{Absatz}%
2438 \def\subparagraphautorefname{Unterabsatz}%
2439 \def\FancyVerbLineautorefname{Zeile}%
2440 \def\theoremautorefname{Theorem}%
2441 \def\pageautorefname{Seite}%
2442 }
2443 \def\HyLang@italian{%
2444 \def\equationautorefname{Equazione}%
2445 \def\footnoteautorefname{nota}%
2446 \def\itemautorefname{punto}%
2447 \def\figureautorefname{Figura}%
2448 \def\tableautorefname{Tabella}%
2449 \def\partautorefname{Parte}%
2450 \def\appendixautorefname{Appendice}%
2451 \def\chapterautorefname{Capitolo}%
2452 \def\sectionautorefname{sezione}%
2453 \def\subsectionautorefname{sottosezione}%
2454 \def\subsubsectionautorefname{sottosottosezione}%
2455 \def\paragraphautorefname{paragrafo}%
2456 \def\subparagraphautorefname{sottoparagrafo}%
2457 \def\FancyVerbLineautorefname{linea}%
2458 \def\theoremautorefname{Teorema}%
2459 \def\pageautorefname{Pag.\@}%
2460 }
2461 \def\HyLang@magyar{%
2462 \def\equationautorefname{Egyenlet}%
2463 \def\footnoteautorefname{l\'abjegyzet}%
2464 \def\itemautorefname{Elem}%
2465 \def\figureautorefname{\`Abra}%
2466 \def\tableautorefname{T\'abl\'azat}%
2467 \def\partautorefname{R\'esz}%
2468 \def\appendixautorefname{F\'uggel\'ek}%
2469 \def\chapterautorefname{fejezet}%
2470 \def\sectionautorefname{szakasz}%
2471 \def\subsectionautorefname{alszakasz}%
2472 \def\subsubsectionautorefname{alalszakasz}%

```

```

2473 \def\paragraphautorefname{bekezd\'}es}%
2474 \def\subparagraphautorefname{albekezd\'}es}%
2475 \def\FancyVerbLineautorefname{sor}%
2476 \def\theoremautorefname{T\'}etel}%
2477 \def\pageautorefname{oldal}%
2478 }
2479 \def\HyLang@portuges{%
2480 \def\equationautorefname{Equa\c c\~ao}%
2481 \def\footnoteautorefname{Nota de rodap\'}e}%
2482 \def\itemautorefname{Item}%
2483 \def\figureautorefname{Figura}%
2484 \def\tableautorefname{Tabela}%
2485 \def\partautorefname{Parte}%
2486 \def\appendixautorefname{Ap\'}endice}%
2487 \def\chapterautorefname{Cap\'}itulo}%
2488 \def\sectionautorefname{Se\c c\~ao}%
2489 \def\subsectionautorefname{Subse\c c\~ao}%
2490 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2491 \def\paragraphautorefname{par\'}agrafo}%
2492 \def\subparagraphautorefname{subpar\'}agrafo}%
2493 \def\FancyVerbLineautorefname{linha}%
2494 \def\theoremautorefname{Teorema}%
2495 \def\pageautorefname{P\'}agina}%
2496 }

```

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`.

```

2497 \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`?

```

2498 \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`.

```

2499 % \def\equationautorefname{%
2500 % \cyr\cyrv\cyrery\cyr\cyrzh\cyre\cyrn\cyri\cyre
2501 % }%

```

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

```

2502 \def\footnoteautorefname{%
2503 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyr. \cyrp\cyr\cyri\cyr. %
2504 }%

```

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}`”

```

2505 % \def\footnoteautorefname{%
2506 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyr\cyrh\cyrn\cyro\cyre \ %
2507 % \cyrp\cyr\cyri\cyr\cyrh\cyra\cyrn\cyri\cyre
2508 % }%

```

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

```
2509 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
2510 % \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.

```
2511 \def\itemautorefname{\cyr\cyrp.}%
2512 % \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.

```
2513 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
2514 \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.

```
2515 \def\partautorefname{\cyr\cyrch.}%
2516 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
2517 \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.

```
2518 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
2519 % \def\appendixautorefname{%
2520 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre
2521 % }%
```

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.

```
2522 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2523 \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.

```
2524 \def\paragraphautorefname{\cyr\cyrp.}%
2525 \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.

```
2526 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2527 % \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.

```
2528 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
2529 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
2530 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
2531 % \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 ...

```
2532 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2533 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cym\cyr\cyra}%
```

```
2534 % \def\Accttheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cym\cyr\cyru}%
```

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

```
2535 \def\pageautorefname{\cyr\cyrs.}%
```

```
2536 }
```

```
2537 \def\HyLang@spanish{%
```

```
2538 \def\equationautorefname{Ecuaci'on}%
```

```
2539 \def\footnoteautorefname{Nota a pie de p'agina}%
```

```
2540 \def\itemautorefname{Elemento}%
```

```
2541 \def\figureautorefname{Figura}%
```

```
2542 \def\tableautorefname{Tabla}%
```

```
2543 \def\partautorefname{Parte}%
```

```
2544 \def\appendixautorefname{Ap'endice}%
```

```
2545 \def\chapterautorefname{Cap'itulo}%
```

```
2546 \def\sectionautorefname{Secci'on}%
```

```
2547 \def\subsectionautorefname{Subsecci'on}%
```

```
2548 \def\subsubsectionautorefname{Subsubsecci'on}%
```

```
2549 \def\paragraphautorefname{P'arrafo}%
```

```
2550 \def\subparagraphautorefname{Subp'arrafo}%
```

```
2551 \def\FancyVerbLineautorefname{L'inea}%
```

```
2552 \def\theoremautorefname{Teorema}%
```

```
2553 \def\pageautorefname{P'agina}%
```

```
2554 }
```

```
2555 \def\HyLang@vietnamese{%
```

```
2556 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr'inh}%
```

```
2557 \def\footnoteautorefname{Ch'u th'ich}%
```

```
2558 \def\itemautorefname{m\du{c}}%
```

```
2559 \def\figureautorefname{H'inh}%
```

```
2560 \def\tableautorefname{B\h{a}ng}%
```

```
2561 \def\partautorefname{Ph'\acircumflex{n}}%
```

```
2562 \def\appendixautorefname{Ph\du{1}\du{c}}%
```

```
2563 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
```

```
2564 \def\sectionautorefname{m\du{c}}%
```

```
2565 \def\subsectionautorefname{m\du{c}}%
```

```
2566 \def\subsubsectionautorefname{m\du{c}}%
```

```
2567 \def\paragraphautorefname{dj{o}\da{n}}%
```

```
2568 \def\subparagraphautorefname{dj{o}\da{n}}%
```

```
2569 \def\FancyVerbLineautorefname{d'ong}%
```

```
2570 \def\theoremautorefname{DJ\di{nh} l'y}%
```

```
2571 \def\pageautorefname{Trang}%
```

```
2572 }
```

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

```
2573 \def\HyLang@addto#1#2{%
```

```
2574 #2%
```

```
2575 \@temptokena{#2}%
```

```

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

2587 \def\HyLang@DeclareLang#1#2#3{%
2588   \begingroup
2589   \edef\x##1##2{%
2590     \noexpand\ifx##2\relax
2591       \errmessage{No definitions for language #2' found!}%
2592     \noexpand\fi
2593   \endgroup
2594   \noexpand\define@key{Hyp}{#1}[]{%
2595     \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2596     #3%
2597   }%
2598   }%
2599   \expandafter\x\csname extras#1\expandafter\endcsname
2600     \csname HyLang@#2\endcsname
2601 }

2602 \HyLang@DeclareLang{english}{english}{}
2603 \HyLang@DeclareLang{UKenglish}{english}{}
2604 \HyLang@DeclareLang{british}{english}{}
2605 \HyLang@DeclareLang{USenglish}{english}{}
2606 \HyLang@DeclareLang{american}{english}{}
2607 \HyLang@DeclareLang{german}{german}{}
2608 \HyLang@DeclareLang{austrian}{german}{}
2609 \HyLang@DeclareLang{ngerman}{german}{}
2610 \HyLang@DeclareLang{naustrian}{german}{}
2611 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
2612 \HyLang@DeclareLang{brazil}{portuges}{}
2613 \HyLang@DeclareLang{brazilian}{portuges}{}
2614 \HyLang@DeclareLang{portuguese}{portuges}{}
2615 \HyLang@DeclareLang{spanish}{spanish}{}
2616 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
2617 \HyLang@DeclareLang{french}{french}{}
2618 \HyLang@DeclareLang{frenchb}{french}{}
2619 \HyLang@DeclareLang{francais}{french}{}
2620 \HyLang@DeclareLang{acadian}{french}{}
2621 \HyLang@DeclareLang{canadien}{french}{}
2622 \HyLang@DeclareLang{italian}{italian}{}
2623 \HyLang@DeclareLang{magyar}{magyar}{}
2624 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

2625 \define@key{Hyp}{vietnamese}[]{}
2626 \HyLang@addto\extravietnamese\HyLang@vietnamese
2627 \AtEndOfPackage{%
2628   \ifundefined{T@PU}{}{}
2629   \input{puvnenc.def}%
2630 }%

```



```

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

```

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

```

2641 \define@key{Hyp}{arabic}[]{%
2642   \AtEndOfPackage{%
2643     \ifundefined{T@PU}{-}{%
2644       \input{puarenc.def}%
2645     }%
2646   }%
2647 }

```

13 Options to change appearance of links

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

```

2648 \define@key{Hyp}{colorlinks}[true]{%
2649   \Hy@boolkey{colorlinks}{#1}%
2650 }
2651 \define@key{Hyp}{ocgcolorlinks}[true]{%
2652   \Hy@boolkey{ocgcolorlinks}{#1}%
2653 }
2654 \AtBeginDocument{%
2655   \begingroup
2656     \ifundefined{OBJ@OCG@view}{%
2657       \ifHy@ocgcolorlinks
2658         \Hy@Warning{%
2659           Driver does not support ‘ocgcolorlinks’,\MessageBreak
2660           using ‘colorlinks’ instead%
2661         }%
2662       \fi
2663     }{}%
2664   \endgroup
2665 }
2666 \define@key{Hyp}{frenchlinks}[true]{%
2667   \Hy@boolkey{frenchlinks}{#1}%
2668 }

```

14 Bookmarking

```

2669 \begingroup\expandafter\expandafter\expandafter\endgroup
2670 \expandafter\ifx\csname chapter\endcsname\relax
2671   \def\toclevel@part{0}%
2672 \else
2673   \def\toclevel@part{-1}%
2674 \fi
2675 \def\toclevel@chapter{0}
2676 \def\toclevel@section{1}

```

```

2677 \def\toclevel@subsection{2}
2678 \def\toclevel@subsubsection{3}
2679 \def\toclevel@paragraph{4}
2680 \def\toclevel@subparagraph{5}
2681 \def\toclevel@figure{0}
2682 \def\toclevel@table{0}
2683 \@ifpackageloaded{listings}{%
2684   \providecommand*\theHlstlisting{\thelstlisting}%
2685   \providecommand*\toclevel@lstlisting{0}%
2686 }{}
2687 \@ifpackageloaded{listing}{%
2688   \providecommand*\theHlisting{\thelisting}%
2689   \providecommand*\toclevel@listing{0}%
2690 }{}

2691 \define@key{Hyp}{bookmarks}[true]{%
2692   \Hy@boolkey{bookmarks}{#1}%
2693 }

2694 \define@key{Hyp}{bookmarksopen}[true]{%
2695   \Hy@boolkey{bookmarksopen}{#1}%
2696 }

```

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.

```

2697 \let\Hy@bookmarksdepth\c@tocdepth
2698 \define@key{Hyp}{bookmarksdepth}[]{}%
2699 \begingroup
2700   \edef\x{#1}%
2701   \ifx\x\empty
2702     \global\let\Hy@bookmarksdepth\c@tocdepth
2703   \else
2704     \@ifundefined{toclevel@\x}{%
2705       \@onelevel@sanitize\x
2706       \edef\y{\expandafter\@car\x\@nil}%
2707       \ifcase 0\expandafter\ifx\y-1\fi
2708         \expandafter\ifnum\expandafter'\y>47 %
2709         \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
2710       \Hy@Warning{Unknown document division name (\x)}%
2711     \else
2712       \setbox\z@=\hbox{%
2713         \count@=\x
2714         \xdef\Hy@bookmarksdepth{\the\count@}%
2715       }%
2716     \fi
2717   }{}%
2718   \setbox\z@=\hbox{%
2719     \count@=\csname toclevel@\x\endcsname
2720     \xdef\Hy@bookmarksdepth{\the\count@}%
2721   }%

```

```

2722     }%
2723     \fi
2724   \endgroup
2725 }

```

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

```

2726 \define@key{Hyp}{bookmarksopenlevel}{%
2727   \def\@bookmarksopenlevel{#1}%
2728 }
2729 \def\@bookmarksopenlevel{\maxdimen}
2730 % ‘bookmarkstyle’ to specify which ‘toc’ file to mimic
2731 \define@key{Hyp}{bookmarkstyle}{%
2732   \def\Hy@bookmarkstyle{#1}%
2733 }
2734 \def\Hy@bookmarkstyle{toc}

```

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

```

2735 \define@key{Hyp}{bookmarksnumbered}[true]{%
2736   \Hy@boolkey{bookmarksnumbered}{#1}%
2737 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

2738 \define@key{Hyp}{CJKbookmarks}[true]{%
2739   \Hy@boolkey{CJKbookmarks}{#1}%
2740 }
2741 \def\Hy@temp#1{%
2742   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2743 }
2744 \def\Hy@@temp#1#2#3{%
2745   \define@key{Hyp}{#2color}{%
2746     \HyColor@HyperrefColor{##1}#1%
2747   }%
2748   \def#1{#3}%
2749 }
2750 \Hy@temp{link}{red}
2751 \Hy@temp{anchor}{black}
2752 \Hy@temp{cite}{green}
2753 \Hy@temp{file}{cyan}
2754 \Hy@temp{url}{magenta}
2755 \Hy@temp{menu}{red}
2756 \Hy@temp{run}{\@filecolor}
2757 \define@key{Hyp}{pagecolor}{%
2758   \Hy@WarningPageColor
2759 }
2760 \def\Hy@WarningPageColor{%
2761   \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
2762   \global\let\Hy@WarningPageColor\relax
2763 }
2764 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2765 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2766 \let\@baseurl\empty
2767 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2768 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2769 \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.

```
2770 \let\pdfpagetransition\relax
2771 \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.

```
2772 \let\pdfpageduration\relax
2773 \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.

```
2774 \newif\ifHy@useHidKey
2775 \Hy@useHidKeyfalse
2776 \define@key{Hyp}{pdfpagehidden}[true]{%
2777   \Hy@boolkey{pdfpagehidden}{#1}%
2778   \ifHy@pdfpagehidden
2779     \global\Hy@useHidKeytrue
2780   \fi
2781 }
```

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).

```
2782 \def\Hy@ColorList{cite,file,link,menu,run,url}
2783 \for\Hy@temp:=\Hy@ColorList\do{%
2784   \edef\Hy@temp{%
2785     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2786       \noexpand\HyColor@HyperrefBorderColor
2787         {##1}%
2788       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2789         {hyperref}%
2790       {\Hy@temp bordercolor}%
2791     }%
2792   }%
2793   \Hy@temp
2794 }
2795 \define@key{Hyp}{pagebordercolor}{%
2796   \Hy@WarningPageBorderColor
2797 }
2798 \def\Hy@WarningPageBorderColor{%
2799   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2800   \global\let\Hy@WarningPageBorderColor\relax
2801 }
2802 \define@key{Hyp}{pdfhighlight}{\def\pdfhighlight{#1}}
2803 \Hy@DefNameKey{pdfhighlight}{%
2804   \do{/I}{Invert}%
```

```

2805 \do{/N}{None}%
2806 \do{/O}{Outline}%
2807 \do{/P}{Push}%
2808 }
2809 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
2810 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
2811 \def\Hy@setpdfborder{%
2812   \ifx\@pdfborder\@empty
2813   \else
2814     /Border[\@pdfborder]%
2815   \fi
2816   \ifx\@pdfborderstyle\@empty
2817   \else
2818     /BS<<\@pdfborderstyle>>%
2819   \fi
2820 }
2821 \Hy@DefNameKey{pdfpagemode}{%
2822   \do{UseNone}{}%
2823   \do{UseOutlines}{}%
2824   \do{UseThumbs}{}%
2825   \do{FullScreen}{}%
2826   \do{UseOC}{PDF 1.5}%
2827   \do{UseAttachments}{PDF 1.6}%
2828 }
2829 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2830   \do{UseNone}{}%
2831   \do{UseOutlines}{}%
2832   \do{UseThumbs}{}%
2833   \do{FullScreen}{}%
2834   \do{UseOC}{PDF 1.5}%
2835   \do{UseAttachments}{PDF 1.6}%
2836 }
2837 \Hy@DefNameKey{pdfdirection}{%
2838   \do{L2R}{Left to right}%
2839   \do{R2L}{Right to left}%
2840 }
2841 \Hy@DefNameKey{pdfviewarea}{%
2842   \do{MediaBox}{}%
2843   \do{CropBox}{}%
2844   \do{BleedBox}{}%
2845   \do{TrimBox}{}%
2846   \do{ArtBox}{}%
2847 }
2848 \Hy@DefNameKey{pdfviewclip}{%
2849   \do{MediaBox}{}%
2850   \do{CropBox}{}%
2851   \do{BleedBox}{}%
2852   \do{TrimBox}{}%
2853   \do{ArtBox}{}%
2854 }
2855 \Hy@DefNameKey{pdfprintarea}{%
2856   \do{MediaBox}{}%
2857   \do{CropBox}{}%
2858   \do{BleedBox}{}%
2859   \do{TrimBox}{}%
2860   \do{ArtBox}{}%
2861 }

```

```

2862 \Hy@DefNameKey{pdfprintclip}{%
2863   \do{MediaBox}{}%
2864   \do{CropBox}{}%
2865   \do{BleedBox}{}%
2866   \do{TrimBox}{}%
2867   \do{ArtBox}{}%
2868 }
2869 \Hy@DefNameKey{pdfprintscaling}{%
2870   \do{AppDefault}{}%
2871   \do{None}{}%
2872 }
2873 \Hy@DefNameKey{pdfduplex}{%
2874   \do{Simplex}{}%
2875   \do{DuplexFlipShortEdge}{}%
2876   \do{DuplexFlipLongEdge}{}%
2877 }
2878 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
2879   \do{true}{}%
2880   \do{false}{}%
2881 }
2882 \define@key{Hyp}{pdfprintpagerange}{%
2883   \def\@pdfprintpagerange{#1}%
2884 }
2885 \Hy@DefNameKey{pdfnumcopies}{%
2886   \do{2}{two copies}%
2887   \do{3}{three copies}%
2888   \do{4}{four copies}%
2889   \do{5}{five copies}%
2890 }
2891 \define@key{Hyp}{pdfusetitle}[true]{%
2892   \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
2893 }
2894 \define@key{Hyp}{pdftitle}{\pdfstringdef\@pdftitle{#1}}
2895 \define@key{Hyp}{pdfauthor}{\pdfstringdef\@pdfauthor{#1}}
2896 \define@key{Hyp}{pdfproducer}{\pdfstringdef\@pdfproducer{#1}}
2897 \define@key{Hyp}{pdfcreator}{\pdfstringdef\@pdfcreator{#1}}
2898 \define@key{Hyp}{pdfcreationdate}{%
2899   \begingroup
2900     \Hy@unicodedefalse
2901     \pdfstringdef\@pdfcreationdate{#1}%
2902   \endgroup
2903 }
2904 \define@key{Hyp}{pdfmoddate}{%
2905   \begingroup
2906     \Hy@unicodedefalse
2907     \pdfstringdef\@pdfmoddate{#1}%
2908   \endgroup
2909 }
2910 \define@key{Hyp}{pdfsubject}{\pdfstringdef\@pdfsubject{#1}}
2911 \define@key{Hyp}{pdfkeywords}{\pdfstringdef\@pdfkeywords{#1}}
2912 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
2913 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
2914 \let\setpdflinkmargin\@gobble
2915 \def\calculate@pdfview#1 #2\\{%
2916   \def\@pdfview{#1}%
2917   \ifx\@#2\\%
2918     \def\@pdfviewparams{ -32768}%

```

```

2919 \else
2920   \def\@pdfviewparams{ #2}%
2921 \fi
2922 }
2923 \begingroup\expandafter\expandafter\expandafter\endgroup
2924 \expandafter\ifx\csname numexpr\endcsname\relax
2925   \def\Hy@number#1{%
2926     \expandafter\@firstofone\expandafter{\number#1}%
2927   }%
2928 \else
2929   \def\Hy@number#1{%
2930     \the\numexpr#1\relax
2931   }%
2932 \fi
2933 \define@key{Hyp}{pdfstartpage}{%
2934   \ifx\#1\%
2935     \def\@pdfstartpage{%
2936       \else
2937         \edef\@pdfstartpage{\Hy@number{#1}}%
2938       \fi
2939   }%
2940 \define@key{Hyp}{pdfstartview}{%
2941   \ifx\#1\%
2942     \def\@pdfstartview{%
2943       \else
2944         \hypercalcbpdef\@pdfstartview{ /#1 }%
2945       \fi
2946   }
2947 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
2948 \define@key{Hyp}{pdftoolbar}[true]{%
2949   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
2950 }
2951 \define@key{Hyp}{pdfmenubar}[true]{%
2952   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
2953 }
2954 \define@key{Hyp}{pdfwindowui}[true]{%
2955   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
2956 }
2957 \define@key{Hyp}{pdffitwindow}[true]{%
2958   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
2959 }
2960 \define@key{Hyp}{pdfcenterwindow}[true]{%
2961   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
2962 }
2963 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
2964   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
2965 }
2966 \define@key{Hyp}{pdfa}[true]{%
2967   \Hy@boolkey{pdfa}{#1}%
2968 }
2969 \define@key{Hyp}{pdfnewwindow}[true]{%
2970   \def\Hy@temp{#1}%
2971   \ifx\Hy@temp\@empty
2972     \Hy@newwindowsetfalse
2973   \else
2974     \Hy@newwindowsettrue
2975     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%

```

```

2976 \fi
2977 }
2978 \def\Hy@SetNewWindow{%
2979 \ifHy@newwindowset
2980 /NewWindow %
2981 \ifHy@newwindow true\else false\fi
2982 \fi
2983 }
2984 \Hy@DefNameKey{pdfpagelayout}{%
2985 \do{SinglePage}{}%
2986 \do{OneColumn}{}%
2987 \do{TwoColumnLeft}{}%
2988 \do{TwoColumnRight}{}%
2989 \do{TwoPageLeft}{PDF 1.5}%
2990 \do{TwoPageRight}{PDF 1.5}%
2991 }
2992 \define@key{Hyp}{pdflang}{%
2993 \def\@pdflang{#1}%
2994 }
2995 \define@key{Hyp}{pdfpagelabels}[true]{%
2996 \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
2997 }
2998 \define@key{Hyp}{pdfescapeform}[true]{%
2999 \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
3000 }

```

Default values:

```

3001 \def\@linkbordercolor{1 0 0}
3002 \def\@urlbordercolor{0 1 1}
3003 \def\@menubordercolor{1 0 0}
3004 \def\@filebordercolor{0 .5 .5}
3005 \def\@runbordercolor{0 .7 .7}
3006 \def\@citebordercolor{0 1 0}
3007 \def\@pdfhighlight{/I}
3008 \def\@pdftitle{}
3009 \def\@pdfauthor{}
3010 \let\@pdfproducer\relax
3011 \def\@pdfcreator{LaTeX with hyperref package}
3012 \def\@pdfcreationdate{}
3013 \def\@pdfmoddate{}
3014 \def\@pdfsubject{}
3015 \def\@pdfkeywords{}
3016 \def\@pdfpagescrop{}
3017 \def\@pdfstartview{/Fit }
3018 \def\@pdfstartpage{1}
3019 \def\@pdfprintpagerange{}
3020 \def\@pdflang{}
3021 \let\PDF@SetupDoc\@empty
3022 \let\PDF@FinishDoc\@empty
3023 \let\phantomsection\@empty
3024 \let\special@paper\@empty
3025 \def\HyperDestNameFilter#1{#1}
3026 \@ifundefined{stockwidth}{%
3027 \ifdim\paperwidth>\z@
3028 \ifdim\paperheight>\z@
3029 \edef\special@paper{\the\paperwidth,\the\paperheight}%
3030 \fi
3031 \fi

```



```

3032 }{%
3033   \ifdim\stockwidth>\z@
3034     \ifdim\stockheight>\z@
3035       \edef\special@paper{\the\stockwidth,\the\stockheight}%
3036     \fi
3037   \fi
3038 }
3039 \begingroup
3040 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
3041 \dimen@=\x\relax
3042 \ifdim\dimen@>\z@
3043   \else
3044     \dimen@=11in\relax
3045     \Hy@WarningNoLine{%
3046       Height of page (\expandafter\string\x) %
3047       is invalid (\the\x),\MessageBreak
3048       using 11in%
3049     }%
3050   \fi
3051   \dimen@=0.99626401\dimen@
3052   \xdef\Hy@pageheight{\strip@pt\dimen@}%
3053 \endgroup
3054 \def\HyInd@EncapChar{\|}
3055 \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.

```

3056 \let\hyper@normalise\ExecuteOptions
3057 \let\ExecuteOptions\hypersetup
3058 \Hy@RestoreCatcodes
3059 \InputIfFileExists{hyperref.cfg}{-}{-}
3060 \Hy@SetCatcodes
3061 \let\ExecuteOptions\hyper@normalise
3062 \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`.

```

3063 \RequirePackage{kvoptions}[2006/08/17]
3064 \AddOption{tex4ht}{Add option tex4ht if package tex4ht is loaded.}
3065 \@ifpackageloaded{tex4ht}{%
3066   \@ifpackagewith{hyperref}{tex4ht}{-}{-}
3067   \PassOptionsToPackage{tex4ht}{hyperref}%
3068 }{-}
3069 \let\ReadBookmarks\relax
3070 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

3071 \AtBeginDocument{%
3072   \ifHy@draft
3073     \let\hyper@@anchor@gobble
3074     \gdef\hyper@link#1#2#3{#3}%
3075     \let\hyper@anchorstart@gobble

```

```

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

```

15.1 PDF/A

```

3095 \Hy@DisableOption{pdfa}

3096 \ifHy@pdfa
3097 \setkeys{Hyp}{pdfversion=1.4}%
3098 \def\Hy@Acrobatmenu#1#2{%
3099 \leavevmode
3100 \begingroup
3101 \edef\x{#1}%
3102 \@onelevel@sanitize\x
3103 \ifx\x\Hy@NextPage
3104 \let\y=Y%
3105 \else
3106 \ifx\x\Hy@PrevPage
3107 \let\y=Y%
3108 \else
3109 \ifx\x\Hy@FirstPage
3110 \let\y=Y%
3111 \else
3112 \ifx\x\Hy@LastPage
3113 \let\y=Y%
3114 \else
3115 \let\y=N%
3116 \fi
3117 \fi
3118 \fi
3119 \fi
3120 \expandafter\endgroup
3121 \ifx\y Y%
3122 \else
3123 \PackageError{hyperref}{%
3124 PDF/A: Named action ‘#1’ is not permitted%
3125 }\@ehc
3126 {#2}%
3127 \expandafter\@gobble
3128 \fi
3129 }%

```

```

3130 \def\Hy@temp#1{%
3131   \expandafter\def\csname Hy@#1\endcsname{#1}%
3132   \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3133 }%
3134 \Hy@temp{NextPage}%
3135 \Hy@temp{PrevPage}%
3136 \Hy@temp{FirstPage}%
3137 \Hy@temp{LastPage}%
3138 \else
3139   \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3140 \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.

```

3141 \Hy@nextfalse
3142 \@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
3143 \@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
3144 \@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
3145 \ifHy@next
3146   \let\texttilde~%
3147 \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.

```

3148 \@ifpackageloaded{babel}{%
3149   \@ifpackagelater{babel}{2008/03/16}{%
3150     \def\Hy@PatchLanguageShorthands#1{%
3151       \begingroup
3152       \edef\x{#1}%
3153       \@onelevel@sanitize\x
3154       \def\y{system}%
3155       \@onelevel@sanitize\y
3156       \expandafter\endgroup
3157       \ifx\x\y
3158       \else
3159         \HyOrg@languageshorthands{#1}%
3160       \fi
3161     }%
3162     \AtBeginDocument{%
3163       \begingroup
3164       \toks0=\expandafter{\pdfstringdefPreHook}%
3165       \xdef\pdfstringdefPreHook{%
3166         \let\noexpand\HyOrg@languageshorthands
3167         \noexpand\languageshorthands
3168         \let\noexpand\languageshorthands
3169         \noexpand\Hy@PatchLanguageShorthands
3170         \the\toks0 %
3171         \let\noexpand\languageshorthands
3172         \noexpand\HyOrg@languageshorthands
3173       }%
3174       \endgroup
3175     }%
3176   }{}%

```

```

3177 }{}
3178 \ifHy@figures
3179   \Hy@Info{Hyper figures ON}%
3180 \else
3181   \Hy@Info{Hyper figures OFF}%
3182 \fi
3183 \ifHy@nesting
3184   \Hy@Info{Link nesting ON}%
3185 \else
3186   \Hy@Info{Link nesting OFF}%
3187 \fi
3188 \ifHy@hyperindex
3189   \Hy@Info{Hyper index ON}%
3190 \else
3191   \Hy@Info{Hyper index OFF}%
3192 \fi
3193 \ifHy@plainpages
3194   \Hy@Info{Plain pages ON}%
3195 \else
3196   \Hy@Info{Plain pages OFF}%
3197 \fi
3198 \ifHy@backref
3199   \Hy@Info{Backreferencing ON}%
3200 \else
3201   \Hy@Info{Backreferencing OFF}%
3202 \fi
3203 \ifHy@typexml
3204   \AtEndOfPackage{%
3205     \RequirePackage{color}%
3206     \RequirePackage{nameref}%
3207   }%
3208 \fi
3209 \Hy@DisableOption{typexml}
3210 \ifHy@implicit
3211   \typeout{Implicit mode ON; LaTeX internals redefined}%
3212 \else
3213   \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3214   \def\MaybeStopEarly{%
3215     \typeout{Hyperref stopped early}%
3216     \AfterBeginDocument{%
3217       \PDF@FinishDoc
3218       \gdef\PDF@FinishDoc{}}%
3219   }%
3220   \endinput
3221 }%
3222 \AtBeginDocument{%
3223   \let\autoref\ref
3224   \let\autopageref\pageref
3225   \ifx\@pdfpagemode\@empty
3226     \gdef\@pdfpagemode{UseNone}%
3227   \fi
3228   \global\Hy@backreffalse
3229 }%
3230 \AtEndOfPackage{%
3231   \global\let\ReadBookmarks\relax
3232   \global\let\WriteBookmarks\relax
3233 }%

```

```

3234 \fi
3235 \Hy@DisableOption{implicit}

```

15.3.1 Driver loading

```

3236 \AtEndOfPackage{%
3237   \@ifpackageloaded{tex4ht}{%
3238     \def\Hy@driver{htex4ht}%
3239     \Hy@texhttrue
3240   }{}%

```

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.

```

3241   \ifx\Hy@driver\@empty
3242   \else
3243     \def\Hy@temp{hpdftex}%
3244     \ifpdf
3245       \ifx\Hy@driver\Hy@temp
3246       \else
3247         \Hy@WarningNoLine{%
3248           Wrong driver ‘\Hy@driver.def’;\MessageBreak
3249           pdfTeX is running in PDF mode.\MessageBreak
3250           Forcing driver ‘\Hy@temp.def’%
3251         }%
3252         \let\Hy@driver\Hy@temp
3253       \fi
3254     \else
3255       \ifx\Hy@driver\Hy@temp
3256       \Hy@WarningNoLine{%
3257         Wrong driver ‘\Hy@driver.def’;\MessageBreak
3258         pdfTeX is not running in PDF mode.\MessageBreak
3259         Using default driver%
3260       }%
3261       \let\Hy@driver\@empty
3262     \fi
3263   \fi
3264 \fi
3265 \ifx\Hy@driver\@empty
3266 \else
3267   \def\Hy@temp{hdvipdfm}%
3268   \ifxetex
3269     \ifx\Hy@driver\Hy@temp
3270     \else
3271       \Hy@WarningNoLine{%
3272         Wrong driver ‘\Hy@driver.def’;\MessageBreak
3273         XeTeX is running.\MessageBreak
3274         Forcing driver ‘\Hy@temp.def’ for XeTeX%
3275       }%
3276       \let\Hy@driver\Hy@temp
3277     \fi
3278   \fi
3279 \fi
3280 \ifx\Hy@driver\@empty
3281 \else
3282   \def\Hy@temp{hvtexhtm}%
3283   \ifvtexhtml
3284     \ifx\Hy@driver\Hy@temp
3285     \else

```

```

3286     \Hy@WarningNoLine{%
3287       Wrong driver '\Hy@driver.def';\MessageBreak
3288       VTeX is running in HTML mode.\MessageBreak
3289       Forcing driver '\Hy@temp.def'%
3290     }%
3291     \let\Hy@driver\Hy@temp
3292   \fi
3293 \else
3294   \ifx\Hy@driver\Hy@temp
3295     \Hy@WarningNoLine{%
3296       Wrong driver '\Hy@driver.def';\MessageBreak
3297       VTeX is not running in HTML mode.\MessageBreak
3298       Using default driver%
3299     }%
3300     \let\Hy@driver\@empty
3301   \fi
3302 \fi
3303 \fi

```

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

```

3304 \ifx\Hy@driver\@empty
3305   \providecommand*{\Hy@defaultdriver}{hypertex}%
3306   \ifpdf
3307     \def\Hy@driver{hpdftex}%
3308   \else
3309     \ifxetex
3310       \def\Hy@driver{hdvipdfm}%
3311     \else
3312       \ifvtexhtml
3313         \def\Hy@driver{hvtexhtm}%
3314         \def\MaybeStopEarly{%
3315           \typeout{Hyperref stopped early}%
3316           \AfterBeginDocument{%
3317             \PDF@FinishDoc
3318             \gdef\PDF@FinishDoc{}%
3319           }%
3320         \endinput
3321       }%
3322     \else
3323       \ifvtexpdf
3324         \def\Hy@driver{hvtex}%
3325       \else
3326         \ifvtexps
3327           \def\Hy@driver{hvtex}%
3328         \else
3329           \let\Hy@driver\Hy@defaultdriver
3330         \fi
3331       \fi
3332     \fi
3333   \fi
3334 \fi
3335 \ifx\Hy@driver\Hy@defaultdriver
3336   \def\Hy@temp{hdviwind}%
3337   \ifx\Hy@temp\Hy@driver
3338     \setkeys{Hyp}{colorlinks}%
3339     \PassOptionsToPackage{dviwindo}{color}%
3340   \fi
3341 \fi

```

```

3342 \typeout{*hyperref using default driver \Hy@driver*}%
3343 \else
3344 \typeout{*hyperref using driver \Hy@driver*}%
3345 \fi
3346 \input{\Hy@driver.def}%
3347 \let\@unprocessedoptions\relax
3348 \Hy@RestoreCatcodes
3349 }

```

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

```

3350 \newif\ifHy@DvipdfmxOutlineOpen
3351 \ifxetex
3352 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
3353 \else
3354 \Hy@DvipdfmxOutlineOpentrue
3355 \fi
3356 \fi
3357 \begingroup\expandafter\expandafter\expandafter\endgroup
3358 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3359 \else
3360 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3361 \Hy@DvipdfmxOutlineOpentrue
3362 \fi
3363 \fi
3364 \Hy@DisableOption{tex4ht}
3365 \Hy@DisableOption{pdftex}
3366 \Hy@DisableOption{nativepdf}
3367 \Hy@DisableOption{dvipdfm}
3368 \Hy@DisableOption{dvipdfmx}
3369 \Hy@DisableOption{dvipdfmx-outline-open}
3370 \Hy@DisableOption{pdfmark}
3371 \Hy@DisableOption{dvips}
3372 \Hy@DisableOption{hypertex}
3373 \Hy@DisableOption{vtex}
3374 \Hy@DisableOption{vtexpdfmark}
3375 \Hy@DisableOption{dviwindo}
3376 \Hy@DisableOption{dvipsone}
3377 \Hy@DisableOption{textures}
3378 \Hy@DisableOption{latex2html}
3379 \Hy@DisableOption{ps2pdf}
3380 \Hy@DisableOption{xetex}
3381 \AtEndOfPackage{%
3382 \Hy@DisableOption{pdfversion}%
3383 }

```

15.3.2 Bookmarks

```

3384 \def\WriteBookmarks{0}
3385 \def\@bookmarkopenstatus#1{%
3386 \ifHy@bookmarksopen

```

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

```

3387 \ifnum#1<\expandafter\@firstofone\expandafter
3388 \{number\@bookmarkopenlevel\} % explicit space
3389 \else
3390 -%

```

```

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

Add wrapper for setting standard catcodes (babel's shorthands).
3413 \def\Hy@CatcodeWrapper#1{%
3414 \def\Hy@endWrap{%
3415 \def\TMP@EnsureCode##1##2{%
3416 \edef\Hy@endWrap{%
3417 \Hy@endWrap
3418 \catcode##1 \the\catcode##1\relax
3419 }%
3420 \catcode##1 ##2\relax
3421 }%
3422 \TMP@EnsureCode{10}{12}% ^^J
3423 \TMP@EnsureCode{33}{12}% !
3424 \TMP@EnsureCode{34}{12}% "
3425 \TMP@EnsureCode{36}{3}% $ (math)
3426 \TMP@EnsureCode{38}{4}% & (alignment)
3427 \TMP@EnsureCode{39}{12}% '
3428 \TMP@EnsureCode{40}{12}% (
3429 \TMP@EnsureCode{41}{12}% )
3430 \TMP@EnsureCode{42}{12}% *
3431 \TMP@EnsureCode{43}{12}% +
3432 \TMP@EnsureCode{44}{12}% ,
3433 \TMP@EnsureCode{45}{12}% -
3434 \TMP@EnsureCode{46}{12}% .
3435 \TMP@EnsureCode{47}{12}% /
3436 \TMP@EnsureCode{58}{12}% :
3437 \TMP@EnsureCode{59}{12}% ;
3438 \TMP@EnsureCode{60}{12}% <
3439 \TMP@EnsureCode{61}{12}% =
3440 \TMP@EnsureCode{62}{12}% >
3441 \TMP@EnsureCode{63}{12}% ?
3442 \TMP@EnsureCode{91}{12}% [
3443 \TMP@EnsureCode{93}{12}% ]
3444 \TMP@EnsureCode{94}{7}% ^ (superscript)
3445 \TMP@EnsureCode{95}{8}% _ (subscript)
3446 \TMP@EnsureCode{96}{12}% '

```



```

3447 \TMP@EnsureCode{124}{12}% |
3448 \TMP@EnsureCode{126}{13}% ~ (active)
3449 #1\relax
3450 \Hy@endWrap
3451 }

```

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

```

3452 \AtBeginDocument{%
3453   \ifHy@ocgcolorlinks
3454     \setkeys{Hyp}{colorlinks}%
3455     \ifHy@pdfa
3456       \Hy@Warning{%
3457         PDF/A: Optional Content Groups are prohibited,\MessageBreak
3458         using 'colorlinks' instead of 'ocgcolorlinks'%
3459       }%
3460     \Hy@ocgcolorlinksfalse
3461   \fi
3462 \fi
3463 \ifHy@ocgcolorlinks
3464 \else
3465   \Hy@DisableOption{ocgcolorlinks}%
3466 \fi
3467 \ifHy@colorlinks
3468   \def\@pdfborder{0 0 0}%
3469   \let\@pdfborderstyle\@empty
3470   \ifHy@typexml
3471   \else
3472     \Hy@CatcodeWrapper{%
3473       \RequirePackage{color}%
3474     }%
3475   \fi
3476   \def\Hy@colorlink#1{%
3477     \begingroup
3478     \HyColor@UseColor#1%
3479   }%
3480   \def\Hy@endcolorlink{\endgroup}%
3481   \Hy@Info{Link coloring ON}%
3482 \else
3483   \ifHy@frenchlinks
3484     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3485     \def\Hy@endcolorlink{\endgroup}%
3486     \Hy@Info{French linking ON}%
3487   \else

```

for grouping consistency:

```

3488     \def\Hy@colorlink#1{\begingroup}%
3489     \def\Hy@endcolorlink{\endgroup}%
3490     \Hy@Info{Link coloring OFF}%
3491   \fi
3492 \fi
3493 \Hy@DisableOption{colorlinks}%
3494 \Hy@DisableOption{frenchlinks}%
3495 \ifHy@texht
3496   \long\def\@firstoffive#1#2#3#4#5{#1}%
3497   \long\def\@secondoffive#1#2#3#4#5{#2}%
3498   \long\def\@thirdoffive#1#2#3#4#5{#3}%
3499   \long\def\@fourthoffive#1#2#3#4#5{#4}%
3500   \long\def\@fifthoffive#1#2#3#4#5{#5}%

```

```

3501 \providecommand*\@safe@activetrue{%
3502 \providecommand*\@safe@activesfalse{%
3503 \def\T@ref#1{%
3504 \Hy@safe@activetrue
3505 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3506 \Hy@safe@activesfalse
3507 }%
3508 \def\T@pageref#1{%
3509 \Hy@safe@activetrue
3510 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3511 \Hy@safe@activesfalse
3512 }%
3513 \else
3514 \ifHy@typexml
3515 \else
3516 \Hy@CatcodeWrapper{%
3517 \RequirePackage{nameref}%
3518 }%
3519 \fi
3520 \fi
3521 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3522 \DeclareRobustCommand\pageref{%
3523 \@ifstar\@pagerefstar\T@pageref
3524 }%
3525 }
3526 \AfterBeginDocument{%
3527 \ifHy@texht
3528 \else
3529 \Hy@CatcodeWrapper{%
3530 \ReadBookmarks
3531 }%
3532 \fi
3533 }
3534 \ifHy@backref
3535 \RequirePackage{backref}%
3536 \else
3537 \let\Hy@backout\@gobble
3538 \fi
3539 \Hy@DisableOption{backref}
3540 \Hy@DisableOption{pagebackref}
3541 \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.

```

3542 \begingroup
3543 \endlinechar=-1 %
3544 \catcode'\^^A=14 %
3545 \catcode'\^^M\active
3546 \catcode'\%\active
3547 \catcode'\#\active

```

```

3548 \catcode'\_ \active
3549 \catcode'\$ \active
3550 \catcode'\& \active
3551 \gdef\hyper@normalise{^^A
3552   \begingroup
3553   \catcode'\^^M \active
3554   \def^^M{ }^^A
3555   \catcode'\% \active
3556   \let%\@percentchar
3557   \let\%\@percentchar
3558   \catcode'\# \active
3559   \def#{\hyper@hash}^^A
3560   \def\#{\hyper@hash}^^A
3561   \@makeother\&^^A
3562   \edef&{\string&}^^A
3563   \edef&{\string&}^^A
3564   \edef\textunderscore{\string_}^^A
3565   \let\_ \textunderscore
3566   \catcode'\_ \active
3567   \let\_ \textunderscore
3568   \let~\hyper@tilde
3569   \let~\hyper@tilde
3570   \let\textasciitilde\hyper@tilde
3571   \let\\\@backslashchar
3572   \edef$\string$}^^A
3573   \Hy@safe@activestrue
3574   \hyper@n@rmalise
3575 }^^A
3576 \catcode'\#=6 ^^A
3577 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3578 \gdef\hyper@n@rmalise#1#2{^^A
3579   \def\Hy@tempa{#2}^^A
3580   \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3581     \Hy@ReturnAfterElseFi{^^A
3582       \hyper@@normalise{#1}^^A
3583     }^^A
3584   \else
3585     \Hy@ReturnAfterFi{^^A
3586       \hyper@@normalise{#1}{#2}^^A
3587     }^^A
3588   \fi
3589 }^^A
3590 \gdef\hyper@@normalise#1#2{^^A
3591   \edef\Hy@tempa{^^A
3592     \endgroup
3593     \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
3594   }^^A
3595   \Hy@tempa
3596 }^^A
3597 \gdef\Hy@RemovePercentCr#1%\^^M#2\@nil{^^A
3598   #1^^A
3599   \ifx\limits#2\limits
3600   \else
3601     \Hy@ReturnAfterFi{^^A
3602       \Hy@RemovePercentCr #2\@nil
3603     }^^A
3604   \fi

```

```

3605 }^^A
3606 \endgroup
3607 \providecommand*\hyper@chars{%
3608   \let\#\hyper@hash
3609   \let%\@percentchar
3610   \Hy@safe@activetrue
3611 }

3612 \def\hyperlink#1#2{%
3613   \hyper@@link{#1}{#2}%
3614 }

3615 \DeclareRobustCommand*\href{%
3616   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3617 }
3618 \def\Hy@href#1{%
3619   \hyper@normalise\href@
3620 }
3621 \begingroup
3622   \catcode'\$=6 %
3623   \catcode'\#=12 %
3624   \gdef\href@#1{\expandafter\href@split$1##\}%
3625   \gdef\href@split$1#$2#$3\{%
3626     \hyper@@link{#1}{#2}%
3627   }%
3628 \endgroup

```

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

```

3629 \RequirePackage{url}
3630 \let\HyOrg@url\url
3631 \def\Hurl{\begingroup \Url}
3632 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
3633 \def\nolinkurl@#1{\Hurl{#1}}
3634 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3635 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

3636 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3637 \providecommand\hyper@image[2]{#2}

3638 \def\hypertarget#1#2{%
3639   \ifHy@nesting
3640     \hyper@@anchor{#1}{#2}%
3641   \else
3642     \hyper@@anchor{#1}{\relax}#2%
3643   \fi
3644 }

```

`\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.

```

3645 \DeclareRobustCommand*\hyperref{%
3646   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3647 }
3648 \def\Hy@babelnormalise#1[#2]{%
3649   \begingroup
3650     \Hy@safe@activetrue
3651     \edef\Hy@tempa{%

```

```

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

```

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

```

3678 \def\label@hyperref[#1]{%
3679   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
3680 }%
3681 \def\label@@hyperref#1#2#3{%
3682   \ifx#1\relax
3683     \protect\G@refundefinedtrue
3684     \latex@warning{%
3685       Hyper reference ‘#2’ on page \thepage \space undefined%
3686     }%
3687     \hyper@@link{}{??}{#3}%
3688   \else
3689     \hyper@@link{\expandafter\@fifthoffive#1}%
3690     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3691   \fi
3692 }
3693 \def\label@hyperdef[#1]#2#3#4{ label name, category, name,
3694                               % anchor text
3695   \@bsphack
3696   \ifx\#2\%
3697     \def\Hy@AnchorName{#3}%
3698   \else
3699     \def\Hy@AnchorName{#2.#3}%
3700   \fi
3701   \if@filesw
3702     \protected@write\@auxout{}{%
3703       \string\newlabel{#1}{\{ }\}{\{ }\}{\Hy@AnchorName}{\} }%
3704     }%
3705   \fi

```

```

3706 \@esphack
3707 \ifHy@nesting
3708   \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
3709 \else
3710   \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
3711 \fi
3712 }

```

17 Underlying basic hypertext macros

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

```

3713 \def\hyper@link{\let\Hy@reserved@a\relax
3714   \ifnextchar[{\hyper@link@{\hyper@link@[link]}}%
3715 }
3716 \def\hyper@link@[#1]#2#3#4{%
3717   \begingroup
3718     \protected@edef\Hy@tempa{#2}%
3719     \Hy@safe@activestrue
3720     \edef\x{#3}%
3721     \ifx\Hy@tempa\@empty
3722       \toks0{\hyper@link{#1}}%
3723     \else
3724       \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3725     \fi
3726     \toks2{%
3727       \Hy@safe@activesfalse
3728       #4%
3729     }%
3730     \edef\Hy@tempa{\the\toks2}%
3731     \edef\x{\endgroup
3732       \ifx\Hy@tempa\@empty
3733         \noexpand\Hy@Warning{Suppressing empty link}%
3734       \else
3735         \the\toks0 {\x}{\the\toks2}}%
3736     \fi
3737   }%
3738   \x
3739 }

```

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.

```

3740 \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.

```
3741 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1:.\{#1}%
3742 }
```

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

```
3743 \def\@pdftempwordfile{file}%
3744 \def\@pdftempwordrun{run}%
3745 \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:

```
3746 \ifx\\#6\\%
3747 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3748 \else
3749 \ifx\\#4\\%
3750 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3751 \else
```

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

```
3752 \def\@pdftempa{#4}%
3753 \ifx\@pdftempa\@pdftempwordfile
3754 \expandafter\@hyper@linkfile#7\\{#3}{#2}%
3755 \else
```

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

```
3756 \ifx\@pdftempa\@pdftempwordrun
3757 \ifHy@pdfa
3758 \PackageError{hyperref}{%
3759 PDF/A: Launch action is prohibited%
3760 }\@ehc
3761 \begingroup
3762 \leavevmode
3763 #2%
3764 \endgroup
3765 \else
3766 \expandafter\@hyper@launch#7\\{#3}{#2}%
3767 \fi
3768 \else
```

otherwise its a URL

```
3769 \hyper@linkurl{#3}{#7\ifx\\#2\\%else\hyper@hash#2\fi}%
3770 \fi
3771 \fi
3772 \fi
3773 \fi
3774 }
```

By default, turn run: into file:

```
3775 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
3776 \hyper@linkurl{#2}{%
3777 \Hy@linkfileprefix
3778 #1%
3779 \ifx\\#3\\%
3780 \else
```

```

3781     \hyper@hash
3782     #3%
3783     \fi
3784 }%
3785 }

```

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

```

3786 \def\@hyper@linkfile file:#1\|#2#3{%
3787     %file url,link string, name
3788     \filename@parse{#1}%
3789     \ifx\filename@ext\relax
3790         \edef\filename@ext{\XR@ext}%
3791     \fi
3792     \def\use@file{\filename@area\filename@base.\filename@ext}%
3793     \ifx\filename@ext\XR@ext
3794         \hyper@linkfile{#2}{\use@file}{#3}%
3795     \else
3796         \ifx\@baseurl\@empty
3797             \hyper@linkurl{#2}{%
3798                 \Hy@linkfileprefix\use@file\ifx\|#3\\\else\hyper@hash#3\fi
3799             }%
3800         \else
3801             \hyper@linkurl{#2}{\use@file\ifx\|#3\\\else\hyper@hash#3\fi}%
3802         \fi
3803     \fi
3804 }

```

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.

```

3805 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3806 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3807     \ifx\|#1\|
3808         #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3809     \else
3810         \def\anchor@spot{#2#3}%
3811         \let\put@me@back\@empty
3812         \ifx\relax#2\relax
3813             \else
3814                 \ifHy@nesting
3815                     \else
3816                         \ifcat a\noexpand#2\relax
3817                             \else
3818                                 \ifcat O\noexpand#2 \relax
3819                                     \else
3820 %
3821 %
3822 %
3823 %
3824 %
3825 %
3826 %
3827 %

```



```

3828 \fi
3829 \ifHy@activeanchor
3830 \anchor@spot
3831 \else
3832 \hyper@anchor{#1}%
3833 \fi
3834 \expandafter\put@me@back
3835 \fi
3836 \let\anchor@spot\@empty
3837 }

```

18 Compatibility with the *L^AT_EX2html* package

Map our macro names on to Nikos', so that documents prepared for that system will work without change.

Note, however, that the whole complicated structure for segmenting documents is not supported; it is assumed that the user will load `html.sty` first, and then `hyperref.sty`, so that the definitions in `html.sty` take effect, and are then overridden in a few circumstances by this package.

```

3838 \let\htmladding\hyperimage
3839 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3840 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3841 \def\htmlref#1#2{% anchor text, label
3842 \label@hyperref[{#2}]{#1}%
3843 }

```

This is really too much. The *L^AT_EX2html* package defines its own `\hyperref` command, with a different syntax. Was this always here? Its weird, anyway. We interpret it in the 'printed' way, since we are about fidelity to the page.

```

3844 \def\@latextohtmlX{%
3845 \let\hhyperref\hyperref
3846 \def\hyperref##1##2##3##4{% anchor text for HTML
3847 % text to print before label in print
3848 % label
3849 % post-label text in print
3850 ##2\ref{##4}##3%
3851 }%
3852 }

```

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.

```

3853 \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

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

`\HyField@NewFlagOnly`

```
3858 \def\HyField@NewFlagOnly#1#2{%
3859   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3860 }
```

`\HyField@NewOption` #1: option name

```
3861 \def\HyField@NewOption#1{%
3862   \expandafter\newif\csname ifFld@#1\endcsname
3863   \define@key{Field}{#1}[true]{%
3864     \lowercase{\Field@boolkey{##1}}{#1}%
3865   }%
3866 }
```

`\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

```
3867 \def\HyField@NewBitsetFlag#1#2#3#4{%
3868   \beginngroup
3869     \count@=#4\relax
3870     \advance\count@\m@ne
3871     \def\x##1{%
3872       \endgroup
3873       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
3874       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
3875         \expandafter\edef\csname HyField@#3@#1\endcsname{%
3876           (\number#4) #2%
3877         }%
3878       \else
3879         \expandafter\edef\csname HyField@#3@#1\endcsname{%
3880           \csname HyField@#3@#1\endcsname
3881           /#2%
3882         }%
3883       \fi
3884     }%
3885     \expandafter\x\expandafter{\the\count@}%
3886 }
```

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

```
3887 \def\HyField@UseFlag#1#2{%
3888   \lowercase{\HyField@UseFlag{#2}}{#1}%
3889 }
```

\HyField@@UseFlag

```
3890 \def\HyField@@UseFlag#1#2{%
3891   \bitsetSetValue{HyField@#2}{%
3892     \csname HyField@#2@#1\endcsname
3893   }{%
3894     \csname ifFld@#1\endcsname 1\else 0\fi
3895   }%
3896 }
```

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

```
3897 \def\HyField@SetFlag#1#2{%
3898   \lowercase{\HyField@@SetFlag{#2}}{#1}%
3899 }
```

\HyField@@SetFlag

```
3900 \def\HyField@@SetFlag#1#2{%
3901   \bitsetSetValue{HyField@#2}{%
3902     \csname HyField@#2@#1\endcsname
3903   }{1}%
3904 }
```

\HyField@PrintFlags

```
3905 \def\HyField@PrintFlags#1#2{%
3906   \ifHy@verbose
3907     \begingroup
3908       \let\Hy@temp\@empty
3909       \let\MessageBreak\relax
3910       \expandafter\@for\expandafter\x\expandafter:\expandafter=%
3911       \bitsetGetSetBitList{HyField@#1}\do{%
3912         \edef\Hy@temp{%
3913           \Hy@temp
3914           \csname HyField@#1@\x\endcsname\MessageBreak
3915         }%
3916       }%
3917     \edef\x{\endgroup
3918       \noexpand\Hy@Info{%
3919         Field flags: %
3920         \expandafter\ifx\@car#1\@nil S\else/\fi
3921         #1 %
3922         \bitsetGetDec{HyField@#1} %
3923         (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
3924         \Hy@temp
3925         for #2%
3926       }%
3927     }\x
3928   \fi
3929 }
```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```
3930 \HyField@NewFlag{Ff}{ReadOnly}{1}
3931 \HyField@NewFlag{Ff}{Required}{2}
3932 \HyField@NewFlag{Ff}{NoExport}{3}
```

“Table 8.75 Field flags specific to button fields”

```
3933 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
3934 \HyField@NewFlag{Ff}{Radio}{16}
3935 \HyField@NewFlag{Ff}{Pushbutton}{17}
3936 \HyField@NewFlag{Ff}{RadiosInUnison}{26}
```

“Table 8.77 Field flags specific to text fields”

```
3937 \HyField@NewFlag{Ff}{Multiline}{13}
3938 \HyField@NewFlag{Ff}{Password}{14}
3939 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
3940 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3941 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
3942 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
3943 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5
```

“Table 8.79 field flags specific to choice fields”

```
3944 \HyField@NewFlag{Ff}{Combo}{18}
3945 \HyField@NewFlag{Ff}{Edit}{19}
3946 \HyField@NewFlag{Ff}{Sort}{20}
3947 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
3948 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3949 \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.

```
3950 \newif\ifFld@popdown
3951 \define@key{Field}{popdown}[true]{%
3952 \lowercase{\Field@boolkey{#1}}{popdown}%
3953 }
```

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.

```
3954 \HyField@NewFlag{F}{Invisible}{1}
3955 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
3956 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
3957 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
3958 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
3959 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
3960 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
3961 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
3962 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

3963 \ifHy@pdfa
3964 \def\HyField@PDFAFldWarning#1#2{%
3965 \Hy@Warning{%
3966 PDF/A: Annotation flag ‘#1’ must\MessageBreak
3967 be set to ‘#2’%
3968 }%
3969 }%
3970 \Fld@invisiblefalse
3971 \def\Fld@invisibletrue{%
3972 \HyField@PDFAFldWarning{invisible}{false}%
3973 }%
3974 \Fld@hiddenfalse
3975 \def\Fld@hiddentrue{%
```

```

3976 \HyField@PDFAFIWarning{hidden}{false}%
3977 }%
3978 \Fld@printtrue
3979 \def\Fld@printfalse{%
3980 \HyField@PDFAFIWarning{print}{true}%
3981 }%
3982 \Fld@nozoomtrue
3983 \def\Fld@nozoomfalse{%
3984 \HyField@PDFAFIWarning{nozoom}{true}%
3985 }%
3986 \Fld@norotatetrue
3987 \def\Fld@norotatefalse{%
3988 \HyField@PDFAFIWarning{norotate}{true}%
3989 }%
3990 \Fld@noviewfalse
3991 \def\Fld@noviewtrue{%
3992 \HyField@PDFAFIWarning{noview}{false}%
3993 }%
3994 \fi

```

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

```

3995 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
3996 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
3997 \HyField@NewFlag{Submit}{GetMethod}{4}
3998 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
3999 \HyField@NewFlagOnly{Submit}{XFDF}{6}
4000 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
4001 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
4002 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
4003 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
4004 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
4005 \HyField@NewFlag{Submit}{ExclFKey}{12}
4006 \HyField@NewFlag{Submit}{EmbedForm}{14}

4007 \define@key{Field}{export}{%
4008 \lowercase{\def\Hy@temp{#1}}%
4009 \@ifundefined{Fld@export@Hy@temp}{%
4010 \onelevel@sanitize\Hy@temp
4011 \PackageError{hyperref}{%
4012 \Known export format '\Hy@temp'.\MessageBreak
4013 \Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
4014 }{\@ehc
4015 }{%
4016 \let\Fld@export\Hy@temp
4017 }%
4018 }
4019 \def\Fld@export{fdf}
4020 \@namedef{Fld@export@fdf}{0}%
4021 \@namedef{Fld@export@html}{1}%
4022 \@namedef{Fld@export@xfdf}{2}%
4023 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

4024 \def\HyField@FlagsSubmit{%
4025 \bitsetReset{HyField@Submit}%
4026 \ifcase\@nameuse{Fld@export@Fld@export} %

```

```

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

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

4058 \def\HyField@FlagsAnnot#1{%
4059 \bitsetReset{HyField@F}%
4060 \HyField@UseFlag{F}{Invisible}%
4061 \HyField@UseFlag{F}{Hidden}%
4062 \HyField@UseFlag{F}{Print}%
4063 \HyField@UseFlag{F}{NoZoom}%
4064 \HyField@UseFlag{F}{NoRotate}%
4065 \HyField@UseFlag{F}{NoView}%
4066 \HyField@UseFlag{F}{Locked}%
4067 \HyField@UseFlag{F}{ToggleNoView}%
4068 \HyField@UseFlag{F}{LockedContents}%
4069 \HyField@PrintFlags{F}{#1}%
4070 \bitsetIsEmpty{HyField@F}{%
4071 \def\Fld@annotflags{%
4072 }{%
4073 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
4074 }%
4075 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```
4076 \def\HyField@FlagsPushButton{%
4077   \HyField@FlagsAnnot{push button field}%
4078   \bitsetReset{HyField@Ff}%
4079   \HyField@UseFlag{Ff}{ReadOnly}%
4080   \HyField@UseFlag{Ff}{Required}%
4081   \HyField@UseFlag{Ff}{NoExport}%
4082   \HyField@SetFlag{Ff}{Pushbutton}%
4083   \HyField@PrintFlags{Ff}{push button field}%
4084   \bitsetIsEmpty{HyField@Ff}{%
4085     \def\Fld@flags{%
4086     }{%
4087     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4088     }%
4089 }
```

19.1.5 Check box field

\HyField@FlagsCheckBox

```
4090 \def\HyField@FlagsCheckBox{%
4091   \HyField@FlagsAnnot{check box field}%
4092   \bitsetReset{HyField@Ff}%
4093   \HyField@UseFlag{Ff}{ReadOnly}%
4094   \HyField@UseFlag{Ff}{Required}%
4095   \HyField@UseFlag{Ff}{NoExport}%
4096   \HyField@PrintFlags{Ff}{check box field}%
4097   \bitsetIsEmpty{HyField@Ff}{%
4098     \def\Fld@flags{%
4099     }{%
4100     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4101     }%
4102 }
```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```
4103 \def\HyField@FlagsRadioButton{%
4104   \HyField@FlagsAnnot{radio button field}%
4105   \bitsetReset{HyField@Ff}%
4106   \HyField@UseFlag{Ff}{ReadOnly}%
4107   \HyField@UseFlag{Ff}{Required}%
4108   \HyField@UseFlag{Ff}{NoExport}%
4109   \HyField@UseFlag{Ff}{NoToggleToOff}%
4110   \HyField@SetFlag{Ff}{Radio}%
4111   \HyField@UseFlag{Ff}{RadiosInUnison}%
4112   \HyField@PrintFlags{Ff}{radio button field}%
4113   \bitsetIsEmpty{HyField@Ff}{%
4114     \def\Fld@flags{%
4115     }{%
4116     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4117     }%
4118 }
```

19.1.7 Text fields

\HyField@FlagsText

```
4119 \def\HyField@FlagsText{%
4120   \HyField@FlagsAnnot{text field}%
4121   \bitsetReset{HyField@Ff}%
4122   \HyField@UseFlag{Ff}{ReadOnly}%
4123   \HyField@UseFlag{Ff}{Required}%
4124   \HyField@UseFlag{Ff}{NoExport}%
4125   \HyField@UseFlag{Ff}{Multiline}%
4126   \HyField@UseFlag{Ff}{Password}%
4127   \HyField@UseFlag{Ff}{FileSelect}%
4128   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4129   \HyField@UseFlag{Ff}{DoNotScroll}%
4130   \ifFld@comb
4131     \ifcase0\ifFld@multiline
4132       \else\ifFld@password
4133       \else\ifFld@fileselect
4134       \else 1\fi\fi\fi\relax
4135     \PackageError{hyperref}{%
4136       Field option ‘comb’ cannot used together with\MessageBreak
4137       ‘multiline’, ‘password’, or ‘fileselect’%
4138     }\@ehc
4139   \else
4140     \HyField@UseFlag{Ff}{Comb}%
4141   \fi
4142 \fi
4143 \HyField@UseFlag{Ff}{RichText}%
4144 \HyField@PrintFlags{Ff}{text field}%
4145 \bitsetIsEmpty{HyField@Ff}{%
4146   \def\Fld@flags{%
4147   }{%
4148   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4149   }%
4150 }
```

19.1.8 Choice fields

\HyField@FlagsChoice

```
4151 \def\HyField@FlagsChoice{%
4152   \HyField@FlagsAnnot{choice field}%
4153   \bitsetReset{HyField@Ff}%
4154   \HyField@UseFlag{Ff}{ReadOnly}%
4155   \HyField@UseFlag{Ff}{Required}%
4156   \HyField@UseFlag{Ff}{NoExport}%
4157   \HyField@UseFlag{Ff}{Combo}%
4158   \ifFld@combo
4159     \HyField@UseFlag{Ff}{Edit}%
4160   \fi
4161   \HyField@UseFlag{Ff}{Sort}%
4162   \HyField@UseFlag{Ff}{MultiSelect}%
4163   \ifFld@combo
4164     \ifFld@edit
4165       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4166     \fi
4167   \fi
4168   \HyField@UseFlag{Ff}{CommitOnSelChange}%

```



```

4169 \HyField@PrintFlags{Ff}{choice field}%
4170 \bitsetIsEmpty{HyField@Ff}{%
4171   \def\Fld@flags{}%
4172 }{%
4173   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4174 }%
4175 }

```

19.2 Choice field

```

4176 \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`.

```

4177 \def\HyField@PDFChoices#1{%
4178   \begingroup
4179   \gdef\Fld@choices{}%
4180   \def\HyTmp@optlist{}%
4181   \let\HyTmp@optitem\relax
4182   \count@=0 %
4183   \kv@parse{#1}{%
4184     \Hy@pdfstringdef\kv@key\kv@key
4185     \ifx\kv@value\relax
4186       \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4187         \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4188       \else
4189         \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4190       \fi
4191     \else
4192       \Hy@pdfstringdef\kv@value\kv@value
4193       \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
4194     \fi
4195     \edef\HyTmp@optlist{%
4196       \HyTmp@optlist
4197       \HyTmp@optitem{the\count@}{\kv@key}0%
4198     }%
4199     \advance\count@ by 1 %
4200     \@gobbletwo
4201   }%
4202   \xdef\Fld@choices{/Opt[\Fld@choices]}%
4203   \ifFld@multiselect
4204     \HyField@@PDFChoices{DV}\Fld@default
4205     \HyField@@PDFChoices{V}\Fld@value
4206   \else
4207     \ifx\Fld@default\relax
4208     \else
4209       \pdfstringdef\Hy@gtemp\Fld@default
4210       \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4211     \fi
4212     \ifx\Fld@value\relax
4213     \else
4214       \pdfstringdef\Hy@gtemp\Fld@value
4215       \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4216     \fi
4217   \fi
4218   \endgroup

```

4219 }

\HyField@@PDFChoices

```
4220 \def\HyField@@PDFChoices#1#2{%
4221   \ifx#2\relax
4222   \else
4223     \count@=0 %
4224     \def\HyTmp@optitem##1##2##3{%
4225       \def\HyTmp@key{##2}%
4226       \ifx\HyTmp@key\Hy@gtemp
4227         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4228           \HyTmp@optlist
4229           \HyTmp@optitem{##1}{##2}1%
4230         }%
4231         \let\HyTmp@found=Y%
4232       \else
4233         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4234           \HyTmp@optlist
4235           \HyTmp@optitem{##1}{##2}##3%
4236         }%
4237       \fi
4238     }%
4239     \expandafter\comma@parse\expandafter{#2}{%
4240       \pdfstringdef\Hy@gtemp\comma@entry
4241       \let\HyTmp@found=N %
4242       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4243       \HyTmp@optlist
4244       \ifx\HyTmp@found Y%
4245         \advance\count@ by 1 %
4246       \else
4247         \@onelevel@sanitize\comma@entry
4248         \PackageWarning{hyperref}{%
4249           \string\ChoiceBox: Ignoring value ‘\comma@entry’,%
4250           \MessageBreak
4251           it cannot be found in the choices%
4252         }%
4253       \fi
4254       \@gobble
4255     }%
4256     \def\HyTmp@optitem##1##2##3{%
4257       \ifnum##3=1 %
4258         (##2)%
4259       \fi
4260     }%
4261     \ifcase\count@
4262     \or
4263       \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4264     \else
4265       \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4266       \ifx#1V%
4267         \def\HyTmp@optitem##1##2##3{%
4268           \ifnum##3=1 %
4269             \@firstofone{ ##1}%
4270           \fi
4271         }%
4272       \edef\HyTmp@optlist{\HyTmp@optlist}%
4273       \xdef\Fld@choices{%
```

```

4274         \Fld@choices
4275         /I[\expandafter\@firstofone\HyTmp@optlist]%
4276     }%
4277     \fi
4278     \fi
4279     \fi
4280 }

```

19.3 Forms

\HyField@SetKeys

```

4281 \def\HyField@SetKeys{%
4282   \setkeys{Field}%
4283 }

4284 \newif\ifFld@checked
4285 \newif\ifFld@disabled
4286 \Fld@checkedfalse
4287 \Fld@disabledfalse
4288 \newcount\Fld@menulength
4289 \newdimen\Fld@Width
4290 \newdimen\Fld@charsize
4291 \Fld@charsize=10\p@
4292 \def\Fld@maxlen{0}
4293 \def\Fld@align{0}
4294 \def\Fld@color{0 0 0 rg}
4295 \def\Fld@bcolor{1 1 1}
4296 \def\Fld@bordercolor{1 0 0}
4297 \def\Fld@bordersep{1\p@}
4298 \def\Fld@borderwidth{1}
4299 \def\Fld@borderstyle{S}
4300 \def\Fld@cbsymbol{4}
4301 \def\Fld@radiosymbol{H}
4302 \def\Fld@rotation{0}
4303 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4304 \def\endForm{\@endForm}
4305 \newif\ifForm@html
4306 \Form@htmlfalse
4307 \def\Form@boolkey#1#2{%
4308   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4309 }
4310 \define@key{Form}{action}{%
4311   \hyper@normalise\Hy@DefFormAction{#1}%
4312 }
4313 \def\Hy@DefFormAction{\def\Form@action}
4314 \def\enc@html{html}
4315 \define@key{Form}{encoding}{%
4316   \def\Hy@tempa{#1}%
4317   \ifx\Hy@tempa\enc@html
4318     \Form@htmltrue
4319     \def\Fld@export{html}%
4320   \else
4321     \typeout{hyperref: form 'encoding' key set to #1 %
4322     -- unknown type%
4323   }%
4324   \Form@htmlfalse
4325   \fi

```

```

4326 }
4327 \define@key{Form}{method}{%
4328   \lowercase{\def\Hy@temp{#1}}%
4329   \@ifundefined{Form@method@\Hy@temp}{%
4330     \@onelevel@sanitize\Hy@temp
4331     \PackageError{hyperref}{%
4332       Unknown method '\Hy@temp'.\MessageBreak
4333       Known values are 'post' and 'get'%
4334     }\@ehc
4335   }{%
4336     \let\Form@method\Hy@temp
4337     \ifcase\@nameuse{Form@method@\Hy@temp} %
4338       \Fld@getmethodfalse
4339     \else
4340       \Fld@getmethodtrue
4341     \fi
4342   }%
4343 }
4344 \def\Form@method{}
4345 \@namedef{Form@method@post}{0}
4346 \@namedef{Form@method@get}{1}
4347 \def\Fld@boolkey#1#2{%
4348   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4349 }
4350 \newtoks\Fld@toks
4351 \Fld@toks={ }%
4352 \def\Fld@addtoks#1#2{%
4353   \edef\@processme{\Fld@toks{\the\Fld@toks\space #1="#2"}}%
4354   \@processme
4355 }
4356 \def\Fld@checkequals#1=#2=#3\\{%
4357   \def\@currDisplay{#1}%
4358   \ifx\#2\\%
4359     \def\@currValue{#1}%
4360   \else
4361     \def\@currValue{#2}%
4362   \fi
4363 }
4364 \define@key{Field}{loc}{%
4365   \def\Fld@loc{#1}%
4366 }
4367 \define@key{Field}{checked}[true]{%
4368   \lowercase{\Fld@boolkey{#1}}{checked}%
4369 }
4370 \define@key{Field}{disabled}[true]{%
4371   \lowercase{\Fld@boolkey{#1}}{disabled}%
4372 }
4373 \define@key{Field}{accesskey}{%
4374   \Fld@addtoks{accesskey}{#1}%
4375 }
4376 \define@key{Field}{tabkey}{%
4377   \Fld@addtoks{tabkey}{#1}%
4378 }
4379 \define@key{Field}{name}{%
4380   \def\Fld@name{#1}%
4381 }
4382 \define@key{Field}{width}{%

```

```

4383 \def\Fld@width{#1}%
4384 \Fld@Width#1\setbox0=\hbox{m}%
4385 }
4386 \define@key{Field}{maxlen}{%
4387 \def\Fld@maxlen{#1}%
4388 }
4389 \define@key{Field}{menulength}{%
4390 \Fld@menulength=#1\relax
4391 }
4392 \define@key{Field}{height}{%
4393 \def\Fld@height{#1}%
4394 }
4395 \define@key{Field}{charsize}{%
4396 \Fld@charsize#1%
4397 }
4398 \define@key{Field}{borderwidth}{%
4399 \def\Fld@borderwidth{#1}%
4400 }
4401 \define@key{Field}{borderstyle}{%
4402 \def\Fld@borderstyle{#1}%
4403 }
4404 \define@key{Field}{bordersep}{%
4405 \def\Fld@bordersep{#1}%
4406 }
4407 \define@key{Field}{default}{%
4408 \def\Fld@default{#1}%
4409 }
4410 \define@key{Field}{align}{%
4411 \def\Fld@align{#1}%
4412 }
4413 \define@key{Field}{value}{%
4414 \def\Fld@value{#1}%
4415 }
4416 \define@key{Field}{checkboxsymbol}{%
4417 \Fld@DingDef\Fld@cbsymbol{#1}%
4418 }
4419 \define@key{Field}{radiosymbol}{%
4420 \Fld@DingDef\Fld@radiosymbol{#1}%
4421 }
4422 \def\Fld@DingDef#1#2{%
4423 \def\Fld@temp{}%
4424 \Fld@@DingDef#2\ding{}\@nil
4425 \let#1\Fld@temp
4426 }
4427 \def\Fld@@DingDef#1\ding#2#3\@nil{%
4428 \expandafter\def\expandafter\Fld@temp\expandafter{%
4429 \Fld@temp
4430 #1%
4431 }%
4432 \ifx\#3\%
4433 \expandafter\@gobble
4434 \else
4435 \begingroup
4436 \lccode'0=#2\relax
4437 \lowercase\endgroup
4438 \expandafter\def\expandafter\Fld@temp\expandafter{%
4439 \Fld@temp

```

```

4440         0%
4441     }%
4442 }%
4443 \expandafter\@firstofone
4444 \fi
4445 {%
4446     \Fld@@DingDef#3\@nil
4447 }%
4448 }

4449 \define@key{Field}{rotation}{%
4450     \def\Fld@rotation{#1}%
4451 }

4452 \define@key{Field}{backgroundcolor}{%
4453     \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4454 }
4455 \define@key{Field}{bordercolor}{%
4456     \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4457 }
4458 \define@key{Field}{color}{%
4459     \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4460 }

4461 \def\Fld@onclick@code{}
4462 \def\Fld@format@code{}
4463 \def\Fld@validate@code{}
4464 \def\Fld@calculate@code{}
4465 \def\Fld@keystroke@code{}
4466 \def\Fld@onfocus@code{}
4467 \def\Fld@onblur@code{}
4468 \def\Fld@onmousedown@code{}
4469 \def\Fld@onmouseup@code{}
4470 \def\Fld@onenter@code{}
4471 \def\Fld@onexit@code{}
4472 \def\Hy@temp#1{%
4473     \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4474 }
4475 \def\Hy@@temp#1#2{%
4476     \ifHy@pdfa
4477         \define@key{Field}{#2}{%
4478             \PackageError{hyperref}{%
4479                 PDF/A: Additional action ‘#2’ is prohibited%
4480             }\@ehc
4481         }%
4482     \else
4483         \define@key{Field}{#2}{%
4484             \def#1{##1}%
4485         }%
4486     \fi
4487 }
4488 \Hy@temp{keystroke}
4489 \Hy@temp{format}
4490 \Hy@temp{validate}
4491 \Hy@temp{calculate}
4492 \Hy@temp{onfocus}
4493 \Hy@temp{onblur}
4494 \Hy@temp{onenter}
4495 \Hy@temp{onexit}

```

```

4496 \def\Hy@temp#1{%
4497   \define@key{Field}{#1}{%
4498     \Field@addtoks{#1}{##1}%
4499   }%
4500 }
4501 \Hy@temp{onselect}
4502 \Hy@temp{onchange}
4503 \Hy@temp{ondblclick}
4504 \Hy@temp{onmousedown}
4505 \Hy@temp{onmouseup}
4506 \Hy@temp{onmouseover}
4507 \Hy@temp{onmousemove}
4508 \Hy@temp{onmouseout}
4509 \Hy@temp{onkeypress}
4510 \Hy@temp{onkeydown}
4511 \Hy@temp{onkeyup}
4512 \ifHy@pdfa
4513   \define@key{Field}{onclick}{%
4514     \PackageError{hyperref}{%
4515       PDF/A: Action 'onclick' is prohibited%
4516     }\@ehc
4517   }%
4518 \else
4519   \define@key{Field}{onclick}{%
4520     \def\Fld@onclick@code{#1}%
4521     \Field@addtoks{onclick}{#1}%
4522   }%
4523 \fi
4524 \DeclareRobustCommand\TextField{%
4525   \@ifnextchar[{\@TextField}{\@TextField[]}%
4526 }
4527 \DeclareRobustCommand\ChoiceMenu{%
4528   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4529 }
4530 \DeclareRobustCommand\CheckBox{%
4531   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4532 }
4533 \DeclareRobustCommand\PushButton{%
4534   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4535 }
4536 \DeclareRobustCommand\Gauge{%
4537   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4538 }
4539 \DeclareRobustCommand\Submit{%
4540   \@ifnextchar[{\@Submit}{\@Submit[]}%
4541 }
4542 \DeclareRobustCommand\Reset{%
4543   \@ifnextchar[{\@Reset}{\@Reset[]}%
4544 }
4545 \def\LayoutTextField#1#2{% label, field
4546   #1 #2%
4547 }
4548 \def\LayoutChoiceField#1#2{% label, field
4549   #1 #2%
4550 }
4551 \def\LayoutCheckField#1#2{% label, field
4552   #1 #2%

```

```

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

```

Default options for the types of \ChoiceMenu.

```

4591 \def\DefaultOptionsofListBox{print}
4592 \def\DefaultOptionsofComboBox{print,edit,sort}
4593 \def\DefaultOptionsofPopdownBox{print}
4594 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

4595 \ifHy@figures
4596   \Hy@Info{Hyper figures ON}%
4597 \else
4598   \Hy@Info{Hyper figures OFF}%
4599 \fi
4600 \ifHy@nesting
4601   \Hy@Info{Link nesting ON}%
4602 \else
4603   \Hy@Info{Link nesting OFF}%
4604 \fi

```



```

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

```

21 Low-level utility macros

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

```

4630 \edef\hyper@hash{\string#}
4631 \edef\hyper@tilde{\string~}
4632 \edef\hyper@quote{\string"}
4633 \let\@currentHref\@empty
4634 \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.

```

4635 \AfterBeginDocument{%
4636   \Hy@pdfstringtrue
4637   \PDF@SetupDoc
4638   \let\PDF@SetupDoc\@empty
4639   \Hy@DisableOption{pdfpagescrop}%
4640   \Hy@DisableOption{pdfpagemode}%
4641   \Hy@DisableOption{pdfnonfullscreenpagemode}%
4642   \Hy@DisableOption{pdfdirection}%
4643   \Hy@DisableOption{pdfviewarea}%
4644   \Hy@DisableOption{pdfviewclip}%
4645   \Hy@DisableOption{pdfprintarea}%
4646   \Hy@DisableOption{pdfprintclip}%
4647   \Hy@DisableOption{pdfprintscaling}%
4648   \Hy@DisableOption{pdfduplex}%
4649   \Hy@DisableOption{pdfpicktraybypdfsize}%
4650   \Hy@DisableOption{pdfprintpagerange}%
4651   \Hy@DisableOption{pdfnumcopies}%
4652   \Hy@DisableOption{pdfstartview}%
4653   \Hy@DisableOption{pdfstartpage}%
4654   \Hy@DisableOption{pdftoolbar}%

```

```

4655 \Hy@DisableOption{pdfmenubar}%
4656 \Hy@DisableOption{pdfwindowui}%
4657 \Hy@DisableOption{pdfitwindow}%
4658 \Hy@DisableOption{pdfcenterwindow}%
4659 \Hy@DisableOption{pdfdisplaydoctitle}%
4660 \Hy@DisableOption{pdfpagelayout}%
4661 \Hy@DisableOption{pdflang}%
4662 \Hy@DisableOption{baseurl}%
4663 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4664 \Hy@pdfstringfalse
4665 }

```

Ignore star from referencing macros:

```

4666 \let\NoHy@OrgRef\ref
4667 \def\ref{%
4668   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
4669 }
4670 \let\NoHy@OrgPageRef\pageref
4671 \def\pageref{%
4672   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
4673 }
4674
4675
4676
4677 %
4678 % \section{Localized nullifying of package}
4679 % Sometimes we just don't want the wretched package interfering
4680 % with us. Define an environment we can put in manually, or include
4681 % in a style file, which stops the hypertext functions doing anything.
4682 % This is used, for instance, in the Elsevier classes, to stop
4683 % |hyperref| playing havoc in the front matter.
4684 % \begin{macrocode}
4685 \def\NoHyper{%
4686   \def\hyper@link@{##1}##2##3##4{##4}%
4687   \def\hyper@@anchor##1{%
4688     \global\let\hyper@livelink\hyper@link
4689     \gdef\hyper@link##1##2##3{##3}%
4690     \def\hyper@anchorstart##1{%
4691       \let\hyper@anchorend\@empty
4692       \def\hyper@linkstart##1##2{%
4693         \let\hyper@linkend\@empty
4694         \def\hyper@linkurl##1##2{##1}%
4695         \def\hyper@linkfile##1##2##3{##1}%
4696         \def\hyper@link@{##1}##2##3}%
4697         \let\Hy@backout\@gobble
4698       }
4699     \def\stop@hyper{%
4700       \def\hyper@link@{##1}##2##3##4{##4}%
4701       \let\Hy@backout\@gobble
4702       \def\hyper@@anchor##1{%
4703         \def\hyper@link##1##2##3{##3}%
4704         \def\hyper@anchorstart##1{%
4705           \let\hyper@anchorend\@empty
4706           \def\hyper@linkstart##1##2{%
4707             \let\hyper@linkend\@empty
4708             \def\hyper@linkurl##1##2{##1}%
4709             \def\hyper@linkfile##1##2##3{##1}%
4710             \def\hyper@link@{##1}##2##3}%

```

```

4711 }
4712 \def\endNoHyper{%
4713   \global\let\hyper@link\hyper@livelink
4714 }
4715 \</package>

```

22 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:

```

4716 \<*nohyperref>
4717 \let\hyper@@anchor\@gobble
4718 \def\hyper@link#1#2#3{#3}%
4719 \let\hyper@anchorstart\@gobble
4720 \let\hyper@anchorend\@empty
4721 \let\hyper@linkstart\@gobbletwo
4722 \let\hyper@linkend\@empty
4723 \def\hyper@linkurl#1#2{#1}%
4724 \def\hyper@linkfile#1#2#3{#1}%
4725 \def\hyper@link@{#1}#2#3{#3}%
4726 \let\PDF@SetupDoc\@empty
4727 \let\PDF@FinishDoc\@empty
4728 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

4729 \def\Acrobatmenu#1#2{\leavevmode#2}
4730 \let\pdfstringdefDisableCommands\@gobbletwo
4731 \let\texorpdfstring\@firstoftwo
4732 \let\pdfbookmark\@undefined
4733 \newcommand\pdfbookmark[3][]{ }
4734 \let\phantomsection\@empty
4735 \let\hypersetup\@gobble
4736 \let\hyperbaseurl\@gobble
4737 \let\href\@gobble
4738 \let\hyperdef\@gobbletwo
4739 \let\hyperlink\@gobble
4740 \let\hypertarget\@gobble
4741 \def\hyperref{%
4742   \ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4743 }
4744 \long\def\@gobbleopt[#1]{ }
4745 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

4746 \let\NoHy@OrgRef\ref
4747 \def\ref{%
4748   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
4749 }
4750 \let\NoHy@OrgPageRef\pageref
4751 \def\pageref{%
4752   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
4753 }
4754 \</nohyperref>

```

23 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}`

```
4755 \*package>
4756 \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.

```
4757 \if@filesw
4758   \ifHy@typexml
4759     \immediate\closeout\@mainaux
4760     \immediate\openout\@mainaux\jobname.aux\relax
4761     \immediate\write\@auxout{<relaxxml>\relax}%
4762   \fi
4763   \immediate\write\@auxout{%
4764     \string\ifx\string\hyper@anchor\string\@undefined^^J%
4765     \global\let\string\oldcontentsline\string\contentsline^^J%
4766     \gdef\string\contentsline%
4767       \string#1\string#2\string#3\string#4{%
4768       \string\oldcontentsline%
4769       {\string#1}{\string#2}{\string#3}}^^J%
4770     \global\let\string\oldnewlabel\string\newlabel^^J%
4771     \gdef\string\newlabel\string#1\string#2{%
4772     \string\newlabelxx{\string#1}\string#2^^J%
4773     \gdef\string\newlabelxx%
4774     \string#1\string#2\string#3\string#4\string#5\string#6{%
4775     \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.

```
4776   \string\AtEndDocument{%
4777     \let\string\contentsline\string\oldcontentsline^^J%
4778     \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.

```
4779   \string\else^^J%
4780   \global\let\string\hyper@last\relax^^J%
4781   \string\fi^^J%
4782 }%
4783 \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.

```
4784 \ifx\hyper@last\@undefined
4785   \def\@starttoc#1{%
4786     \begingroup
4787     \makeatletter
4788     \IfFileExists{\jobname.#1}{%
4789       \Hy@WarningNoLine{%
4790         old #1 file detected, not used; run LaTeX again%
```

```

4791         }%
4792     }{}%
4793     \if@filesw
4794         \expandafter\newwrite\csname tf@#1\endcsname
4795         \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4796     \fi
4797     \@nobreakfalse
4798 \endgroup
4799 }%
4800 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
4801 \fi
4802 }

```

24 Title strings

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

```

4803 \ifHy@usetitle
4804   \let\HyOrg@title\title
4805   \let\HyOrg@author\author
4806   \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
4807   \def\Hy@scanopttitle[#1]{%
4808     \gdef\Hy@title{#1}%
4809     \HyOrg@title[{#1}]%
4810   }%
4811   \def\Hy@scantitle#1{%
4812     \gdef\Hy@title{#1}%
4813     \HyOrg@title{#1}%
4814   }%
4815   \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4816   \def\Hy@scanoptauthor[#1]{%
4817     \gdef\Hy@author{#1}%
4818     \HyOrg@author[{#1}]%
4819   }%
4820   \def\Hy@scanauthor#1{%
4821     \gdef\Hy@author{#1}%
4822     \HyOrg@author{#1}%
4823   }%

```

The case, that `or` 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.

```

4824 \begingroup
4825   \def\process@me#1\@nil#2{%
4826     \expandafter\let\expandafter\x\csname @#2\endcsname
4827     \edef\y{\expandafter\strip@prefix\meaning\x}%
4828     \def\c##1##2\@nil{%
4829       \ifx\\##1\\%
4830         \else
4831           \expandafter\gdef\csname Hy@#2\endcsname
4832             \expandafter{\x}%
4833         \fi
4834       }%
4835     \expandafter\c\y\relax#1\@nil
4836   }%
4837   \expandafter\process@me\string\@latex@\@nil{title}%
4838   \expandafter\process@me\string\@latex@\@nil{author}%

```

```

4839 \endgroup
4840 \fi
4841 \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.

```

4842 \def\Hy@UseMaketitleString#1{%
4843   \@ifundefined{Hy@#1}{}%
4844   \begingroup
4845     \let\Hy@samed@hook\pdfstringdefPreHook
4846     \pdfstringdefDisableCommands{%
4847       \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
4848       \let\newline\\%
4849     }%
4850     \expandafter\ifx\csname @pdf#1\endcsname\@empty
4851       \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4852         \csname Hy@#1\endcsname\@empty
4853       }%
4854     \fi
4855     \global\let\pdfstringdefPreHook\Hy@samed@hook
4856   \endgroup
4857 }%
4858 }
4859 \def\Hy@newline@title#1{ #1}
4860 \def\Hy@newline@author#1{, #1}
4861 \def\Hy@UseMaketitleInfos{%
4862   \Hy@UseMaketitleString{title}%
4863   \Hy@UseMaketitleString{author}%
4864 }

```

25 Page numbers

This stuff is done by Heiko Oberdiek.

26 Every page

```

4865 \RequirePackage{atbegshi}[2007/09/09]
4866 \def\Hy@EveryPageHook{}
4867 \def\Hy@EveryPageBoxHook{}
4868 \def\Hy@FirstPageHook{}
4869 \AtBeginShipout{%
4870   \Hy@EveryPageHook
4871   \ifx\Hy@EveryPageBoxHook\@empty
4872   \else
4873     \setbox\AtBeginShipoutBox=\vbox{%
4874       \offinterlineskip
4875       \Hy@EveryPageBoxHook
4876       \box\AtBeginShipoutBox

```

```

4877 }%
4878 \fi
4879 }
4880 \AtBeginShipoutFirst{%
4881 \Hy@FirstPageHook
4882 }
4883 \g@addto@macro\Hy@FirstPageHook{%
4884 \PDF@FinishDoc
4885 \gdef\PDF@FinishDoc{}}%
4886 }

```

26.1 PDF /PageLabels

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

```

4887 \ifHy@pagelabels
4888 \begingroup\expandafter\expandafter\expandafter\endgroup
4889 \expandafter\ifx\csname thepage\endcsname\relax
4890 \Hy@pagelabelsfalse
4891 \Hy@WarningNoLine{%
4892 Option 'pdfpagelabels' is turned off\MessageBreak
4893 because \string\thepage\space is undefined%
4894 }%
4895 \csname fi\endcsname
4896 \csname iffalse\expandafter\endcsname
4897 \fi

```

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

```

4898 \def\thispdfpagelabel#1{%
4899 \gdef\HyPL@thisLabel{#1}%
4900 }%
4901 \global\let\HyPL@thisLabel\relax

```

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

```

4902 \def\HyPL@Labels{}%

```

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

```

4903 \newcount\Hy@abspage
4904 \Hy@abspage=0 %

```

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

```

4905 \def\HyPL@LastType{init}%
4906 \def\HyPL@LastNumber{0}%
4907 \def\HyPL@LastPrefix{}%

```

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

```

4908 \def\HyPL@arabic{D}%
4909 \def\HyPL@Roman{R}%
4910 \def\HyPL@roman{r}%
4911 \def\HyPL@Alph{A}%
4912 \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.

```

4913 \def\HyPL@EveryPage{%
4914 \begingroup
4915 \ifx\HyPL@thisLabel\relax

```

```

4916     \let\HyPL@page\thepage
4917 \else
4918     \let\HyPL@page\HyPL@thisLabel
4919     \global\let\HyPL@thisLabel\relax
4920 \fi
4921 \let\HyPL@Type\relax
4922 \ifnum\the\c@page>0 %
4923     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4924 \fi
4925 \let\Hy@temp Y%
4926 \ifx\HyPL@Type\HyPL@LastType
4927 \else
4928     \let\Hy@temp N%
4929 \fi
4930 \ifx\HyPL@Type\relax
4931     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4932 \else
4933     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4934 \fi
4935 \ifx\HyPL@Prefix\HyPL@LastPrefix
4936 \else
4937     \let\Hy@temp N%
4938 \fi
4939 \if Y\Hy@temp
4940     \advance\c@page by -1 %
4941     \ifnum\HyPL@LastNumber=\the\c@page\relax
4942     \else
4943         \let\Hy@temp N%
4944     \fi
4945     \Hy@StepCount\c@page
4946 \fi
4947 \if N\Hy@temp
4948     \ifx\HyPL@Type\relax
4949         \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
4950     \else
4951         \HyPL@StorePageLabel{%
4952             \ifx\HyPL@Prefix\@empty
4953             \else
4954                 /P(\HyPL@Prefix)%
4955             \fi
4956             /S/\csname HyPL\HyPL@Type\endcsname
4957             \ifnum\the\c@page=1 %
4958             \else
4959                 \space/St \the\c@page
4960             \fi
4961             }%
4962     \fi
4963 \fi
4964 \xdef\HyPL@LastNumber{\the\c@page}%
4965 \global\let\HyPL@LastType\HyPL@Type
4966 \global\let\HyPL@LastPrefix\HyPL@Prefix
4967 \endgroup
4968 \Hy@GlobalStepCount\Hy@abspage
4969 }%

```

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

```

4970 \def\HyPL@CheckThePage#1\@nil{%

```



```

4971 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
4972 }%

```

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

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

```

4973 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4974 \def\Hy@tempa{#4}%
4975 \def\Hy@tempb{\csname\endcsname\c@page}%
4976 \ifx\Hy@tempa\Hy@tempb
4977 \expandafter\ifx\csname HyPL#3\endcsname\relax
4978 \else
4979 \def\HyPL@Type{#3}%
4980 \def\HyPL@Prefix{#2}%
4981 \fi
4982 \else
4983 \begingroup
4984 \let\Hy@next\endgroup
4985 \let\HyPL@found\@undefined
4986 \def\arabic{\HyPL@Format{arabic}}%
4987 \def\Roman{\HyPL@Format{Roman}}%
4988 \def\roman{\HyPL@Format{roman}}%
4989 \def\Alph{\HyPL@Format{Alph}}%
4990 \def\alph{\HyPL@Format{alph}}%
4991 \protected@edef\Hy@temp{#1}%
4992 \ifx\HyPL@found\relax
4993 \toks@{\expandafter{\Hy@temp}}%
4994 \edef\Hy@next{\endgroup
4995 \noexpand\HyPL@@CheckThePage\the\toks@
4996 \noexpand\HyPL@found\relax\noexpand\@nil
4997 }%
4998 \fi
4999 \Hy@next
5000 \fi
5001 }%

```

`\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`.

```

5002 \def\HyPL@Format#1#2{%
5003 \ifx\HyPL@found\@undefined
5004 \expandafter\ifx\csname c@#2\endcsname\c@page
5005 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
5006 \else
5007 \expandafter\noexpand\csname#1\endcsname{#2}%
5008 \fi
5009 \else
5010 \expandafter\noexpand\csname#1\endcsname{#2}%
5011 \fi
5012 }%

```

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

```

5013 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
5014 \def\Hy@tempa{#3}%
5015 \def\Hy@tempb{\HyPL@found\relax}%

```

```

5016 \ifx\Hy@tempa\Hy@tempb
5017 \def\HyPL@Type{#2}%
5018 \def\HyPL@Prefix{#1}%
5019 \fi
5020 }%

```

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

```

5021 \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`.

```

5022 \def\HyPL@Useless{0<</S/D>>}%
5023 \@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.

```

5024 \def\HyPL@SetPageLabels{%
5025 \onelevel@sanitize\HyPL@Labels
5026 \ifx\HyPL@Labels\empty
5027 \else
5028 \ifx\HyPL@Labels\HyPL@Useless
5029 \else
5030 \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
5031 \fi
5032 \fi
5033 }%

```

```

5034 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
5035 \fi

```

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

```

5036 \Hy@DisableOption{pdfpagelabels}
5037 </package>

```

26.1.1 pdfTeX and VTeX

Because of pdfTeX’s `\pdfcatalog` command the `/PageLabels` entry can set at end of document in the first run.

`\Hy@PutCatalog`

```

5038 <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.

```

5039 <*vTeX>
5040 \providecommand*\XR@ext{pdf}
5041 \edef\Hy@VTeXversion{%
5042 \ifx\VTeXversion\undefined
5043 \z@
5044 \else
5045 \ifx\VTeXversion\relax
5046 \z@
5047 \else
5048 \VTeXversion

```

```

5049 \fi
5050 \fi
5051 }
5052 \begingroup
5053 \ifnum\Hy@VTeXversion<660 %
5054 \gdef\Hy@PutCatalog#1{%
5055 \Hy@WarningNoLine{%
5056 VTeX 6.59g or above required for pdfpagelabels%
5057 }%
5058 }%
5059 \else
5060 \gdef\Hy@PutCatalog#1{%
5061 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
5062 }%
5063 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
5064 \ifx\#2\%
5065 \else
5066 \immediate\special{!pdfpagelabels #2}%
5067 \fi
5068 }%
5069 \fi
5070 \endgroup
5071 </vtex>

5072 <*pdfTeX | vtex>

```

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

```

5073 \ifHy@pagelabels
5074 \def\HyPL@StorePageLabel#1{%
5075 \toks@\expandafter{\HyPL@Labels}%
5076 \xdef\HyPL@Labels{%
5077 \the\toks@
5078 \the\Hy@abspage<<#1>>%
5079 }%
5080 }%

```

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.

```

5081 \@ifclassloaded{revtex4}{%
5082 \g@addto@macro\clear@document{\HyPL@SetPageLabels}%
5083 }{%
5084 \AtEndDocument{\clearpage\HyPL@SetPageLabels}%
5085 }%

5086 \fi
5087 </pdfTeX | vtex>

```

26.1.2 pdfmarkbase, dvipdfm

```

5088 <*pdfmarkbase>
5089 \begingroup
5090 \toks@\expandafter{\Hy@FirstPageHook}%
5091 \xdef\Hy@FirstPageHook{%
5092 \noexpand\headerps@out{%
5093 systemdict /pdfmark known%
5094 {%
5095 userdict /?pdfmark systemdict /exec get put%
5096 }%

```

```

5097      userdict /?pdfmark systemdict /pop get put %
5098      userdict /pdfmark systemdict /cleartomark get put%
5099      }%
5100      ifelse%
5101      }%
5102      \the\toks@
5103      }%
5104 \endgroup
5105 \pdfmarkbase>

```

\Hy@PutCatalog

```

5106 <dvipdfm>\def\Hy@PutCatalog#1{\pdfmark{docview << #1 >>}}
5107 <*pdfmarkbase>
5108 \def\Hy@PutCatalog#1{%
5109   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
5110 }
5111 \pdfmarkbase>

5112 <*pdfmarkbase | dvipdfm>
5113 \ifHy@pagelabels

```

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

```

5114 \def\HyPL@StorePageLabel#1{%
5115   \if@filesw
5116     \begingroup
5117     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
5118     \immediate\write\@mainaux{%
5119       \string\HyPL@Entry{\Hy@tempa}%
5120     }%
5121   \endgroup
5122   \fi
5123 }%

```

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.

```

5124 \AfterBeginDocument{%
5125   \if@filesw
5126     \immediate\write\@mainaux{%
5127       \string\providecommand\string*\string\HyPL@Entry[1]{}%
5128     }%
5129   \fi
5130   \ifx\HyPL@Labels\@empty
5131     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
5132   \else
5133     \HyPL@SetPageLabels
5134   \fi
5135   \let\HyPL@Entry\@gobble
5136 }%

```

\HyPL@Entry

```

5137 \def\HyPL@Entry#1{%
5138   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
5139     \HyPL@Labels
5140     #1%
5141   }%
5142 }%

```

```

5143 \fi
5144 </pdfmarkbase | dvipdfm>
5145 <*package>
5146 \MaybeStopEarly

```

27 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 it’s up to you to make sure these are legal PDF and HTML names. The ‘hypertextnames=false’ option just makes up arbitrary names.

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

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

Start with a fallback for equations

```

5147 \def\Hy@CounterExists#1{%
5148   \begingroup\expandafter\expandafter\expandafter\endgroup
5149   \expandafter\ifx\csname c@#1\endcsname\relax
5150     \expandafter\@gobble
5151   \else
5152     \begingroup\expandafter\expandafter\expandafter\endgroup
5153     \expandafter\ifx\csname the#1\endcsname\relax
5154       \expandafter\expandafter\expandafter\@gobble
5155     \else
5156       \expandafter\expandafter\expandafter\@firstofone
5157     \fi
5158   \fi
5159 }
5160 \Hy@CounterExists{section}{%
5161   \newcommand\theHequation{\theHsection.\arabic{equation}}%
5162 }
5163 \Hy@CounterExists{part}{%
5164   \newcommand\theHpart{\arabic{part}}%
5165 }
5166 \@ifundefined{thechapter}{%
5167   \newcommand\theHsection    {\arabic{section}}%
5168   \newcommand\theHfigure     {\arabic{figure}}%
5169   \newcommand\theHtable      {\arabic{table}}%
5170 }{%
5171   \newcommand\theHchapter    {\arabic{chapter}}%
5172   \newcommand\theHfigure     {\theHchapter.\arabic{figure}}%
5173   \newcommand\theHtable      {\theHchapter.\arabic{table}}%
5174   \newcommand\theHsection    {\theHchapter.\arabic{section}}%
5175 }
5176 \newcommand\theHsubsection   {\theHsection.\arabic{subsection}}
5177 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}

```

```

5178 \newcommand\theHparagraph    {\theHsubsubsection.\arabic{paragraph}}
5179 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
5180 \newcommand\theHtheorem      {\theHsection.\arabic{theorem}}
5181 \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.

```

5182 \let\H@item\item
5183 \newcounter{Item}
5184 \def\theHItem{\arabic{Item}}
5185 \def\item{%
5186   \@hyper@itemfalse
5187   \if@nmbrlist\@hyper@itemtrue\fi
5188   \H@item
5189 }

5190 \newcommand\theHenumi      {\theHItem}
5191 \newcommand\theHenumii     {\theHItem}
5192 \newcommand\theHenumiii    {\theHItem}
5193 \newcommand\theHenumiv     {\theHItem}
5194 \newcommand\theHHfootnote  {\arabic{Hfootnote}}
5195 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5196 \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.

```

5197 \let\H@refstepcounter\refstepcounter
5198 \edef\name@of@eq{equation}%
5199 \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.

```

5200 \newif\if@hyper@item
5201 \newif\if@skiphyperref
5202 \@hyper@itemfalse
5203 \@skiphyperreffalse
5204 \def\refstepcounter#1{%
5205   \ifHy@pdfstring
5206   \else
5207     \H@refstepcounter{#1}%
5208     \edef\This@name{#1}%
5209     \ifx\This@name\name@of@slide
5210     \else
5211       \if@skiphyperref
5212       \else
5213         \if@hyper@item
5214           \stepcounter{Item}%
5215           \hyper@refstepcounter{Item}%
5216           \@hyper@itemfalse
5217         \else
5218           \hyper@refstepcounter{#1}%
5219         \fi
5220       \fi
5221     \fi
5222   \fi
5223 }

```

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.

```
5224 \ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

```
5225 \def\hyper@refstepcounter#1{%
5226   \edef\This@name{#1}%
5227   \ifx\This@name\name@of@eq
5228     \@ifundefined{theHequation}{%
5229       \make@stripped@name{\theequation}%
5230       \let\theHequation\newname
5231     }{%
5232   \fi
5233   \@ifundefined{theH#1}{%
5234     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5235   }{%
5236   \hyper@makecurrent{#1}%
5237   \ifmeasuring@
5238   \else
5239     \Hy@raisedlink{%
5240       \hyper@anchorstart{\@currentHref}\hyper@anchorend
5241     }%
5242   \fi
5243 }
```

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`.

```
5244 \begingroup\expandafter\expandafter\expandafter\endgroup
5245 \expandafter\ifx\csname chapter\endcsname\relax
5246   \def\Hy@chapterstring{section}%
5247 \else
5248   \def\Hy@chapterstring{chapter}%
5249 \fi
5250 \def\Hy@appendixstring{appendix}
5251 \def\Hy@chapapp{\Hy@chapterstring}
5252 \let\HyOrg@appendix\appendix
5253 \def\appendix{%
5254   \@ifundefined{chapter}%
5255     {\gdef\theHsection{\Alph{section}}}%
5256     {\gdef\theHchapter{\Alph{chapter}}}%
5257   \xdef\Hy@chapapp{\Hy@appendixstring}%
5258   \HyOrg@appendix
5259 }
```

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

```
5260 \def\hyper@makecurrent#1{%
5261   \begingroup
5262     \edef\Hy@param{#1}%
5263     \ifx\Hy@param\Hy@chapterstring
5264       \let\Hy@param\Hy@chapapp
```

```

5265 \fi
5266 \ifHy@hypertextnames
5267 \let\@number\@firstofone
5268 \@ifundefined{latin@Alph}{\fi}%
5269 \ifx\@Alph\greek@Alph
5270 \def\@Alph{Alph\@arabic}%
5271 \fi
5272 }%
5273 \ifx\@Alph\@Alph@bul
5274 \def\@Alph{Alph\@arabic}%
5275 \fi
5276 \ifx\@alph\@alph@bul
5277 \def\@alph{alph\@arabic}%
5278 \fi
5279 \ifHy@naturalnames
5280 \let\textlatin\@firstofone
5281 \xdef\@currentHlabel{\csname the#1\endcsname}%
5282 \else
5283 \xdef\@currentHlabel{%
5284 \csname
5285 the%
5286 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
5287 #1%
5288 \endcsname
5289 }%
5290 \fi
5291 \xdef\@currentHref{%
5292 \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5293 }%
5294 \else
5295 \Hy@GlobalStepCount\Hy@linkcounter
5296 \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
5297 \fi
5298 \endgroup
5299 }

5300 \@ifpackageloaded{fancyvrb}{\fi}%
5301 \@ifpackagelater{fancyvrb}{1998/05/20}{\fi}%
5302 \def\FV@StepLineNo{%
5303 \FV@SetLineNo
5304 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5305 \FV@StepLineNo
5306 }%
5307 }%
5308 }{}

```

28 Package lastpage support

Package lastpage directly writes the `\newlabel` command to the aux file. Because package hyperref requires additional arguments, the internal command `\lastpage@putlabel` is redefined. The patch is deferred by `\AtBeginDocument`, because it is possible that package lastpage is loaded after package hyperref. The same algorithm (options hypertextnames and plainpages) is used to get the page anchor name as in `\Hy@EveryPageAnchor` (see sec. 37). The link will not work if option pageanchor is set to false.

```
\lastpage@putlabel
```



```

5309 \AtBeginDocument{%
5310   \@ifclassloaded{revtex4}{%
5311     \@namedef{ver@lastpage.sty}{1994/06/25}%
5312   }{}%
5313   \@ifpackageloaded{lastpage}{%
5314     \ifHy@pageanchor
5315     \else
5316       \Hy@WarningNoLine{%
5317         The \string\pageref{LastPage} link doesn't work\MessageBreak
5318         with disabled option 'pageanchor'%
5319       }%
5320     \fi
5321     \def\lastpage@putlabel{%
5322       \addtocounter{page}{-1}%
5323       \if@files@
5324         \begin@group
5325           \let\@number\@firstofone
5326           \ifHy@pageanchor
5327             \ifHy@hypertextnames
5328               \ifHy@plainpages
5329                 \def\Hy@temp{\arabic{page}}%
5330               \else
5331                 \Hy@unicodedefalse
5332                 \pdfstringdef\Hy@temp{\thepage}%
5333               \fi
5334             \else
5335               \def\Hy@temp{\the\Hy@pagecounter}%
5336             \fi
5337           \fi
5338           \immediate\write\@auxout{%
5339             \string\newlabel
5340             {LastPage}{\the\Hy@temp}{\thepage}{\the\Hy@temp}{\the\Hy@temp}{\the\Hy@temp}%
5341             \ifHy@pageanchor page.\Hy@temp\fi}%
5342         }%
5343       \end@group
5344     \fi
5345     \addtocounter{page}{1}%
5346   }%
5347   \@ifclassloaded{revtex4}{%
5348     \begin@group
5349       \toks@{\expandafter\lastpage@putlabel}%
5350       \edef\x{\end@group
5351         \def\noexpand\lastpage@putlabel{%
5352           \noexpand\stepcounter{page}%
5353           \the\toks@
5354           \noexpand\addtocounter{page}\noexpand\m@ne
5355         }%
5356       }%
5357     \x
5358   }{}%
5359 }{}%
5360 }
5361 \end{package}
5362 \checkpackage{lastpage}[1994/06/25]
5363 \checkcommand\def\lastpage@putlabel{%
5364   \addtocounter{page}{-1}%

```

```

5366 \immediate\write\@auxout{%
5367   \string\newlabel{LastPage}{\thepage}%
5368 }%
5369 \addtocounter{page}{1}%
5370 }
5371 </check>
5372 <*package>

```

29 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.

```

5373 \def\hypergetref#1{\getrefbykeydefault{#1}{??}}
5374 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

30 Package titlesec and titletoc support

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

Package titlesec support:

```

5375 \@ifpackageloaded{titlesec}{%
5376   \def\ttl@Hy@steplink#1{%
5377     \Hy@GlobalStepCount\Hy@linkcounter
5378     \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5379     \def\ttl@Hy@saveanchor{%
5380       \Hy@raisedlink{%
5381         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5382       }%
5383     }%
5384   }%
5385   \def\ttl@Hy@refstepcounter#1{%
5386     \let\ttl@b\Hy@raisedlink
5387     \def\Hy@raisedlink##1{%
5388       \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5389     }%
5390     \refstepcounter{#1}%
5391     \let\Hy@raisedlink\ttl@b
5392   }%
5393 }{}

```

Package titletoc support:

```

5394 \@ifpackageloaded{titletoc}{%
5395   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5396 }{}

```

31 Package varioref support

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

```

5397 \def\Hy@varioref@undefined{??}{?}{-}{-}
5398 \@ifpackageloaded{varioref}{%
5399   \def\vref#1#2{%
5400     \ifundefined{r@#2}{%

```

```

5401 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5402 }{}%
5403 \edef#1{\getpagerefnumber{#2}}%
5404 }%
5405 }{}

```

32 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

```

5406 \@ifpackageloaded{longtable}{%
5407 \begingroup
5408 \def\y{\LT@array}%
5409 \@ifundefined{scr@LT@array}{\def\y{\scr@LT@array}}%
5410 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5411 \expandafter\endgroup
5412 \expandafter\def\y[#1]##2{%
5413 \H@refstepcounter{#1}%
5414 \hyper@makecurrent{table}%
5415 \let\Hy@LT@currentHlabel\@currentHlabel
5416 \let\Hy@LT@currentHref\@currentHref
5417 #2\@sharp####4%
5418 }%
5419 }%
5420 \expandafter\expandafter\expandafter\x\y[#{1}]{#2}\@nil

```

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

```

5421 \begingroup
5422 \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5423 \endgroup
5424 \def\LT@start{%
5425 #1%
5426 \let\@currentHlabel\Hy@LT@currentHlabel
5427 \let\@currentHref\Hy@LT@currentHref
5428 \Hy@raisedlink{%
5429 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5430 }%
5431 \ifvoid\LT@firsthead\copy
5432 #2%
5433 }%
5434 }%
5435 \expandafter\x\LT@start\@nil
5436 }{}

```

33 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 40). The execution is that we move the equation incrementation inside the `math` environment to avoid specials outside and a wrong vertical spacing of equation environments.

```

5437 \let\new@refstepcounter\refstepcounter
5438 \let\H@equation\equation
5439 \let\H@endequation\endequation

5440 \@ifpackageloaded{amsmath}{%
5441   \long\def\Hy@temp{%
5442     \incr@eqnum
5443     \mathdisplay@push
5444     \st@rredfalse \global\@eqnswtrue
5445     \mathdisplay{equation}%
5446   }%
5447   \ifx\Hy@temp\equation
5448     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5449       \csname iftrue\endcsname
5450   \else
5451     \long\def\equation{%
5452       \mathdisplay@push
5453       \st@rredfalse \global\@eqnswtrue
5454       \mathdisplay{equation}%
5455       \incr@eqnum
5456     }%
5457   \fi
5458 \fi
5459 }{%
5460 \def\equation{%
5461   \let\refstepcounter\H@refstepcounter
5462   \H@equation
5463   \@ifundefined{theHequation}{%
5464     \make@stripped@name{\theequation}%
5465     \let\theHequation\newname
5466   }{%
5467     \hyper@makecurrent{equation}%
5468     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5469     \let\refstepcounter\new@refstepcounter
5470   }%
5471 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5472 }

```

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.

```

5473 \newif\if@eqnstar
5474 \@eqnstarfalse
5475 \let\H@eqnarray\eqnarray
5476 \let\H@endeqnarray\endeqnarray
5477 \def\eqnarray{%
5478   \let\Hy@reserved@a\relax
5479   \def\@currentHref{}%
5480   \H@eqnarray
5481   \if@eqnstar
5482   \else
5483     \ifx\\\@currentHref\\%
5484     \else
5485       \@ifundefined{theHequation}{%
5486         \make@stripped@name{\theequation}%
5487         \let\theHequation\newname

```

```

5488     }{}%
5489     \hyper@makecurrent{equation}%
5490     \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5491   \fi
5492 \fi
5493 }
5494 \def\endeqnarray{%
5495   \H@endeqnarray
5496 }

```

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.

```

5497 \@namedef{eqnarray*}{%
5498   \def\@eqnocr{\nonumber\@seqnocr}\@eqnstartrue\eqnarray
5499 }
5500 \@namedef{endeqnarray*}{%
5501   \nonumber\endeqnarray\@eqnstarfalse
5502 }

```

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

```

5503 \@ifundefined{subeqnarray}{ }{%
5504   \let\H@subeqnarray\subeqnarray
5505   \let\H@endsubeqnarray\endsubeqnarray
5506   \def\subeqnarray{%
5507     \let\Hy@reserved@a\relax
5508     \H@subeqnarray
5509     \@ifundefined{theHequation}{%
5510       \make@stripped@name{\theequation}%
5511       \let\theHequation\newname
5512     }{}%
5513     \hyper@makecurrent{equation}%
5514     \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5515   }%
5516   \def\endsubeqnarray{%
5517     \H@endsubeqnarray
5518   }%
5519   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5520 }

```

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

```

5521 \def\make@stripped@name#1{%
5522   \begingroup
5523     \escapechar\m@ne
5524     \global\let\newname\@empty
5525     \protected@edef\Hy@tempa{#1}%
5526     \edef\@tempb{%
5527       \noexpand\@tfor\noexpand\Hy@tempa:=%
5528       \expandafter\strip@prefix\meaning\Hy@tempa
5529     }%
5530     \@tempb\do{%
5531       \if{\Hy@tempa\else
5532         \if}\Hy@tempa\else
5533         \xdef\newname{\newname\Hy@tempa}%
5534       \fi
5535     \fi
5536   }%
5537 \endgroup
5538 }

```

Support for amsmath's subequations:

```

5539 \begingroup\expandafter\expandafter\expandafter\endgroup
5540 \expandafter\ifx\cename subequations\endcsname\relax
5541 \else
5542   \let\HyOrg@subequations\subequations
5543   \def\subequations{%
5544     \stepcounter{equation}%
5545     \protected@edef\theHparentequation{%
5546       \ifundefined{theHequation}\theequation\theHequation
5547     }%
5548     \addtocounter{equation}{-1}%
5549     \HyOrg@subequations
5550     \def\theHequation{\theHparentequation\alph{equation}}%
5551     \ignorespaces
5552   }%
5553 \fi

```

Support for package amsthm (Daniel Müllner):

```

5554 \@ifpackageloaded{amsthm}{%
5555   \def\@thm#1#2#3{%
5556     \ifhmode
5557       \unskip\unskip\par
5558     \fi
5559     \normalfont
5560     \trivlist
5561     \let\thmheadnl\relax
5562     \let\thm@swap\@gobble
5563     \thm@notefont{\fontseries\mddefault\upshape}%
5564     \thm@headpunct{.}% add period after heading
5565     \thm@headsep 5\p@ plus\p@ minus\p@\relax
5566     \thm@space@setup
5567     #1% style overrides
5568     \@topsep \thm@preskip           % used by thm head
5569     \@topsepadd \thm@postskip      % used by \endparentv
5570     \def\dth@counter{#2}%
5571     \ifx\@empty\dth@counter
5572       \def\@tempa{%
5573         \@oparg{\@begintheorem{#3}{}} []%
5574       }%
5575     \else
5576       \H@refstepcounter{#2}%
5577       \hyper@makecurrent{#2}%
5578       \def\@tempa{%
5579         \@oparg{\@begintheorem{#3}{\cename the#2\endcsname}} []%
5580       }%
5581     \fi
5582     \@tempa
5583   }%
5584   \dth@everypar={%
5585     \@minipagefalse
5586     \global\@newlistfalse
5587     \@noparitemfalse
5588     \if@inlabel
5589       \global\@inlabelfalse
5590     \begingroup
5591       \setbox\z@\lastbox
5592       \ifvoid\z@
5593         \kern-\itemindent

```

```

5594         \fi
5595     \endgroup
5596     \ifx\@empty\dth@counter
5597     \else
5598         \Hy@raisedlink{%
5599             \hyper@anchorstart{\@currentHref}\hyper@anchorend
5600         }%
5601     \fi
5602     \unhbox\@labels
5603 \fi
5604 \if@nobreak
5605     \clubpenaltyfalse \clubpenalty\@M
5606 \else
5607     \clubpenalty\@clubpenalty \everypar{}%
5608 \fi
5609 }%
5610 }{}

```

34 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.

```

5611 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5612 \ifHy@hyperfootnotes
5613     \newcounter{Hfootnote}%
5614     \let\H@@footnotetext\@footnotetext
5615     \let\H@@footnotemark\@footnotemark
5616     \def\@xfootnotenext[#1]{%
5617         \begingroup
5618             \csname c@\@mpfn\endcsname #1\relax
5619             \unrestored@protected@xdef\@thefnmark{\thempfn}%
5620         \endgroup
5621         \ifx\@footnotetext\@mpfootnotetext
5622             \expandafter\H@@mpfootnotetext
5623         \else
5624             \expandafter\H@@footnotetext
5625         \fi
5626     }%
5627     \def\@xfootnotemark[#1]{%
5628         \begingroup
5629             \c@footnote #1\relax
5630             \unrestored@protected@xdef\@thefnmark{\thefnmark}%
5631         \endgroup
5632         \H@@footnotemark
5633     }%
5634     \let\H@@mpfootnotetext\@mpfootnotetext
5635     \long\def\@mpfootnotetext#1{%
5636         \H@@mpfootnotetext{%
5637             \ifHy@nesting
5638                 \expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}{#1}%
5639             \else
5640                 \Hy@raisedlink{%
5641                     \expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}{\relax}%

```

```

5642     }#1%
5643     \fi
5644   }%
5645 }%
5646 \long\def\@footnotetext#1{%
5647   \H@footnotetext{%
5648     \ifHy@nesting
5649       \expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}{#1}%
5650     \else
5651       \Hy@raisedlink{%
5652         \expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}{\relax}%
5653       }%
5654       \let\@currentHlabel\Hy@footnote@currentHlabel
5655       \let\@currentHref\Hy@footnote@currentHref
5656       \let\@currentlabelname\@empty
5657     #1%
5658   \fi
5659 }%
5660 }%

```

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.

```

5661 \def\@footnotemark{%
5662   \leavevmode
5663   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
5664   \stepcounter{Hfootnote}%
5665   \global\let\Hy@saved@currentHlabel\@currentHlabel
5666   \global\let\Hy@saved@currentHref\@currentHref
5667   \hyper@makecurrent{Hfootnote}%
5668   \global\let\Hy@footnote@currentHlabel\@currentHlabel
5669   \global\let\Hy@footnote@currentHref\@currentHref
5670   \global\let\@currentHlabel\Hy@saved@currentHlabel
5671   \global\let\@currentHref\Hy@saved@currentHref
5672   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5673   \@makefnmark
5674   \hyper@linkend
5675   \ifhmode\spacefactor\x@sf\fi
5676   \relax
5677 }%

```

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

```

5678 \@ifpackageloaded{longtable}{%
5679   \CheckCommand*\LT@p@ftntext}[1]{%
5680     \edef\@tempa{%
5681       \the\LT@p@ftn
5682       \noexpand\footnotetext[\the\c@footnote]%
5683     }%
5684     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5685   }%
5686   \long\def\LT@p@ftntext#1{%
5687     \edef\@tempa{%
5688       \the\LT@p@ftn
5689       \begingroup

```



```

5690         \noexpand\c@footnote=\the\c@footnote\relax
5691         \noexpand\protected@xdef
5692             \noexpand\@thefnmark{\noexpand\thempfn}%
5693         \noexpand\protected@xdef\noexpand\@thefnmark{%
5694             \noexpand\thempfn
5695         }%
5696         \expandafter\expandafter\expandafter\noexpand
5697         \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5698         \expandafter\expandafter\expandafter{%
5699             \expandafter\Hy@footnote@currentHref\expandafter
5700             }\expandafter{\Hy@footnote@currentHlabel}%
5701     }%
5702     \global\LT@p@ftn\expandafter{%
5703         \@tempa{#1}%
5704     \endgroup
5705 }%
5706 }%
5707 \long\def\Hy@LT@footnotetext#1#2#3{%
5708     \H@@footnotetext{%
5709         \ifHy@nesting
5710             \hyper@@anchor{#1}{#3}%
5711         \else
5712             \Hy@raisedlink{%
5713                 \hyper@@anchor{#1}{\relax}%
5714             }%
5715             \def\@currentHlabel{#2}%
5716             \def\@currentHref{#1}%
5717             \let\@currentlabelname\@empty
5718             #3%
5719         \fi
5720     }%
5721 }%
5722 }{}%

```

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

```

5723 \@ifpackageloaded{fancyvrb}{%
5724     \def\V@@@footnotetext{%
5725         \insert\footins\bgroup
5726         \csname reset@font\endcsname
5727         \footnotesize
5728         \interlinepenalty\interfootnotelinepenalty
5729         \splittopskip\footnotesep
5730         \splitmaxdepth\dp\strutbox
5731         \floatingpenalty \@MM
5732         \hsize\columnwidth
5733         \@parboxrestore
5734         \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5735         \@makefntext{}%
5736         \rule{\z@}{\footnotesep}%
5737         \bgroup
5738         \aftergroup\V@@@footnotetext
5739         \Hy@raisedlink{%
5740             \expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}{\relax}%
5741         }%
5742         \let\@currentHlabel\Hy@footnote@currentHlabel
5743         \let\@currentHref\Hy@footnote@currentHref
5744         \let\@currentlabelname\@empty
5745         \ignorespaces

```

```

5746 }%
5747 }{}%

```

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.

```

5748 \let\HyOrg@maketitle\maketitle
5749 \def\maketitle{%
5750   \let\Hy@saved@footnotemark\@footnotemark
5751   \let\Hy@saved@footnotetext\@footnotetext
5752   \let\@footnotemark\H@@footnotemark
5753   \let\@footnotetext\H@@footnotetext
5754   \@ifnextchar[\Hy@maketitle@optarg{% ]
5755     \HyOrg@maketitle
5756     \Hy@maketitle@end
5757 }%
5758 }%
5759 \def\Hy@maketitle@optarg[#1]{%
5760   \HyOrg@maketitle[#1]%
5761   \Hy@maketitle@end
5762 }%
5763 \def\Hy@maketitle@end{%
5764   \ifx\@footnotemark\H@@footnotemark
5765     \let\@footnotemark\Hy@saved@footnotemark
5766   \fi
5767   \ifx\@footnotetext\H@@footnotetext
5768     \let\@footnotetext\Hy@saved@footnotetext
5769   \fi
5770 }%

```

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

```

5771 \def\realfootnote{%
5772   \@ifnextchar[\@xfootnote{%
5773     \stepcounter{\@mpfn}%
5774     \protected@xdef\@thefnmark{\thempfn}%
5775     \H@@footnotemark\H@@footnotetext
5776   }%
5777 }%

5778 \fi
5779 \Hy@DisableOption{hyperfootnotes}

5780 </package>
5781 <*check>
5782 \checklatex
5783 \checkcommand\def\@xfootnotenext[#1]{%
5784   \begingroup
5785     \csname c@\@mpfn\endcsname #1\relax
5786     \unrestored@protected@xdef\@thefnmark{\thempfn}%
5787   \endgroup
5788   \@footnotetext
5789 }
5790 \checkcommand\def\@xfootnotemark[#1]{%
5791   \begingroup
5792     \c@footnote #1\relax
5793     \unrestored@protected@xdef\@thefnmark{\thefnmark}%
5794   \endgroup
5795   \@footnotemark
5796 }

```

```

5797 \checkcommand\def\@footnotemark{%
5798   \leavevmode
5799   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5800   \@makefnmark
5801   \ifhmode\spacefactor\@x@sf\fi
5802   \relax
5803 }
5804 \end{check}
5805 \end{package}

```

35 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.

```

5806 \def\caption{%
5807   \ifx\@capytype\@undefined
5808     \latexerror{\noexpand\caption outside float}\@ehd
5809     \expandafter\@gobble
5810   \else
5811     \H@refstepcounter\@capytype
5812     \let\Hy@tempa\@caption
5813     \ifundefined{float@caption}{%
5814       {%
5815         \expandafter\ifx\csname @float@c@\@capytype\endcsname
5816           \float@caption
5817         \let\Hy@tempa\Hy@float@caption
5818       \fi
5819     }%
5820     \expandafter\@firstofone
5821   \fi
5822   {\@dblarg{\Hy@tempa\@capytype}}%
5823 }
5824 \long\def\@caption#1[#2]#3{%
5825   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5826     \csname iftrue\endcsname
5827     \global\let\@currentHref\hc@currentHref
5828   \else
5829     \hyper@makecurrent{\@capytype}%
5830   \fi
5831   \def\@currentlabelname{#2}%
5832   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5833     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5834   }%
5835   \begingroup
5836     \@parboxrestore
5837     \if@minipage
5838       \setminipage
5839     \fi
5840     \normalsize
5841     \expandafter\ifx\csname if@capstart\expandafter\endcsname
5842       \csname iftrue\endcsname
5843       \global\@capstartfalse
5844       \makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5845     \else
5846       \makecaption{\csname fnum@#1\endcsname}{%
5847         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

5848     \ifHy@nesting
5849     \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
5850     \else
5851     \Hy@raisedlink{%
5852     \expandafter\hyper@@anchor\expandafter{\@currentHref}{\relax}%
5853     }%
5854     #3%
5855     \fi
5856   }%
5857 \fi
5858 \par
5859 \endgroup
5860 }

```

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.

```

5861 \let\Hy@float@caption\@caption
5862 \@ifpackageloaded{float}{%
5863   \def\Hy@float@caption{%
5864     \ifx\Hy@float@currentHref\@undefined
5865       \hyper@makecurrent{\@captype}%
5866       \global\let\Hy@float@currentHref\@currentHref
5867     \else
5868       \let\@currentHref\Hy@float@currentHref
5869     \fi
5870     \float@caption
5871   }%
5872   \let\HyOrg@float@makebox\float@makebox
5873   \renewcommand{\float@makebox}[1]{%
5874     \HyOrg@float@makebox{%
5875       #1\relax
5876       \ifx\Hy@float@currentHref\@undefined
5877       \else
5878         \expandafter\hyper@@anchor\expandafter{\Hy@float@currentHref}{\relax}%
5879         \global\let\Hy@float@currentHref\@undefined
5880       \fi
5881     }%
5882   }%
5883 }{}

5884 \</package>
5885 \<*check>
5886 \checklatex[1999/06/01 - 2000/06/01]
5887 \checkcommand\def\caption{%
5888   \ifx\@captype\@undefined
5889     \latexerror{\noexpand\caption outside float}\@ehd
5890     \expandafter\@gobble
5891   \else
5892     \refstepcounter\@captype
5893     \expandafter\@firstofone
5894   \fi
5895   {\@dblarg{\@caption\@captype}}}%
5896 }

5897 \checkcommand\long\def\@caption#1[#2]#3{%
5898   \par
5899   \addcontentsline{\csname ext@#1\endcsname}{#1}%
5900   {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%

```

```

5901 \begingroup
5902   \@parboxrestore
5903   \if@minipage
5904     \@setminipage
5905   \fi
5906   \normalsize
5907   \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5908 \endgroup
5909 }
5910 </check>
5911 <*package>

```

36 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.

```

5912 \def\hyper@natlinkstart#1{%
5913   \Hy@backout{#1}%
5914   \hyper@linkstart{cite}{cite.#1}%
5915   \def\hyper@nat@current{#1}%
5916 }
5917 \def\hyper@natlinkend{%
5918   \hyper@linkend
5919 }
5920 \def\hyper@natlinkbreak#1#2{%
5921   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
5922 }
5923 \def\hyper@natanchorstart#1{%
5924   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
5925 }
5926 \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.

```

5927 \ifundefined{NAT@parse}{%
5928   \providecommand*\@extra@binfo{}%
5929   \providecommand*\@extra@b@citeb{}%
5930   \def\bibcite#1#2{%
5931     \newl@bel{b}{#1\@extra@binfo}{%
5932       \hyper@@link[cite]{}{cite.#1\@extra@b@citeb}{#2}%
5933     }%
5934   }%
5935   \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.”.

```

5936 \let\Hy@bibcite\bibcite
5937 \begingroup

```

```

5938 \ifundefined{bbl@cite@choice}{}%
5939 \g@addto@macro\bbl@cite@choice{%
5940 \let\bibcite\Hy@bibcite
5941 }%
5942 }%
5943 \endgroup
\@BIBLABEL is working around a ‘feature’ of RevTeX.
5944 \providecommand*\@BIBLABEL{\@biblabel}%
5945 \def\@lbibitem[#1]#2{%
5946 \skiphyperreftrue
5947 \H@item[%
5948 \ifx\Hy@raisedlink\@empty
5949 \hyper@anchorstart{cite.#2\@extra@b@citeb}%
5950 \@BIBLABEL{#1}%
5951 \hyper@anchorend
5952 \else
5953 \Hy@raisedlink{%
5954 \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
5955 }%
5956 \@BIBLABEL{#1}%
5957 \fi
5958 \hfill
5959 ]%
5960 \skiphyperreffalse
5961 \if@filesw
5962 \begingroup
5963 \let\protect\noexpand
5964 \immediate\write\@auxout{%
5965 \string\bibcite{#2}{#1}%
5966 }%
5967 \endgroup
5968 \fi
5969 \ignorespaces
5970 }%

```

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

```

5971 \def\@bibitem#1{%
5972 \skiphyperreftrue\H@item\@skiphyperreffalse
5973 \Hy@raisedlink{%
5974 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
5975 }%
5976 \if@filesw
5977 \begingroup
5978 \let\protect\noexpand
5979 \immediate\write\@auxout{%
5980 \string\bibcite{#1}{\the\value{\@listctr}}}%
5981 }%
5982 \endgroup
5983 \fi
5984 \ignorespaces
5985 }%
5986 }{}
5987 \</package>
5988 \<*check>
5989 \checklatex
5990 \checkcommand\def\@lbibitem[#1]#2{%

```

```

5991 \item[\@biblabel{#1}\hfill]%
5992 \if@filesw
5993   {%
5994     \let\protect\noexpand
5995     \immediate\write\@auxout{%
5996       \string\bibcite{#2}{#1}%
5997     }%
5998   }%
5999 \fi
6000 \ignorespaces
6001 }
6002 \checkcommand\def\@bibitem#1{%
6003 \item
6004 \if@filesw
6005   \immediate\write\@auxout{%
6006     \string\bibcite{#1}{\the\value{\@listctr}}%
6007   }%
6008 \fi
6009 \ignorespaces
6010 }
6011 </check>
6012 <*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.

```

6013 \@ifclassloaded{revtex}{%
6014 \Hy@Info{*** compatibility with revtex **** }%
6015 \def\revtex@checking#1#2{%
6016   \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
6017   \expandafter\def\csname b@#1\endcsname{#2}%
6018   \@SetMaxRnhefLabel{#1}%
6019   \expandafter\let\csname b@#1\endcsname\T@temp
6020 }%

```

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

```

6021 \@ifundefined{CITE}{\def\CITE{\@cite}}{%
6022 \providecommand*\@extra@b@citeb{}%
6023 \def\CITE[#1]#2{%
6024   \let\@citea\@empty
6025   \leavevmode
6026   \unskip
6027   $^{}%
6028   \scriptstyle
6029   \CITE{%
6030     \@for\@citeb=#2\do{%
6031       \@citea
6032       \def\@citea{\penalty\@m\ }%
6033       \edef\@citeb{\expandafter\@firstofone\@citeb}%
6034       \if@filesw
6035         \immediate\write\@auxout{\string\citation{\@citeb}}%
6036       \fi
6037       \@ifundefined{b@\@citeb\extra@b@citeb}{%
6038         \mbox{\reset@font\bfseries ?}%
6039         \G@refundefinedtrue
6040         \@latex@warning{%
6041           Citation ‘\@citeb’ on page \thepage \space undefined%

```

```

6042         }%
6043     }{%
6044         {\csname b@\@citeb\@extra@b@citeb\endcsname}%
6045     }%
6046 }%
6047 }{#1}%
6048 }$%
6049 }%

```

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.

```

6050 \def\@citex[#1]#2{%
6051     \let\@citea\@empty
6052     \@cite{%
6053         \@for\@citeb:=#2\do{%
6054             \@citea
6055             \def\@citea{,\penalty\@m\ }%
6056             \edef\@citeb{\expandafter\@firstofone\@citeb}%
6057             \if@filesw
6058                 \immediate\write\@auxout{\string\citation{\@citeb}}%
6059             \fi
6060             \@ifundefined{b@\@citeb\@extra@b@citeb}{%
6061                 \mbox{\reset@font\bfseries ?}%
6062                 \G@refundefinedtrue
6063                 \@latex@warning{%
6064                     Citation ‘\@citeb’ on page \thepage \space undefined%
6065                 }%
6066             }{%
6067                 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
6068             }%
6069         }%
6070     }{#1}%
6071 }%
6072 }{}

```

36.1 Package harvard

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

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

```

6073 \@ifpackageloaded{harvard}{%
6074     \AtBeginDocument{%
6075         \Hy@Info{*** compatibility with harvard *** }%
6076         \Hy@raiselinksfalse
6077         \def\harvardcite#1#2#3#4{%
6078             \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{}{cite.#1}{#2}}%
6079             \global\@namedef{HAR@an@#1}{\hyper@link[cite]{}{cite.#1}{#3}}%
6080             \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{}{cite.#1}{#4}}%
6081             \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
6082         }%
6083         \def\HAR@citetoaux#1{%
6084             \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
6085             \ifHy@backref
6086                 \ifx\@empty\@currentlabel

```



```

6087     \else
6088     \@bsphack
6089     \if@filesw
6090         \protected@write\@auxout{}\{
6091             \string\@writefile{brf}\{
6092                 \string\backcite{#1}\{
6093                     {\thepage}\{\@currentlabel}\{\@currentHref}\}
6094                 }\}
6095             }\}
6096         }\}
6097     \fi
6098     \@esphack
6099 \fi
6100 \fi
6101 }%
6102 \def\harvarditem{%
6103     \@ifnextchar[\{\@harvarditem\}\{\@harvarditem[\null]\}]%
6104 }%
6105 \def\@harvarditem[#1]#2#3#4#5\par{%
6106     \item[]%
6107     \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
6108     \if@filesw
6109         \begingroup
6110             \def\protect##1{\string ##1\space}%
6111             \ifthenelse{\equal{#1}\{\null\}}%
6112                 {\def\next{{#4}{#2}{#2}{#3}}}%
6113                 {\def\next{{#4}{#2}{#1}{#3}}}%
6114             \immediate\write\@auxout{\string\harvardcite\codeof\next}%
6115         \endgroup
6116     \fi
6117     \protect\hspace*{-\labelwidth}%
6118     \protect\hspace*{-\labelsep}%
6119     \ignorespaces
6120     #5%
6121     \ifHy@backref
6122         \newblock
6123         \backref{\csname br@#4\endcsname}%
6124     \fi
6125     \par
6126 }%

```

\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:

```

6127 \long\def\HAR@checkcitations#1#2#3#4{%
6128     \def\HAR@tempa{\hyper@@link[cite]\{\cite.#1\}{#2}\}%
6129     \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
6130         \def\HAR@tempa{\hyper@@link[cite]\{\cite.#1\}{#3}\}%
6131         \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
6132             \def\HAR@tempa{\hyper@@link[cite]\{\cite.#1\}{#4}\}%
6133             \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
6134                 \else
6135                     \@tempwattrue
6136                 \fi
6137             \else
6138                 \@tempwattrue
6139             \fi

```

```

6140     \else
6141         \@tempswatrue
6142     \fi
6143 }%
6144 }%

6145 }{}

```

36.2 Package chicago

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

```

6146 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

6147 \def\citeN{%
6148     \def\@citesep{-1000}%
6149     \def\@cite##1##2{##1}%
6150     \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
6151     \@citedata@opt
6152 }%

```

`\shortciteN`

```

6153 \def\shortciteN{%
6154     \def\@citesep{-1000}%
6155     \def\@cite##1##2{##1}%
6156     \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
6157     \@citedata@opt
6158 }%

```

`\@citedata@opt`

```

6159 \def\@citedata@opt{%
6160     \let\@cite@opt\empty
6161     \@ifnextchar [{%
6162         \@tempswatrue
6163         \@citedatax@opt
6164     }{%
6165         \@tempswafalse
6166         \@citedatax[]%
6167     }%
6168 }%

```

`\@citedatax@opt`

```

6169 \def\@citedatax@opt[#1]{%
6170     \def\@cite@opt{, #1}%
6171     \@citedatax[{#1}]%
6172 }%

6173 }{}

```

37 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.

```

6174 \def\Hy@EveryPageAnchor{%
6175   \Hy@DistillerDestFix
6176   \ifHy@pageanchor
6177     \ifHy@hypertextnames
6178     \ifHy@plainpages
6179       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
6180     \else
6181       \begingroup
6182         \let\@number\@firstofone
6183         \Hy@unicodedefalse
6184         \pdfstringdef\@the@H@page{\thepage}%
6185       \endgroup
6186       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
6187     \fi
6188   \else
6189     \Hy@GlobalStepCount\Hy@pagecounter
6190     \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
6191   \fi
6192   \vbox to 0pt{%
6193     \kern\voffset
6194     \kern\topmargin
6195     \kern-1bp\relax
6196     \hbox to 0pt{%
6197       \kern\hoffset
6198       \kern\ifodd\value{page}%
6199         \oddsidemargin
6200       \else
6201         \evensidemargin
6202       \fi
6203       \kern-1bp\relax
6204       \Hy@TempPageAnchor
6205     \hss
6206   }%
6207   \vss
6208 }%
6209 \fi
6210 }
6211 \g@addto@macro\Hy@EveryPageBoxHook{%
6212   \Hy@EveryPageAnchor
6213 }

```

38 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.

```

6214 \def\addcontentsline#1#2#3{% toc extension, type, tag
6215   \begingroup
6216     \let\label\@gobble
6217     \ifx\@currentHref\@empty
6218       \Hy@Warning{%
6219         No destination for bookmark of \string\addcontentsline,%

```

```

6220         \MessageBreak destination is added%
6221     }%
6222     \phantomsection
6223 \fi
6224 \expandafter\ifx\csname toplevel@#2\endcsname\relax
6225     \begingroup
6226         \def\Hy@tempa{#1}%
6227         \ifx\Hy@tempa\Hy@bookmarkstype
6228             \Hy@WarningNoLine{%
6229                 bookmark level for unknown #2 defaults to 0%
6230             }%
6231         \else
6232             \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6233         \fi
6234     \endgroup
6235 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
6236 \fi
6237 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
6238 \Hy@writebookmark{\csname the#2\endcsname}%
6239     {#3}%
6240     {\@currentHref}%
6241     {\Hy@toclevel}%
6242     {#1}%
6243 \ifHy@verbose
6244     \def\Hy@tempa{#3}%
6245     \@onelevel@sanitize\Hy@tempa
6246     \typeout{pdfTeX: bookmark at \the\inputlineno: %
6247         {\csname the#2\endcsname}%
6248         {\Hy@tempa}%
6249         {\@currentHref}%
6250         {\Hy@toclevel}%
6251         {#1}%
6252     }%
6253 \fi
6254 \addtocontents{#1}{%
6255     \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6256 }%
6257 \endgroup
6258 }
6259 \def\contentsline#1#2#3#4{%
6260     \ifx\#4\%
6261         \csname l@#1\endcsname{#2}{#3}%
6262     \else
6263         \ifcase\Hy@linktoc % none
6264             \csname l@#1\endcsname{#2}{#3}%
6265         \or % section
6266             \csname l@#1\endcsname{%
6267                 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6268             }{#3}%
6269         \or % page
6270             \csname l@#1\endcsname{#2}{#3}%
6271             \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6272         }%
6273     \else % all
6274         \csname l@#1\endcsname{%
6275             \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6276         }{%

```

```

6277         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6278     }%
6279     \fi
6280 \fi
6281 }

6282 \</package>
6283 \< *check>
6284 \checklatex
6285 \checkcommand\def\addcontentsline#1#2#3{%
6286     \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
6287 }
6288 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6289 \</check>
6290 \< *package>

```

39 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.

```

6291 \let\H@definecounter\@definecounter
6292 \def\@definecounter#1{%
6293     \H@definecounter{#1}%
6294     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6295 }

```

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.

```

6296 \let\H@newctr\@newctr
6297 \def\@newctr#1[#2]{%
6298     \H@newctr#1[#2]%
6299     \expandafter\def\csname theH#1\endcsname{%
6300         \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
6301     }%
6302 }

```

40 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.

```

6303 \<@ifpackageloaded{amsmath}{%
6304     \def\Hy@make@anchor{%
6305         \Hy@GlobalStepCount\Hy@linkcounter
6306         \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6307         \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6308     }%
6309     \def\Hy@make@df@tag@#1{%
6310         \gdef\df@tag{%
6311             \maketag@@@{\Hy@make@anchor#1}%
6312         \def\@currentlabel{#1}%
6313     }%

```

```

6314 }%
6315 \def\Hy@make@df@tag@@#1{%
6316   \gdef\df@tag{%
6317     \tagform@{\Hy@make@anchor#1}%
6318     \toks@{\xp{\p@equation{#1}}}%
6319     \edef\@currentlabel{\the\toks@}%
6320   }%
6321 }%
6322 \let\HyOrg@make@df@tag@@\make@df@tag@@
6323 \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
6324 \let\make@df@tag@@\Hy@make@df@tag@@
6325 \let\make@df@tag@@@ \Hy@make@df@tag@@@
6326 }{}

```

Only play with `\seteqlebal` if we are using pdf_{tex}. Other drivers cause problems; requested by Michael Downes (AMS).

```

6327 \ifpackagewith{hyperref}{pdftex}{%
6328   \let\H@seteqlabel\@seteqlabel
6329   \def\@seteqlabel#1{%
6330     \H@seteqlabel{#1}%
6331     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6332     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6333   }%
6334 }{}

```

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}}}

```

40.1 `\@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.

```

6335 \let\HyOrg@addtoreset\@addtoreset
6336 \def\@addtoreset#1#2{%
6337   \HyOrg@addtoreset{#1}{#2}%
6338   \expandafter\xdef\csname theH#1\endcsname{%
6339     \expandafter\noexpand
6340     \csname the\@ifundefined{theH#2}{H#2}\endcsname
6341     .\noexpand\the\noexpand\value{#1}%
6342   }%
6343 }

```

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

```

6344 </package>
6345 <*check>
6346 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6347 \checkcommand\newcommand{\numberwithin}[3][\varabic]{%
6348   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6349     \@ifundefined{c@#3}{\@nocnterr{#3}}{%

```

```

6350     \@addtoreset{#2}{#3}%
6351     \@xp\xdef\csname the#2\endcsname{%
6352         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6353     }%
6354 }%
6355 }%
6356 }%
6357 \</check>
6358 \*package>
6359 \@ifpackageloaded{amsmath}{%
6360     \@ifpackagelater{amsmath}{1999/12/14}{%
6361         \renewcommand*{\numberwithin}[3][\arabic]{%
6362             \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6363                 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6364                     \HyOrg@addtoreset{#2}{#3}%
6365                     \@xp\xdef\csname the#2\endcsname{%
6366                         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6367                     }%
6368                     \@xp\xdef\csname theH#2\endcsname{%
6369                         \@xp\@nx
6370                         \csname the\@ifundefined{theH#3}{}H#3\endcsname
6371                         .\@nx#1{#2}%
6372                     }%
6373                 }%
6374             }%
6375         }%
6376     }{%
6377         \Hy@WarningNoLine{%
6378             \string\numberwithin\space of package ‘amsmath’ %
6379             only fixed\MessageBreak
6380             for version 2000/06/06 v2.12 or newer%
6381         }%
6382     }%
6383 }{}

```

41 Included figures

Simply intercept the low level graphics package macro.

```

6384 \ifHy@figures
6385     \let\Hy@Gin@setfile\Gin@setfile
6386     \def\Gin@setfile#1#2#3{%
6387         \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6388     }%
6389 \fi
6390 \Hy@DisableOption{hyperfigures}

```

42 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.

```

6391 \ifHy@hyperindex
6392   \def\HyInd@ParenLeft{({}%
6393   \def\HyInd@ParenRight{)}}%
6394   \def\hyperindexformat#1#2{%
6395     \let\HyOrg@hyperpage\hyperpage
6396     \let\hyperpage\@firstofone
6397     #1{\HyOrg@hyperpage{#2}}}%
6398     \let\hyperpage\HyOrg@hyperpage
6399   }%
6400   \Hy@nextfalse
6401   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6402   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6403   \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
6404   \begingroup
6405     \lccode'\|=\expandafter'\HyInd@EncapChar\relax
6406     \lccode'\|=\'\relax
6407   \lowercase{\endgroup
6408     \ifHy@next
6409       \let\HyInd@org@wrindex\@wrindex
6410       \def\@wrindex#1#2{\HyInd@wrindex{#1}#2||\}%
6411       \def\HyInd@wrindex#1#2|#3|#4\{\%
6412         \ifx\|#3\%
6413           \HyInd@org@wrindex{#1}{#2|hyperpage}%
6414         \else
6415           \HyInd@@@wrindex{#1}{#2}#3\%
6416         \fi
6417       }%
6418       \def\HyInd@@@wrindex#1#2#3#4\{\%
6419       \def\Hy@temp@A{#3}%
6420       \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6421         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6422         \relax
6423       \HyInd@org@wrindex{#1}{\%
6424         #2|hyperindexformat{/#3#4}%
6425       }%
6426       \else
6427         \ifx\|#4\%
6428           \ifx\Hy@temp@A\HyInd@ParenRight
6429             \HyInd@org@wrindex{#1}{#2|#3}%
6430           \else
6431             \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6432           \fi
6433         \else
6434           \HyInd@org@wrindex{#1}{\%
6435             #2|#3hyperindexformat{/#4}%
6436           }%
6437         \fi
6438       \fi
6439     }%
6440     \else
6441       \def\@wrindex#1{\@wrindex#1||\}%
6442       \def\@wrindex#1|#2|#3\{\%
6443       \if@filesw
6444         \ifx\|#2\%
6445           \protected@write\@indexfile{}\%

```



```

6446         \string\indexentry{#1|hyperpage}{\thepage}%
6447     }%
6448     \else
6449         \HyInd@@@wrindex{#1}#2\\%
6450     \fi
6451 \fi
6452 \endgroup
6453 \@esphack
6454 }%
6455 \def\HyInd@@@wrindex#1#2#3\\{%
6456     \def\Hy@temp@A{#2}%
6457     \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6458         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6459         \relax
6460     \protected@write\@indexfile{}{%
6461         \string\indexentry{%
6462             #1|hyperindexformat{/#2#3}%
6463         }{\thepage}%
6464     }%
6465     \else
6466         \ifx\\#3\\%
6467             \ifx\Hy@temp@A\HyInd@ParenRight
6468                 \protected@write\@indexfile{}{%
6469                     \string\indexentry{#1|#2}{\thepage}%
6470                 }%
6471             \else
6472                 \protected@write\@indexfile{}{%
6473                     \string\indexentry{#1|#2hyperpage}{\thepage}%
6474                 }%
6475             \fi
6476         \else
6477             \protected@write\@indexfile{}{%
6478                 \string\indexentry{%
6479                     #1|#2hyperindexformat{/#3}%
6480                 }{\thepage}%
6481             }%
6482         \fi
6483     \fi
6484 }%
6485 \fi
6486 }%
6487 \fi
6488 \Hy@DisableOption{hyperindex}
6489 \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.

```

6490 \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.

```

6491 \def\hyperpage#1{%
6492     \HyInd@hyperpage#1\nohyperpage{}\@nil
6493 }
6494 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
6495     \HyInd@@@hyperpage{#1}%
6496     #2%

```

```

6497 \def\Hy@temp{#3}%
6498 \ifx\Hy@temp\@empty
6499 \else
6500   \Hy@ReturnAfterFi{%
6501     \HyInd@hyperpage#3\@nil
6502   }%
6503 \fi
6504 }
6505 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
6506 \def\@hyperpage#1--#2--#3\{\%
6507   \ifx\#2\%
6508     \@commahyperpage{#1}%
6509   \else
6510     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6511   \fi
6512 }
6513 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6514 \def\@commahyperpage#1, #2,#3\{\%
6515   \ifx\#2\%
6516     \HyInd@pagelink{#1}%
6517   \else
6518     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6519   \fi
6520 }

```

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

```

6521 \def\HyInd@pagelink#1{%
6522   \begingroup
6523   \toks@={}%
6524   \HyInd@removespaces#1 \@nil
6525 \endgroup
6526 }
6527 \def\HyInd@removespaces#1 #2\@nil{%
6528   \toks@=\expandafter{\the\toks@#1}%
6529   \ifx\#2\%
6530     \edef\x{\the\toks@}%
6531     \ifx\x\@empty
6532     \else
6533       \hyperlink{page.\the\toks@}{\the\toks@}%
6534     \fi
6535   \else
6536     \Hy@ReturnAfterFi{%
6537       \HyInd@removespaces#2\@nil
6538     }%
6539   \fi
6540 }

```

43 Compatibility with foiltex

```

6541 \@ifclassloaded{foils}{%
6542   \providecommand*\ext@table{lot}%
6543   \providecommand*\ext@figure{lof}%
6544 }{}

```

44 Compatibility with seminar slide package

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

```
6545 \@ifclassloaded{seminar}{%
6546   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}%
6547 }{%
6548   \Hy@seminarslidesfalse
6549 }
6550 \@ifpackageloaded{slidesec}{%
6551   \newcommand\theHslidesection {\arabic{slidesection}}%
6552   \newcommand\theHslidesubsection{%
6553     \theHslidesection.\arabic{slidesubsection}}%
6554 }%
6555 \def\slide@heading[#1]#2{%
6556   \H@refstepcounter{slidesection}%
6557   \@addtoreset{slidesubsection}{slidesection}%
6558   \addtocontents{los}{%
6559     \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6560     {\@SCTR}{\slideheading.\theslidesection}}%
6561 }%
6562 \def\Hy@tempa{#2}%
6563 \ifx\Hy@tempa\@empty
6564 \else
6565   {%
6566     \edef\@currentlabel{%
6567       \csname p@slidesection\endcsname\theslidesection
6568     }%
6569     \makeslideheading{#2}%
6570   }%
6571 \fi
6572 \gdef\theslideheading{#1}%
6573 \gdef\theslidesubheading{}%
6574 \ifHy@bookmarksnumbered
6575   \def\Hy@slidetitle{\theslidesection\space #1}%
6576 \else
6577   \def\Hy@slidetitle{#1}%
6578 \fi
6579 \ifHy@hypertextnames
6580   \ifHy@naturalnames
6581     \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6582     \Hy@writebookmark
6583       {\theslidesection}%
6584       {\Hy@slidetitle}%
6585       {slideheading.\theslidesection}%
6586       {1}%
6587       {toc}%
6588   \else
6589     \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6590     \Hy@writebookmark
6591       {\theslidesection}%
6592       {\Hy@slidetitle}%
6593       {slideheading.\theHslidesection}%
6594       {1}%
6595       {toc}%
6596   \fi
6597 \else
```

```

6598 \Hy@GlobalStepCount\Hy@linkcounter
6599 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6600 \Hy@writebookmark
6601   {\theslidesubsection}%
6602   {\Hy@slidetitle}%
6603   {slideheading.\the\Hy@linkcounter}%
6604   {1}%
6605   {toc}%
6606 \fi
6607 }%
6608 \def\slide@subheading[#1]#2{%
6609   \H@refstepcounter{slidesubsection}%
6610   \addtocontents{los}{%
6611     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6612     {\SCTR}{slideheading.\theslidesubsection}%
6613   }%
6614   \def\Hy@tempa{#2}%
6615   \ifx\Hy@tempa\@empty
6616   \else
6617     {%
6618       \edef\@currentlabel{%
6619         \csname p@slidesubsection\endcsname\theslidesubsection
6620       }%
6621       \makeslidesubheading{#2}%
6622     }%
6623   \fi
6624   \gdef\theslidesubheading{#1}%
6625   \ifHy@bookmarksnumbered
6626     \def\Hy@slidetitle{\theslidesubsection\space #1}%
6627   \else
6628     \def\Hy@slidetitle{#1}%
6629   \fi
6630   \ifHy@hypertextnames
6631     \ifHy@naturalnames
6632       \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6633       \Hy@writebookmark
6634         {\theslidesubsection}%
6635         {\Hy@slidetitle}%
6636         {slideheading.\theslidesubsection}%
6637         {2}%
6638         {toc}%
6639     \else
6640       \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6641       \Hy@writebookmark
6642         {\theslidesubsection}%
6643         {\Hy@slidetitle}%
6644         {slideheading.\theHslidesubsection}%
6645         {2}%
6646         {toc}%
6647     \fi
6648   \else
6649     \Hy@GlobalStepCount\Hy@linkcounter
6650     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6651     \Hy@writebookmark
6652       {\theslidesubsection}%
6653       {\Hy@slidetitle}%
6654       {slideheading.\the\Hy@linkcounter}%

```

```

6655         {1}%
6656         {toc}%
6657     \fi
6658 }%
6659 \providecommand*{\listslidenamename}{List of Slides}%
6660 \def\listofslides{%
6661     \section*{%
6662         \listslidenamename
6663         \@mkboth{%
6664             \expandafter\MakeUppercase\listslidenamename
6665         }{%
6666             \expandafter\MakeUppercase\listslidenamename
6667         }%
6668     }%
6669     \def\l@slide##1##2##3##4{%
6670         \slide@undottedcline{%
6671             \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
6672         }{}%
6673     }%
6674     \let\l@subslide\l@slide
6675     \@startlos
6676 }%
6677 \def\slide@contents{%
6678     \def\l@slide##1##2##3##4{%
6679         \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6680     }%
6681     \let\l@subslide\@gobblefour
6682     \@startlos
6683 }%
6684 \def\Slide@contents{%
6685     \def\l@slide##1##2##3##4{%
6686         \ifcase\lslide@flag
6687             \message{##1 ** \the\c@slidesection}%
6688             \ifnum##1>\c@slidesection
6689                 \def\lslide@flag{1}%
6690                 {%
6691                     \large
6692                     \slide@ccline{%
6693                         \slidenumberline{$\rightarrow\bullet$}%
6694                         {\hyperlink{##4}{##2}}}%
6695                     }{##3}%
6696                 }%
6697             \else
6698                 {%
6699                     \large
6700                     \slide@ccline{%
6701                         \slidenumberline{$\surd\;\bullet$}%
6702                         {\hyperlink{##4}{##2}}}%
6703                     }{##3}%
6704                 }%
6705             \fi
6706         \or
6707             \def\lslide@flag{2}%
6708             {%
6709                 \large
6710                 \slide@ccline{%
6711                     \slidenumberline{$\bullet$}%

```

```

6712         {\hyperlink{##4}{##2}}%
6713     }{##3}%
6714 }%
6715 \or
6716 {%
6717     \large
6718     \slide@cline{%
6719         \slidenumberline{$\bullet$}%
6720         {\hyperlink{##4}{##2}}%
6721     }{##3}%
6722 }%
6723 \fi
6724 }%
6725 \def\l@subslide##1##2##3##4{%
6726     \ifnum\lslide@flag=1 %
6727         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6728     \fi
6729 }%
6730 \def\lslide@flag{0}%
6731 \@startlos
6732 }%
6733 }{}

```

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.)

```

6734 \ifHy@texht
6735     \expandafter\endinput
6736 \fi
6737 \let\real@setref\@setref
6738 \def\@setref#1#2#3{% csname, extract group, refname
6739     \ifx#1\relax
6740         \protect\G@refundefinedtrue
6741         \nfss@text{\reset@font\bfseries ??}%
6742         \@latex@warning{%
6743             Reference ‘#3’ on page \thepage \space undefined%
6744         }%
6745     \else
6746         \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6747     \fi
6748 }

```

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

```

6749 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6750     \begingroup
6751     \toks0={\hyper@@link{#5}{#4}}%
6752     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6753     \edef\x{\endgroup
6754         \the\toks0 {\the\toks1 }%
6755     }%
6756     \x
6757 }
6758 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6759     \ifx#1\relax
6760         \protect\G@refundefinedtrue
6761         \nfss@text{\reset@font\bfseries ??}%
6762         \@latex@warning{%

```

```

6763      Reference ‘#3’ on page \thepage \space undefined%
6764    }%
6765  \else
6766    \protect\hyper@@link
6767      {\expandafter\@fifthoffive#1}%
6768      {page.\expandafter\@secondoffive#1}%
6769      {\expandafter\@secondoffive#1}%
6770  \fi
6771 }

6772 </package>
6773 <*check>
6774 \checklatex
6775 \checkcommand\def\@setref#1#2#3{%
6776   \ifx#1\relax
6777     \protect\G@refundefinedtrue
6778     \nfss@text{\reset@font\bfseries ??}%
6779     \@latex@warning{%
6780       Reference ‘#3’ on page \thepage\space undefined%
6781     }%
6782   \else
6783     \expandafter#2#1\null
6784   \fi
6785 }
6786 </check>
6787 <*package>

```

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

```

6788 \def\HyRef@StarSetRef#1{%
6789   \begingroup
6790     \Hy@safe@activestrue
6791     \edef\x{#1}%
6792     \@onelevel@sanitize\x
6793     \edef\x{\endgroup
6794       \noexpand\HyRef@@StarSetRef
6795       \expandafter\noexpand\csname r@\x\endcsname{\x}%
6796     }%
6797   \x
6798 }
6799 \def\HyRef@@StarSetRef#1#2#3{%
6800   \ifx#1\@undefined
6801     \let#1\relax
6802   \fi
6803   \real@setref#1#3{#2}%
6804 }
6805 \def\@refstar#1{%
6806   \HyRef@StarSetRef{#1}\@firstoffive
6807 }
6808 \def\@pagerefstar#1{%
6809   \HyRef@StarSetRef{#1}\@secondoffive
6810 }
6811 \AtBeginDocument{%
6812   \@ifpackageloaded{varioref}{%
6813     \def\@Refstar#1{%
6814       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6815     }%
6816     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%

```

```

6817     \MakeUppercase#1%
6818   }%
6819   \DeclareRobustCommand*{\Ref}{%
6820     \@ifstar\@Refstar\HyRef@Ref
6821   }%
6822   \def\HyRef@Ref#1{%
6823     \hyperref[#{1}]{\Ref*{#1}}%
6824   }%
6825   \def\Vr@f#1{%
6826     \leavevmode\unskip\vref@space
6827     \hyperref[#{1}]{%
6828       \Ref*{#1}%
6829       \let\vref@space\nobreakspace
6830       \@vpageref[\unskip]{#1}%
6831     }%
6832   }%
6833   \def\vr@f#1{%
6834     \leavevmode\unskip\vref@space
6835     \begingroup
6836       \let\T@pageref\@pagerefstar
6837       \hyperref[#{1}]{%
6838         \ref*{#1}%
6839         \vpageref[\unskip]{#1}%
6840       }%
6841     \endgroup
6842   }%
6843 }{}%
6844 }
6845 \DeclareRobustCommand*{\autopageref}{%
6846   \@ifstar{%
6847     \HyRef@autopagerefname\pageref*%
6848   }\HyRef@autopageref
6849 }
6850 \def\HyRef@autopageref#1{%
6851   \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%
6852 }
6853 \def\HyRef@autopagerefname{%
6854   \@ifundefined{pageautorefname}{%
6855     \@ifundefined{pagename}{%
6856       \Hy@Warning{No autoref name for 'page'}%
6857     }{%
6858       \pagename\nobreakspace
6859     }%
6860   }{%
6861     \pageautorefname\nobreakspace
6862   }%
6863 }
6864 \DeclareRobustCommand*{\autoref}{%
6865   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
6866 }
6867 \def\HyRef@autoref#1#2{%
6868   \begingroup
6869     \Hy@safe@activetrue
6870     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
6871   \endgroup
6872 }
6873 \def\HyRef@autosetref#1#2#3{% link command, csname, refname

```



```

6874 \HyRef@showkeysref{#2}%
6875 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6876 \edef\HyRef@thisref{%
6877 \expandafter\@fourthoffive#1\@empty\@empty\@empty
6878 }%
6879 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6880 \Hy@safe@activesfalse
6881 #3{%
6882 \expandafter\@fifthoffive#1\@empty\@empty\@empty
6883 }{%
6884 \expandafter\@fourthoffive#1\@empty\@empty\@empty
6885 }{%
6886 \HyRef@currentHtag
6887 \expandafter\@firstoffive#1\@empty\@empty\@empty
6888 \null
6889 }%
6890 \else
6891 \protect\G@refundefinedtrue
6892 \nfss@text{\reset@font\bfseries ??}%
6893 \@latex@warning{%
6894 Reference ‘#2’ on page \thepage\space undefined%
6895 }%
6896 \fi
6897 }
6898 \def\HyRef@testreftype#1.#2\{%
6899 \@ifundefined{#1autorefname}{%
6900 \@ifundefined{#1name}{%
6901 \HyRef@StripStar#1\*\*\@nil{#1}%
6902 \@ifundefined{\HyRef@name autorefname}{%
6903 \@ifundefined{\HyRef@name name}{%
6904 \def\HyRef@currentHtag{%
6905 \Hy@Warning{No autoref name for ‘#1’}%
6906 }{%
6907 \edef\HyRef@currentHtag{%
6908 \expandafter\noexpand\csname\HyRef@name name\endcsname
6909 \noexpand~%
6910 }%
6911 }%
6912 }{%
6913 \edef\HyRef@currentHtag{%
6914 \expandafter\noexpand\csname\HyRef@name autorefname\endcsname
6915 \noexpand~%
6916 }%
6917 }%
6918 }{%
6919 \edef\HyRef@currentHtag{%
6920 \expandafter\noexpand\csname#1name\endcsname
6921 \noexpand~%
6922 }%
6923 }%
6924 }{%
6925 \edef\HyRef@currentHtag{%
6926 \expandafter\noexpand\csname#1autorefname\endcsname
6927 \noexpand~%
6928 }%
6929 }%
6930 }

```

```

6931 \def\HyRef@StripStar#1*\#2\@nil#3{%
6932   \def\HyRef@name{#2}%
6933   \ifx\HyRef@name\HyRef@CaseStar
6934     \def\HyRef@name{#1}%
6935   \else
6936     \def\HyRef@name{#3}%
6937   \fi
6938 }
6939 \def\HyRef@CaseStar{*\\}
6940 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

6941 \let\HyRef@ShowKeysRef\@gobble
6942 \def\HyRef@ShowKeysInit{%
6943   \begingroup\expandafter\expandafter\expandafter\endgroup
6944   \expandafter\ifx\csname SK@@label\endcsname\relax
6945   \else
6946     \ifx\SK@ref\@empty
6947     \else
6948       \def\HyRef@ShowKeysRef{%
6949         \SK@\SK@@ref
6950       }%
6951     \fi
6952   \fi
6953 }
6954 \@ifpackageloaded{showkeys}{%
6955   \HyRef@ShowKeysInit
6956 }{%
6957   \AtBeginDocument{%
6958     \@ifpackageloaded{showkeys}{%
6959       \HyRef@ShowKeysInit
6960     }{%
6961     }%
6962 }

```

Defaults for the names that \autoref uses.

```

6963 \providecommand*\AMSautorefname{\equationautorefname}
6964 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
6965 \providecommand*\Itemautorefname{\itemautorefname}
6966 \providecommand*\itemautorefname{item}
6967 \providecommand*\equationautorefname{Equation}
6968 \providecommand*\footnoteautorefname{footnote}
6969 \providecommand*\itemautorefname{item}
6970 \providecommand*\figureautorefname{Figure}
6971 \providecommand*\tableautorefname{Table}
6972 \providecommand*\partautorefname{Part}
6973 \providecommand*\appendixautorefname{Appendix}
6974 \providecommand*\chapterautorefname{chapter}
6975 \providecommand*\sectionautorefname{section}
6976 \providecommand*\subsectionautorefname{subsection}
6977 \providecommand*\subsubsectionautorefname{subsubsection}
6978 \providecommand*\paragraphautorefname{paragraph}
6979 \providecommand*\subparagraphautorefname{subparagraph}
6980 \providecommand*\FancyVerbLineautorefname{line}
6981 \providecommand*\theoremautorefname{Theorem}
6982 \providecommand*\pageautorefname{page}

```

6983 \langle /package \rangle

45 Configuration files

45.1 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.

```
6984  $\langle$ *pdf $\TeX$  | dvipdfm | vt $\TeX$  | pdfmarkbase | dviwindo $\rangle$ 
6985 \RequirePackage{pdf $\TeX$ cmds}[2009/04/10]
6986 \begingroup\expandafter\expandafter\expandafter\endgroup
6987 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
6988   \begingroup
6989     \catcode'\=0 %
6990     \@makeother\%
6991   \@firstofone{\endgroup
6992     |def|Hy@pstringdef#1#2{%
6993       |begingroup
6994         |edef~{|string~}%
6995         |xdef|Hy@gtemp{#2}%
6996       |endgroup
6997       |let#1|Hy@gtemp
6998       |@onelevel@sanitize#1%
6999       |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
7000       |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
7001       |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1|@nil}%
7002     }%
7003     |def|Hy@ExchangeBackslash#1#2|@nil{%
7004       #1%
7005       |ifx|#2|\%
7006       |else
7007         \\\%
7008         |Hy@ReturnAfterFi{%
7009           |Hy@ExchangeBackslash#2|@nil
7010         }%
7011       |fi
7012     }%
7013   }%
7014   \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
7015     #1%
7016     \ifx\#2\%
7017     \else
7018       \@backslashchar(%
7019       \Hy@ReturnAfterFi{%
7020         \Hy@ExchangeLeftParenthesis#2\@nil
7021       }%
7022     \fi
7023   }%
7024   \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
7025     #1%
7026     \ifx\#2\%
```

```

7027 \else
7028 \backslashchar)%
7029 \Hy@ReturnAfterFi{%
7030 \Hy@ExchangeRightParenthesis#2\@nil
7031 }%
7032 \fi
7033 }%
7034 \else
7035 \def\Hy@pstringdef#1#2{%
7036 \begingroup
7037 \edef~{\string~}%
7038 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
7039 \endgroup
7040 \let#1\Hy@gtemp
7041 }%
7042 \fi
7043 </pdfTeX | dvipdfm | vtex | pdfmarkbase | dviwindo>

```

45.2 pdfTeX

```

7044 <*pdfTeX>
7045 \providecommand*{\XR@ext}{pdf}
7046 \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`

```

7047 \let\Hy@pdfminorversion\relax
7048 \begingroup\expandafter\expandafter\expandafter\endgroup
7049 \expandafter\ifx\csname pdfminorversion\endcsname\relax
7050 \begingroup\expandafter\expandafter\expandafter\endgroup
7051 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
7052 \else
7053 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
7054 \fi
7055 \else
7056 \def\Hy@pdfminorversion{\pdfminorversion}%
7057 \fi
7058 \@ifundefined{Hy@pdfminorversion}{%
7059 \PackageInfo{hyperref}{%
7060 PDF version is not set, because pdfTeX is too old (<1.10a)%
7061 }%
7062 }{%
7063 \ifHy@ocgcolorlinks
7064 \ifnum\Hy@pdfminorversion<5 %
7065 \setkeys{Hyp}{pdfversion=1.5}%
7066 \fi
7067 \fi
7068 \ifHy@setpdfversion
7069 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
7070 \else
7071 \Hy@pdfminorversion=\Hy@pdfversion\relax
7072 \fi

```

```

7073     \PackageInfo{hyperref}{%
7074         \expandafter\string\Hy@pdfminorversion
7075         :=\number\Hy@pdfversion\space
7076     }%
7077     \fi
7078     \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
7079 }
7080 \Hy@DisableOption{pdfversion}%

7081 \ifHy@ocgcolorlinks
7082     \immediate\pdfobj{%
7083         <<%
7084             /Type/OCG%
7085             /Name(View)%
7086             /Usage<<%
7087                 /Print<<%
7088                     /PrintState/OFF%
7089                 >>%
7090             /View<<%
7091                 /ViewState/ON%
7092             >>%
7093         >>%
7094     }%
7095     \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
7096     \immediate\pdfobj{%
7097         <<%
7098             /Type/OCG%
7099             /Name(Print)%
7100             /Usage<<%
7101                 /Print<<%
7102                     /PrintState/ON%
7103                 >>%
7104             /View<<%
7105                 /ViewState/OFF%
7106             >>%
7107         >>%
7108     }%
7109     \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
7110     \immediate\pdfobj{%
7111         [%
7112             \OBJ@OCG@view\space\OBJ@OCG@print
7113         ]%
7114     }%
7115     \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
7116     \pdfcatalog{%
7117         /OCProperties<<%
7118         /OCGs \OBJ@OCGs
7119         /D<<%
7120             /OFF[\OBJ@OCG@print]%
7121             /AS[%
7122                 <<%
7123                     /Event/View%
7124                     /OCGs \OBJ@OCGs
7125                     /Category[/View]%
7126                 >>%
7127             <<%

```

```

7130         /Event/Print%
7131         /OCGs \OBJ@OCGs
7132         /Category[/Print]%
7133     >>%
7134     <<%
7135         /Event/Export%
7136         /OCGs \OBJ@OCGs
7137         /Category[/Print]%
7138     >>%
7139     ]%
7140     >>%
7141     >>%
7142 }%
7143 \begingroup
7144 \edef\x{\endgroup
7145 \pdfpageresources{
7146     /Properties<<%
7147     /OCView \OBJ@OCG@view
7148     /OCPrint \OBJ@OCG@print
7149     >>%
7150 }%
7151 }%
7152 \x
7153 \AtBeginDocument{%
7154     \def\Hy@colorlink#1{%
7155         \begingroup
7156         \ifHy@ocgcolorlinks
7157             \def\Hy@ocgcolor{#1}%
7158             \setbox0=\color@hbox
7159         \else
7160             \HyColor@UseColor#1%
7161         \fi
7162     }%
7163     \def\Hy@endcolorlink{%
7164         \ifHy@ocgcolorlinks
7165             \color@endbox
7166             \mbox{%
7167                 \pdfliteral page{/OC/OCPrint BDC}%
7168                 \rlap{\copy0}%
7169                 \pdfliteral page{EMC/OC/OCView BDC}%
7170                 \begingroup
7171                 \expandafter\HyColor@UseColor\Hy@ocgcolor
7172                 \box0 %
7173                 \endgroup
7174                 \pdfliteral page{EMC}%
7175             }%
7176         \fi
7177     \endgroup
7178 }%
7179 }%
7180 \else
7181 \Hy@DisableOption{ocgcolorlinks}%
7182 \fi

```

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

```

7183 \def\setpdflinkmargin#1{\pdflinkmargin#1}
7184 \ifx\pdfstartlink\undefined% less than version 14
7185 \let\pdfstartlink\pdfannotlink

```

```

7186 \let\pdflinkmargin\@tempdima
7187 \let\pdfxform\pdfform
7188 \let\pdflastxform\pdfastform
7189 \let\pdfrefxform\pdfreform
7190 \else
7191 \pdflinkmargin1pt %
7192 \fi

```

First set up the default linking

```
7193 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

7194 \def\new@pdflink#1{%
7195   \ifHy@verbose
7196     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
7197   \fi
7198   \Hy@SaveLastskip
7199   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7200   \Hy@DestName\Hy@pstringDest\@pdfview
7201   \Hy@RestoreLastskip
7202 }
7203 \let\pdf@endanchor\@empty

```

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

```

7204 \def\Hy@DestName#1#2{%
7205   \pdfdest name{#1}#2\relax
7206 }

```

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.

```

7207 \providecommand*\@pdfborder{0 0 1}
7208 \providecommand*\@pdfborderstyle{}
7209 \def\Hy@undefinedname{UNDEFINED}
7210 \def\find@pdflink#1#2{%
7211   \leavevmode
7212   \protected@edef\Hy@testname{#2}%
7213   \ifx\Hy@testname\@empty
7214     \Hy@Warning{%
7215       Empty destination name,\MessageBreak
7216       using '\Hy@undefinedname'%
7217     }%
7218     \let\Hy@testname\Hy@undefinedname
7219   \else
7220     \Hy@pstringdef\Hy@testname{%
7221       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7222     }%
7223   \fi
7224   \Hy@StartlinkName{%
7225     \ifHy@pdfa /F 4\fi
7226     \Hy@setpdfborder
7227     \ifx\@pdfhighlight\@empty
7228       \else
7229         /H\@pdfhighlight
7230       \fi
7231     \ifx\CurrentBorderColor\relax

```

```

7232     \else
7233         /C[\CurrentBorderColor]%
7234     \fi
7235 } \Hy@testname
7236 \expandafter \Hy@colorlink \csname @#1color\endcsname
7237 }
7238 \def \Hy@StartlinkName#1#2{%
7239     \pdfstartlink attr{#1}goto name{#2}\relax
7240 }
7241 \def \close@pdflink{\Hy@endcolorlink\pdfendlink}
7242 \def \hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
7243 \def \hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
7244 \def \hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
7245 \def \hyper@linkstart#1#2{%
7246     \ifundefined{@#1bordercolor}{%
7247         \let \CurrentBorderColor \relax
7248     }{%
7249         \edef \CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7250     }%
7251     \find@pdflink{#1}{#2}%
7252 }
7253 \def \hyper@linkend{\close@pdflink}
7254 \def \hyper@link#1#2#3{%
7255     \ifundefined{@#1bordercolor}{%
7256         \let \CurrentBorderColor \relax
7257     }{%
7258         \edef \CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7259     }%
7260     \find@pdflink{#1}{#2}#3%
7261     \close@pdflink
7262 }
7263 \let \CurrentBorderColor \@linkbordercolor
7264 \def \hyper@linkurl#1#2{%
7265     \begingroup
7266     \Hy@pstringdef \Hy@pstringURI{#2}%
7267     \hyper@chars
7268     \leavevmode
7269     \pdfstartlink
7270     attr{%
7271         \Hy@setpdfborder
7272         \ifx \@pdfhighlight \@empty
7273             \else
7274                 /H \@pdfhighlight
7275             \fi
7276         \ifx \@urlbordercolor \relax
7277             \else
7278                 /C [\@urlbordercolor]%
7279             \fi
7280     }%
7281     user{%
7282         /Subtype /Link%
7283         \ifHy@pdfa /F 4 \fi
7284         /A <<%
7285             /Type /Action%
7286             /S /URI%
7287             /URI (\Hy@pstringURI)%
7288         >>%

```



```

7289     }%
7290     \relax
7291     \Hy@colorlink\@urlcolor#1%
7292     \close@pdflink
7293 \endgroup
7294 }
7295 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7296 \begingroup
7297   \Hy@pstringdef\Hy@pstringF{#2}%
7298   \Hy@pstringdef\Hy@pstringD{#3}%
7299   \leavevmode
7300   \pdfstartlink
7301   attr{%
7302     \Hy@setpdfborder
7303     \ifx\@pdfhighlight\@empty
7304     \else
7305       /H\@pdfhighlight
7306     \fi
7307     \ifx\@filebordercolor\relax
7308     \else
7309       /C[\@filebordercolor]%
7310     \fi
7311   }%
7312   user {%
7313     /Subtype/Link%
7314     \ifHy@pdfa /F 4\fi
7315     /A<<%
7316     /F(\Hy@pstringF)%
7317     /S/GoToR%
7318     \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}

```

```

7319     \ifx\#3\%
7320     /D[0 \@pdfstartview]%
7321     \else
7322     /D(\Hy@pstringD)%
7323     \fi
7324     >>%
7325     }%
7326     \relax
7327     \Hy@colorlink\@filecolor#1%
7328     \close@pdflink
7329 \endgroup
7330 }
7331 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
7332 \begingroup
7333   \Hy@pstringdef\Hy@pstringF{#1}%
7334   \Hy@pstringdef\Hy@pstringP{#3}%

```

```

7335 \leavevmode
7336 \pdfstartlink
7337   attr{%
7338     \Hy@setpdfborder
7339     \ifx\@pdfhighlight\@empty
7340     \else
7341       /H\@pdfhighlight
7342     \fi
7343     \ifx\@runbordercolor\relax
7344     \else
7345       /C[\@runbordercolor]%
7346     \fi
7347   }%
7348   user {%
7349     /Subtype/Link%
7350     \ifHy@pdfa /F 4\fi
7351     /A<<%
7352       /F(\Hy@pstringF)%
7353       /S/Launch%
7354       \Hy@SetNewWindow
7355       \ifx\#3\%
7356       \else
7357         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7358       \fi
7359     >>%
7360   }%
7361   \relax
7362   \Hy@colorlink\@runcolor#2%
7363   \close@pdflink
7364 \endgroup
7365 }

```

\@pdfproducer

```

7366 \ifx\@pdfproducer\relax
7367 \begin{group}\expandafter\expandafter\expandafter\endgroup
7368 \expandafter\ifx\csname luatexversion\endcsname\relax
7369   \def\@pdfproducer{pdfTeX}%
7370   \ifx\@eTeXversion\@undefined
7371   \else
7372     \ifx\@eTeXversion\relax
7373     \else
7374       \ifnum\@eTeXversion>0 %
7375       \def\@pdfproducer{pdfTeX}%
7376     \fi
7377   \fi
7378 \fi
7379 \ifx\pdfTeXversion\@undefined
7380 \else
7381   \ifnum\pdfTeXversion<100 %
7382   \edef\@pdfproducer{%
7383     \@pdfproducer
7384     \the\pdfTeXversion.\pdfTeXrevision
7385   }%
7386 \else
7387   \ifnum\pdfTeXversion<130 %
7388   \edef\@pdfproducer{%
7389     \@pdfproducer-

```

```

7390         \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7391         \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
7392         \pdfTeXrevision
7393     }%
7394 \else
7395     \ifnum\pdfTeXversion<140 %
7396     \else
7397         \def\@pdfproducer{pdfTeX}%
7398     \fi
7399     \edef\@pdfproducer{%
7400         \@pdfproducer-%
7401         \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7402         \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7403         \pdfTeXrevision
7404     }%
7405 \fi
7406 \fi
7407 \fi
7408 \else
7409     \begingroup
7410         \count@=\luatexversion
7411         \divide\count@ by 100 %
7412         \edef\x{\the\count@}%
7413         \count@=-\x\relax
7414         \multiply\count@ by 100 %
7415         \advance\count@ by \luatexversion
7416         \edef\x{\endgroup
7417             \def\noexpand\@pdfproducer{%
7418                 LuaTeX-\x.\the\count@.\luatexrevision
7419             }%
7420         }%
7421     \x
7422 \fi
7423 \fi

```

\PDF@SetupDox

```

7424 \def\PDF@SetupDoc{%
7425     \ifx\@pdfpagescrop\@empty
7426     \else
7427         \edef\process@me{%
7428             \pdfpagesattr={%
7429                 /CropBox[\@pdfpagescrop]%
7430                 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
7431                 \else
7432                     ^^J\the\pdfpagesattr
7433                 \fi
7434             }%
7435         }%
7436         \process@me
7437     \fi
7438     \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7439     \pdfcatalog{%
7440         /PageMode/\@pdfpagemode
7441         \ifx\@baseurl\@empty
7442         \else
7443             /URI<</Base(\Hy@pstringB)>>%
7444         \fi

```

```

7445 }%
7446 \ifx\@pdfstartpage\@empty
7447 \else
7448   \ifx\@pdfstartview\@empty
7449   \else
7450     openaction goto page\@pdfstartpage{\@pdfstartview}%
7451   \fi
7452 \fi
7453 \edef\Hy@temp{%
7454   \ifHy@toolbar\else /HideToolbar true\fi
7455   \ifHy@menubar\else /HideMenubar true\fi
7456   \ifHy>windowui\else /HideWindowUI true\fi
7457   \ifHy@fitwindow /FitWindow true\fi
7458   \ifHy@centerwindow /CenterWindow true\fi
7459   \ifHy@displaydoctitle /DisplayDocTitle true\fi
7460   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7461   \Hy@UseNameKey{Direction}\@pdfdirection
7462   \Hy@UseNameKey{ViewArea}\@pdfviewarea
7463   \Hy@UseNameKey{ViewClip}\@pdfviewclip
7464   \Hy@UseNameKey{PrintArea}\@pdfprintarea
7465   \Hy@UseNameKey{PrintClip}\@pdfprintclip
7466   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7467   \Hy@UseNameKey{Duplex}\@pdfduplex
7468   \ifx\@pdfpicktraybypdfsize\@empty
7469   \else
7470     /PickTrayByPDFSize \@pdfpicktraybypdfsize
7471   \fi
7472   \ifx\@pdfprintpagerange\@empty
7473   \else
7474     /PrintPageRange[\@pdfprintpagerange]%
7475   \fi
7476   \ifx\@pdfnumcopies\@empty
7477   \else
7478     /NumCopies \@pdfnumcopies
7479   \fi
7480 }%
7481 \pdfcatalog{%
7482   \ifx\Hy@temp\@empty
7483   \else
7484     /ViewerPreferences<<\Hy@temp>>%
7485   \fi
7486   \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7487   \ifx\@pdflang\@empty
7488   \else
7489     /Lang(\@pdflang)%
7490   \fi
7491 }%
7492 }

```

\PDF@FinishDoc

```

7493 \def\PDF@FinishDoc{%
7494   \Hy@UseMaketitleInfos
7495   \pdfinfo{%
7496     /Author(\@pdfauthor)%
7497     /Title(\@pdftitle)%
7498     /Subject(\@pdfsubject)%
7499     /Creator(\@pdfcreator)%

```

```

7500 \ifx\@pdfcreationdate\@empty
7501 \else
7502 /CreationDate(\@pdfcreationdate)%
7503 \fi
7504 \ifx\@pdfmoddate\@empty
7505 \else
7506 /ModDate(\@pdfmoddate)%
7507 \fi
7508 \ifx\@pdfproducer\relax
7509 \else
7510 /Producer(\@pdfproducer)%
7511 \fi
7512 /Keywords(\@pdfkeywords)%
7513 }%
7514 \Hy@DisableOption{pdfauthor}%
7515 \Hy@DisableOption{pdftitle}%
7516 \Hy@DisableOption{pdfsubject}%
7517 \Hy@DisableOption{pdfcreator}%
7518 \Hy@DisableOption{pdfcreationdate}%
7519 \Hy@DisableOption{pdfmoddate}%
7520 \Hy@DisableOption{pdfproducer}%
7521 \Hy@DisableOption{pdfkeywords}%
7522 }

```

`\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`.

```

7523 \def\hyper@pagetransition{%
7524 \ifx\@pdfpagetransition\relax
7525 \else
7526 \expandafter\Hy@RemoveTransPageAttr
7527 \the\pdfpageattr^^J/Trans{>>\END
7528 \ifx\@pdfpagetransition\@empty
7529 \else
7530 \edef\@processme{%
7531 \global\pdfpageattr{%
7532 \the\pdfpageattr
7533 ^^J/Trans << /S /\@pdfpagetransition\space >>%
7534 }%
7535 }%
7536 \@processme
7537 \fi
7538 \fi
7539 }

```

`\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.

```

7540 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7541 \ifx\#2\%
7542 \global\pdfpageattr{#1}%
7543 \else
7544 \Hy@RemoveTransPageAttr#1#4\END
7545 \fi
7546 }

```

`\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`.

```

7547 \def\hyper@pageduration{%
7548   \ifx\@pdfpageduration\relax
7549   \else
7550     \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
7551     \ifx\@pdfpageduration\@empty
7552     \else
7553       \edef\@processme{%
7554         \global\pdfpageattr{%
7555           \the\pdfpageattr
7556           ^^J/Dur \@pdfpageduration\space
7557         }%
7558       }%
7559       \@processme
7560     \fi
7561   \fi
7562 }

```

`\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.

```

7563 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7564   \ifx\#2\%
7565     \global\pdfpageattr{#1}%
7566   \else
7567     \Hy@RemoveDurPageAttr#1#4\END
7568   \fi
7569 }

```

`\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).

```

7570 \def\hyper@pagehidden{%
7571   \ifHy@useHidKey
7572     \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7573     \ifHy@pdfpagehidden
7574     \edef\@processme{%
7575       \global\pdfpageattr{%
7576         \the\pdfpageattr
7577         ^^J/Hid true % SPACE
7578       }%
7579     }%
7580     \@processme
7581   \fi
7582 \fi
7583 }

```

`\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.

```

7584 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7585   \ifx\#2\%

```

```

7586 \global\pdfpageattr{#1}%
7587 \else
7588 \Hy@RemoveHidPageAttr#1#4\END
7589 \fi
7590 }

7591 \g@addto@macro\Hy@EveryPageHook{%
7592 \hyper@pagetransition
7593 \hyper@pageduration
7594 \hyper@pagehidden
7595 }

7596 \AtBeginDocument{%
7597 \ifHy@setpagesize
7598 \expandafter\@firstofone
7599 \else
7600 \expandafter\@gobble
7601 \fi
7602 {%
7603 \@ifclassloaded{seminar}{%
7604 \setlength{\pdfhorigin}{1truein}%
7605 \setlength{\pdfvorigin}{1truein}%
7606 \ifportrait
7607 \ifdim\paperwidth=\z@
7608 \else
7609 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7610 \fi
7611 \ifdim\paperheight=\z@
7612 \else
7613 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7614 \fi
7615 \else
7616 \ifdim\paperheight=\z@
7617 \else
7618 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7619 \fi
7620 \ifdim\paperwidth=\z@
7621 \else
7622 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7623 \fi
7624 \fi
7625 }{%
7626 \@ifundefined{stockwidth}{%
7627 \ifdim\paperwidth=\z@
7628 \else
7629 \setlength{\pdfpagewidth}{\paperwidth}%
7630 \fi
7631 \ifdim\paperheight=\z@
7632 \else
7633 \setlength{\pdfpageheight}{\paperheight}%
7634 \fi
7635 }{%
7636 \ifdim\stockwidth=\z@
7637 \else
7638 \setlength{\pdfpagewidth}{\stockwidth}%
7639 \fi
7640 \ifdim\stockheight=\z@
7641 \else
7642 \setlength{\pdfpageheight}{\stockheight}%

```

```

7643         \fi
7644     }%
7645 }%
7646 }%
7647 \Hy@DisableOption{setpagesize}%
7648 }
7649 \def\Acrobatmenu#1#2{%
7650 \Hy@Acrobatmenu{#1}{#2}{%
7651     \pdfstartlink
7652     attr{%
7653         \Hy@setpdfborder
7654         \ifx\@pdfhighlight\@empty
7655             \else
7656             /H\@pdfhighlight
7657         \fi
7658         \ifx\@menubordercolor\relax
7659             \else
7660             /C[\@menubordercolor]%
7661         \fi
7662     }%
7663     user{%
7664         /Subtype/Link%
7665         \ifHy@pdfa /F 4\fi
7666         /A<<%
7667         /S/Named/N/#1%
7668     >>%
7669     }%
7670     \relax
7671     \Hy@colorlink\@menucolor#2%
7672     \close@pdflink
7673 }%
7674 }

```

45.2.1 Fix for problem with different nesting levels

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

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

```

7675 \def\Hy@FixNotFirstPage{%
7676 \gdef\Hy@FixNotFirstPage{%
7677     \setbox\AtBeginShipoutBox=\hbox{%
7678     \copy\AtBeginShipoutBox
7679     }%
7680 }%
7681 }
7682 \AtBeginShipout{\Hy@FixNotFirstPage}
7683 </pdfTeX>

```

45.3 hypertex

The HyperTeX 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.

```
7684 \*hypertext
7685 \providecommand*{\XR@ext}{dvi}
7686 \def\PDF@FinishDoc{}
7687 \def\PDF@SetupDoc{%
7688   \ifx\@baseurl\@empty
7689   \else
7690     \special{html:<base href="\@baseurl">}%
7691   \fi
7692 }
7693 \def\hyper@anchor#1{%
7694   \Hy@SaveLastskip
7695   \begingroup
7696     \let\protect=\string
7697     \hyper@chars
7698     \special{html:<a name=%
7699       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7700   \endgroup
7701   \Hy@activeanchortrue
7702   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7703   \special{html:</a>}%
7704   \Hy@activeanchorfalse
7705   \Hy@RestoreLastskip
7706 }
7707 \def\hyper@anchorstart#1{%
7708   \Hy@SaveLastskip
7709   \begingroup
7710     \hyper@chars
7711     \special{html:<a name=%
```

```

7712     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7713 \endgroup
7714 \Hy@activeanchortrue
7715 }
7716 \def\hyper@anchorend{%
7717 \special{html:</a>}}%
7718 \Hy@activeanchorfalse
7719 \Hy@RestoreLastskip
7720 }
7721 \def\@urltype{url}
7722 \def\hyper@linkstart#1#2{%
7723 \expandafter\Hy@colorlink\csname @#1color\endcsname
7724 \def\Hy@tempa{#1}%
7725 \ifx\Hy@tempa\@urltype
7726 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7727 \else
7728 \begingroup
7729 \hyper@chars
7730 \special{html:<a href=%
7731 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}}%
7732 \endgroup
7733 \fi
7734 }
7735 \def\hyper@linkend{%
7736 \special{html:</a>}}%
7737 \Hy@endcolorlink
7738 }
7739 \def\hyper@linkfile#1#2#3{%
7740 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi}%
7741 }
7742 \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.

```

7743 \leavevmode
7744 \ifHy@raiselinks
7745 \setbox\@tempboxa=\color@hbox #1\color@endbox
7746 \@linkdim\dp\@tempboxa
7747 \lower\@linkdim\hbox{%
7748 \hyper@chars
7749 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7750 }%
7751 \Hy@colorlink\@urlcolor#1%
7752 \@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).

```

7753 \advance\@linkdim by -6.5\p@
7754 \raise\@linkdim\hbox{\special{html:</a>}}%
7755 \Hy@endcolorlink
7756 \else
7757 \begingroup
7758 \hyper@chars
7759 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7760 \Hy@colorlink\@urlcolor#1%
7761 \special{html:</a>}}%

```

```

7762      \Hy@endcolorlink
7763      \endgroup
7764      \fi
7765 }

```

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

```

7766 \def\hyper@link#1#2#3{%
7767   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}}%
7768 }

7769 \def\hyper@image#1#2{%
7770   \begingroup
7771     \hyper@chars
7772     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
7773   \endgroup
7774 }
7775 </hypertex>
7776 <*dviwindo>

```

45.4 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.

```

7777 \providecommand*\XR@ext}{dvi}
7778 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
7779 \def\hyper@anchor#1{%
7780   \Hy@SaveLastskip
7781   \begingroup
7782     \let\protect=\string
7783     \special{mark: #1}%
7784   \endgroup
7785   \Hy@activeanchortrue
7786   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7787   \Hy@activeanchorfalse
7788   \Hy@RestoreLastskip
7789 }
7790 \def\hyper@anchorstart#1{%
7791   \Hy@SaveLastskip
7792   \special{mark: #1}%
7793   \Hy@activeanchortrue
7794 }
7795 \def\hyper@anchorend{%
7796   \Hy@activeanchorfalse
7797   \Hy@RestoreLastskip
7798 }
7799 \def\hyper@linkstart#1#2{%
7800   \expandafter\Hy@colorlink\csname @#1color\endcsname
7801   \special{button: %
7802     10000000 %

```

```

7803     \number\baselineskip\space
7804     #2%
7805 }%
7806 }
7807 \def\hyper@linkend{%
7808   \Hy@endcolorlink
7809 }
7810 \def\hyper@link#1#2#3{%
7811   \setbox\@tempboxa=\color@hbox #3\color@endbox
7812   \leavevmode
7813   \ifHy@raiselinks
7814     \@linkdim\dp\@tempboxa
7815     \lower\@linkdim\hbox{%
7816       \special{button: %
7817         \number\wd\@tempboxa\space
7818         \number\ht\@tempboxa\space
7819         #2%
7820       }%
7821       \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7822       \Hy@endcolorlink
7823     }%
7824     \@linkdim\ht\@tempboxa
7825     \advance\@linkdim by -6.5\p@
7826     \raise\@linkdim\hbox{}%
7827   \else
7828     \special{button: %
7829       \number\wd\@tempboxa\space
7830       \number\ht\@tempboxa\space
7831       #2%
7832     }%
7833     \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7834     \Hy@endcolorlink
7835   \fi
7836 }
7837 \def\hyper@linkurl#1#2{%
7838   \begingroup
7839     \hyper@chars
7840     \leavevmode
7841     \setbox\@tempboxa=\color@hbox #1\color@endbox
7842     \ifHy@raiselinks
7843       \@linkdim\dp\@tempboxa
7844       \lower\@linkdim\hbox{%
7845         \special{button: %
7846           \number\wd\@tempboxa\space
7847           \number\ht\@tempboxa\space
7848           launch: \wwwbrowser\space
7849           #2%
7850         }%
7851         \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7852       }%
7853       \@linkdim\ht\@tempboxa
7854       \advance\@linkdim by -6.5\p@
7855       \raise\@linkdim\hbox{}%
7856     \else
7857       \special{button: %
7858         \number\wd\@tempboxa\space
7859         \number\ht\@tempboxa\space

```

```

7860      launch: \wwwbrowser\space
7861      #2%
7862    }%
7863    \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7864  \fi
7865 \endgroup
7866 }
7867 \def\hyper@linkfile#1#2#3{%
7868 \begingroup
7869   \hyper@chars
7870   \leavevmode
7871   \setbox\@tempboxa=\color@hbox #1\color@endbox
7872   \ifHy@raiselinks
7873     \@linkdim\dp\@tempboxa
7874     \lower\@linkdim\hbox{%
7875       \special{button: %
7876         \number\wd\@tempboxa\space
7877         \number\ht\@tempboxa\space
7878         #3,%
7879         file: #2%
7880       }%
7881       \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7882     }%
7883     \@linkdim\ht\@tempboxa
7884     \advance\@linkdim by -6.5\p@
7885     \raise\@linkdim\hbox{}}%
7886   \else
7887     \special{button: %
7888       \number\wd\@tempboxa\space
7889       \number\ht\@tempboxa\space
7890       #3,%
7891       file: #2%
7892     }%
7893     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7894   \fi
7895 \endgroup
7896 }
7897 \ifx\@pdfproducer\relax
7898 \def\@pdfproducer{dviwindo + Distiller}%
7899 \fi
7900 \def\PDF@FinishDoc{%
7901   \Hy@UseMaketitleInfos
7902   \special{PDF: Keywords \@pdfkeywords}%
7903   \special{PDF: Title \@pdftitle}%
7904   \special{PDF: Creator \@pdfcreator}%
7905   \ifx\@pdfcreationdate\@empty
7906   \else
7907     \special{PDF: CreationDate \@pdfcreationdate}%
7908   \fi
7909   \ifx\@pdfmoddate\@empty
7910   \else
7911     \special{PDF: ModDate \@pdfmoddate}%
7912   \fi
7913   \special{PDF: Author \@pdfauthor}%
7914   \ifx\@pdfproducer\relax
7915   \else
7916     \special{PDF: Producer \@pdfproducer}%

```

```

7917 \fi
7918 \special{PDF: Subject \@pdfsubject}%
7919 \Hy@DisableOption{pdfauthor}%
7920 \Hy@DisableOption{pdftitle}%
7921 \Hy@DisableOption{pdfsubject}%
7922 \Hy@DisableOption{pdfcreator}%
7923 \Hy@DisableOption{pdfcreationdate}%
7924 \Hy@DisableOption{pdfmoddate}%
7925 \Hy@DisableOption{pdfproducer}%
7926 \Hy@DisableOption{pdfkeywords}%
7927 }
7928 \def\PDF@SetupDoc{%
7929 \ifx\@baseurl\@empty
7930 \else
7931 \special{PDF: Base \@baseurl}%
7932 \fi
7933 \ifx\@pdfpagescrop\@empty\else
7934 \special{PDF: BBox \@pdfpagescrop}%
7935 \fi
7936 \def\Hy@temp{%
7937 \ifx\@pdfstartpage\@empty
7938 \else
7939 \ifx\@pdfstartview\@empty
7940 \else
7941 \edef\Hy@temp{%
7942 ,Page=\@pdfstartpage
7943 ,View=\@pdfstartview
7944 }%
7945 \fi
7946 \fi
7947 \edef\Hy@temp{%
7948 \noexpand\pdfmark{%
7949 pdfmark=/DOCVIEW,%
7950 PageMode=/\@pdfpagemode
7951 \Hy@temp
7952 }%
7953 }%
7954 \Hy@temp
7955 \ifx\@pdfpagescrop\@empty
7956 \else
7957 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7958 \fi
7959 \edef\Hy@temp{%
7960 \ifHy@toolbar\else /HideToolbar true\fi
7961 \ifHy@menubar\else /HideMenubar true\fi
7962 \ifHy>windowui\else /HideWindowUI true\fi
7963 \ifHy@fitwindow /FitWindow true\fi
7964 \ifHy@centerwindow /CenterWindow true\fi
7965 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7966 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7967 \Hy@UseNameKey{Direction}\@pdfdirection
7968 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7969 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7970 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7971 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7972 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7973 \Hy@UseNameKey{Duplex}\@pdfduplex

```

```

7974 \ifx\@pdfpicktraybypdfsize\@empty
7975 \else
7976 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7977 \fi
7978 \ifx\@pdfprintpagerange\@empty
7979 \else
7980 /PrintPageRange[\@pdfprintpagerange]%
7981 \fi
7982 \ifx\@pdfnumcopies\@empty
7983 \else
7984 /NumCopies \@pdfnumcopies
7985 \fi
7986 }%
7987 \pdfmark{pdfmark=/PUT,%
7988 Raw={%
7989 \string{Catalog\string}<<%
7990 \ifx\Hy@temp\@empty
7991 \else
7992 /ViewerPreferences<<\Hy@temp>>%
7993 \fi
7994 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7995 \ifx\@pdflang\@empty
7996 \else
7997 /Lang(\@pdflang)%
7998 \fi
7999 >>%
8000 }%
8001 }%
8002 }
8003 </dviwindo>
8004 <*dvipdfm>

```

45.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

8005 \providecommand*\XR@ext\{pdf}
8006 \Hy@setbreaklinks{true}
8007 \newsavebox\@pdfm@box}
8008 \def\@pdfm@mark#1\{special\{pdf:#1}\}
8009 \def\@pdfm@dest#1\{%
8010 \Hy@SaveLastskip
8011 \begingroup
8012 \Hy@pstringdef\Hy@pstringDest\{HyperDestNameFilter\{#1}\}%
8013 \def\x{XYZ}%
8014 \ifx\x\@pdfview
8015 \def\x{XYZ @xpos @ypos null}%
8016 \else
8017 \def\x{FitH}%
8018 \ifx\x\@pdfview
8019 \def\x{FitH @ypos}%
8020 \else
8021 \def\x{FitBH}%
8022 \ifx\x\@pdfview
8023 \def\x{FitBH @ypos}%
8024 \else
8025 \def\x{FitV}%
8026 \ifx\x\@pdfview

```

```

8027         \def\x{FitV @xpos}%
8028     \else
8029         \def\x{FitBV}%
8030         \ifx\x\@pdfview
8031             \def\x{FitBV @xpos}%
8032         \else
8033             \def\x{Fit}%
8034             \ifx\x\@pdfview
8035                 \let\x\@pdfview
8036             \else
8037                 \def\x{FitB}%
8038                 \ifx\x\@pdfview
8039                     \let\x\@pdfview
8040             \else
8041                 \def\x{FitR}%
8042                 \ifx\x\@pdfview
8043                     \Hy@Warning{'pdfview=FitR' is not supported}%
8044                     \def\x{XYZ @xpos @ypos null}%
8045                 \else
8046                     \@onelevel@sanitize\@pdfview
8047                     \Hy@Warning{Unknown value '\@pdfview' for pdfview}%
8048                     \def\x{XYZ @xpos @ypos null}%
8049                 \fi
8050             \fi
8051         \fi
8052     \fi
8053 \fi
8054 \fi
8055 \fi
8056 \fi
8057 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
8058 \endgroup
8059 \Hy@RestoreLastskip
8060 }
8061 \providecommand*\@pdfview{XYZ}
8062 \providecommand*\@pdfborder{0 0 1}
8063 \providecommand*\@pdfborderstyle{}
8064 \def\hyper@anchor#1{%
8065     \@pdfm@dest{#1}%
8066 }
8067 \def\hyper@anchorstart#1{%
8068     \Hy@activeanchortrue
8069     \@pdfm@dest{#1}%
8070 }
8071 \def\hyper@anchorend{%
8072     \Hy@activeanchorfalse
8073 }
8074 \newcounter{Hy@AnnotLevel}
8075 \ifHy@ocgcolorlinks
8076     \def\OBJ@OCG@view{@OCG@view}%
8077     \@pdfm@mark{%
8078         obj \OBJ@OCG@view <<%
8079         /Type/OCG%
8080         /Name(View)%
8081         /Usage<<%
8082         /Print<<%
8083         /PrintState/OFF%

```



```

8084         >>%
8085         /View<<%
8086         /ViewState/ON%
8087         >>%
8088     >>%
8089 >>%
8090 }%
8091 \@pdfm@mark{close \OBJ@OCG@view}%
8092 \def\OBJ@OCG@print{@OCG@print}%
8093 \@pdfm@mark{%
8094     obj \OBJ@OCG@print <<%
8095     /Type/OCG%
8096     /Name(Print)%
8097     /Usage<<%
8098     /Print<<%
8099     /PrintState/ON%
8100     >>%
8101     /View<<%
8102     /ViewState/OFF%
8103     >>%
8104     >>%
8105     >>%
8106 }%
8107 \@pdfm@mark{close \OBJ@OCG@print}%
8108 \def\OBJ@OCGs{@OCGs}%
8109 \@pdfm@mark{%
8110     obj \OBJ@OCGs [%
8111         \OBJ@OCG@view\space\OBJ@OCG@print
8112     ]%
8113 }%
8114 \@pdfm@mark{close \OBJ@OCGs}%
8115 \@pdfm@mark{%
8116     put @catalog <<%
8117     /OCProperties<<%
8118     /OCGs \OBJ@OCGs
8119     /D<<%
8120     /OFF[\OBJ@OCG@print]%
8121     /AS[%
8122         <<%
8123         /Event/View%
8124         /OCGs \OBJ@OCGs
8125         /Category[/View]%
8126         >>%
8127         <<%
8128         /Event/Print%
8129         /OCGs \OBJ@OCGs
8130         /Category[/Print]%
8131         >>%
8132         <<%
8133         /Event/Export%
8134         /OCGs \OBJ@OCGs
8135         /Category[/Print]%
8136         >>%
8137     ]%
8138     >>%
8139     >>%
8140     >>%

```

```

8141 }%
8142 \AtBeginShipout{%
8143   \setbox\AtBeginShipoutBox=\hbox{%
8144     \copy\AtBeginShipoutBox
8145     \@pdfm@mark{%
8146       put @resources <<%
8147         /Properties<<%
8148         /OCView \OBJ@OCG@view
8149         /OCPrint \OBJ@OCG@print
8150       >>%
8151     >>%
8152   }%
8153 }%
8154 }%
8155 \AtBeginDocument{%
8156   \def\Hy@colorlink#1{%
8157     \begingroup
8158     \ifHy@ocgcolorlinks
8159       \def\Hy@ocgcolor{#1}%
8160       \setbox0=\color@hbox
8161     \else
8162       \HyColor@UseColor#1%
8163     \fi
8164   }%
8165   \def\Hy@endcolorlink{%
8166     \ifHy@ocgcolorlinks
8167       \color@endbox
8168       \mbox{%
8169         \@pdfm@mark{content /OC/OCPrint BDC}%
8170         \rlap{\copy0}%
8171         \@pdfm@mark{content EMC/OC/OCView BDC}%
8172       \begingroup
8173         \expandafter\HyColor@UseColor\Hy@ocgcolor
8174       \box0 %
8175       \endgroup
8176       \@pdfm@mark{content EMC}%
8177     }%
8178   \fi
8179 \endgroup
8180 }%
8181 }%
8182 \else
8183   \Hy@DisableOption{ocgcolorlinks}%
8184 \fi
8185 \def\Hy@BeginAnnot#1{%
8186   \stepcounter{Hy@AnnotLevel}%
8187   \ifnum\value{Hy@AnnotLevel}=\@ne
8188     #1%
8189   \fi
8190 }
8191 \def\Hy@endAnnot{%
8192   \ifnum\value{Hy@AnnotLevel}=\@ne
8193     \Hy@endcolorlink
8194     \@pdfm@mark{eann}%
8195   \fi
8196   \addtocounter{Hy@AnnotLevel}\m@ne
8197 }

```

```

8198 \def\Hy@undefinedname{UNDEFINED}
8199 \def\hyper@linkstart#1#2{%
8200   \Hy@BeginAnnot{%
8201     \protected@edef\Hy@testname{#2}%
8202     \ifx\Hy@testname\@empty
8203       \Hy@Warning{%
8204         Empty destination name,\MessageBreak
8205         using '\Hy@undefinedname'%
8206       }%
8207     \let\Hy@testname\Hy@undefinedname
8208   }else
8209     \Hy@pstringdef\Hy@testname{%
8210       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8211     }%
8212   \fi
8213   \@pdfm@mark{%
8214     bann<<%
8215     /Type/Annot%
8216     /Subtype/Link%
8217     \ifHy@pdfa /F 4\fi
8218     \Hy@setpdfborder
8219     \expandafter\ifx\csname @#1bordercolor\endcsname\relax
8220     \else
8221       /C[\csname @#1bordercolor\endcsname]%
8222     \fi
8223     /A<<%
8224     /S/GoTo%
8225     /D(\Hy@testname)%
8226     >>%
8227   >>%
8228   }%
8229   \expandafter\Hy@colorlink\csname @#1color\endcsname
8230 }%
8231 }
8232 \def\hyper@linkend{\Hy@EndAnnot}%
8233 \def\hyper@link#1#2#3{%
8234   \hyper@linkstart{#1}{#2}#3\hyper@linkend
8235 }
8236 \def\hyper@linkfile#1#2#3{%
8237   \leavevmode
8238   \Hy@BeginAnnot{%
8239     \Hy@pstringdef\Hy@pstringF{#2}%
8240     \Hy@pstringdef\Hy@pstringD{#3}%
8241     \@pdfm@mark{%
8242       bann<<%
8243       /Type/Annot%
8244       /Subtype/Link%
8245       \ifHy@pdfa /F 4\fi
8246       \Hy@setpdfborder
8247       \ifx\@filebordercolor\relax
8248       \else
8249         /C[\@filebordercolor]%
8250       \fi
8251       /A<<%
8252       /S/GoToR%
8253       /F(\Hy@pstringF)%
8254       /D\ifx\@#3\@0 \@pdfstartview\else(\Hy@pstringD)\fi

```

```

8255         \Hy@SetNewWindow
8256         >>%
8257     >>%
8258 }%
8259 \Hy@colorlink\@filecolor
8260 }%
8261 #1%
8262 \Hy@EndAnnot
8263 }
8264 \def\hyper@linkurl#1#2{%
8265     \leavevmode
8266     \Hy@BeginAnnot{%
8267         \Hy@pstringdef\Hy@pstringURI{#2}%
8268         \@pdfm@mark{%
8269             bann<<%
8270             /Type/Annot%
8271             /Subtype/Link%
8272             \ifHy@pdfa /F 4\fi
8273             \Hy@setpdfborder
8274             \ifx\@urlbordercolor\relax
8275             \else
8276                 /C[\@urlbordercolor]%
8277             \fi
8278             /A<<%
8279             /S/URI%
8280             /URI(\Hy@pstringURI)%
8281             >>%
8282         >>%
8283     }%
8284     \Hy@colorlink\@urlcolor
8285 }%
8286 #1%
8287 \Hy@EndAnnot
8288 }
8289 \def\Acrobatmenu#1#2{%
8290     \Hy@Acrobatmenu{#1}{#2}{%
8291         \Hy@BeginAnnot{%
8292             \@pdfm@mark{%
8293                 bann<<%
8294                 /Type/Annot%
8295                 /Subtype/Link%
8296                 \ifHy@pdfa /F 4\fi
8297                 /A<<%
8298                 /S/Named%
8299                 /N/#1%
8300                 >>%
8301                 \Hy@setpdfborder
8302                 \ifx\@menubordercolor\relax
8303                 \relax
8304                 /C[\@menubordercolor]%
8305             \fi
8306             >>%
8307         }%
8308         \Hy@colorlink\@menucolor
8309     }%
8310     #2%
8311     \Hy@EndAnnot

```

```

8312 }%
8313 }
8314 \ifx\@pdfproducer\relax
8315 \def\@pdfproducer{dvipdfm}%

```

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

```

8316 \begingroup\expandafter\expandafter\expandafter\endgroup
8317 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8318 \else
8319 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8320 \fi
8321 \fi
8322 \def\PDF@FinishDoc{%
8323 \Hy@UseMaketitleInfos
8324 \@pdfm@mark{%
8325 docinfo<<%
8326 /Title(\@pdftitle)%
8327 /Subject(\@pdfsubject)%
8328 /Creator(\@pdfcreator)%
8329 \ifx\@pdfcreationdate\empty
8330 \else
8331 /CreationDate(\@pdfcreationdate)%
8332 \fi
8333 \ifx\@pdfmoddate\empty
8334 \else
8335 /ModDate(\@pdfmoddate)%
8336 \fi
8337 /Author(\@pdfauthor)%
8338 \ifx\@pdfproducer\relax
8339 \else
8340 /Producer(\@pdfproducer)%
8341 \fi
8342 /Keywords(\@pdfkeywords)%
8343 >>%
8344 }%
8345 \Hy@DisableOption{pdfauthor}%
8346 \Hy@DisableOption{pdftitle}%
8347 \Hy@DisableOption{pdfsubject}%
8348 \Hy@DisableOption{pdfcreator}%
8349 \Hy@DisableOption{pdfcreationdate}%
8350 \Hy@DisableOption{pdfmoddate}%
8351 \Hy@DisableOption{pdfproducer}%
8352 \Hy@DisableOption{pdfkeywords}%
8353 }
8354 \def\PDF@SetupDoc{%
8355 \edef\Hy@temp{%
8356 \ifHy@toolbar\else /HideToolbar true\fi
8357 \ifHy@menubar\else /HideMenubar true\fi
8358 \ifHy>windowui\else /HideWindowUI true\fi
8359 \ifHy@fitwindow /FitWindow true\fi
8360 \ifHy@centerwindow /CenterWindow true\fi
8361 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8362 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8363 \Hy@UseNameKey{Direction}\@pdfdirection
8364 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8365 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8366 \Hy@UseNameKey{PrintArea}\@pdfprintarea

```

```

8367 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8368 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8369 \Hy@UseNameKey{Duplex}\@pdfduplex
8370 \ifx\@pdfpicktraybypdfsize\@empty
8371 \else
8372 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8373 \fi
8374 \ifx\@pdfprintpagerange\@empty
8375 \else
8376 /PrintPageRange[\@pdfprintpagerange]%
8377 \fi
8378 \ifx\@pdfnumcopies\@empty
8379 \else
8380 /NumCopies \@pdfnumcopies
8381 \fi
8382 }%
8383 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8384 \@pdfm@mark{%
8385 docview<<%
8386 \ifx\@pdfstartpage\@empty
8387 \else
8388 \ifx\@pdfstartview\@empty
8389 \else
8390 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
8391 \fi
8392 \fi
8393 \ifx\@baseurl\@empty
8394 \else
8395 /URI<</Base(\Hy@pstringB)>>%
8396 \fi
8397 /PageMode/\@pdfpagemode
8398 \ifx\Hy@temp\@empty
8399 \else
8400 /ViewerPreferences<<\Hy@temp>>%
8401 \fi
8402 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8403 \ifx\@pdflang\@empty
8404 \else
8405 /Lang(\@pdflang)%
8406 \fi
8407 >>%
8408 }%
8409 \ifx\@pdfpagescrop\@empty
8410 \else
8411 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
8412 \fi
8413 }

8414 \AtBeginShipoutFirst{%
8415 \ifHy@setpagesize
8416 \begingroup
8417 \@ifundefined{stockwidth}{%
8418 \ifx\special@paper\@empty
8419 \special{papersize=\the\paperwidth,\the\paperheight}%
8420 \else
8421 \special{papersize=\special@paper}%
8422 \fi
8423 }{%

```

```

8424         \ifdim\stockwidth=\z@
8425         \else
8426             \special{papersize=\the\stockwidth,\the\stockheight}%
8427         \fi
8428     }%
8429 \endgroup
8430 \fi
8431 \Hy@DisableOption{setpagesize}%
8432 }
8433 </dvipdfm>

```

45.6 VTeX typesetting system

Provided by MicroPress, May 1998. They require VTeX version 6.02 or newer; see <http://www.micropress-inc.com/> for details.

```

8434 <(*texhtml)
8435 \providecommand*{\XR@ext}{htm}
8436 \RequirePackage{vtexhtml}
8437 \newif\if@Localurl
8438 \def\PDF@FinishDoc{}
8439 \def\PDF@SetupDoc{%
8440     \ifx\@baseurl\@empty
8441     \else
8442         \special{!direct <base href="\@baseurl">}%
8443     \fi
8444 }
8445 \def\@urltype{url}
8446 \def\hyper@link#1#2#3{%
8447     \leavevmode
8448     \special{!direct <a href=%
8449         \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8450     #3%
8451     \special{!direct </a>}%
8452 }
8453 \def\hyper@linkurl#1#2{%
8454     \begingroup
8455         \hyper@chars
8456         \leavevmode
8457         \MathBSuppress=1\relax
8458         \special{!direct <a href=%
8459             \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8460         #1%
8461         \MathBSuppress=0\relax
8462         \special{!direct </a>}%
8463     \endgroup
8464 }
8465 \def\hyper@linkfile#1#2#3{%
8466     \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
8467 }
8468 \def\hyper@linkstart#1#2{%
8469     \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8470         \@Localurltrue
8471         \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8472     \else
8473         \@Localurlfalse
8474     \begingroup
8475         \hyper@chars

```

```

8476     \special{!aref \HyperDestNameFilter{#2}}}%
8477   \endgroup
8478   \fi
8479 }
8480 \def\hyper@linkend{%
8481   \if@Localurl
8482     \special{!endaref}%
8483   \else
8484     \special{!direct </a>}%
8485   \fi
8486 }
8487 \def\hyper@anchorstart#1{%
8488   \Hy@SaveLastskip
8489   \begingroup
8490     \hyper@chars
8491     \special{!aname #1}%
8492     \special{!direct <a name=%
8493       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8494   \endgroup
8495   \Hy@Activeanchortrue
8496 }
8497 \def\hyper@anchorend{%
8498   \special{!direct </a>}%
8499   \Hy@Activeanchorfalse
8500   \Hy@RestoreLastskip
8501 }
8502 \def\hyper@anchor#1{%
8503   \Hy@SaveLastskip
8504   \begingroup
8505     \let\protect=\string
8506     \hyper@chars
8507     \leavevmode
8508     \special{!aname #1}%
8509     \special{!direct <a name=%
8510       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8511   \endgroup
8512   \Hy@Activeanchortrue
8513   \bgroup\anchor@spot\egroup
8514   \special{!direct </a>}%
8515   \Hy@Activeanchorfalse
8516   \Hy@RestoreLastskip
8517 }
8518 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
8519 \def\@endForm{}
8520 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8521   \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8522 }
8523 \def\@TextField[#1]#2{% parameters, label
8524   \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8525 }
8526 \def\@CheckBox[#1]#2{% parameters, label
8527   \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8528 }
8529 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8530   \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8531 }
8532 \def\@PushButton[#1]#2{% parameters, label

```



```

8533 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8534 }
8535 \def\@Reset[#1]#2{%
8536 \typeout{Sorry, TeXpider does not yet support FORMs}%
8537 }
8538 \def\@Submit[#1]#2{%
8539 \typeout{Sorry, TeXpider does not yet support FORMs}%
8540 }
8541 \</vtexhtml>
8542 \<vtx>

```

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.

```

8543 \ifx\mediaheight\@undefined
8544 \else
8545 \ifx\mediaheight\relax
8546 \else
8547 \ifHy@setpagesize
8548 \providecommand*\VTeXInitMediaSize{%
8549 \ifundefined{stockwidth}{%
8550 \ifdim\paperheight>0pt %
8551 \setlength\mediaheight\paperheight
8552 \fi
8553 \ifdim\paperheight>0pt %
8554 \setlength\mediawidth\paperwidth
8555 \fi
8556 }{%
8557 \ifdim\stockheight>0pt %
8558 \setlength\mediaheight\stockheight
8559 \fi
8560 \ifdim\stockwidth>0pt %
8561 \setlength\mediawidth\stockwidth
8562 \fi
8563 }%
8564 }%
8565 \AtBeginDocument{\VTeXInitMediaSize}%
8566 \fi
8567 \Hy@DisableOption{setpagesize}%
8568 \fi
8569 \fi

```

Older versions of VTeX require xyz in lower case.

```

8570 \providecommand*\@pdfview{xyz}
8571 \providecommand*\@pdfborder{0 0 1}
8572 \providecommand*\@pdfborderstyle{}
8573 \let\CurrentBorderColor\@linkbordercolor
8574 \def\hyper@anchor#1{%
8575 \Hy@SaveLastskip
8576 \begingroup
8577 \let\protect=\string
8578 \hyper@chars
8579 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8580 \endgroup
8581 \Hy@activeanchortrue
8582 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8583 \Hy@activeanchorfalse
8584 \Hy@RestoreLastskip

```

```

8585 }
8586 \def\hyper@anchorstart#1{%
8587   \Hy@SaveLastskip
8588   \beginingroup
8589     \hyper@chars
8590     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8591   \endgroup
8592   \Hy@activeanchortrue
8593 }
8594 \def\hyper@anchorend{%
8595   \Hy@activeanchorfalse
8596   \Hy@RestoreLastskip
8597 }
8598 \def\@urltype{url}
8599 \def\Hy@undefinedname{UNDEFINED}
8600 \def\hyper@linkstart#1#2{%
8601   \Hy@pstringdef\Hy@pstringURI{#2}%
8602   \expandafter\Hy@colorlink\csname @#1color\endcsname
8603   \@ifundefined{#1bordercolor}{%
8604     \let\CurrentBorderColor\relax
8605   }{%
8606     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8607   }%
8608   \def\Hy@tempa{#1}%
8609   \ifx\Hy@tempa\@urltype
8610     \special{!%
8611       aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8612       a=<%
8613         \ifHy@pdfa /F 4\fi
8614         \Hy@setpdfborder
8615         \ifx\CurrentBorderColor\relax
8616           \else
8617             /C [\CurrentBorderColor]%
8618           \fi
8619       >%
8620     }%
8621   \else
8622     \protected@edef\Hy@testname{#2}%
8623     \ifx\Hy@testname\@empty
8624       \Hy@Warning{%
8625         Empty destination name,\MessageBreak
8626         using '\Hy@undefinedname'%
8627       }%
8628     \let\Hy@testname\Hy@undefinedname
8629     \fi
8630     \special{!%
8631       aref \expandafter\HyperDestNameFilter
8632       \expandafter{\Hy@testname};%
8633       a=<%
8634         \ifHy@pdfa /F 4\fi
8635         \Hy@setpdfborder
8636         \ifx\CurrentBorderColor\relax
8637           \else
8638             /C [\CurrentBorderColor]%
8639           \fi
8640       >%
8641     }%

```

```

8642 \fi
8643 }
8644 \def\hyper@linkend{%
8645 \special{!endaref}%
8646 \Hy@endcolorlink
8647 }
8648 \def\hyper@linkfile#1#2#3{%
8649 \leavevmode
8650 \special{!%
8651 aref <%
8652 \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8653 f=#2>#3;%
8654 a=<%
8655 \ifHy@pdfa /F 4\fi
8656 \Hy@setpdfborder
8657 \ifx\@filebordercolor\relax
8658 \else
8659 /C [\@filebordercolor]%
8660 \fi
8661 >%
8662 }%
8663 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8664 \special{!endaref}%
8665 }
8666 \def\hyper@linkurl#1#2{%
8667 \begingroup
8668 \Hy@pstringdef\Hy@pstringURI{#2}%
8669 \hyper@chars
8670 \leavevmode
8671 \special{!%
8672 aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8673 a=<%
8674 \ifHy@pdfa /F 4\fi
8675 \Hy@setpdfborder
8676 \ifx\@urlbordercolor\relax
8677 \else
8678 /C [\@urlbordercolor]%
8679 \fi
8680 >%
8681 }%
8682 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8683 \special{!endaref}%
8684 \endgroup
8685 }
8686 \def\hyper@link#1#2#3{%
8687 \@ifundefined{@#1bordercolor}{%
8688 \let\CurrentBordercolor\relax
8689 }{%
8690 \edef\CurrentBordercolor{\csname @#1bordercolor\endcsname}%
8691 }%
8692 \leavevmode
8693 \protected@edef\Hy@testname{#2}%
8694 \ifx\Hy@testname\@empty
8695 \Hy@Warning{%
8696 Empty destination name,\MessageBreak
8697 using '\Hy@undefinedname'%
8698 }%

```

```

8699 \let\Hy@testname\Hy@undefinedname
8700 \fi
8701 \special{!%
8702   \expandafter\HyperDestNameFilter
8703     \expandafter{\Hy@testname};%
8704   a=<%
8705     \ifHy@pdfa /F 4\fi
8706     \Hy@setpdfborder
8707     \ifx\CurrentBorderColor\relax
8708       \else
8709         /C [\CurrentBorderColor]%
8710       \fi
8711   >%
8712 }%
8713 \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8714 \special{!endaref}%
8715 }
8716 \def\hyper@image#1#2{%
8717   \hyper@linkurl{#2}{#1}%
8718 }
8719 \def\@hyper@launch run:#1\#2#3{%
8720   \Hy@pstringdef\Hy@pstringF{#1}%
8721   \Hy@pstringdef\Hy@pstringP{#3}%
8722   \leavevmode
8723   \special{!aref %
8724     <u=%
8725       /Type/Action%
8726       /S/Launch%
8727       /F(\Hy@pstringF)%
8728       \Hy@SetNewWindow
8729       \ifx\#3\else /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
8730     >;%
8731     a=<%
8732       \ifHy@pdfa /F 4\fi
8733       \Hy@setpdfborder
8734       \ifx\@runbordercolor\relax
8735       \else
8736         /C[\@runbordercolor]%
8737       \fi
8738     >%
8739   }%
8740   \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8741   \special{!endaref}%
8742 }
8743 \def\Acrobatmenu#1#2{%
8744   \Hy@Acrobatmenu{#1}{#2}{%
8745     \special{!%
8746       \aref <u=/S /Named /N /#1>;%
8747       a=<%
8748         \ifHy@pdfa /F 4\fi
8749         \Hy@setpdfborder
8750         \ifx\@menubordercolor\relax
8751         \else
8752           /C[\@menubordercolor]%
8753         \fi
8754       >%
8755     }%

```

```

8756 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8757 \special{!endaref}%
8758 }%
8759 }

```

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

The code below makes sense for V_TE_X 7.02 or later.

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

```

8760 \ifnum\Hy@VTeXversion<702 %
8761 \else
8762 \def\hyper@pagetransition{%
8763 \ifx\@pdfpagetransition\relax
8764 \else
8765 \ifx\@pdfpagetransition\empty

```

Standard incantation.

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

```

8766 \else
8767 \hvtex@parse@trans\@pdfpagetransition
8768 \fi
8769 \fi
8770 }%

```

I have to write an “honest” parser to convert raw PDF code into V_TE_X `\special`.
(AVK)

Syntax of V_TE_X `\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:

```

8771 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8772 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8773 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8774 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8775 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8776 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8777 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

8778 \def\hvtex@par@dimension{/Dm}%
8779 \def\hvtex@par@direction{/Di}%
8780 \def\hvtex@par@duration{/D}%
8781 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

8782 \def\hvtex@gettoken{\expandafter\hvtex@gettoken\hvtex@buffer\@nil}%

```

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

```
8783 \def\hvtex@gettoken@#1 #2\@nil{%
8784   \edef\hvtex@token{#1}%
8785   \edef\hvtex@buffer{#2}%
8786 }%
8787 \def\hvtex@parse@trans#1{%
```

Initializing code:

```
8788 \let\hvtex@trans@code\@empty
8789 \let\hvtex@param@dimension\@empty
8790 \let\hvtex@param@direction\@empty
8791 \let\hvtex@param@duration\@empty
8792 \let\hvtex@param@motion\@empty
8793 \edef\hvtex@buffer{#1\space}%
```

First token is the PDF transition name without escape.

```
8794 \hvtex@gettoken
8795 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
8796 \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
8797 \else
8798   \hvtex@gettoken
8799 \fi
8800 \fi
8801 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
8802 \hvtex@trans@params
8803 }%
```

Reentrant macro to parse optional parameters.

```
8804 \def\hvtex@trans@params{%
8805   \ifx\hvtex@buffer\@empty
8806   \else
8807     \hvtex@gettoken
8808     \let\hvtex@trans@par\hvtex@token
8809     \ifx\hvtex@buffer\@empty
8810     \else
8811       \hvtex@gettoken
8812       \ifx\hvtex@trans@par\hvtex@par@duration
```

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

```
8813       \let\hvtex@param@duration\hvtex@token
8814       \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
8815       \expandafter\edef\expandafter\hvtex@param@motion
8816       \expandafter{\expandafter\@gobble\hvtex@token}%
8817       \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
8818       \expandafter\edef\expandafter\hvtex@param@dimension
8819       \expandafter{\expandafter\@gobble\hvtex@token}%
8820       \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).

```
8821       \let\hvtex@param@direction\hvtex@token
```

```

8822     \fi\fi\fi\fi
8823     \fi
8824     \fi
8825     \ifx\hvtex@buffer\@empty
8826     \let\next\hvtex@produce@trans
8827     \else
8828     \let\next\hvtex@trans@params
8829     \fi
8830     \next
8831 }%

```

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

```

8832 \def\hvtex@produce@trans{%
8833   \let\vtex@trans@special\@empty
8834   \if S\hvtex@trans@code
8835     \edef\vtex@trans@special{\hvtex@trans@code
8836       \hvtex@param@dimension\hvtex@param@motion}%
8837   \else\if B\hvtex@trans@code
8838     \edef\vtex@trans@special{%
8839       \hvtex@trans@code\hvtex@param@dimension
8840     }%
8841   \else\if X\hvtex@trans@code
8842     \edef\vtex@trans@special{%
8843       \hvtex@trans@code\hvtex@param@motion
8844     }%
8845   \else\if W\hvtex@trans@code
8846     \edef\vtex@trans@special{%
8847       \hvtex@trans@code\hvtex@param@direction
8848     }%
8849   \else\if D\hvtex@trans@code
8850     \let\vtex@trans@special\hvtex@trans@code
8851   \else\if R\hvtex@trans@code
8852     \let\vtex@trans@special\hvtex@trans@code
8853   \else\if G\hvtex@trans@code
8854     \edef\vtex@trans@special{%
8855       \hvtex@trans@code\hvtex@param@direction
8856     }%
8857   \fi\fi\fi\fi\fi\fi\fi
8858   \ifx\vtex@trans@special\@empty
8859   \else
8860     \ifx\hvtex@param@duration\@empty
8861     \else
8862       \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

8863     \multiply\dimen@\@m
8864     \edef\vtex@trans@special{%
8865       \vtex@trans@special,\strip@pt\dimen@
8866     }%
8867   \fi

```

And all the mess is just for this.

```

8868     \special{!trans \vtex@trans@special}%
8869     \fi
8870 }%
8871 \def\hyper@pageduration{%
8872   \ifx\@pdfpageduration\relax

```

```

8873 \else
8874 \ifx\@pdfpageduration\@empty
8875 \special{!duration-}%
8876 \else
8877 \special{!duration \@pdfpageduration}%
8878 \fi
8879 \fi
8880 }%
8881 \def\hyper@pagehidden{%
8882 \ifHy@useHidKey
8883 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8884 \fi
8885 }%
8886 \g@addto@macro\Hy@EveryPageBoxHook{%
8887 \hyper@pagetransition
8888 \hyper@pageduration
8889 \hyper@pagehidden
8890 }%
8891 \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

```

8892 \ifx\@pdfproducer\relax
8893 \def\@pdfproducer{VTeX}%
8894 \ifnum\Hy@VTeXversion>\z@
8895 \count@\VTeXversion
8896 \divide\count@ 100 %
8897 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
8898 \multiply\count@ -100 %
8899 \advance\count@\VTeXversion
8900 \edef\@pdfproducer{%
8901 \@pdfproducer
8902 .\ifnum\count@<10 0\fi\the\count@
8903 \ifx\VTeXOS\undefined\else
8904 \ifnum\VTeXOS>0 %
8905 \ifnum\VTeXOS<6 %
8906 \space(
8907 \ifcase\VTeXOS
8908 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
8909 \fi
8910 )%
8911 \fi
8912 \fi
8913 \space
8914 \ifnum\OpMode=\@ne PDF\else PS\fi
8915 \space backend%
8916 \ifx\gexmode\undefined\else
8917 \ifnum\gexmode>\z@\space with GeX\fi

```



```

8919     \fi
8920   }%
8921 \fi
8922 \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).

```

8923 \def\PDF@SetupDoc{%
8924   \ifx\@pdfpagescrop\@empty
8925   \else
8926     \special{!pdfinfo b=<\@pdfpagescrop>}%
8927   \fi
8928   \ifx\@pdfstartpage\@empty
8929   \else
8930     \ifx\@pdfstartview\@empty
8931     \else
8932       \special{!onopen Page\@pdfstartpage}%
8933     \fi
8934   \fi
8935   \special{!pdfinfo p=</\@pdfpagemode>}%
8936   \ifx\@baseurl\@empty
8937   \else
8938     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
8939   \fi
8940   \special{!pdfinfo v=<<<%
8941     \ifHy@toolbar\else /HideToolbar true\fi
8942     \ifHy@menubar\else /HideMenubar true\fi
8943     \ifHy>windowui\else /HideWindowUI true\fi
8944     \ifHy@fitwindow /FitWindow true\fi
8945     \ifHy@centerwindow /CenterWindow true\fi
8946     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8947     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8948     \Hy@UseNameKey{Direction}\@pdfdirection
8949     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8950     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8951     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8952     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8953     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8954     \Hy@UseNameKey{Duplex}\@pdfduplex
8955     \ifx\@pdfpicktraybypdfsize\@empty
8956     \else
8957       /PickTrayByPDFSize \@pdfpicktraybypdfsize
8958     \fi
8959     \ifx\@pdfprintpagerange\@empty
8960     \else

```

```

8961      /PrintPageRange[\@pdfprintpagerange]%
8962      \fi
8963      \ifx\@pdfnumcopies\@empty
8964      \else
8965          /NumCopies \@pdfnumcopies
8966      \fi
8967  >>>}%
8968  \ifx\@pdfpagelayout\@empty
8969  \else
8970      \special{!pdfinfo l=</\@pdfpagelayout\space>}%
8971  \fi
8972 }%
8973 \def\PDF@FinishDoc{%
8974   \Hy@UseMaketitleInfos
8975   \special{!pdfinfo a=<\@pdfauthor>}%
8976   \special{!pdfinfo t=<\@pdftitle>}%
8977   \special{!pdfinfo s=<\@pdfsubject>}%
8978   \special{!pdfinfo c=<\@pdfcreator>}%
8979   \ifx\@pdfproducer\relax
8980   \else
8981       \special{!pdfinfo r=<\@pdfproducer>}%
8982   \fi
8983   \special{!pdfinfo k=<\@pdfkeywords>}%
8984   \Hy@DisableOption{pdfauthor}%
8985   \Hy@DisableOption{pdftitle}%
8986   \Hy@DisableOption{pdfsubject}%
8987   \Hy@DisableOption{pdfcreator}%
8988   \Hy@DisableOption{pdfcreationdate}%
8989   \Hy@DisableOption{pdfmoddate}%
8990   \Hy@DisableOption{pdfproducer}%
8991   \Hy@DisableOption{pdfkeywords}%
8992 }
8993 \</vtx>

```

45.7 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.

```

8994 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
8995 <package>\providecommand*\Hy@DistillerDestFix{}
8996 <*pdfmark | dviwindo>
8997 \def\Hy@DistillerDestFix{%
8998   \beginpgroup
8999   \let\x\literalps@out

```

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

```

9000   \ifnum \@ifundefined{OpMode}{0}{}%
9001       \@ifundefined{gexmode}{0}{%
9002           \ifnum\gexmode>0 \OpMode\else 0\fi

```

```

9003         }}>1 %
9004     \def\x##1{%
9005         \immediate\special{!=##1}%
9006     }%
9007 \fi
9008 \x{%
9009     /product where{%
9010         pop %
9011         product(Distiller)search{%
9012             pop pop pop %
9013             version(.)search{%
9014                 exch pop exch pop%
9015                 (3011)eq{%
9016                     gsave %
9017                     newpath 0 0 moveto closepath clip%
9018                     /Courier findfont 10 scalefont setfont %
9019                     72 72 moveto(.)show %
9020                     grestore%
9021                 }if%
9022             }{pop}ifelse%
9023         }{pop}ifelse%
9024     }if%
9025 }%
9026 \endgroup
9027 }
9028 </pdfmark | dviwindo>

```

45.8 Direct pdfmark support

Drivers that load pdfmark.def have to provide the correct macro definitions of

```

\@pdfproducer    for document information
\literalps@out   PostScript output
\headerps@out    PostScript output that goes in the header area

```

and the correct definitions of the following PostScript procedures:

```

H.S      start of anchor, link or rect
#1 H.A   end of anchor, argument=baselineskip in pt
#1 H.L   end of link, argument=baselineskip in pt
H.R      end of rect
H.B      raw rect code

```

```

9029 <*pdfmark>
9030 \Hy@breaklinks@unsupported
9031 \def\hyper@anchor#1{%
9032     \Hy@SaveLastskip
9033     \begingroup
9034         \pdfmark[\anchor@spot]{%
9035             pdfmark=/DEST,%
9036             linktype=anchor,%
9037             View=/\@pdfview \@pdfviewparams,%
9038             DestAnchor={#1}%
9039         }%
9040     \endgroup
9041     \Hy@RestoreLastskip
9042 }
9043 \@ifundefined{hyper@anchorstart}{-}{\endinput}

```

```

9044 \def\hyper@anchorstart#1{%
9045   \Hy@SaveLastskip
9046   \literalps@out{H.S}%
9047   \xdef\hyper@currentanchor{#1}%
9048   \Hy@activeanchortrue
9049 }
9050 \def\hyper@anchorend{%
9051   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
9052   \pdfmark{%
9053     pdfmark=/DEST,%
9054     linktype=anchor,%
9055     View=/\@pdfview \@pdfviewparams,%
9056     DestAnchor=\hyper@currentanchor,%
9057   }%
9058   \Hy@activeanchorfalse
9059   \Hy@RestoreLastskip
9060 }
9061 \def\hyper@linkstart#1#2{%
9062   \ifHy@breaklinks
9063   \else
9064     \leavevmode\hbox\bgroup
9065     \fi
9066     \expandafter\Hy@colorlink\csname @#1color\endcsname
9067     \literalps@out{H.S}%
9068     \xdef\hyper@currentanchor{#2}%
9069     \gdef\hyper@currentlinktype{#1}%
9070 }
9071 \def\hyper@linkend{%
9072   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
9073   \@ifundefined{@\hyper@currentlinktype bordercolor}{%
9074     \let\Hy@tempcolor\relax
9075   }{%
9076     \edef\Hy@tempcolor{%
9077       \csname @\hyper@currentlinktype bordercolor\endcsname
9078     }%
9079   }%
9080   \pdfmark{%
9081     pdfmark=/ANN,%
9082     linktype=link,%
9083     Subtype=/Link,%
9084     PDFAMark=4,%
9085     Dest=\hyper@currentanchor,%
9086     AcroHighlight=\@pdfhighlight,%
9087     Border=\@pdfborder,%
9088     BorderStyle=\@pdfborderstyle,%
9089     Color=\Hy@tempcolor,%
9090     Raw=H.B%
9091   }%
9092   \Hy@endcolorlink
9093   \ifHy@breaklinks
9094   \else
9095     \egroup
9096   \fi
9097 }

```

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.

```
9098 \begingroup
9099 \catcode'P=12 %
9100 \catcode'T=12 %
9101 \lowercase{\endgroup
9102 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
9103 }
9104 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}
```

\hyper@pagetransition

```
9105 \def\hyper@pagetransition{%
9106 \ifx\@pdfpagetransition\relax
9107 \else
9108 \ifx\@pdfpagetransition\@empty
9109 % 1. Does an old entry have to be deleted?
9110 % 2. If 1=yes, how to delete?
9111 \else
9112 \pdfmark{%
9113 pdfmark=/PUT,%
9114 Raw={%
9115 \string{ThisPage\string}%
9116 <</Trans << /S /\@pdfpagetransition\space >> >>%
9117 }%
9118 }%
9119 \fi
9120 \fi
9121 }
```

\hyper@pageduration

```
9122 \def\hyper@pageduration{%
9123 \ifx\@pdfpageduration\relax
9124 \else
9125 \ifx\@pdfpageduration\@empty
9126 % 1. Does an old entry have to be deleted?
9127 % 2. If 1=yes, how to delete?
9128 \else
9129 \pdfmark{%
9130 pdfmark=/PUT,%
9131 Raw={%
9132 \string{ThisPage\string}%
9133 <</Dur \@pdfpageduration>>%
9134 }%
9135 }%
9136 \fi
9137 \fi
9138 }
```

\hyper@pagehidden

```
9139 \def\hyper@pagehidden{%
9140 \ifHy@useHidKey
9141 \pdfmark{%
9142 pdfmark=/PUT,%
9143 Raw={%
9144 \string{ThisPage\string}%
9145 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
9146 }%
9147 }%
```

```

9148 \fi
9149 }

9150 \g@addto@macro\Hy@EveryPageBoxHook{%
9151 \hyper@pagetransition
9152 \hyper@pageduration
9153 \hyper@pagehidden
9154 }

9155 \def\hyper@image#1#2{%
9156 \hyper@linkurl{#2}{#1}%
9157 }

9158 \def\Hy@undefinedname{UNDEFINED}
9159 \def\hyper@link#1#2#3{%
9160 \@ifundefined{@#1bordercolor}{%
9161 \let\Hy@tempcolor\relax
9162 }{%
9163 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
9164 }%
9165 \begin{group}
9166 \protected@edef\Hy@testname{#2}%
9167 \ifx\Hy@testname\@empty
9168 \Hy@Warning{%
9169 Empty destination name,\MessageBreak
9170 using '\Hy@undefinedname'%
9171 }%
9172 \let\Hy@testname\Hy@undefinedname
9173 \fi
9174 \pdfmark[{#3}]{%
9175 Color=\Hy@tempcolor,%
9176 linktype={#1},%
9177 AcroHighlight=\@pdfhighlight,%
9178 Border=\@pdfborder,%
9179 BorderStyle=\@pdfborderstyle,%
9180 pdfmark=/ANN,%
9181 Subtype=/Link,%
9182 PDFAFlags=4,%
9183 Dest=\Hy@testname
9184 }%
9185 \endgroup
9186 }

9187 \newtoks\pdf@docset
9188 \def\PDF@FinishDoc{%
9189 \Hy@UseMaketitleInfos
9190 \let\Hy@temp\@empty
9191 \ifx\@pdfcreationdate\@empty
9192 \else
9193 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
9194 \fi
9195 \ifx\@pdfmoddate\@empty
9196 \else
9197 \expandafter\def\expandafter\Hy@temp\expandafter{%
9198 \Hy@temp
9199 ModDate=\@pdfmoddate,%
9200 }%
9201 \fi
9202 \ifx\@pdfproducer\relax
9203 \else
9204 \expandafter\def\expandafter\Hy@temp\expandafter{%

```

```

9205     \Hy@temp
9206     Producer=\@pdfproducer,%
9207 }%
9208 \fi
9209 \expandafter
9210 \pdfmark\expandafter{%
9211     \Hy@temp
9212     pdfmark=/DOCINFO,%
9213     Title=\@pdftitle,%
9214     Subject=\@pdfsubject,%
9215     Creator=\@pdfcreator,%
9216     Author=\@pdfauthor,%
9217     Keywords=\@pdfkeywords
9218 }%
9219 \Hy@DisableOption{pdfauthor}%
9220 \Hy@DisableOption{pdftitle}%
9221 \Hy@DisableOption{pdfsubject}%
9222 \Hy@DisableOption{pdfcreator}%
9223 \Hy@DisableOption{pdfcreationdate}%
9224 \Hy@DisableOption{pdfmoddate}%
9225 \Hy@DisableOption{pdfproducer}%
9226 \Hy@DisableOption{pdfkeywords}%
9227 }
9228 \def\PDF@SetupDoc{%
9229     \def\Hy@temp{%
9230         \ifx\@pdfstartpage\@empty
9231         \else
9232             \ifx\@pdfstartview\@empty
9233             \else
9234                 \edef\Hy@temp{%
9235                     ,Page=\@pdfstartpage
9236                     ,View=\@pdfstartview
9237                 }%
9238             \fi
9239         \fi
9240         \edef\Hy@temp{%
9241             \noexpand\pdfmark{%
9242                 pdfmark=/DOCVIEW,%
9243                 PageMode=/\@pdfpagemode
9244                 \Hy@temp
9245             }%
9246         }%
9247         \Hy@temp
9248         \ifx\@pdfpagescrop\@empty
9249         \else
9250             \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9251         \fi
9252         \edef\Hy@temp{%
9253             \ifHy@toolbar\else /HideToolbar true\fi
9254             \ifHy@menubar\else /HideMenubar true\fi
9255             \ifHy>windowui\else /HideWindowUI true\fi
9256             \ifHy@fitwindow /FitWindow true\fi
9257             \ifHy@centerwindow /CenterWindow true\fi
9258             \ifHy@displaydoctitle /DisplayDocTitle true\fi
9259             \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9260             \Hy@UseNameKey{Direction}\@pdfdirection
9261             \Hy@UseNameKey{ViewArea}\@pdfviewarea

```

```

9262 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9263 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9264 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9265 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9266 \Hy@UseNameKey{Duplex}\@pdfduplex
9267 \ifx\@pdfpicktraybypdfsize\@empty
9268 \else
9269 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9270 \fi
9271 \ifx\@pdfprintpagerange\@empty
9272 \else
9273 /PrintPageRange[\@pdfprintpagerange]%
9274 \fi
9275 \ifx\@pdfnumcopies\@empty
9276 \else
9277 /NumCopies \@pdfnumcopies
9278 \fi
9279 }%
9280 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9281 \pdfmark{%
9282 pdfmark=/PUT,%
9283 Raw={%
9284 \string{Catalog\string}<<%
9285 \ifx\Hy@temp\@empty
9286 \else
9287 /ViewerPreferences<<\Hy@temp>>%
9288 \fi
9289 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9290 \ifx\@pdflang\@empty
9291 \else
9292 /Lang(\@pdflang)%
9293 \fi
9294 \ifx\@baseurl\@empty
9295 \else
9296 /URI<</Base(\Hy@pstringB)>>%
9297 \fi
9298 >>%
9299 }%
9300 }%
9301 }
9302 \pdfmark>
9303 \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.

```

9304 \newif\ifHy@pdfmarkerror
9305 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
9306 \def\pdfmark@[#1]#2{%
9307 \Hy@pdfmarkerrorfalse
9308 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9309 \@processme
9310 \let\pdf@type\relax
9311 \setkeys{PDF}{#2}%
9312 \ifHy@pdfmarkerror

```



```

9313 \else
9314   \ifx\pdf@type\relax
9315     \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9316     \ifx\#1\%
9317       \else
9318         \pdf@rect{#1}%
9319       \fi
9320     \else
9321       \ifx\#1\%
9322         \literalps@out{%
9323           [\the\pdf@toks\space\pdf@type\space pdfmark%
9324           ]%
9325         \else
9326           \@ifundefined{@\pdf@linktype color}{%
9327             \Hy@colorlink\@linkcolor
9328           }{%
9329             \expandafter\Hy@colorlink
9330               \csname @\pdf@linktype color\endcsname
9331           }%
9332           \pdf@rect{#1}%
9333           \literalps@out{%
9334             [\the\pdf@toks\space\pdf@type\space pdfmark%
9335             ]%
9336             \Hy@endcolorlink
9337           \fi
9338         \fi
9339       \fi
9340 }

```

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}

```

```

9341 \newsavebox{\pdf@box}
9342 \providecommand*{\Hy@setouterhbox}{\sbox}
9343 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
9344 \def\Hy@DEST{/DEST}
9345 \def\pdf@rect#1{%
9346   \leavevmode
9347   \ifHy@breaklinks
9348     \Hy@setouterhbox\pdf@box{#1}%
9349   \else
9350     \sbox\pdf@box{#1}%
9351   \fi
9352   \dimen@ \ht\pdf@box
9353   \ifdim\dp\pdf@box=\z@
9354     \literalps@out{H.S}%
9355   \else
9356     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9357   \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...).

```
9358 \ifHy@breaklinks
9359 \expandafter\Hy@breaklinksunhbox
9360 \else
9361 \expandafter\box
9362 \fi
9363 \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

9364 \ifdim\dimen@=\z@
9365 \literalps@out{H.R}%
9366 \else
9367 \raise\dimen@hbox{\literalps@out{H.R}}%
9368 \fi
9369 \ifx\pdf@type\Hy@DEST
9370 \else
9371 \pdf@addtoksx{H.B}%
9372 \fi
9373 }
```

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.

```
9374 \newtoks\pdf@toks
9375 \newtoks\pdf@defaulttoks
9376 \pdf@defaulttoks={}
9377 \def\pdf@addtoks#1#2{%
9378 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9379 \@processme
9380 }
9381 \def\pdf@addtoksx#1{%
9382 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9383 \@processme
9384 }
9385 \def\PDFdefaults#1{%
9386 \pdf@defaulttoks={#1}%
9387 }
```

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

```
9388 % what is the type of pdfmark?
9389 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9390 % what is the link type?
9391 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
9392 \def\pdf@linktype{link}
9393 % parameter is a stream of PDF
9394 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
9395 % parameter is a name
9396 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9397 % parameter is a array
9398 \define@key{PDF}{Border}{%
9399 \edef\Hy@temp{#1}%
9400 \ifx\Hy@temp\@empty
9401 \else
9402 \pdf@addtoks{#1}\Hy@BorderArrayPatch}{Border}% hash-ok
```

```

9403 \fi
9404 }
9405 \let\Hy@BorderArrayPatch\@empty
9406 % parameter is a dictionary
9407 \define@key{PDF}{BorderStyle}{%
9408 \edef\Hy@temp{#1}%
9409 \ifx\Hy@temp\@empty
9410 \else
9411 \pdf@addtoks{<<#1>>}{BS}%
9412 \fi
9413 }
9414 % parameter is a array
9415 \define@key{PDF}{Color}{%
9416 \ifx\relax#1\relax
9417 \else
9418 \pdf@addtoks{[#1]}{Color}% hash-ok
9419 \fi
9420 }
9421 % parameter is a string
9422 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9423 % parameter is a integer
9424 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9425 % parameter is a array
9426 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9427 % parameter is a string
9428 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9429 % parameter is a string or file
9430 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9431 % parameter is a destination
9432 \define@key{PDF}{Dest}{%
9433 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9434 \ifx\Hy@pstringDest\@empty
9435 \Hy@pdfmarkerrortrue
9436 \Hy@Warning{Destination with empty name ignored}%
9437 \else
9438 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9439 \fi
9440 }
9441 \define@key{PDF}{DestAnchor}{%
9442 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9443 \ifx\Hy@pstringDest\@empty
9444 \Hy@pdfmarkerrortrue
9445 \Hy@Warning{Destination with empty name ignored}%
9446 \else
9447 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9448 \fi
9449 }
9450 % parameter is a string
9451 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9452 % parameter is a string
9453 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9454 % parameter is a int
9455 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9456 \define@key{PDF}{PDFAFlags}{%
9457 \ifHy@pdfa
9458 \pdf@addtoks{#1}{F}%
9459 \fi

```

```

9460 }
9461 % parameter is a name
9462 \define@key{PDF}{AcroHighlight}{%
9463   \beginngroup
9464     \edef\x{#1}%
9465     \expandafter\endgroup\ifx\x\@empty
9466     \else
9467       \pdf@addtoks{#1}{H}%
9468     \fi
9469 }
9470 % parameter is a string
9471 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9472 % parameter is a string
9473 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9474 % parameter is a string
9475 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9476 % parameter is a string
9477 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9478 % parameter is a Boolean
9479 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9480 % parameter is a integer or name
9481 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9482 % parameter is a name
9483 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9484 % parameter is a string
9485 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9486 % parameter is a array
9487 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9488 % parameter is a integer
9489 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9490 % parameter is a name
9491 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9492 % parameter is a string
9493 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9494 % parameter is a string
9495 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9496 % parameter is a string
9497 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9498 % parameter is an array
9499 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9500 % parameter is a string
9501 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9502 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9503 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9504 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9505 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9506 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
9507 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9508 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9509 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9510 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9511 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
9512 </pdfmarkbase>
9513 <*pdfmark>
9514 \def\Acrobatmenu#1#2{%
9515   \Hy@Acrobatmenu{#1}{#2}{%

```

```

9516 \pdfmark[{#2}]{%
9517   linktype=menu,%
9518   pdfmark=/ANN,%
9519   AcroHighlight=\@pdfhighlight,%
9520   Border=\@pdfborder,%
9521   BorderStyle=\@pdfborderstyle,%
9522   Action={<< /Subtype /Named /N /#1 >>},%
9523   Subtype=/Link,%
9524   PDFAFlags=4%
9525 }%
9526 }%
9527 }

```

And now for some useful examples:

```

9528 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9529 \def\PDFNextPage@[#1]#2{%
9530   \pdfmark[{#2}]{%
9531     #1,%
9532     Border=\@pdfborder,%
9533     BorderStyle=\@pdfborderstyle,%
9534     Color=.2 .1 .5,%
9535     pdfmark=/ANN,%
9536     Subtype=/Link,%
9537     PDFAFlags=4,%
9538     Page=/Next%
9539   }%
9540 }
9541 \def\PDFPreviousPage{%
9542   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9543 }
9544 \def\PDFPreviousPage@[#1]#2{%
9545   \pdfmark[{#2}]{%
9546     #1,%
9547     Border=\@pdfborder,%
9548     BorderStyle=\@pdfborderstyle,%
9549     Color=.4 .4 .1,%
9550     pdfmark=/ANN,%
9551     Subtype=/Link,%
9552     PDFAFlags=4,%
9553     Page=/Prev%
9554   }%
9555 }
9556 \def\PDFOpen#1{%
9557   \pdfmark{#1,pdfmark=/DOCVIEW}%
9558 }

```

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

```

9559 \def\hyper@linkurl#1#2{%
9560   \begingroup
9561     \Hy@pstringdef\Hy@pstringURI{#2}%
9562     \hyper@chars
9563     \leavevmode
9564     \pdfmark[{#1}]{%
9565       pdfmark=/ANN,%
9566       linktype=url,%
9567       AcroHighlight=\@pdfhighlight,%
9568       Border=\@pdfborder,%
9569       BorderStyle=\@pdfborderstyle,%

```

```

9570     Color=\@urlbordercolor,%
9571     Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9572     Subtype=/Link,%
9573     PDFAFlags=4%
9574 }%
9575 \endgroup
9576 }
9577 \def\hyper@linkfile#1#2#3{%
9578   \begingroup
9579   \Hy@pstringdef\Hy@pstringF{#2}%
9580   \Hy@pstringdef\Hy@pstringD{#3}%
9581   \leavevmode
9582   \pdfmark[{#1}]{%
9583     pdfmark=/ANN,%
9584     Subtype=/Link,%
9585     PDFAFlags=4,%
9586     AcroHighlight=\@pdfhighlight,%
9587     Border=\@pdfborder,%
9588     BorderStyle=\@pdfborderstyle,%
9589     linktype=file,%
9590     Color=\@filebordercolor,%
9591     Action={%
9592       <<%
9593       /S/GoToR%
9594       \Hy@SetNewWindow
9595       /F(\Hy@pstringF)%
9596       /D\ifx\#3\[\[0 \@pdfstartview]\else(\Hy@pstringD)cvn\fi
9597       >>%
9598     }%
9599   }%
9600   \endgroup
9601 }
9602 \def\@hyper@launch run:#1\#2#3{%
9603   \begingroup
9604   \Hy@pstringdef\Hy@pstringF{#1}%
9605   \Hy@pstringdef\Hy@pstringP{#3}%
9606   \leavevmode
9607   \pdfmark[{#2}]{%
9608     pdfmark=/ANN,%
9609     Subtype=/Link,%
9610     PDFAFlags=4,%
9611     AcroHighlight=\@pdfhighlight,%
9612     Border=\@pdfborder,%
9613     BorderStyle=\@pdfborderstyle,%
9614     linktype=run,%
9615     Color=\@runbordercolor,%
9616     Action={%
9617       <<%
9618       /S/Launch%
9619       \Hy@SetNewWindow
9620       /F(\Hy@pstringF)%
9621       \ifx\#3\[%
9622       \else
9623       /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9624       \fi
9625       >>%
9626     }%

```

```

9627    }%
9628  \endgroup
9629 }
9630 </pdfmark>

```

Unfortunately, some parts of the pdfmark PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

45.9 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.

```

9631 <*dvips>
9632 \providecommand*{\XR@ext}{pdf}
9633 \def\Hy@raisedlink{}
9634 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9635 \def\headerps@out#1{\special{! #1}}%
9636 \input{pdfmark.def}%
9637 \ifx\@pdfproducer\relax
9638   \def\@pdfproducer{dvips + Distiller}%
9639 \fi
9640 \providecommand*\@pdfborder{0 0 1}
9641 \providecommand*\@pdfborderstyle{}
9642 \providecommand*\@pdfview{XYZ}
9643 \providecommand*\@pdfviewparams{ H.V}
9644 \def\Hy@BorderArrayPatch{BorderArrayPatch}
9645 \g@addto@macro\Hy@FirstPageHook{%
9646   \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.

```

9647   /DvipsToPDF{72.27 mul Resolution div} def%
9648   /PDFToDvips{72.27 div Resolution mul} def%
9649   /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.

```

9650   /BorderArrayPatch{%
9651     [exch{%
9652       dup dup type/integertype eq exch type/realtype eq or%
9653       {BPToDvips}if%
9654     }forall]%
9655   }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.

```
9656 /HyperBorder {1 PDFToDvips} def%
9657 /H.V {pdf@hoff pdf@voff null} def%
9658 /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

```
9659 /H.S {%
9660   currentpoint %
9661   HyperBorder add /pdf@lly exch def %
9662   dup DvipsToPDF 72 add /pdf@hoff exch def %
9663   HyperBorder sub /pdf@llx exch def%
9664 } 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`

```
9665 /H.L {%
9666   2 sub dup%
9667   /HyperBasePt exch def %
9668   PDFToDvips /HyperBaseDvips exch def %
9669   currentpoint %
9670   HyperBaseDvips sub /pdf@ury exch def%
9671   /pdf@urx exch def%
9672 } def%
9673 /H.A {%
9674   H.L %
9675 % |pdf@voff| = the distance from the top of the page to a point
9676 % |\baselineskip| above the current point in PDF coordinates
9677   currentpoint exch pop %
9678   vsize 72 sub exch DvipsToPDF %
9679   HyperBasePt sub % baseline skip
9680   sub /pdf@voff exch def%
9681 } def%
9682 /H.R {%
9683   currentpoint %
9684   HyperBorder sub /pdf@ury exch def %
9685   HyperBorder add /pdf@urx exch def %
9686 % |pdf@voff| = the distance from the top of the page to the current point, in
9687 % PDF coordinates
9688   currentpoint exch pop vsize 72 sub %
9689   exch DvipsToPDF sub /pdf@voff exch def%
9690 } def%
9691 }%
9692 }
9693 \AtBeginShipoutFirst{%
9694   \ifHy@setpagesize
9695     \begingroup
9696       \@ifundefined{stockwidth}{%
9697         \ifx\special@paper\empty
9698           \special{papersize=\the\paperwidth,\the\paperheight}%
9699         \else
```



```

9700      \special{papersize=\special@paper}%
9701      \fi
9702    }{%
9703      \ifdim\stockwidth=\z@
9704      \else
9705        \special{papersize=\the\stockwidth,\the\stockheight}%
9706      \fi
9707    }%
9708  \endgroup
9709  \fi
9710  \Hy@DisableOption{setpagesize}%
9711 }
9712 </dvips>

```

45.10 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.

```

9713 <*vtexpdfmark>
9714 \providecommand*\XR@ext}{pdf}
9715 \def\Hy@raisedlink{}
9716 \def\literalps@out#1{\special{pS:#1}}%
9717 \def\headerps@out#1{\immediate\special{pS:#1}}%
9718 \input{pdfmark.def}%
9719 \ifx\@pdfproducer\relax
9720   \ifnum\OpMode=\@ne
9721     \def\@pdfproducer{VTeX}%
9722   \else
9723     \def\@pdfproducer{VTeX + Distiller}%
9724   \fi
9725 \fi
9726 \providecommand*\@pdfborder{0 0 1}
9727 \providecommand*\@pdfborderstyle{}
9728 \providecommand*\@pdfview{XYZ}
9729 \providecommand*\@pdfviewparams{ H.V}
9730 \g@addto@macro\Hy@FirstPageHook{%
9731   \headerps@out{%
9732     /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.

```

9733   /HyperBorder {1} def%
9734   /H.V {pdf@hoff pdf@voff null} def%
9735   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9736   /H.S {%
9737     currentpoint %
9738     HyperBorder sub%
9739     /pdf@lly exch def %
9740     dup 72 add /pdf@hoff exch def %
9741     HyperBorder sub%

```

```

9742      /pdf@llx exch def%
9743    } def%

```

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

```

9744    /H.L {%
9745      2 sub%
9746    /HyperBasePt exch def %
9747    currentpoint %
9748    HyperBasePt add HyperBorder add%
9749    /pdf@ury exch def %
9750    HyperBorder add%
9751    /pdf@urx exch def%
9752  } def%
9753  /H.A {%
9754    H.L %
9755    currentpoint exch pop %
9756    vsize 72 sub exch %
9757    HyperBasePt add add%
9758    /pdf@voff exch def%
9759  } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

9760    /H.R {%
9761      currentpoint %
9762      HyperBorder add%
9763      /pdf@ury exch def %
9764      HyperBorder add%
9765      /pdf@urx exch def %
9766      currentpoint exch pop vsize 72 sub add%
9767      /pdf@voff exch def%
9768    } def%
9769  }%
9770 }
9771 </vtxpdfmark>

```

45.11 Textures

```

9772 <*textures>
9773 \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.

```

9774 \begingroup
9775   \obeylines %
9776   \gdef\Hy@ps@CR{\noexpand
9777   }%
9778 \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.

```

9779 \def\literalps@out#1{%
9780   \special{postscript 0 0 transform}%
9781   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9782 }%
9783 %

```

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.

```

9784 \def\headerps@out#1{%
9785   \special{%
9786     prepostscript TeXdict begin\Hy@ps@CR
9787       #1\Hy@ps@CR
9788     end%
9789   }%
9790 }%
9791 %

```

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.

```

9792 \g@addto@macro\Hy@FirstPageHook{%
9793   \headerps@out{%
9794     /betterpdfmark {%
9795       systemdict begin %
9796         dup /BP eq%
9797         {cleartomark gsave nulldevice []}%
9798         {dup /EP eq%
9799           {cleartomark cleartomark grestore}%
9800           {cleartomark}%
9801           ifelse%
9802         }ifelse %
9803       end%
9804     }def\Hy@ps@CR
9805     __pdfmark__ not{/pdfmark /betterpdfmark load def}if%
9806   }% end of \headerps@out
9807 }% end of \AtBeginShipoutFirst
9808 %
9809 \input{pdfmark.def}%
9810 %
9811 \ifx\@pdfproducer\relax
9812   \def\@pdfproducer{Textures + Distiller}%
9813 \fi
9814 \providecommand*\@pdfborder{0 0 1}
9815 \providecommand*\@pdfborderstyle{}
9816 \providecommand*\@pdfview{XYZ}
9817 \providecommand*\@pdfviewparams{ H.V}
9818 %

```

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 .

```
9819 \headerps@out{%
```

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

```
9820 /vsize {\Hy@pageheight} def%
9821 /DvipsToPDF {} def%
9822 /PDFToDvips {} def%
9823 /BPToDvips {} def%
9824 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9825 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9826 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9827 /H.S {%
9828     currentpoint %
9829     HyperBorder add /pdf@lly exch def %
9830     dup DvipsToPDF 72 add /pdf@hoff exch def %
9831     HyperBorder sub /pdf@llx exch def%
9832 } def\Hy@ps@CR
9833 /H.L {%
9834     2 sub %
9835     PDFToDvips /HyperBase exch def %
9836     currentpoint %
9837     HyperBase sub /pdf@ury exch def%
9838     /pdf@urx exch def%
9839 } def\Hy@ps@CR
9840 /H.A {%
9841     H.L %
9842     currentpoint exch pop %
9843     vsize 72 sub exch DvipsToPDF %
9844     HyperBase sub % baseline skip
9845     sub /pdf@voff exch def%
9846 } def\Hy@ps@CR
9847 /H.R {%
9848     currentpoint %
9849     HyperBorder sub /pdf@ury exch def %
9850     HyperBorder add /pdf@urx exch def %
9851     currentpoint exch pop vsize 72 sub %
9852     exch DvipsToPDF sub /pdf@voff exch def%
9853 } def\Hy@ps@CR
9854 }

9855 \AfterBeginDocument{%
9856     \ifHy@colorlinks
9857         \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9858     \fi
9859 }
```

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.

```
9860 \expandafter\let\expandafter\keepPDF@SetupDoc
9861 \csname PDF@SetupDoc\endcsname
9862 \def\PDF@SetupDoc{%
9863     \ifx\@baseurl\@empty
9864     \else
9865         \special{html:<base href="\@baseurl">}%
9866     \fi
9867     \keepPDF@SetupDoc
```

```

9868 }
9869 \def\hyper@anchor#1{%
9870   \Hy@SaveLastskip
9871   \begingroup
9872     \let\protect=\string
9873     \special{html:<a name=%
9874       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9875   \endgroup
9876   \Hy@activeanchortrue
9877   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9878   \special{html:</a>}%
9879   \Hy@activeanchorfalse
9880   \Hy@RestoreLastskip
9881 }
9882 \def\hyper@anchorstart#1{%
9883   \Hy@SaveLastskip
9884   \begingroup
9885     \hyper@chars
9886     \special{html:<a name=%
9887       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9888   \endgroup
9889   \Hy@activeanchortrue
9890 }
9891 \def\hyper@anchorend{%
9892   \special{html:</a>}%
9893   \Hy@activeanchorfalse
9894   \Hy@RestoreLastskip
9895 }
9896 \def\@urltype{url}
9897 \def\hyper@linkstart#1#2{%
9898   \expandafter\Hy@colorlink\csname @#1color\endcsname
9899   \def\Hy@tempa{#1}%
9900   \ifx\Hy@tempa\@urltype
9901     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9902   \else
9903     \begingroup
9904       \hyper@chars
9905       \special{html:<a href=%
9906         \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>}%
9907     \endgroup
9908   \fi
9909 }
9910 \def\hyper@linkend{%
9911   \special{html:</a>}%
9912   \Hy@endcolorlink
9913 }
9914 \def\hyper@linkfile#1#2#3{%
9915   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
9916 }
9917 \def\hyper@linkurl#1#2{%
9918   \leavevmode
9919   \ifHy@raiselinks
9920     \setbox\@tempboxa=\color@hbox #1\color@endbox
9921     \@linkdim\dp\@tempboxa
9922     \lower\@linkdim\hbox{%
9923       \hyper@chars
9924       \special{html:<a href=\hyper@quote#2\hyper@quote>}%

```

```

9925 }%
9926 \Hy@colorlink\@urlcolor#1%
9927 \@linkdim\ht\@tempboxa
9928 \advance\@linkdim by -6.5\p@
9929 \raise\@linkdim\hbox{\special{html:</a>}}%
9930 \Hy@endcolorlink
9931 \else
9932 \begingroup
9933 \hyper@chars
9934 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9935 \Hy@colorlink\@urlcolor#1%
9936 \special{html:</a>}%
9937 \Hy@endcolorlink
9938 \endgroup
9939 \fi
9940 }

```

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

```

9941 \def\hyper@link#1#2#3{%
9942   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
9943 }
9944 \def\hyper@image#1#2{%
9945   \begingroup
9946   \hyper@chars
9947   \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9948   \endgroup
9949 }
9950 </textures>

```

45.12 dvipsone

```

9951 % \subsection{dvipsone driver}
9952 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
9953 % |\special| commands.
9954 (*dvipsone)
9955 \providecommand*{\XR@ext}{pdf}
9956 \def\Hy@raisedlink{}
9957 \providecommand*\@pdfborder{0 0 1}
9958 \providecommand*\@pdfborderstyle{}
9959 \def\literalps@out#1{\special{ps:#1}}%
9960 \def\headerps@out#1{\special{headertext=#1}}%
9961 \input{pdfmark.def}%
9962 \ifx\@pdfproducer\relax
9963   \def\@pdfproducer{dvipsone + Distiller}%
9964 \fi
9965 \def\PDF@FinishDoc{%
9966   \Hy@UseMaketitleInfos
9967   \special{PDF: Keywords \@pdfkeywords}%
9968   \special{PDF: Title \@pdftitle}%
9969   \special{PDF: Creator \@pdfcreator}%
9970   \ifx\@pdfcreationdate\@empty
9971     \else
9972       \special{PDF: CreationDate \@pdfcreationdate}%
9973   \fi
9974   \ifx\@pdfmoddate\@empty
9975     \else
9976       \special{PDF: ModDate \@pdfmoddate}%
9977   \fi

```

```

9978 \special{PDF: Author \@pdfauthor}%
9979 \ifx\@pdfproducer\relax
9980 \else
9981   \special{PDF: Producer \@pdfproducer}%
9982 \fi
9983 \special{PDF: Subject \@pdfsubject}%
9984 \Hy@DisableOption{pdfauthor}%
9985 \Hy@DisableOption{pdftitle}%
9986 \Hy@DisableOption{pdfsubject}%
9987 \Hy@DisableOption{pdfcreator}%
9988 \Hy@DisableOption{pdfcreationdate}%
9989 \Hy@DisableOption{pdfmoddate}%
9990 \Hy@DisableOption{pdfproducer}%
9991 \Hy@DisableOption{pdfkeywords}%
9992 }
9993 \def\PDF@SetupDoc{%
9994   \def\Hy@temp{%
9995     \ifx\@pdfstartpage\@empty
9996     \else
9997       \ifx\@pdfstartview\@empty
9998       \else
9999         \edef\Hy@temp{%
10000           ,Page=\@pdfstartpage
10001           ,View=\@pdfstartview
10002         }%
10003       \fi
10004     \fi
10005     \edef\Hy@temp{%
10006       \noexpand\pdfmark{%
10007         pdfmark=/DOCVIEW,%
10008         PageMode=/\@pdfpagemode
10009       }\Hy@temp
10010     }%
10011   }%
10012   \Hy@temp
10013   \ifx\@pdfpagescrop\@empty
10014   \else
10015     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10016   \fi
10017   \edef\Hy@temp{%
10018     \ifHy@toolbar\else /HideToolbar true\fi
10019     \ifHy@menubar\else /HideMenubar true\fi
10020     \ifHy>windowui\else /HideWindowUI true\fi
10021     \ifHy@fitwindow /FitWindow true\fi
10022     \ifHy@centerwindow /CenterWindow true\fi
10023     \ifHy@displaydoctitle /DisplayDocTitle true\fi
10024     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10025     \Hy@UseNameKey{Direction}\@pdfdirection
10026     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10027     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10028     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10029     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10030     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10031     \Hy@UseNameKey{Duplex}\@pdfduplex
10032     \ifx\@pdfpicktraybypdfsize\@empty
10033     \else
10034       /PickTrayByPDFSize \@pdfpicktraybypdfsize

```

```

10035 \fi
10036 \ifx\@pdfprintpagerange\@empty
10037 \else
10038 /PrintPageRange[\@pdfprintpagerange]%
10039 \fi
10040 \ifx\@pdfnumcopies\@empty
10041 \else
10042 /NumCopies \@pdfnumcopies
10043 \fi
10044 }%
10045 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10046 \pdfmark{%
10047 pdfmark=/PUT,%
10048 Raw={%
10049 \string{Catalog\string}<<%
10050 \ifx\Hy@temp\@empty
10051 \else
10052 /ViewerPreferences<<\Hy@temp>>%
10053 \fi
10054 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10055 \ifx\@pdflang\@empty
10056 \else
10057 /Lang(\@pdflang)%
10058 \fi
10059 \ifx\@baseurl\@empty
10060 \else
10061 /URI<</Base(\Hy@pstringB)>>%
10062 \fi
10063 >>%
10064 }%
10065 }%
10066 }
10067 \providecommand*\@pdfview{XYZ}
10068 \providecommand*\@pdfviewparams{ %
10069 gsave revscl currentpoint grestore %
10070 72 add exch pop null exch null%
10071 }
10072 \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 .

```

10073 \g@addto@macro\Hy@FirstPageHook{%
10074 \headerps@out{%

```

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

```

10075 /DvipsToPDF { 65781 div } def%
10076 /PDFToDvips { 65781 mul } def%
10077 /BPToDvips{65781 mul}def%
10078 /HyperBorder { 1 PDFToDvips } def%
10079 /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.

```

10080 /BorderArrayPatch{%
10081 [exch{%

```



```

10082      dup dup type/integertype eq exch type/realttype eq or%
10083      {BPToDvips}if%
10084      }forall}%
10085    }def%
10086    /H.S {%
10087      currentpoint %
10088      HyperBorder add /pdf@lly exch def %
10089      dup DvipsToPDF 72 add /pdf@hoff exch def %
10090      HyperBorder sub /pdf@llx exch def%
10091    } def%
10092    /H.L {%
10093      2 sub %
10094      PDFToDvips /HyperBase exch def %
10095      currentpoint %
10096      HyperBase sub /pdf@ury exch def%
10097      /pdf@urx exch def%
10098    } def%
10099    /H.A {%
10100      H.L %
10101      currentpoint exch pop %
10102      HyperBase sub % baseline skip
10103      DvipsToPDF /pdf@voff exch def%
10104    } def%
10105    /H.R {%
10106      currentpoint %
10107      HyperBorder sub /pdf@ury exch def %
10108      HyperBorder add /pdf@urx exch def %
10109      currentpoint exch pop DvipsToPDF /pdf@voff exch def%
10110    } def%
10111  }%
10112 }
10113 </dvipsone>

```

45.13 TeX4ht

```

10114 <*tex4ht>
10115 \providecommand*{\XR@ext}{html}
10116 \def\Hy@raisedlink{}
10117 \@ifpackageloaded{tex4ht}{%
10118   \typeout{hyperref tex4ht: tex4ht already loaded}%
10119 }{%
10120   \RequirePackage[htex4ht]{tex4ht}%
10121 }
10122 \hyperlinkfileprefix{}
10123 \def\PDF@FinishDoc{}
10124 \def\PDF@SetupDoc{%
10125   \ifx\@baseurl\@empty
10126   \else
10127     \special{t4ht=<base href="\@baseurl">}%
10128   \fi
10129 }
10130 \def\hyper@anchor#1{%
10131   \Hy@SaveLastskip
10132   \begingroup
10133     \let\protect=\string
10134     \special{t4ht=<a name=%
10135       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10136   \endgroup

```

```

10137 \Hy@activeanchortrue
10138 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10139 \special{t4ht=</a>}%
10140 \Hy@activeanchorfalse
10141 \Hy@RestoreLastskip
10142 }
10143 \def\hyper@anchorstart#1{%
10144 \Hy@SaveLastskip
10145 \begingroup
10146 \hyper@chars\special{t4ht=<a name=%
10147 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10148 \endgroup
10149 \Hy@activeanchortrue
10150 }
10151 \def\hyper@anchorend{%
10152 \special{t4ht=</a>}%
10153 \Hy@activeanchorfalse
10154 \Hy@RestoreLastskip
10155 }
10156 \def\@urltype{url}
10157 \def\hyper@linkstart#1#2{%
10158 \expandafter\Hy@colorlink\csname @#1color\endcsname
10159 \def\Hy@tempa{#1}%
10160 \ifx\Hy@tempa\@urltype
10161 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10162 \else
10163 \begingroup
10164 \hyper@chars
10165 \special{t4ht=<a href=%
10166 \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>}%
10167 \endgroup
10168 \fi
10169 }
10170 \def\hyper@linkend{%
10171 \special{t4ht=</a>}%
10172 \Hy@endcolorlink
10173 }
10174 \def\hyper@linkfile#1#2#3{%
10175 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
10176 }
10177 \def\hyper@linkurl#1#2{%
10178 \leavevmode
10179 \ifHy@raiselinks
10180 \setbox\@tempboxa=\color@hbox #1\color@endbox
10181 \@linkdim\dp\@tempboxa
10182 \lower\@linkdim\hbox{%
10183 \begingroup
10184 \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10185 \endgroup
10186 }%
10187 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10188 \@linkdim\ht\@tempboxa
10189 \advance\@linkdim by -6.5\p@
10190 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
10191 \else
10192 \begingroup
10193 \hyper@chars

```

```

10194     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
10195     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10196     \special{t4ht=</a>}}%
10197     \endgroup
10198 \fi
10199 }

```

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

```

10200 \def\hyper@link#1#2#3{%
10201   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
10202 }
10203 \def\hyper@image#1#2{%
10204   \begingroup
10205     \hyper@chars
10206     \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}}%
10207   \endgroup
10208 }
10209 \let\autoref\ref
10210 \ifx \rEfLiNK \UnDef
10211   \def\rEfLiNK #1#2{#2}%
10212 \fi
10213 \def\backref#1{}
10214 </tex4ht>
10215 <*tex4htcfg>
10216 \IfFileExists{\jobname.cfg}{\endinput}{}
10217 \Preamble{html}
10218   \begin{document}%
10219 \EndPreamble
10220 \def\TeX{TeX}
10221 \def\OMEGA{\Omega}
10222 \def\LaTeX{LaTeX}
10223 \def\LaTeXe{\LaTeX2e}
10224 \def\eTeX{e-TeX}
10225 \def\MF{Metafont}
10226 \def\MP{MetaPost}
10227 </tex4htcfg>

```

46 Driver-specific form support

46.1 pdfmarks

```

10228 <*pdfmark>
10229 \long\def\@Form[#1]{%
10230 \g@addto@macro\Hy@FirstPageHook{%
10231   \headerps@out{%
10232 [%
10233   /_objdef{pdfDocEncoding}%
10234   /type/dict%
10235 /OBJ pdfmark%
10236 [%
10237   {pdfDocEncoding}%
10238   <<%
10239     /Type/Encoding%
10240     /Differences[%
10241       24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
10242       /tilde %
10243       39/quotesingle %
10244       96/grave %

```

10245 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10246 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10247 /quotedblbase/quotedblleft/quotedblright/quoteleft%
10248 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
10249 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10250 164/currency %
10251 166/brokenbar %
10252 168/dieresis/copyright/ordfeminine %
10253 172/logicalnot/.notdef/registered/macron/degree/plusminus%
10254 /twosuperior/threesuperior/acute/mu %
10255 183/periodcentered/cedilla/onesuperior/ordmasculine %
10256 188/onequarter/onehalf/threequarters %
10257 192/Agave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10258 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10259 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10260 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10261 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10262 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10263 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10264 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
10265 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
10266 /ucircumflex/udieresis/yacute/thorn/ydieresis%
10267]%
10268 >>%
10269 /PUT pdfmark%
10270 [%
10271 /_objdef{ZaDb}%
10272 /type/dict%
10273 /OBJ pdfmark%
10274 [%
10275 {ZaDb}%
10276 <<%
10277 /Type/Font%
10278 /Subtype/Type1%
10279 /Name/ZaDb%
10280 /BaseFont/ZapfDingbats%
10281 >>%
10282 /PUT pdfmark%
10283 [%
10284 /_objdef{Helv}%
10285 /type/dict%
10286 /OBJ pdfmark%
10287 [%
10288 {Helv}%
10289 <<%
10290 /Type/Font%
10291 /Subtype/Type1%
10292 /Name/Helv%
10293 /BaseFont/Helvetica%
10294 /Encoding{pdfDocEncoding}%
10295 >>%
10296 /PUT pdfmark%
10297 [%
10298 /_objdef{aform}%
10299 /type/dict%
10300 /OBJ pdfmark%
10301 [%

```

10302  /_objdef{afields}%
10303  /type/array%
10304  /OBJ pdfmark%
10305  {%
10306  [%
10307    /BBox[0 0 100 100]%
10308    /_objdef{Check}%
10309  /BP pdfmark %
10310  1 0 0 setrgbcolor%
10311  /ZapfDingbats 80 selectfont %
10312  20 20 moveto%
10313  (4)show%
10314  [/EP pdfmark%
10315  [%
10316    /BBox[0 0 100 100]%
10317    /_objdef{Cross}%
10318  /BP pdfmark %
10319  1 0 0 setrgbcolor%
10320  /ZapfDingbats 80 selectfont %
10321  20 20 moveto%
10322  (8)show%
10323  [/EP pdfmark%
10324  [%
10325    /BBox[0 0 250 100]%
10326    /_objdef{Submit}%
10327  /BP pdfmark %
10328  0.6 setgray %
10329  0 0 250 100 rectfill %
10330  1 setgray %
10331  2 2 moveto %
10332  2 98 lineto %
10333  248 98 lineto %
10334  246 96 lineto %
10335  4 96 lineto %
10336  4 4 lineto %
10337  fill %
10338  0.34 setgray %
10339  248 98 moveto %
10340  248 2 lineto %
10341  2 2 lineto %
10342  4 4 lineto %
10343  246 4 lineto %
10344  246 96 lineto %
10345  fill%
10346  /Helvetica 76 selectfont %
10347  0 setgray %
10348  8 22.5 moveto%
10349  (Submit)show%
10350  [/EP pdfmark%
10351  [%
10352    /BBox[0 0 250 100]%
10353    /_objdef{SubmitP}%
10354  /BP pdfmark %
10355  0.6 setgray %
10356  0 0 250 100 rectfill %
10357  0.34 setgray %
10358  2 2 moveto %

```

```

10359 2 98 lineto %
10360 248 98 lineto %
10361 246 96 lineto %
10362 4 96 lineto %
10363 4 4 lineto %
10364 fill %
10365 1 setgray %
10366 248 98 moveto %
10367 248 2 lineto %
10368 2 2 lineto %
10369 4 4 lineto %
10370 246 4 lineto %
10371 246 96 lineto %
10372 fill%
10373 /Helvetica 76 selectfont %
10374 0 setgray %
10375 10 20.5 moveto%
10376 (Submit)show%
10377 [/EP pdfmark%
10378 } ?pdfmark%
10379 [%
10380 {aform}%
10381 <<%
10382 /Fields{afields}%
10383 /DR<<%
10384 /Font<<%
10385 /ZaDb{ZaDb}%
10386 /Helv{Helv}%
10387 >>%
10388 >>%
10389 /DA(/Helv 10 Tf 0 g)%
10390 /CO{corder}%
10391 \ifHy@pdfa
10392 \else
10393 /NeedAppearances true%
10394 \fi
10395 >>%
10396 /PUT pdfmark%
10397 [%
10398 {Catalog}%
10399 <<%
10400 /AcroForm{aform}%
10401 >>%
10402 /PUT pdfmark%
10403 [%
10404 /_objdef{corder}%
10405 /type/array%
10406 /OBJ pdfmark% dps
10407 }}%
10408 \setkeys{Form}{#1}%
10409 }
10410 \def\@endForm{}
10411 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10412 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10413 }
10414 \def\@TextField[#1]#2{% parameters, label
10415 \def\Fld@name{#2}%

```

```

10416 \def\Fld@default{}%
10417 \let\Fld@value\empty
10418 \def\Fld@width{\DefaultWidthofText}%
10419 \def\Fld@height{%
10420   \ifFld@multiline
10421     \DefaultHeightofTextMultiline
10422   \else
10423     \DefaultHeightofText
10424   \fi
10425 }%
10426 \beginngroup
10427   \Field@toks={ }%
10428   \expandafter\HyField@SetKeys\expandafter{%
10429     \DefaultOptionsofText,#1%
10430   }%
10431   \HyField@FlagsText
10432   \ifFld@hidden\def\Fld@width{1sp}\fi
10433   \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
10434   \LayoutTextField{#2}{%
10435     \Hy@escapeform\PDFForm@Text
10436     \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10437       pdfmark=/ANN,Raw={\PDFForm@Text}%
10438     }%
10439   }%
10440 \endgroup
10441 }
10442 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10443   \def\Fld@name{#2}%
10444   \let\Fld@default\relax
10445   \let\Fld@value\relax
10446   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10447   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10448   \beginngroup
10449     \Fld@menulength=0 %
10450     \@tempdima\z@
10451     \@for\@curropt:=#3\do{%
10452       \expandafter\Fld@checkequals\@curropt==\%
10453       \Hy@StepCount\Fld@menulength
10454       \settowidth{\@tempdimb}{\@currDisplay}%
10455       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10456     }%
10457     \advance\@tempdima by 15\p@
10458     \Field@toks={ }%
10459     \beginngroup
10460       \HyField@SetKeys{#1}%
10461       \edef\x{\endgroup
10462         \noexpand\expandafter
10463         \noexpand\HyField@SetKeys
10464         \noexpand\expandafter{%
10465           \expandafter\noexpand\csname DefaultOptionsof%
10466             \ifFld@radio
10467               Radio%
10468             \else
10469               \ifFld@combo
10470                 \ifFld@popdown
10471                   PopdownBox%
10472                 \else

```

```

10473         ComboBox%
10474     \fi
10475     \else
10476         ListBox%
10477     \fi
10478 \fi
10479 \endcsname
10480 }%
10481 } \x
10482 \HyField@SetKeys{#1}%
10483 \ifFld@hidden\def\Fld@width{1sp}\fi
10484 \ifx\Fld@value\relax
10485     \let\Fld@value\Fld@default
10486 \fi
10487 \LayoutChoiceField{#2}{%
10488     \ifFld@radio
10489         \HyField@FlagsRadioButton
10490         \@@Radio{#3}%
10491     \else
10492         \beginngroup
10493         \HyField@FlagsChoice
10494         \ifdim\Fld@width<\@tempdima
10495             \ifdim\@tempdima<1cm\@tempdima1cm\fi
10496             \edef\Fld@width{\the\@tempdima}%
10497         \fi
10498         \ifFld@combo
10499         \else
10500             \@tempdima=\the\Fld@menulength\Fld@charsize
10501             \advance\@tempdima by \Fld@borderwidth bp %
10502             \advance\@tempdima by \Fld@borderwidth bp %
10503             \edef\Fld@height{\the\@tempdima}%
10504         \fi
10505         \@@Listbox{#3}%
10506     \endgroup
10507 \fi
10508 }%
10509 \endgroup
10510 }
10511 \def\@@Radio#1{%
10512     \Fld@listcount=0 %
10513     \@for\@curropt:=#1\do{%
10514         \expandafter\Fld@checkequals\@curropt==\%
10515         \Hy@StepCount\Fld@listcount
10516         \@currDisplay\space
10517         \Hy@escapeform\PDFForm@Radio
10518         \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10519             pdfmark=/ANN,%
10520             Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}}%
10521     } % deliberate space between radio buttons
10522 }%
10523 }
10524 \newcount\Fld@listcount
10525 \def\@@Listbox#1{%
10526     \HyField@PDFChoices{#1}%
10527     \Hy@escapeform\PDFForm@List
10528     \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10529         pdfmark=/ANN,Raw={\PDFForm@List}%

```



```

10530 }%
10531 }
10532 \def\@PushButton[#1]#2{% parameters, label
10533   \def\Fld@name{#2}%
10534   \begingroup
10535     \Field@toks={ }%
10536     \expandafter\HyField@SetKeys\expandafter{%
10537       \DefaultOptionsofPushButton,#1%
10538     }%
10539     \ifHy@pdfa
10540       \PackageError{hyperref}{%
10541         PDF/A: Push button with JavaScript is prohibited%
10542       }{@ehc
10543         \LayoutPushButtonField{%
10544           \leavevmode
10545           \MakeButtonField{#2}%
10546         }%
10547       \else
10548         \HyField@FlagsPushButton
10549         \ifFld@hidden\def\Fld@width{1sp}\fi
10550         \LayoutPushButtonField{%
10551           \leavevmode
10552           \Hy@escapeform\PDFForm@Push
10553           \pdfmark[\MakeButtonField{#2}]{%
10554             pdfmark=/ANN,Raw={\PDFForm@Push}%
10555           }%
10556         }%
10557       \fi
10558     \endgroup
10559 }
10560 \def\@Submit[#1]#2{%
10561   \Field@toks={ }%
10562   \def\Fld@width{\DefaultWidthofSubmit}%
10563   \def\Fld@height{\DefaultHeightofSubmit}%
10564   \begingroup
10565     \expandafter\HyField@SetKeys\expandafter{%
10566       \DefaultOptionsofSubmit,#1%
10567     }%
10568     \HyField@FlagsPushButton
10569     \HyField@FlagsSubmit
10570     \ifFld@hidden\def\Fld@width{1sp}\fi
10571     \Hy@escapeform\PDFForm@Submit
10572     \pdfmark[\MakeButtonField{#2}]{%
10573       pdfmark=/ANN,%
10574       Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10575     }%
10576   \endgroup
10577 }
10578 \def\@Reset[#1]#2{%
10579   \Field@toks={ }%
10580   \def\Fld@width{\DefaultWidthofReset}%
10581   \def\Fld@height{\DefaultHeightofReset}%
10582   \begingroup
10583     \expandafter\HyField@SetKeys\expandafter{%
10584       \DefaultOptionsofReset,#1%
10585     }%
10586   \leavevmode

```

```

10587 \ifHy@pdfa
10588 \PackageError{hyperref}{%
10589 PDF/A: Reset action is prohibited%
10590 } \@ehc
10591 \MakeButtonField{#2}%
10592 \else
10593 \HyField@FlagsPushButton
10594 \ifFld@hidden\def\Fld@width{1sp}\fi
10595 \Hy@escapeform\PDFForm@Reset
10596 \pdfmark[\MakeButtonField{#2}]{%
10597 pdfmark=/ANN,Raw={\PDFForm@Reset}%
10598 }%
10599 \fi
10600 \endgroup
10601 }%
10602 \def\@CheckBox[#1]#2{% parameters, label
10603 \def\Fld@name{#2}%
10604 \def\Fld@default{0}%
10605 \begingroup
10606 \def\Fld@width{\DefaultWidthofCheckBox}%
10607 \def\Fld@height{\DefaultHeightofCheckBox}%
10608 \Field@toks={ }%
10609 \expandafter\HyField@SetKeys\expandafter{%
10610 \DefaultOptionsofCheckBox,#1%
10611 }%
10612 \HyField@FlagsCheckBox
10613 \ifFld@hidden\def\Fld@width{1sp}\fi
10614 \LayoutCheckField{#2}{%
10615 \Hy@escapeform\PDFForm@Check
10616 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10617 pdfmark=/ANN,Raw={\PDFForm@Check}%
10618 }%
10619 }%
10620 \endgroup
10621 }
10622 \pdfmark>

```

46.2 HyperTeX

```

10623 <*hypertex>
10624 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10625 \def\@endForm{}
10626 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10627 \typeout{Sorry, HyperTeX does not support FORM gauges}%
10628 }
10629 \def\@TextField[#1]#2{% parameters, label
10630 \typeout{Sorry, HyperTeX does not support FORM text fields}%
10631 }
10632 \def\@CheckBox[#1]#2{% parameters, label
10633 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10634 }
10635 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10636 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10637 }
10638 \def\@PushButton[#1]#2{% parameters, label
10639 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10640 }
10641 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}

```

```

10642 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10643 \end{hypertex}

```

46.3 TeX4ht

```

10644 \def\@Form[#1]{%
10645   \setkeys{Form}{#1}%
10646   \HCode{<form action="\Form@action" method="\Form@method">}%
10647 }
10648 \def\@endForm{\HCode{</form>}}
10649 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10650   \typeout{Sorry, TeX4ht does not support gauges}%
10651 }
10652 \def\@TextField[#1]#2{% parameters, label
10653   \let\Hy@reserved@a\@empty
10654   \def\Fld@name{#2}%
10655   \def\Fld@default{}%
10656   \bgroup
10657     \Field@toks={ }%
10658     \setkeys{Field}{#1}%
10659     \HCode{<label for="\Fld@name">#2</label>}%
10660     \ifFld@password
10661       \@@PasswordField
10662     \else
10663       \@@TextField
10664     \fi
10665   \egroup
10666 }
10667 \def\@@PasswordField{%
10668   \HCode{%
10669     <input type="password" %
10670       id="\Fld@name" %
10671       name="\Fld@name" %
10672       \ifFld@hidden type="hidden" \fi
10673       value="\Fld@default" %
10674       \the\Field@toks
10675     >%
10676   }%
10677 }
10678 \def\@@TextField{%
10679   \ifFld@multiline
10680     \HCode{<textarea %
10681       \ifFld@readonly readonly \fi
10682       id="\Fld@name" %
10683       name="\Fld@name" %
10684       \ifFld@hidden type="hidden" \fi
10685       \the\Field@toks>%
10686     }%
10687     \Fld@default
10688     \HCode{</textarea>}%
10689   \else
10690     \HCode{<input type="text" %
10691       \ifFld@readonly readonly \fi
10692       id="\Fld@name" %
10693       name="\Fld@name" %
10694       \ifFld@hidden type="hidden" \fi
10695       value="\Fld@default" %
10696     }%
10697   }%
10698 }

```

```

10697     \the\Field@toks>%
10698   }%
10699   \fi
10700 }
10701 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10702   \def\Fld@name{#2}%
10703   \def\Fld@default{}%
10704   \let\Hy@reserved@a\relax
10705   \begingroup
10706     \expandafter\Fld@findlength#3\\%
10707     \Field@toks={ }%
10708     \setkeys{Field}{#1}%
10709     #2%
10710     \ifFld@radio
10711       \expandafter\@@Radio#3\\%
10712     \else
10713       \expandafter\@@Menu#3\\%
10714     \fi
10715   \endgroup
10716 }
10717 \def\Fld@findlength#1\\{%
10718   \Fld@menulength=0 %
10719   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10720 }
10721 \def\@@Menu#1\\{%
10722   \HCode{<select size="\the\Fld@menulength" %
10723     name="\Fld@name" %
10724     \the\Field@toks>%
10725   }%
10726   \@for\@curropt:=#1\do{%
10727     \expandafter\Fld@checkequals\@curropt==\\%
10728     \HCode{<option %
10729       \ifx\@curropt\Fld@default selected \fi
10730       value="\@currValue">\@currDisplay</option>%
10731     }%
10732   }%
10733   \HCode{</select>}%
10734 }
10735 \def\@@Radio#1\\{%
10736   \@for\@curropt:=#1\do{%
10737     \expandafter\Fld@checkequals\@curropt==\\%
10738     \HCode{<input type="radio" %
10739       \ifx\@curropt\Fld@default checked \fi
10740       name="\Fld@name" %
10741       value="\@currValue" %
10742       \the\Field@toks>%
10743     }%
10744     \@currDisplay
10745   }%
10746 }
10747 \def\@PushButton[#1]#2{% parameters, label
10748   \def\Fld@name{#2}%
10749   \bgroup
10750     \Field@toks={ }%
10751     \setkeys{Field}{#1}%
10752     \HCode{<input type="button" %
10753       name="\Fld@name" %

```

```

10754         value="#2" %
10755         \the\Field@toks>%
10756     }%
10757     \HCode{</button>}%
10758 \egroup
10759 }
10760 \def\@Submit[#1]#2{%
10761     \HCode{<button type="submit">#2</button>}%
10762 }
10763 \def\@Reset[#1]#2{%
10764     \HCode{<button type="reset">#2</button>}%
10765 }
10766 \def\@CheckBox[#1]#2{% parameters, label
10767     \let\Hy@reserved@a\@empty
10768     \def\Fld@name{#2}%
10769     \def\Fld@default{0}%
10770     \bgroup
10771     \Field@toks={ }%
10772     \setkeys{Field}{#1}%
10773     \HCode{<input type="checkbox" %
10774         \ifFld@checked checked \fi
10775         \ifFld@disabled disabled \fi
10776         \ifFld@readonly readonly \fi
10777         name="\Fld@name" %
10778         \ifFld@hidden type="hidden" \fi
10779         value="\Fld@default" %
10780         \the\Field@toks>%
10781         #2%
10782     }%
10783 \egroup
10784 }
10785 </tex4ht>

```

46.4 pdfTeX

```

10786 <*pdftex>
10787 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10788     \typeout{Sorry, pdftex does not support FORM gauges}%
10789 }
10790 \def\MakeFieldObject#1#2{\sbox0{#1}%
10791     \immediate\pdfxform0 %
10792     \expandafter\edef\csname #2Object\endcsname{%
10793         \the\pdflastxform\space 0 R%
10794     }%
10795 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
10796 }%
10797 \def\HyField@afields{}
10798 \begingroup\expandafter\expandafter\expandafter\endgroup
10799 \expandafter\ifx\csname pdflastlink\endcsname\relax
10800     \let\HyField@AddToFields\relax
10801     \PackageInfo{hyperref}{%
10802         You need pdfTeX 1.40.0 for setting the /Fields entry.\MessageBreak
10803         Adobe Reader/Acrobat accepts an empty /Field array,\MessageBreak
10804         but other PDF viewers might complain%
10805     }%
10806 \else
10807     \def\HyField@AddToFields{%
10808         \xdef\HyField@afields{%

```

```

10809     \ifx\HyField@afields\@empty
10810     \else
10811     \HyField@afields
10812     \space
10813     \fi
10814     \the\pdflastlink\space 0 R%
10815   }%
10816 }%
10817 \fi
10818 \def\@Form[#1]{%
10819   \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10820   \setkeys{Form}{#1}%
10821   \Hy@FormObjects
10822   \ifnum\pdfTeXversion>13 %
10823     \pdfrefobj\OBJ@pdfdocencoding
10824     \pdfrefobj\OBJ@ZaDb
10825     \pdfrefobj\OBJ@Helv
10826   \fi
10827   \AtEndDocument{%
10828     \immediate\pdfobj{%
10829       <<%
10830         /Fields[\HyField@afields]%
10831         /DR<<%
10832         /Font<<%
10833           /ZaDb \OBJ@ZaDb\space 0 R%
10834           /Helv \OBJ@Helv\space 0 R%
10835         >>%
10836       >>%
10837       /DA(/Helv 10 Tf 0 g)%
10838       \ifHy@pdfa
10839       \else
10840         /NeedAppearances true%
10841       \fi
10842     >>%
10843   }%
10844   \edef\OBJ@acroform{\the\pdflastobj}%
10845   \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10846 }%
10847 \MakeFieldObject{%
Same as \ding{123} of package pifont.
10848   \begingroup
10849   \fontfamily{pzd}%
10850   \fontencoding{U}%
10851   \fontseries{m}%
10852   \fontshape{n}%
10853   \selectfont
10854   \char123 %
10855   \endgroup
10856 }{Ding}%
10857 \MakeFieldObject{%
10858   \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10859 }{Submit}%
10860 \MakeFieldObject{%
10861   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10862 }{SubmitP}%
10863 }
10864 \def\@endForm{}

```

```

10865 \def\@TextField[#1]#2{% parameters, label
10866   \def\Fld@name{#2}%
10867   \def\Fld@default{}%
10868   \let\Fld@value\@empty
10869   \def\Fld@width{\DefaultWidthofText}%
10870   \def\Fld@height{%
10871     \ifFld@multiline
10872       \DefaultHeightofTextMultiline
10873     \else
10874       \DefaultHeightofText
10875     \fi
10876   }%
10877   \begingroup
10878     \Field@toks={ }%
10879     \expandafter\HyField@SetKeys\expandafter{%
10880       \DefaultOptionsofText,#1%
10881     }%
10882     \PDFForm@Name
10883     \HyField@FlagsText
10884     \ifFld@hidden\def\Fld@width{1sp}\fi
10885     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10886     \LayoutTextField{#2}{%
10887       \Hy@escapeform\PDFForm@Text
10888       \pdfstartlink user {\PDFForm@Text}\relax
10889       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
10890       \HyField@AddToFields
10891     }%
10892   \endgroup
10893 }
10894 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10895   \def\Fld@name{#2}%
10896   \let\Fld@default\relax
10897   \let\Fld@value\relax
10898   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10899   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10900   \begingroup
10901     \Fld@menulength=0 %
10902     \@tempdima\z@
10903     \@for\@curropt:=#3\do{%
10904       \expandafter\Fld@checkequals\@curropt==\%
10905       \Hy@StepCount\Fld@menulength
10906       \settowidth{\@tempdimb}{\@currDisplay}%
10907       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10908     }%
10909     \advance\@tempdima by 15\p@
10910     \Field@toks={ }%
10911     \begingroup
10912       \HyField@SetKeys{#1}%
10913     \edef\x{\endgroup
10914       \noexpand\expandafter
10915       \noexpand\HyField@SetKeys
10916       \noexpand\expandafter{%
10917         \expandafter\noexpand\cname DefaultOptionsof%
10918         \ifFld@radio
10919           Radio%
10920         \else
10921           \ifFld@combo

```

```

10922         \ifFld@popdown
10923             PopdownBox%
10924         \else
10925             ComboBox%
10926         \fi
10927     \else
10928         ListBox%
10929     \fi
10930 \fi
10931 \endcsname
10932 }%
10933 }\x
10934 \HyField@SetKeys{#1}%
10935 \PDFForm@Name
10936 \ifFld@hidden\def\Fld@width{1sp}\fi
10937 \ifx\Fld@value\relax
10938     \let\Fld@value\Fld@default
10939 \fi
10940 \LayoutChoiceField{#2}{%
10941     \ifFld@radio
10942         \HyField@FlagsRadioButton
10943         \@@Radio{#3}%
10944     \else
10945         \begingroup
10946             \HyField@FlagsChoice
10947             \ifdim\Fld@width<\@tempdima
10948                 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10949                 \edef\Fld@width{\the\@tempdima}%
10950             \fi
10951             \ifFld@combo
10952             \else
10953                 \@tempdima=\the\Fld@menulength\Fld@charsize
10954                 \advance\@tempdima by \Fld@borderwidth bp %
10955                 \advance\@tempdima by \Fld@borderwidth bp %
10956                 \edef\Fld@height{\the\@tempdima}%
10957             \fi
10958             \@@ListBox{#3}%
10959         \endgroup
10960     \fi
10961 }%
10962 \endgroup
10963 }
10964 \def\@@Radio#1{%
10965     \Fld@listcount=0 %
10966     \@for\@curropt:=#1\do{%
10967         \expandafter\Fld@checkequals\@curropt==\%
10968         \Hy@StepCount\Fld@listcount
10969         \@currDisplay\space
10970         \leavevmode
10971         \Hy@escapeform\PDFForm@Radio
10972         \pdfstartlink user {%
10973             \PDFForm@Radio
10974             /AP<<%
10975             /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.


```

10976         /\@currValue\space \DingObject
10977         >>%
10978     >>%
10979 }%
10980 \relax
10981 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10982 \ifnum\Fld@listcount=1 %
10983     \HyField@AddToFields
10984 \fi
10985 \space % deliberate space between radio buttons
10986 }%
10987 }
10988 \newcount\Fld@listcount
10989 \def\@@ListBox#1{%
10990     \HyField@PDFChoices{#1}%
10991     \leavevmode
10992     \Hy@escapeform\PDFForm@List
10993     \pdfstartlink user {\PDFForm@List}\relax
10994     \MakeChoiceField{\Fld@width}{\Fld@height}%
10995     \pdfendlink
10996     \HyField@AddToFields
10997 }
10998 \def\@PushButton[#1]#2{% parameters, label
10999     \def\Fld@name{#2}%
11000     \begingroup
11001         \Field@toks={ }%
11002         \expandafter\HyField@SetKeys\expandafter{%
11003             \DefaultOptionsofPushButton,#1%
11004         }%
11005         \PDFForm@Name
11006         \ifHy@pdfa
11007             \PackageError{hyperref}{%
11008                 PDF/A: Push button with JavaScript is prohibited%
11009             }\@ehc
11010             \LayoutPushButtonField{%
11011                 \leavevmode
11012                 \MakeButtonField{#2}%
11013             }%
11014         \else
11015             \HyField@FlagsPushButton
11016             \ifFld@hidden\def\Fld@width{1sp}\fi
11017             \LayoutPushButtonField{%
11018                 \leavevmode
11019                 \Hy@escapeform\PDFForm@Push
11020                 \pdfstartlink user {\PDFForm@Push}\relax
11021                 \MakeButtonField{#2}%
11022                 \pdfendlink
11023                 \HyField@AddToFields
11024             }%
11025         \fi
11026     \endgroup
11027 }
11028 \def\@Submit[#1]#2{%
11029     \Field@toks={ }%
11030     \def\Fld@width{\DefaultWidthofSubmit}%
11031     \def\Fld@height{\DefaultHeightofSubmit}%
11032     \begingroup

```

```

11033 \expandafter\HyField@SetKeys\expandafter{%
11034 \DefaultOptionsofSubmit,#1%
11035 }%
11036 \HyField@FlagsPushButton
11037 \HyField@FlagsSubmit
11038 \ifFld@hidden\def\Fld@width{1sp}\fi
11039 \leavevmode
11040 \Hy@escapeform\PDFForm@Submit
11041 \pdfstartlink user {%
11042 \PDFForm@Submit
11043 /AP<</N \SubmitObject/D \SubmitPObject>>%
11044 }%
11045 \relax
11046 \MakeButtonField{#2}%
11047 \pdfendlink
11048 \HyField@AddToFields
11049 \endgroup
11050 }
11051 \def\@Reset[#1]#2{%
11052 \Field@toks={ }%
11053 \def\Fld@width{\DefaultWidthofReset}%
11054 \def\Fld@height{\DefaultHeightofReset}%
11055 \begingroup
11056 \expandafter\HyField@SetKeys\expandafter{%
11057 \DefaultOptionsofReset,#1%
11058 }%
11059 \leavevmode
11060 \ifHy@pdfa
11061 \PackageError{hyperref}{%
11062 PDF/A: Reset action is prohibited%
11063 }\@ehc
11064 \MakeButtonField{#2}%
11065 \else
11066 \HyField@FlagsPushButton
11067 \ifFld@hidden\def\Fld@width{1sp}\fi
11068 \Hy@escapeform\PDFForm@Reset
11069 \pdfstartlink user {\PDFForm@Reset}\relax
11070 \MakeButtonField{#2}%
11071 \pdfendlink
11072 \HyField@AddToFields
11073 \fi
11074 \endgroup
11075 }
11076 \def\@CheckBox[#1]#2{% parameters, label
11077 \def\Fld@name{#2}%
11078 \def\Fld@default{0}%
11079 \begingroup
11080 \def\Fld@width{\DefaultWidthofCheckBox}%
11081 \def\Fld@height{\DefaultHeightofCheckBox}%
11082 \Field@toks={ }%
11083 \expandafter\HyField@SetKeys\expandafter{%
11084 \DefaultOptionsofCheckBox,#1%
11085 }%
11086 \PDFForm@Name
11087 \HyField@FlagsCheckBox
11088 \ifFld@hidden\def\Fld@width{1sp}\fi
11089 \LayoutCheckField{#2}{%

```

```

11090 \Hy@escapeform\PDFForm@Check
11091 \pdfstartlink user {\PDFForm@Check}\relax
11092 \MakeCheckField{\Fld@width}{\Fld@height}%
11093 \pdfendlink
11094 \HyField@AddToFields
11095 }%
11096 \endgroup
11097 }
11098 \def\Hy@FormObjects{%
11099 \pdfobj {%
11100 <<%
11101 /Type/Encoding%
11102 /Differences[%
11103 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
11104 /ring/tilde %
11105 39/quotesingle %
11106 96/grave %
11107 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11108 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11109 /quotedblbase/quotedblleft/quotedblright/quoteleft%
11110 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
11111 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11112 164/currency %
11113 166/brokenbar %
11114 168/dieresis/copyright/ordfeminine %
11115 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11116 /twosuperior/threesuperior/acute/mu %
11117 183/periodcentered/cedilla/onesuperior/ordmasculine %
11118 188/onequarter/onehalf/threequarters %
11119 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11120 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11121 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11122 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11123 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11124 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11125 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11126 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
11127 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
11128 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
11129 ]%
11130 >>%
11131 }%
11132 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
11133 \pdfobj{%
11134 <<%
11135 /Type/Font%
11136 /Subtype/Type1%
11137 /Name/ZaDb%
11138 /BaseFont/ZapfDingbats%
11139 >>%
11140 }%
11141 \xdef\OBJ@ZaDb{\the\pdflastobj}%
11142 \pdfobj{%
11143 <<%
11144 /Type/Font%
11145 /Subtype/Type1%
11146 /Name/Helv%

```

```

11147      /BaseFont/Helvetica%
11148      /Encoding \OBJ@pdfdocencoding\space 0 R%
11149    >>%
11150  }%
11151  \xdef\OBJ@Helv{\the\pdflastobj}%
11152  \global\let\Hy@FormObjects\relax
11153 }
11154 </pdftex>

```

46.5 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.

```

11155 <*dvipdfm>

```

\@Gauge

```

11156 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11157   \typeout{Sorry, dvipdfm does not support FORM gauges}%
11158 }

```

\@Form

```

11159 \def\@Form[#1]{%
11160   \ifundefined{textcolor}{\let\textcolor\@gobble}{}}%
11161   \setkeys{Form}{#1}%
11162   \Hy@FormObjects
11163   \@pdfm@mark{obj @afields []}%
11164   \@pdfm@mark{obj @corder []}%
11165   \@pdfm@mark{%
11166     obj @aform <<%
11167       /Fields @afields%
11168       /DR<<%
11169       /Font<<%
11170       /ZaDb @OBJZaDb%
11171       /Helv @OBJHelv%
11172       >>%
11173       >>%
11174       /DA(/Helv 10 Tf 0 g)%
11175       /CO @corder%
11176       \ifHy@pdfa
11177       \else
11178         /NeedAppearances true%
11179       \fi
11180     >>%
11181   }%
11182   \@pdfm@mark{put @catalog <</AcroForm @aform>>}}%
11183 }

```

\@endForm

```

11184 \def\@endForm{}

```

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

```

11185 \def\dvipdfm@setdim{%
11186   height \the\ht\pdfm@box\space
11187   width \the\wd\pdfm@box\space
11188   depth \the\dp\pdfm@box\space
11189 }

```

\HyField@AnnotCount

```
11190 \newcount\HyField@AnnotCount
11191 \HyField@AnnotCount=\z@
```

\HyField@AdvanceAnnotCount

```
11192 \def\HyField@AdvanceAnnotCount{%
11193   \global\advance\HyField@AnnotCount\@ne
11194 }
```

\HyField@TheAnnotCount

```
11195 \def\HyField@TheAnnotCount{%
11196   \the\HyField@AnnotCount
11197 }
```

\@TextField

```
11198 \def\@TextField[#1]#2{% parameters, label
11199   \def\Fld@name{#2}%
11200   \def\Fld@default{}%
11201   \let\Fld@value\@empty
11202   \def\Fld@width{\DefaultWidthofText}%
11203   \def\Fld@height{%
11204     \ifFld@multiline
11205       \DefaultHeightofTextMultiline
11206     \else
11207       \DefaultHeightofText
11208     \fi
11209   }%
11210   \begingroup
11211     \Field@toks={ }%
11212     \expandafter\HyField@SetKeys\expandafter{%
11213       \DefaultOptionsofText,#1%
11214     }%
11215     \PDFForm@Name
11216     \HyField@FlagsText
11217     \ifFld@hidden\def\Fld@width{1sp}\fi
11218     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11219     \setbox\pdfm@box=\hbox{%
11220       \MakeTextField{\Fld@width}{\Fld@height}%
11221     }%
11222     \HyField@AdvanceAnnotCount
11223     \LayoutTextField{#2}{%
11224       \Hy@escapeform\PDFForm@Text
11225       \@pdfm@mark{%
11226         ann @text\HyField@TheAnnotCount\space
11227         \dvi pdfm@setdim << \PDFForm@Text >>%
11228       }%
11229     }%
11230     \unhbox\pdfm@box
11231     \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
11232     % record in @afields array
11233   \endgroup
11234 }
```

\@ChoiceMenu

```
11235 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11236   \def\Fld@name{#2}%
```

```

11237 \let\Fld@default\relax
11238 \let\Fld@value\relax
11239 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11240 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11241 \beginingroup
11242   \Fld@menulength=0 %
11243   \@tempdima\z@
11244   \@for\@curropt:=#3\do{%
11245     \expandafter\Fld@checkequals\@curropt==\%
11246     \Hy@StepCount\Fld@menulength
11247     \settowidth{\@tempdimb}{\@currDisplay}%
11248     \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11249   }%
11250   \advance\@tempdima by 15\p@
11251   \Field@toks={ }%
11252   \beginingroup
11253     \HyField@SetKeys{#1}%
11254   \edef\x{\endgroup
11255     \noexpand\expandafter
11256     \noexpand\HyField@SetKeys
11257     \noexpand\expandafter{%
11258       \expandafter\noexpand\csname DefaultOptionsof%
11259       \ifFld@radio
11260         Radio%
11261       \else
11262         \ifFld@combo
11263           \ifFld@popdown
11264             PopdownBox%
11265           \else
11266             ComboBox%
11267           \fi
11268         \else
11269           ListBox%
11270         \fi
11271       \fi
11272     \endcsname
11273   }%
11274   }\x
11275   \HyField@SetKeys{#1}%
11276   \PDFForm@Name
11277   \ifFld@hidden\def\Fld@width{1sp}\fi
11278   \ifx\Fld@value\relax
11279     \let\Fld@value\Fld@default
11280   \fi
11281   \LayoutChoiceField{#2}{%
11282     \ifFld@radio
11283       \HyField@FlagsRadioButton
11284       \@Radio{#3}%
11285     \else
11286       \beginingroup
11287         \HyField@FlagsChoice
11288         \ifdim\Fld@width<\@tempdima
11289           \ifdim\@tempdima<1cm\@tempdima1cm\fi
11290           \edef\Fld@width{\the\@tempdima}%
11291         \fi
11292         \ifFld@combo
11293         \else

```

```

11294         \tempdima=\the\Fld@menulength\Fld@charsize
11295         \advance\tempdima by \Fld@borderwidth bp %
11296         \advance\tempdima by \Fld@borderwidth bp %
11297         \edef\Fld@height{\the\tempdima}%
11298     \fi
11299     \@@ListBox{#3}%
11300 \endgroup
11301 \fi
11302 }%
11303 \endgroup
11304 }

\@@Radio
11305 \def\@@Radio#1{%
11306     \Fld@listcount=0 %
11307     \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
11308     \@for\@curropt:=#1\do{%
11309         \expandafter\Fld@checkequals\@curropt==\%
11310         \Hy@StepCount\Fld@listcount
11311         \@currDisplay\space
11312         \leavevmode
11313         \Hy@escapeform\PDFForm@Radio
11314         \ifnum\Fld@listcount=1 %
11315             \HyField@AdvanceAnnotCount
11316         \fi
11317         \@pdfm@mark{%
11318             ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi
11319             \dvipdfm@setdim
11320             <<%
11321             \PDFForm@Radio
11322             /AP<</N<</\@currValue /null>>>>%
11323             >>%
11324         }%
11325         \unhcopy\pdfm@box\space% deliberate space between radio buttons
11326         \ifnum\Fld@listcount=1 %
11327             \@pdfm@mark{put @afields @radio\HyField@TheAnnotCount}%
11328         \fi
11329     }%
11330 }

\Fld@listcount
11331 \newcount\Fld@listcount

\@@ListBox
11332 \def\@@ListBox#1{%
11333     \HyField@PDFChoices{#1}%
11334     \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
11335     \leavevmode
11336     \Hy@escapeform\PDFForm@List
11337     \HyField@AdvanceAnnotCount
11338     \@pdfm@mark{%
11339         ann @list\HyField@TheAnnotCount\space
11340         \dvipdfm@setdim
11341         <<\PDFForm@List>>%
11342     }%
11343     \unhbox\pdfm@box
11344     \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%

```

```

11345 }

\@PushButton
11346 \def\@PushButton[#1]#2{% parameters, label
11347 \def\Fld@name{#2}%
11348 \begingroup
11349 \Field@toks={ }%
11350 \expandafter\HyField@SetKeys\expandafter{%
11351 \DefaultOptionsofPushButton,#1%
11352 }%
11353 \PDFForm@Name
11354 \ifHy@pdfa
11355 \PackageError{hyperref}{%
11356 PDF/A: Push button with JavaScript is prohibited%
11357 }\@ehc
11358 \LayoutPushButtonField{%
11359 \leavevmode
11360 \MakeButtonField{#2}%
11361 }%
11362 \else
11363 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11364 \HyField@FlagsPushButton
11365 \ifFld@hidden\def\Fld@width{1sp}\fi
11366 \HyField@AdvanceAnnotCount
11367 \LayoutPushButtonField{%
11368 \leavevmode
11369 \Hy@escapeform\PDFForm@Push
11370 \@pdfm@mark{%
11371 ann @push\HyField@TheAnnotCount\space
11372 \dvi pdfm@setdim
11373 <<\PDFForm@Push>>%
11374 }%
11375 }%
11376 \unhbox\pdfm@box
11377 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
11378 \fi
11379 \endgroup
11380 }

\@Submit
11381 \def\@Submit[#1]#2{%
11382 \Field@toks={ }%
11383 \def\Fld@width{\DefaultWidthofSubmit}%
11384 \def\Fld@height{\DefaultHeightofSubmit}%
11385 \begingroup
11386 \expandafter\HyField@SetKeys\expandafter{%
11387 \DefaultOptionsofSubmit,#1%
11388 }%
11389 \HyField@FlagsPushButton
11390 \HyField@FlagsSubmit
11391 \ifFld@hidden\def\Fld@width{1sp}\fi
11392 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11393 \leavevmode
11394 \Hy@escapeform\PDFForm@Submit
11395 \HyField@AdvanceAnnotCount
11396 \@pdfm@mark{%
11397 ann @submit\HyField@TheAnnotCount\space

```



```

11398         \dvi pdfm@setdim
11399         <<\PDFForm@Submit>>%
11400     }%
11401     \unhbox\pdfm@box%
11402     \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
11403 \endgroup
11404 }

\@Reset

11405 \def\@Reset[#1]#2{%
11406     \Field@toks={ }%
11407     \def\Fld@width{\DefaultWidthofReset}%
11408     \def\Fld@height{\DefaultHeightofReset}%
11409     \begingroup
11410         \expandafter\HyField@SetKeys\expandafter{%
11411             \DefaultOptionsofReset,#1%
11412         }%
11413         \leavevmode
11414         \ifHy@pdfa
11415             \PackageError{hyperref}{%
11416                 PDF/A: Reset action is prohibited%
11417             }\@ehc
11418             \MakeButtonField{#2}%
11419         \else
11420             \HyField@FlagsPushButton
11421             \ifFld@hidden\def\Fld@width{1sp}\fi
11422             \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11423             \Hy@escapeform\PDFForm@Reset
11424             \HyField@AdvanceAnnotCount
11425             \@pdfm@mark{%
11426                 ann @reset\HyField@TheAnnotCount\space
11427                 \dvi pdfm@setdim
11428                 <<\PDFForm@Reset>>%
11429             }%
11430             \unhbox\pdfm@box
11431             \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11432         \fi
11433     \endgroup
11434 }

\@CheckBox

11435 \def\@CheckBox[#1]#2{% parameters, label
11436     \def\Fld@name{#2}%
11437     \def\Fld@default{0}%
11438     \begingroup
11439         \def\Fld@width{\DefaultWidthofCheckBox}%
11440         \def\Fld@height{\DefaultHeightofCheckBox}%
11441         \Field@toks={ }%
11442         \expandafter\HyField@SetKeys\expandafter{%
11443             \DefaultOptionsofCheckBox,#1%
11444         }%
11445         \PDFForm@Name
11446         \HyField@FlagsCheckBox
11447         \ifFld@hidden\def\Fld@width{1sp}\fi
11448         \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
11449         \HyField@AdvanceAnnotCount
11450         \LayoutCheckField{#2}{%

```

```

11451 \Hy@escapeform\PDFForm@Check
11452 \@pdfm@mark{%
11453   ann @check\HyField@TheAnnotCount\space
11454   \dvipdfm@setdim
11455   <<\PDFForm@Check>>%
11456   }%
11457   \unhbox\pdfm@box
11458   \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11459   }%
11460 \endgroup
11461 }

11462 \def\Hy@FormObjects{%
11463   \@pdfm@mark{obj @OBJpdfdocencoding%
11464     <<%
11465       /Type/Encoding%
11466       /Differences[%
11467         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11468         39/quotesingle %
11469         96/grave %
11470         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11471         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11472         /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11473         /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11474         /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11475         164/currency %
11476         166/brokenbar %
11477         168/dieresis/copyright/ordfeminine %
11478         172/logicalnot/.notdef/registered/macron/degree/plusminus%
11479         /twosuperior/threesuperior/acute/mu %
11480         183/periodcentered/cedilla/onesuperior/ordmasculine %
11481         188/onequarter/onehalf/threequarters %
11482         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11483         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11484         /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11485         /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11486         /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11487         /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11488         /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11489         /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
11490         /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11491         /thorn/ydieresis%
11492       ]%
11493     >>%
11494   }%
11495   \@pdfm@mark{obj @OBJZaDb%
11496     <<%
11497       /Type/Font%
11498       /Subtype/Type1%
11499       /Name/ZaDb%
11500       /BaseFont/ZapfDingbats%
11501     >>%
11502   }%
11503   \@pdfm@mark{obj @OBJHelv%
11504     <<%
11505       /Type/Font%
11506       /Subtype/Type1%
11507       /Name/Helv%

```

```

11508      /BaseFont/Helvetica%
11509      /Encoding @OBJpdfdocencoding%
11510    >>%
11511  }%
11512  \global\let\Hy@FormObjects\relax
11513 }
11514 </dvipdfm>

```

46.6 Common forms part

```

11515 <*pdfform>

\Hy@escapestring

11516 \begingroup\expandafter\expandafter\expandafter\endgroup
11517 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11518   \let\Hy@escapestring\@firstofone
11519   \def\Hy@escapeform#1{%
11520     \ifHy@escapeform
11521       \def\Hy@escapestring##1{%
11522         \noexpand\Hy@escapestring{\noexpand##1}%
11523       }%
11524       \edef\Hy@temp{#1}%
11525       \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
11526       \def\Hy@escapestring##1{%
11527         \@ifundefined{Hy@esc@\string##1}{%
11528           ##1%
11529           \ThisShouldNotHappen
11530         }{%
11531           \csname Hy@esc@\string##1\endcsname
11532         }%
11533       }%
11534     \else
11535       \let\Hy@escapestring\@firstofone
11536     \fi
11537   }%
11538   \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11539     \ifx\#3\%
11540       \else
11541         \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11542         \Hy@ReturnAfterFi{%
11543           \Hy@@escapeform#3\@nil
11544         }%
11545       \fi
11546     }%
11547   \else
11548     \def\Hy@escapeform#1{%
11549       \ifHy@escapeform
11550         \let\Hy@escapestring\pdfescapestring
11551       \else
11552         \let\Hy@escapestring\@firstofone
11553       \fi
11554     }%
11555     \Hy@escapeform{}%
11556   \fi

\PDFForm@Name

11557 \def\PDFForm@Name{%

```

```

11558 \begingroup
11559   \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11560     \ifHy@unicode
11561       \Hy@unicodedefalse
11562     \fi
11563   \fi
11564   \pdfstringdef\Hy@gtemp\Fld@name
11565 \endgroup
11566 \let\Fld@name\Hy@gtemp
11567 }

```

\PDFForm@Check

```

11568 \def\PDFForm@Check{%
11569   /Subtype/Widget%
11570   \Fld@annotflags
11571   /T(\Fld@name)%
11572   /FT/Btn%
11573   \Fld@flags
11574   /Q \Fld@align
11575   /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11576   /MK<<%
11577     \ifnum\Fld@rotation=\z@
11578     \else
11579       /R \Fld@rotation
11580     \fi
11581     \ifx\Fld@bordercolor\relax
11582     \else
11583       /BC[\Fld@bordercolor]%
11584     \fi
11585     \ifx\Fld@bcolor\relax
11586     \else
11587       /BG[\Fld@bcolor]%
11588     \fi
11589     /CA(\Hy@escapestring{\Fld@cbsymbol})%
11590   >>%
11591   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11592     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11593   /H/P%
11594   \ifFld@checked /V/Yes\else /V/Off\fi
11595 }

```

\PDFForm@Push

```

11596 \ifHy@pdfa
11597 \else
11598   \def\PDFForm@Push{%
11599     /Subtype/Widget%
11600     \Fld@annotflags
11601     /T(\Fld@name)%
11602     /FT/Btn%
11603     \Fld@flags
11604     /H/P%
11605     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11606     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11607       \ifx\Fld@bordercolor\relax\else 1\fi
11608       \space
11609     \else
11610       /MK<<%

```

```

11611         \ifnum\Fld@rotation=z@
11612         \else
11613             /R \Fld@rotation
11614         \fi
11615         \ifx\Fld@bordercolor\relax
11616         \else
11617             /BC[\Fld@bordercolor]%
11618         \fi
11619     >>%
11620 \fi
11621 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
11622 }%
11623 \fi

```

\Fld@additionalactions

```

11624 \def\Fld@@additionalactions{%
K input (keystroke) format
11625 \ifx\Fld@keystroke@code\@empty
11626 \else
11627     /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11628 \fi
F display format
11629 \ifx\Fld@format@code\@empty
11630 \else
11631     /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11632 \fi
V validation
11633 \ifx\Fld@validate@code\@empty
11634 \else
11635     /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11636 \fi
C calculation
11637 \ifx\Fld@calculate@code\@empty
11638 \else
11639     /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11640 \fi
Fo receiving the input focus
11641 \ifx\Fld@onfocus@code\@empty
11642 \else
11643     /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11644 \fi
Bl loosing the input focus (blurred)
11645 \ifx\Fld@onblur@code\@empty
11646 \else
11647     /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11648 \fi
D pressing the mouse button (down)
11649 \ifx\Fld@onmousedown@code\@empty
11650 \else
11651     /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11652 \fi

```

U releasing the mouse button (up)

```
11653 \ifx\Fld@onmouseup@code\@empty
11654 \else
11655 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11656 \fi
```

E cursor enters the annotation's active area.

```
11657 \ifx\Fld@onenter@code\@empty
11658 \else
11659 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11660 \fi
```

X cursor exits the annotation's active area.

```
11661 \ifx\Fld@onexit@code\@empty
11662 \else
11663 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11664 \fi
11665 }
11666 \def\Fld@additionalactions{%
11667 \if-\Fld@@additionalactions-%
11668 \else
11669 \ifHy@pdfa
11670 \else
11671 /AA<<\Fld@@additionalactions>>%
11672 \fi
11673 \fi
11674 }
```

\PDFForm@List

```
11675 \def\PDFForm@List{%
11676 /Subtype/Widget%
11677 \Fld@annotflags
11678 /T(\Fld@name)%
11679 /FT/Ch%
11680 \Fld@flags
11681 /Q \Fld@align
11682 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11683 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11684 \ifx\Fld@bordercolor\relax\else 1\fi
11685 \ifx\Fld@bcolor\relax \else 1\fi
11686 \space
11687 \else
11688 /MK<<%
11689 \ifnum\Fld@rotation=\z@
11690 \else
11691 /R \Fld@rotation
11692 \fi
11693 \ifx\Fld@bordercolor\relax
11694 \else
11695 /BC[\Fld@bordercolor]%
11696 \fi
11697 \ifx\Fld@bcolor\relax
11698 \else
11699 /BG[\Fld@bcolor]%
11700 \fi
11701 >>%
11702 \fi
11703 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
```

```

11704     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11705     \Fld@choices
11706     \Fld@additionalactions
11707 }

```

\PDFForm@Radio

```

11708 \def\PDFForm@Radio{%
11709   /Subtype/Widget%
11710   \Fld@annotflags
11711   /T(\Fld@name)%
11712   /FT/Btn%
11713   \Fld@flags
11714   /H/P%
11715   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11716   /MK<<%
11717     \ifnum\Fld@rotation=\z@
11718     \else
11719       /R \Fld@rotation
11720     \fi
11721     \ifx\Fld@bordercolor\relax
11722     \else
11723       /BC[\Fld@bordercolor]%
11724     \fi
11725     \ifx\Fld@bcolor\relax
11726     \else
11727       /BG[\Fld@bcolor]%
11728     \fi
11729     /CA(\Fld@radiosymbol)%
11730   >>%
11731   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11732     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11733   \ifx\@currValue\Fld@default
11734     /V/\Fld@default
11735   \else
11736     /V/Off%
11737   \fi
11738   \Fld@additionalactions
11739 }

```

\PDFForm@Text

```

11740 \def\PDFForm@Text{%
11741   /Subtype/Widget%
11742   \Fld@annotflags
11743   /T(\Fld@name)%
11744   /FT/Tx%
11745   \Fld@flags
11746   /Q \Fld@align
11747   /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11748   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11749     \ifx\Fld@bordercolor\relax\else 1\fi
11750     \ifx\Fld@bcolor\relax \else 1\fi
11751     \space
11752   \else
11753     /MK<<%
11754     \ifnum\Fld@rotation=\z@
11755     \else
11756       /R \Fld@rotation

```

```

11757 \fi
11758 \ifx\Fld@bordercolor\relax
11759 \else
11760 /BC[\Fld@bordercolor]%
11761 \fi
11762 \ifx\Fld@bcolor\relax
11763 \else
11764 /BG[\Fld@bcolor]%
11765 \fi
11766 >>%
11767 \fi
11768 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11769 \ifx\Fld@color\empty\else\space\Fld@color\fi)%
11770 /DV(\Hy@escapestring{\Fld@default})%
11771 /V(\Hy@escapestring{\Fld@value})%
11772 \Fld@additionalactions
11773 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11774 }

```

\PDFForm@Submit

```

11775 \def\PDFForm@Submit{%
11776 /Subtype/Widget%
11777 \Fld@annotflags
11778 /T(\Fld@name)%
11779 /FT/Btn%
11780 \Fld@flags
11781 /H/P%
11782 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11783 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11784 \ifx\Fld@bordercolor\relax\else 1\fi
11785 \space
11786 \else
11787 /MK<<%
11788 \ifnum\Fld@rotation=\z@
11789 \else
11790 /R \Fld@rotation
11791 \fi
11792 \ifx\Fld@bordercolor\relax
11793 \else
11794 /BC[\Fld@bordercolor]%
11795 \fi
11796 >>%
11797 \fi
11798 /A<<%
11799 /S/SubmitForm%
11800 /F<<%
11801 /FS/URL%
11802 /F(\Hy@escapestring{\Form@action})%
11803 >>%
11804 \Fld@submitflags
11805 >>%
11806 }

```

\PDFForm@Reset

```

11807 \ifHy@pdfa
11808 \else
11809 \def\PDFForm@Reset{%

```



```

11810 /Subtype/Widget%
11811 \Fld@annotflags
11812 /T(\Fld@name)%
11813 /FT/Btn%
11814 \Fld@flags
11815 /H/P%
11816 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11817 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11818 \ifx\Fld@bordercolor\relax\else 1\fi
11819 \space
11820 \else
11821 /MK<<%
11822 \ifnum\Fld@rotation=\z@
11823 \else
11824 /R \Fld@rotation
11825 \fi
11826 \ifx\Fld@bordercolor\relax
11827 \else
11828 /BC[\Fld@bordercolor]%
11829 \fi
11830 % /CA (Clear)
11831 % /AC (Done)
11832 >>%
11833 \fi
11834 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11835 /A<</S/ResetForm>>%
11836 }%
11837 \fi

11838 </pdfform>
11839 <*package>

```

47 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 L^AT_EX 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`

```

11840 \def\phantomsection{%
11841 \Hy@GlobalStepCount\Hy@linkcounter
11842 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11843 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11844 }
11845 </package>

```

47.1 Bookmarks

```
11846 <*outlines>
```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See paper.pdf and slides.pdf in the doc directory of hyperref.

When using the right-to-left typesetting based on ε -TeX, the order of the \BOOKMARK commands written to the \outlinefile could appear wrong, because of mis-feature of ε -TeX's implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document). The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

To work around this problem, the bookmark@seq@number counter is used to write the bookmark's sequential number into a comment in the \outlinefile, which could be used to post-process it to achieve the proper ordering of \BOOKMARK commands in that file.

```

11847 \def\Hy@writebookmark#1#2#3#4#5{%
11848   % section number, text, label, level, file
11849   \ifx\WriteBookmarks\relax%
11850   \else
11851     \ifnum#4>\Hy@bookmarksdepth\relax
11852     \else
11853       \@writetorep{#1}{#2}{#3}{#4}{#5}%
11854     \fi
11855   \fi
11856 }
11857 \def\Hy@currentbookmarklevel{0}
11858 \def\Hy@numberline#1{#1 }
11859 \def\@writetorep#1#2#3#4#5{%
11860   \begingroup
11861     \edef\Hy@tempa{#5}%
11862     \ifx\Hy@tempa\Hy@bookmarkstype
11863       \edef\Hy@level{#4}%
11864       \ifx\Hy@levelcheck Y%
11865         \@tempcnta\Hy@level\relax
11866         \advance\@tempcnta by -1 %
11867         \ifnum\Hy@currentbookmarklevel<\@tempcnta
11868           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
11869           \advance\@tempcnta by 1 %
11870           \Hy@Warning{%
11871             Difference (\the\@tempcnta) between bookmark levels is %
11872             greater \MessageBreak than one, level fixed%
11873           }%
11874           \@tempcnta\Hy@currentbookmarklevel
11875           \advance\@tempcnta by 1 %
11876           \edef\Hy@level{\the\@tempcnta}%
11877         \fi
11878       \else
11879         \global\let\Hy@levelcheck Y%
11880       \fi
11881       \global\let\Hy@currentbookmarklevel\Hy@level
11882       \@tempcnta\Hy@level\relax
11883       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
11884       \advance\@tempcnta by -1 %
11885       \edef\Hy@tempa{#3}%
11886       \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
11887       \ifx\Hy@tempa\Hy@tempb
11888         \Hy@Warning{%
11889           The anchor of a bookmark and its parent's must not%
11890           \MessageBreak be the same. Added a new anchor%

```

```

11891     }%
11892     \phantomsection
11893   \fi
11894   \ifHy@bookmarksnumbered
11895     \let\numberline\Hy@numberline
11896     \let\partnumberline\Hy@numberline
11897     \let\chapternumberline\Hy@numberline
11898   \else
11899     \let\numberline\@gobble
11900     \let\partnumberline\@gobble
11901     \let\chapternumberline\@gobble
11902   \fi
11903   \pdfstringdef\Hy@tempa{#2}%
11904   \if@filesw
11905     \stepcounter{bookmark@seq@number}%
11906     \protected@write\@outlinefile{}{%
11907       \protect\BOOKMARK
11908       [\Hy@level] [\@bookmarkopenstatus{\Hy@level}] {#3}%
11909       {\Hy@tempa}{\Hy@tempb}%
11910       \@percentchar\space\thebookmark@seq@number
11911     }%
11912   \fi
11913   \fi
11914 \endgroup
11915 }
11916 \newcounter{bookmark@seq@number}

```

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

```

11917 \newcommand{\currentpdfbookmark}{%
11918   \pdfbookmark[\Hy@currentbookmarklevel]%
11919 }
11920 \newcommand{\subpdfbookmark}{%
11921   \@tempcnta\Hy@currentbookmarklevel
11922   \Hy@StepCount\@tempcnta
11923   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
11924 }
11925 \newcommand{\belowpdfbookmark}[2]{%
11926   \@tempcnta\Hy@currentbookmarklevel
11927   \Hy@StepCount\@tempcnta
11928   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
11929   \advance\@tempcnta by -1 %
11930   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
11931 }

```

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.

```

11932 \renewcommand\pdfbookmark[3][0]{%
11933   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
11934   \hyper@anchorstart{#3.#1}\hyper@anchorend
11935 }
11936 \def\BOOKMARK{\@ifnextchar[{\@BOOKMARK}[1][-]}
11937 \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_{pdf} macros.

47.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```
11938 \def\Hy@OutlineRerunCheck{%
11939   \begingroup
11940     \xdef\Hy@OutlineChecksumBefore{%
11941       \@ifundefined{pdf@filemdfivesum}{-}{%
11942         \pdf@filemdfivesum{\jobname.out}%
11943       }%
11944       :%
11945       \@ifundefined{pdf@filesize}{-}{%
11946         \pdf@filesize{\jobname.out}%
11947       }%
11948     }%
11949   \endgroup
11950   \AtEndDocument{%
11951     \clearpage
11952     \if@filesw
11953       \immediate\write\@mainaux{%
11954         \string\csname\space Hy@OutlineCheckEnd\string\endcsname
11955       }%
11956     \fi
11957   }%
11958 }
11959 \AtBeginDocument{%
11960   \def\Hy@OutlineCheckEnd{%
11961     \begingroup
11962       \immediate\closeout\@outlinefile
11963       \edef\Hy@OutlineChecksumAfter{%
11964         \@ifundefined{pdf@filemdfivesum}{-}{%
11965           \pdf@filemdfivesum{\jobname.out}%
11966         }%
11967         :%
11968         \@ifundefined{pdf@filesize}{-}{%
11969           \pdf@filesize{\jobname.out}%
11970         }%
11971       }%
11972       \ifx\Hy@OutlineChecksumBefore\Hy@OutlineChecksumAfter
11973       \else
11974         \Hy@WarningNoLine{%
11975           Rerun to get outlines right\MessageBreak
11976           or use package ‘bookmark’%
11977         }%
11978       \fi
11979     \endgroup
11980   }%
11981 }
```

47.1.2 Driver stuff

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

11982 `< *vtex>`

```
11983 \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.

```
11984 \begingroup
11985   \catcode'\'=12 %
11986   \ifnum\Hy@VTeXversion<650 %
11987     \catcode'\=12 %
11988     \gdef\hv@pdf@char#1#2#3{%
11989       \char
11990       \ifcase'#1#2#3 %
11991         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
11992         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
11993         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
11994         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
11995         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
11996         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
11997         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
11998         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
11999         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
12000         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
12001         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
12002         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
12003         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
12004         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
12005         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
12006         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
12007         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
12008         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
12009         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
12010         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
12011         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
12012         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
12013         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
12014         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
12015         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
12016         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
12017         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
12018         \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
12019         \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
12020         \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
12021         \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
12022         \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
12023       \fi
12024     }%
12025   \else
12026     \gdef\hv@pdf@char{\char'}%
12027   \fi
12028 \endgroup
```

\@@BOOKMARK

```
12029 \def\@@BOOKMARK[#1][#2]#3#4#5{%
12030   \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
12031   \edef\@mycount{\the\@serial@counter}%
12032   \Hy@StepCount\@serial@counter
12033   \edef\@parcount{%
```

```

12034 \expandafter\ifx\csname @count@#5\endcsname\relax
12035 0%
12036 \else
12037 \csname @count@#5\endcsname
12038 \fi
12039 }%
12040 \immediate\special{%
12041 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
12042 s=\ifx#2-c\else o\fi,t=#4%
12043 }%
12044 }%

```

\ReadBookmarks

```

12045 \def\ReadBookmarks{%
12046 \begingroup
12047 \def\0{\hv@pdf@char 0}%
12048 \def\1{\hv@pdf@char 1}%
12049 \def\2{\hv@pdf@char 2}%
12050 \def\3{\hv@pdf@char 3}%
12051 \def\({}%
12052 \def\)}%
12053 \def\do##1{%
12054 \ifnum\the\catcode'##1=\active
12055 \@makeother##1%
12056 \fi
12057 }%
12058 \dospecials
12059 \InputIfFileExists{\jobname.out}{-}{-}%
12060 \endgroup
12061 \ifx\WriteBookmarks\relax
12062 \else
12063 \if@filesw
12064 \newwrite\@outlinefile
12065 \Hy@OutlineRerunCheck
12066 \immediate\openout\@outlinefile=\jobname.out\relax
12067 \ifHy@typexml
12068 \immediate\write\@outlinefile{<relaxxml>\relax}%
12069 \fi
12070 \fi
12071 \fi
12072 }

12073 </vtex>
12074 <!*vtex>
12075 \def\ReadBookmarks{%
12076 \begingroup
12077 \escapechar='\\%
12078 \let\escapechar\@gobble %
12079 \def\@BBOOKMARK[##1][##2]##3##4##5{\calc@bm@number{##5}}%
12080 \InputIfFileExists{\jobname.out}{-}{-}%
12081 \ifx\WriteBookmarks\relax
12082 \global\let\WriteBookmarks\relax
12083 \fi
12084 \def\@BBOOKMARK[##1][##2]##3##4##5{%
12085 \def\Hy@temp{##4}%
12086 <*pdfTex>
12087 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%

```

```

12088 \Hy@OutlineName{}\Hy@pstringName{%
12089 ##2\check@bm@number{##3}%
12090 }{%
12091 \expandafter\strip@prefix\meaning\Hy@temp
12092 }%
12093 </pdfTex>
12094 <*pdfmark>
12095 \pdfmark{%
12096 pdfmark=/OUT,%
12097 Count={##2\check@bm@number{##3}},%
12098 Dest={##3},%
12099 Title=\expandafter\strip@prefix\meaning\Hy@temp
12100 }%
12101 </pdfmark>
12102 <*dvipdfm>
12103 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12104 \@pdfm@mark{%
12105 outline \ifHy@DvipdfmxOutlineOpen
12106 [%
12107 \ifnum##21>\z@
12108 \else
12109 -%
12110 \fi
12111 ] %
12112 \fi
12113 ##1<<%
12114 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
12115 /A<<%
12116 /S/GoTo%
12117 /D(\Hy@pstringName)%
12118 >>%
12119 >>%
12120 }%
12121 </dvipdfm>
12122 }%
12123 {%
12124 \def\WriteBookmarks{0}%
12125 \InputIfFileExists{\jobname.out}{\relax}%
12126 }%
12127 {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{\relax}%
12128 \ifx\WriteBookmarks\relax
12129 \else
12130 \if@files
12131 \newwrite\@outlinefile
12132 \Hy@OutlineRerunCheck
12133 \immediate\openout\@outlinefile=\jobname.out\relax
12134 \ifHy@typexml
12135 \immediate\write\@outlinefile{<relaxxml>\relax}%
12136 \fi
12137 \fi
12138 \fi
12139 \endgroup
12140 }
12141 <*pdfTex>
12142 \def\Hy@OutlineName#1#2#3#4{%
12143 \pdfoutline goto name{#2}count#3{#4}%
12144 }

```

```

12145 </pdfTeX>
12146 \def\check@bm@number#1{%
12147   \expandafter\ifx\csname B_#1\endcsname\relax
12148     0%
12149   \else
12150     \csname B_#1\endcsname
12151   \fi
12152 }
12153 \def\calc@bm@number#1{%
12154   \@tempcnta=\check@bm@number{#1}\relax
12155   \advance\@tempcnta by 1 %
12156   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
12157 }
12158 </!vTeX>

12159 \ifHy@implicit
12160 \else
12161   \expandafter\endinput
12162 \fi

12163 </outlines>
12164 <*outlines | hypertex>

12165 \let\H@old@ssect\@ssect
12166 \def\@ssect#1#2#3#4#5{%
12167   \Hy@GlobalStepCount\Hy@linkcounter
12168   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12169   \H@old@ssect{#1}{#2}{#3}{#4}{%
12170     \leavevmode
12171     \hbox to 0pt{%
12172       \dimen@=#1\relax\kern-\dimen@
12173       \Hy@raisedlink{%
12174         \hyper@anchorstart{\@currentHref}\hyper@anchorend
12175       }%
12176       \hss
12177     }%
12178     #5%
12179   }%
12180 }
12181 \let\H@old@schapter\@schapter
12182 \def\@schapter#1{%
12183   \begingroup
12184     \let\@mkboth\@gobbletwo
12185     \Hy@GlobalStepCount\Hy@linkcounter
12186     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12187     \Hy@raisedlink{%
12188       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12189     }%
12190   \endgroup
12191   \H@old@schapter{#1}%
12192 }

```

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:

```

12193 \@ifundefined{@chapter}{-}{%
12194   \let\Hy@org@chapter\@chapter
12195   \def\@chapter{%
12196     \def\Hy@next{%

```



```

12197 \Hy@GlobalStepCount\Hy@linkcounter
12198 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12199 \Hy@raisedlink{%
12200 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12201 }%
12202 }%
12203 \ifnum\c@secnumdepth>\m@ne
12204 \@ifundefined{if@mainmatter}%
12205 \iftrue{csname if@mainmatter\endcsname}%
12206 \let\Hy@next\relax
12207 \fi
12208 \fi
12209 \Hy@next
12210 \Hy@org@chapter
12211 }%
12212 }

12213 \let\H@old@part\@part
12214 \begingroup\expandafter\expandafter\expandafter\endgroup
12215 \expandafter\ifx\csname chapter\endcsname\relax
12216 \let\Hy@secnum@part\z@
12217 \else
12218 \let\Hy@secnum@part\m@ne
12219 \fi
12220 \def\@part{%
12221 \ifnum\Hy@secnum@part>\c@secnumdepth
12222 \phantomsection
12223 \fi
12224 \H@old@part
12225 }

12226 \let\H@old@spart\@spart
12227 \def\@spart#1{%
12228 \Hy@GlobalStepCount\Hy@linkcounter
12229 \xdef\@currentHref{part*.\the\Hy@linkcounter}%
12230 \Hy@raisedlink{%
12231 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12232 }%
12233 \H@old@spart{#1}%
12234 }

12235 \let\H@old@sect\@sect
12236 \def\@sect#1#2#3#4#5#6[#7]#8{%
12237 \ifnum #2>\c@secnumdepth
12238 \expandafter\@firstoftwo
12239 \else
12240 \expandafter\@secondoftwo
12241 \fi
12242 {%
12243 \Hy@GlobalStepCount\Hy@linkcounter
12244 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12245 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{%
12246 \leavevmode
12247 \hbox to 0pt{%
12248 \dimen@=#3\relax\kern-\dimen@
12249 \Hy@raisedlink{%
12250 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12251 }%
12252 \hss
12253 }%

```

```

12254      #8%
12255    }%
12256  }{%
12257    \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[[#7]][#8]%
12258  }%
12259 }

12260 \</outlines | hypertex>
12261 \<*outlines>

12262 \expandafter\def\csname Parent-4\endcsname{}
12263 \expandafter\def\csname Parent-3\endcsname{}
12264 \expandafter\def\csname Parent-2\endcsname{}
12265 \expandafter\def\csname Parent-1\endcsname{}
12266 \expandafter\def\csname Parent0\endcsname{}
12267 \expandafter\def\csname Parent1\endcsname{}
12268 \expandafter\def\csname Parent2\endcsname{}
12269 \expandafter\def\csname Parent3\endcsname{}
12270 \expandafter\def\csname Parent4\endcsname{}

12271 \</outlines>

```

48 Compatibility with koma-script classes

```

12272 \<*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.

```

12273 \def\Hy@tempa{%
12274   \def\@addchap[##1]##2{%
12275     \typeout{##2}%
12276     \if@twoside
12277       \mkboth{##1}{}%
12278     \else
12279       \mkboth{}{##1}%
12280     \fi
12281     \addtocontents{lof}{\protect\addvspace{10\p@}}%
12282     \addtocontents{lot}{\protect\addvspace{10\p@}}%
12283     \Hy@GlobalStepCount\Hy@linkcounter
12284     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12285     \Hy@raisedlink{%
12286       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12287     }%
12288     \if@twocolumn
12289       \@topnewpage[\@makeschapterhead{##2}]%
12290     \else
12291       \@makeschapterhead{##2}%
12292       \@afterheading
12293     \fi
12294     \addcontentsline{toc}{chapter}{##1}%
12295   }%
12296 }

12297 \@ifclassloaded{scrbook}{%
12298   \@ifclasslater{scrbook}{2001/01/01}{%
12299     \let\Hy@tempa\@empty
12300   }{}%
12301 }{%
12302   \@ifclassloaded{scrreprt}{%

```

```

12303 \@ifclasslater{scrreprt}{2001/01/01}{%
12304 \let\Hy@tempa\@empty
12305 }{}%
12306 }{%
12307 \let\Hy@tempa\@empty
12308 }%
12309 }%
12310 \Hy@tempa
12311 </outlines | hypertex>

```

49 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek oberdiek@ruf.uni-freiburg.de

49.1 PD1 encoding

```

12312 <*pd1enc>
12313 \DeclareFontEncoding{PD1}{}{}

```

Accents

```

12314 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
12315 \DeclareTextAccent{\'}{PD1}{\textacute}
12316 \DeclareTextAccent{\~}{PD1}{\textasciicircum}
12317 \DeclareTextAccent{\`}{PD1}{\texttilde}
12318 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
12319 \DeclareTextAccent{\r}{PD1}{\textring}
12320 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
12321 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
12322 \DeclareTextAccent{\c}{PD1}{\textcedilla}
12323 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
12324 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
12325 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
12326 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
12327 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
12328 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
12329 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\texttilde}
12330 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
12331 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
12332 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
12333 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
12334 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
12335 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
12336 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
12337 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
12338 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
12339 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
12340 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
12341 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\texttilde}
12342 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
12343 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
12344 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
12345 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
12346 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
12347 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
12348 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
12349 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
12350 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}

```

```

12351 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
12352 \DeclareTextCommand{\newtie}{PD1}[1]{\TextSymbolUnavailable{\newtie{#1}}#1}

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

12353 % U+0009 (CHARACTER TABULATION)
12354 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
12355 % U+000A (LINE FEED)
12356 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
12357 % U+000D (CARRIAGE RETURN)
12358 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

12359 % U+02D8 BREVE; breve
12360 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
12361 % U+02C7 CARON; caron
12362 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
12363 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
12364 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
12365 % U+02D9 DOT ABOVE; dotaccent
12366 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
12367 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
12368 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
12369 % U+02DB OGONEK; ogonek
12370 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
12371 % U+02DA RING ABOVE; ring
12372 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
12373 % U+02DC SMALL TILDE; ilde, *tilde
12374 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; *space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

```

12375 % U+0022 QUOTATION MARK; quotedbl
12376 \DeclareTextCommand{\textquotedbl}{PD1}{\string"% } \042 U+0022
12377 % U+0023 NUMBER SIGN; numbersign
12378 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
12379 % U+0024 DOLLAR SIGN; dollar
12380 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
12381 % U+0025 PERCENT SIGN; percent
12382 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
12383 % U+0026 AMPERSAND; ampersand
12384 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

```

\047: U+0027 APOSTROPHE; quotesingle

```

12385 % U+0028 LEFT PARENTHESIS; parenleft
12386 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% } \050 U+0028
12387 % U+0029 RIGHT PARENTHESIS; parenright
12388 \DeclareTextCommand{\textparenright}{PD1}{\string\)% } \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

```

12389 % U+002E FULL STOP; period
12390 \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
 12391 % U+003C LESS-THAN SIGN; less
 12392 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
 \075: U+003D EQUALS SIGN; equal
 12393 % U+003E GREATER-THAN SIGN; greater
 12394 \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
 12395 % U+005C REVERSE SOLIDUS; backslash
 12396 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 12397 % U+005E CIRCUMFLEX ACCENT; asciicircum
 12398 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 12399 % U+005F LOW LINE; underscore
 12400 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 12401 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 12402 % U+0060 GRAVE ACCENT; grave
 12403 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 12404 % U+0069 LATIN SMALL LETTER I; i
 12405 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 12406 % U+007B LEFT CURLY BRACKET; braceleft
 12407 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 12408 % U+007C VERTICAL LINE; *bar, verticalbar
 12409 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 12410 % U+007D RIGHT CURLY BRACKET; braceright
 12411 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 12412 % U+007E TILDE; asciitilde
 12413 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 12414 % U+2022 BULLET; bullet
 12415 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 12416 % U+2020 DAGGER; dagger
 12417 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 12418 % U+2021 DOUBLE DAGGER; daggerdbl
 12419 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 12420 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 12421 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 12422 % U+2014 EM DASH; emdash
 12423 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 12424 % U+2013 EN DASH; endash
 12425 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 12426 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 12427 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192

12428 % U+2044 FRACTION SLASH; fraction
 12429 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 12430 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft
 12431 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039
 12432 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright
 12433 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A
 12434 % U+2212 MINUS SIGN; minus
 12435 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 12436 % U+2030 PER MILLE SIGN; perthousand
 12437 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 12438 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 12439 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 12440 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 12441 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 12442 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 12443 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
 12444 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 12445 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
 12446 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 12447 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
 12448 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 12449 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 12450 % U+2122 TRADE MARK SIGN; trademark
 12451 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 12452 % U+FB01 LATIN SMALL LIGATURE FI; fi
 12453 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
 12454 % U+FB02 LATIN SMALL LIGATURE FL; fl
 12455 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
 12456 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 12457 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
 12458 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 12459 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
 12460 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
 12461 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
 12462 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 12463 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178
 12464 \DeclareTextCommand{\IJ}{PD1}{\230}
 12465 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 12466 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
 12467 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 12468 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
 12469 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 12470 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
 12471 % U+0153 LATIN SMALL LIGATURE OE; oe
 12472 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
 12473 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 12474 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
 12475 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 12476 \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.

12477 % U+20AC EURO SIGN; *Euro, euro
 12478 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
 12479 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 12480 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
 12481 % U+00A2 CENT SIGN; cent
 12482 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2

12483 % U+00A3 POUND SIGN; sterling
 12484 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
 12485 % U+00A4 CURRENCY SIGN; currency
 12486 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
 12487 % U+00A5 YEN SIGN; yen
 12488 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
 12489 % U+00A6 BROKEN BAR; brokenbar
 12490 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
 12491 % U+00A7 SECTION SIGN; section
 12492 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
 12493 % U+00A8 DIAERESIS; dieresis
 12494 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
 12495 % U+00A9 COPYRIGHT SIGN; copyright
 12496 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
 12497 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 12498 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
 12499 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
 12500 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
 12501 % U+00AC NOT SIGN; logicalnot
 12502 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
 12503 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
 No glyph \255 in PDFDocEncoding.
 12504 % U+00AE REGISTERED SIGN; registered
 12505 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
 12506 % U+00AF MACRON; *macron, overscore
 12507 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
 12508 % U+00B0 DEGREE SIGN; degree
 12509 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
 12510 % U+00B1 PLUS-MINUS SIGN; plusminus
 12511 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
 12512 % U+00B2 SUPERSCRRIPT TWO; twosuperior
 12513 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
 12514 % U+00B3 SUPERSCRRIPT THREE; threesuperior
 12515 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
 12516 % U+00B4 ACUTE ACCENT; acute
 12517 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
 12518 % U+00B5 MICRO SIGN; mu, mu1
 12519 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
 12520 % U+00B6 PILCROW SIGN; paragraph
 12521 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
 12522 % U+00B7 MIDDLE DOT; middot, *periodcentered
 12523 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
 12524 % U+00B8 CEDILLA; cedilla
 12525 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
 12526 % U+00B9 SUPERSCRRIPT ONE; onesuperior
 12527 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
 12528 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 12529 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
 12530 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
 12531 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
 12532 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
 12533 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
 12534 % U+00BD VULGAR FRACTION ONE HALF; onehalf
 12535 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
 12536 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
 12537 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
 12538 % U+00BF INVERTED QUESTION MARK; questiondown

12539 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
12540 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
12541 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
12542 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
12543 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
12544 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
12545 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
12546 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
12547 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
12548 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
12549 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
12550 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
12551 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
12552 % U+00C6 LATIN CAPITAL LETTER AE; AE
12553 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
12554 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
12555 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
12556 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
12557 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
12558 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
12559 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
12560 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
12561 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
12562 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
12563 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
12564 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
12565 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
12566 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
12567 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
12568 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
12569 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
12570 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
12571 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
12572 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
12573 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
12574 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
12575 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
12576 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
12577 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
12578 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
12579 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
12580 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
12581 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
12582 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
12583 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
12584 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
12585 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
12586 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
12587 % U+00D7 MULTIPLICATION SIGN; multiply
12588 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
12589 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
12590 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
12591 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
12592 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
12593 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
12594 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
12595 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex

12596 \DeclareTextCompositeCommand{\~}{PD1}{U}{\333}% U+00DB
12597 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
12598 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
12599 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
12600 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
12601 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
12602 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
12603 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
12604 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
12605 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
12606 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
12607 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
12608 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
12609 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
12610 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
12611 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
12612 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
12613 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
12614 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
12615 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
12616 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
12617 % U+00E6 LATIN SMALL LETTER AE; ae
12618 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
12619 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
12620 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
12621 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
12622 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8
12623 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
12624 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9
12625 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
12626 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA
12627 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
12628 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
12629 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
12630 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
12631 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC
12632 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
12633 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
12634 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
12635 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
12636 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
12637 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
12638 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
12639 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
12640 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
12641 % U+00F0 LATIN SMALL LETTER ETH; eth
12642 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
12643 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
12644 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
12645 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
12646 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
12647 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
12648 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
12649 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
12650 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4
12651 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
12652 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5

```

12653 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
12654 \DeclareTextCompositeCommand{"}{PD1}{o}{\366}% U+00F6
12655 % U+00F7 DIVISION SIGN; divide
12656 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
12657 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
12658 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
12659 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
12660 \DeclareTextCompositeCommand{'}{PD1}{u}{\371}% U+00F9
12661 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
12662 \DeclareTextCompositeCommand{'}{PD1}{u}{\372}% U+00FA
12663 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
12664 \DeclareTextCompositeCommand{'}{PD1}{u}{\373}% U+00FB
12665 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
12666 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC
12667 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
12668 \DeclareTextCompositeCommand{'}{PD1}{y}{\375}% U+00FD
12669 % U+00FE LATIN SMALL LETTER THORN; thorn
12670 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
12671 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
12672 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF
12673 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

```

Glyphs that consist of several characters.

```

12674 \DeclareTextCommand{\SS}{PD1}{SS}
12675 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

12676 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
12677 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
12678 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
12679 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
12680 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
12681 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
12682 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
12683 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

12684 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
12685 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
12686 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
12687 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
12688 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
12689 \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;

```

12690 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
12691 \DeclareTextCompositeCommand{'}{PD1}{c}{c}% cacute
12692 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
12693 \DeclareTextCompositeCommand{'}{PD1}{n}{n}% nacute
12694 \DeclareTextCompositeCommand{'}{PD1}{s}{s}% sacute
12695 \DeclareTextCompositeCommand{'}{PD1}{z}{z}% zacute
12696 \DeclareTextCompositeCommand{.}{PD1}{z}{z}% zdot
12697 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
12698 \DeclareTextCompositeCommand{'}{PD1}{C}{C}% Cacute
12699 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
12700 \DeclareTextCompositeCommand{'}{PD1}{N}{N}% Nacute
12701 \DeclareTextCompositeCommand{'}{PD1}{S}{S}% Sacute
12702 \DeclareTextCompositeCommand{'}{PD1}{Z}{Z}% Zacute
12703 \DeclareTextCompositeCommand{.}{PD1}{Z}{Z}% Zdot

```

12704 \langle /pdlenc)

49.2 PU encoding

12705 \langle *puenc)

12706 \DeclareFontEncoding{PU}{-}{-}

49.2.1 NFSS2 accents

12707 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecmb
12708 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300
12709 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecmb
12710 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
12711 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
12712 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
12713 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
12714 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
12715 % U+0304 COMBINING MACRON; macroncmb
12716 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
12717 % U+0306 COMBINING BREVE; brevecmb
12718 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
12719 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
12720 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
12721 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
12722 % U+0308 COMBINING DIAERESIS; dieresiscmb
12723 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
12724 % U+030A COMBINING RING ABOVE; ringcmb
12725 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
12726 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
12727 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
12728 % U+030C COMBINING CARON; caroncmb
12729 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
12730 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
12731 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
12732 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
12733 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
12734 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
12735 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
12736 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
12737 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
12738 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
12739 % U+0327 COMBINING CEDILLA; cedillacmb
12740 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
12741 % U+0328 COMBINING OGONEK; ogonekcmb
12742 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
12743 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
12744 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
12745 % U+20DD COMBINING ENCLOSING CIRCLE
12746 \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.

12747 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}
12748 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12749 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}
12750 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
12751 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
12752 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12753 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
12754 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}

```

12755 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12756 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
12757 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
12758 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
12759 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
12760 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
12761 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
12762 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
12763 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
12764 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
12765 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

12766 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
12767 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textacute}
12768 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
12769 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
12770 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
12771 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
12772 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
12773 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
12774 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
12775 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
12776 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
12777 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
12778 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
12779 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
12780 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
12781 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
12782 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
12783 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
12784 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

12785 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
12786 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
12787 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
12788 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
12789 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
12790 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
12791 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
12792 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
12793 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
12794 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
12795 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
12796 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
12797 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
12798 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
12799 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

49.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

12800 % U+0009 (CHARACTER TABULATION)
12801 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
12802 % U+000A (LINE FEED)
12803 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
12804 % U+000D (CARRIAGE RETURN)
12805 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

```

\80\040: U+0020 SPACE; space, spacehackarabic
 \80\041: U+0021 EXCLAMATION MARK; exclam
 12806 % U+0022 QUOTATION MARK; quotedbl
 12807 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
 12808 % U+0023 NUMBER SIGN; numbersign
 12809 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
 12810 % U+0024 DOLLAR SIGN; dollar
 12811 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
 12812 % U+0025 PERCENT SIGN; percent
 12813 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
 12814 % U+0026 AMPERSAND; ampersand
 12815 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
 12816 % U+0027 APOSTROPHE; quotesingle
 12817 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
 12818 % U+0028 LEFT PARENTHESIS; parenleft
 12819 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
 12820 % U+0029 RIGHT PARENTHESIS; parenright
 12821 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
 12822 % U+002A ASTERISK; asterisk
 12823 \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
 12824 % U+003C LESS-THAN SIGN; less
 12825 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
 \80\075: U+003D EQUALS SIGN; equal
 12826 % U+003E GREATER-THAN SIGN; greater
 12827 \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
 12828 % U+005C REVERSE SOLIDUS; backslash
 12829 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright
 12830 % U+005E CIRCUMFLEX ACCENT; asciicircum
 12831 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 12832 % U+005F LOW LINE; underscore
 12833 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 12834 % U+0060 GRAVE ACCENT; grave
 12835 \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

```

12836% U+0069 LATIN SMALL LETTER I; i
12837\DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069
12838\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
12839% U+007B LEFT CURLY BRACKET; braceleft
12840\DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
12841% U+007C VERTICAL LINE; *bar, verticalbar
12842\DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
12843% U+007D RIGHT CURLY BRACKET; braceright
12844\DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
12845% U+007E TILDE; asciitilde
12846\DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E

```

49.2.3 Latin-1 Supplement: U+0080 to U+00FF

```

\80\240: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace
12847% U+00A1 INVERTED EXCLAMATION MARK; exclamdown
12848\DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
12849% U+00A2 CENT SIGN; cent
12850\DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
12851% U+00A3 POUND SIGN; sterling
12852\DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
12853% U+00A4 CURRENCY SIGN; currency
12854\DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
12855% U+00A5 YEN SIGN; yen
12856\DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
12857% U+00A6 BROKEN BAR; brokenbar
12858\DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
12859% U+00A7 SECTION SIGN; section
12860\DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
12861% U+00A8 DIAERESIS; dieresis
12862\DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
12863% U+00A9 COPYRIGHT SIGN; copyright
12864\DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
12865% U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
12866\DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
12867% U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
12868\DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
12869% U+00AC NOT SIGN; logicalnot
12870\DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
12871\DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
\80\255: U+00AD SOFT HYPHEN; sfthyphen, softhyphen
12872% U+00AE REGISTERED SIGN; registered
12873\DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
12874% U+00AF MACRON; *macron, overscore
12875\DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
12876% U+00B0 DEGREE SIGN; degree
12877\DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
12878% U+00B1 PLUS-MINUS SIGN; plusminus
12879\DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
12880% U+00B2 SUPERScript TWO; twosuperior
12881\DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
12882% U+00B3 SUPERScript THREE; threesuperior
12883\DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3

```

12884 % U+00B4 ACUTE ACCENT; acute
 12885 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
 12886 \DeclareTextCommand{\textasciiaacute}{PU}{\80\264}% U+00B4
 12887 % U+00B5 MICRO SIGN; mu, mu1
 12888 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
 12889 % U+00B6 PILCROW SIGN; paragraph
 12890 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
 12891 % U+00B7 MIDDLE DOT; middot, *periodcentered
 12892 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
 12893 % U+00B8 CEDILLA; cedilla
 12894 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
 12895 % U+00B9 SUPERSCRIPT ONE; onesuperior
 12896 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
 12897 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 12898 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
 12899 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
 12900 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
 12901 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
 12902 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
 12903 % U+00BD VULGAR FRACTION ONE HALF; onehalf
 12904 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
 12905 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
 12906 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
 12907 % U+00BF INVERTED QUESTION MARK; questiondown
 12908 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
 12909 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
 12910 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
 12911 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
 12912 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
 12913 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
 12914 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
 12915 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
 12916 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
 12917 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
 12918 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
 12919 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
 12920 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
 12921 % U+00C6 LATIN CAPITAL LETTER AE; AE
 12922 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
 12923 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
 12924 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
 12925 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
 12926 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
 12927 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
 12928 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
 12929 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
 12930 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
 12931 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
 12932 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
 12933 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
 12934 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
 12935 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
 12936 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
 12937 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
 12938 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
 12939 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
 12940 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF

12941 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
12942 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
12943 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
12944 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
12945 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
12946 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
12947 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
12948 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
12949 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
12950 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
12951 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
12952 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
12953 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
12954 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
12955 % U+00D7 MULTIPLICATION SIGN; multiply
12956 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
12957 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
12958 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
12959 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
12960 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
12961 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
12962 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
12963 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
12964 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
12965 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
12966 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
12967 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
12968 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
12969 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
12970 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
12971 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
12972 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
12973 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
12974 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
12975 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
12976 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
12977 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
12978 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
12979 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
12980 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
12981 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
12982 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
12983 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
12984 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
12985 % U+00E6 LATIN SMALL LETTER AE; ae
12986 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
12987 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
12988 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
12989 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
12990 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
12991 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
12992 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
12993 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
12994 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
12995 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
12996 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
12997 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave

12998 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
12999 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
13000 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
13001 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\355}% U+00ED
13002 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
13003 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
13004 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\356}% U+00EE
13005 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\356}% U+00EE
13006 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
13007 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
13008 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\357}% U+00EF
13009 % U+00F0 LATIN SMALL LETTER ETH; eth
13010 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
13011 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
13012 \DeclareTextCompositeCommand{\`}{PU}{n}{\80\361}% U+00F1
13013 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
13014 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
13015 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
13016 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
13017 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
13018 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\364}% U+00F4
13019 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
13020 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\365}% U+00F5
13021 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
13022 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
13023 % U+00F7 DIVISION SIGN; divide
13024 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
13025 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
13026 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
13027 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
13028 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
13029 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
13030 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
13031 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
13032 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\373}% U+00FB
13033 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
13034 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
13035 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
13036 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
13037 % U+00FE LATIN SMALL LETTER THORN; thorn
13038 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
13039 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
13040 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

49.2.4 Latin Extended-A: U+0080 to U+017F

13041 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
13042 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
13043 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
13044 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
13045 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
13046 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
13047 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
13048 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
13049 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
13050 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
13051 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek

13052 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
13053 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
13054 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
13055 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
13056 \DeclareTextCompositeCommand{\`}{PU}{c}{\81\007}% U+0107
13057 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
13058 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
13059 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
13060 \DeclareTextCompositeCommand{\`}{PU}{c}{\81\011}% U+0109
13061 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
13062 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
13063 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
13064 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
13065 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
13066 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
13067 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
13068 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
13069 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
13070 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
13071 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
13072 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
13073 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
13074 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
13075 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
13076 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
13077 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
13078 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
13079 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
13080 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
13081 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
13082 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
13083 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
13084 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
13085 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
13086 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
13087 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
13088 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
13089 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
13090 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
13091 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
13092 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
13093 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
13094 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
13095 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
13096 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
13097 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
13098 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
13099 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
13100 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
13101 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
13102 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
13103 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
13104 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
13105 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
13106 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
13107 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
13108 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121

13109 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent
13110 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
13111 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
13112 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
13113 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
13114 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
13115 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
13116 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
13117 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
13118 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
13119 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
13120 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127
13121 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
13122 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
13123 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
13124 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
13125 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
13126 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
13127 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
13128 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
13129 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
13130 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
13131 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibrevé
13132 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
13133 % U+012D LATIN SMALL LETTER I WITH BREVE; ibrevé
13134 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
13135 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
13136 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
13137 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
13138 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
13139 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
13140 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
13141 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
13142 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
13143 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
13144 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
13145 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
13146 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
13147 % U+0133 LATIN SMALL LIGATURE IJ; ij
13148 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
13149 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
13150 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
13151 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
13152 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
13153 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
13154 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
13155 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
13156 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
13157 \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`.

13158 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
13159 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
13160 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
13161 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
13162 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute

13163 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
13164 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent
13165 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
13166 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
13167 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
13168 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
13169 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
13170 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
13171 \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.

13172 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
13173 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
13174 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
13175 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
13176 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
13177 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
13178 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
13179 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
13180 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
13181 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
13182 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
13183 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
13184 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
13185 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
13186 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
13187 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
13188 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
13189 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
13190 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
13191 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
13192 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
13193 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
13194 % U+014A LATIN CAPITAL LETTER ENG; Eng
13195 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
13196 % U+014B LATIN SMALL LETTER ENG; eng
13197 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
13198 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
13199 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
13200 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
13201 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
13202 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
13203 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
13204 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
13205 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
13206 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacut, Ohungarumlaut
13207 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
13208 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacut, ohungarumlaut
13209 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
13210 % U+0152 LATIN CAPITAL LIGATURE OE; OE
13211 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
13212 % U+0153 LATIN SMALL LIGATURE OE; oe
13213 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
13214 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
13215 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
13216 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
13217 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155

13218 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
13219 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
13220 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
13221 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
13222 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
13223 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
13224 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
13225 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
13226 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
13227 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
13228 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
13229 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
13230 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
13231 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
13232 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
13233 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
13234 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
13235 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
13236 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
13237 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
13238 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
13239 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
13240 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
13241 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
13242 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent
13243 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
13244 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
13245 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
13246 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
13247 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
13248 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
13249 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
13250 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
13251 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
13252 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
13253 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
13254 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
13255 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
13256 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
13257 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
13258 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
13259 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
13260 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
13261 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
13262 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
13263 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
13264 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
13265 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
13266 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
13267 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
13268 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
13269 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
13270 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut
13271 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
13272 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut
13273 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
13274 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek

13275 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
 13276 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
 13277 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
 13278 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
 13279 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
 13280 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
 13281 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
 13282 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
 13283 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
 13284 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 13285 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
 13286 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 13287 \DeclareTextCompositeCommand{"}{PU}{Y}{\81\170}% U+0178
 13288 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 13289 \DeclareTextCompositeCommand{'}{PU}{Z}{\81\171}% U+0179
 13290 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 13291 \DeclareTextCompositeCommand{'}{PU}{z}{\81\172}% U+017A
 13292 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 13293 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 13294 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 13295 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 13296 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 13297 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 13298 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 13299 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 13300 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 13301 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

49.2.5 Latin Extended-B: U+0180 to U+024F

13302 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 13303 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 13304 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 13305 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 13306 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
 13307 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 13308 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 13309 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 13310 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
 13311 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 13312 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 13313 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
 13314 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
 13315 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
 13316 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
 13317 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
 13318 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
 13319 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
 13320 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
 13321 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
 13322 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
 13323 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
 13324 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
 13325 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
 13326 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
 13327 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
 13328 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
 13329 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron

13330 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
13331 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
13332 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
13333 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
13334 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
13335 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
13336 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
13337 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
13338 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
13339 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
13340 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
13341 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
13342 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
13343 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
13344 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
13345 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8
13346 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
13347 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9
13348 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
13349 \DeclareTextCompositeCommand{\'}{PU}{AE}{\81\374}% U+01FC
13350 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
13351 \DeclareTextCompositeCommand{\'}{PU}{ae}{\81\375}% U+01FD
13352 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslashacute, Ostrokeacut
13353 \DeclareTextCompositeCommand{\'}{PU}{O}{\81\376}% U+01FE
13354 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslashacute, ostrokeacute
13355 \DeclareTextCompositeCommand{\'}{PU}{o}{\81\377}% U+01FF
13356 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
13357 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
13358 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
13359 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
13360 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
13361 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
13362 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
13363 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
13364 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
13365 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
13366 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
13367 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
13368 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
13369 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
13370 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
13371 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
13372 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
13373 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
13374 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
13375 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
13376 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
13377 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
13378 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
13379 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
13380 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
13381 % U+021E LATIN CAPITAL LETTER H WITH CARON
13382 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
13383 % U+021F LATIN SMALL LETTER H WITH CARON
13384 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
13385 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
13386 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226

13387% U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 13388 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 13389% U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 13390 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 13391% U+0229 LATIN SMALL LETTER E WITH CEDILLA
 13392 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 13393% U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 13394 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 13395% U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 13396 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 13397% U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 13398 \DeclareTextCompositeCommand{=} {PU}{Y}{\82\062}% U+0232
 13399% U+0233 LATIN SMALL LETTER Y WITH MACRON
 13400 \DeclareTextCompositeCommand{=} {PU}{y}{\82\063}% U+0233
 13401% U+0237 LATIN SMALL LETTER DOTLESS J
 13402 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

49.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

13403% U+02C7 CARON; caron
 13404 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 13405% U+02D8 BREVE; breve
 13406 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 13407% U+02D9 DOT ABOVE; dotaccent
 13408 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 13409% U+02DA RING ABOVE; ring
 13410 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 13411% U+02DB OGONEK; ogonek
 13412 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 13413% U+02DC SMALL TILDE; ilde, *tilde
 13414 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 13415% U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 13416 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 13417 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 13418% U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 13419 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 13420% U+02F7 MODIFIER LETTER LOW TILDE
 13421 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

49.2.7 Combining Diacritical Marks: U+0300 to U+036F

13422% U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 13423 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 13424% U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 13425 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 13426% U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
 13427 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 13428% U+0331 COMBINING MACRON BELOW; macronbelowcmb
 13429 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
 13430% U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 13431 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

49.2.8 Greek and Coptic: U+0370 to U+03FF

13432% U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 13433 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
 13434% U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
 13435 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
 13436% U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos
 13437 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386

13438 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
13439 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
13440 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
13441 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
13442 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
13443 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
13444 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos
13445 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
13446 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos
13447 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
13448 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
13449 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
13450 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadieresis
13451 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390
13452 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
13453 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
13454 % U+0392 GREEK CAPITAL LETTER BETA; Beta
13455 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
13456 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
13457 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
13458 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
13459 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
13460 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
13461 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
13462 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
13463 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
13464 % U+0397 GREEK CAPITAL LETTER ETA; Eta
13465 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
13466 % U+0398 GREEK CAPITAL LETTER THETA; Theta
13467 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
13468 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
13469 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
13470 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
13471 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
13472 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
13473 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
13474 % U+039C GREEK CAPITAL LETTER MU; Mu
13475 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
13476 % U+039D GREEK CAPITAL LETTER NU; Nu
13477 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
13478 % U+039E GREEK CAPITAL LETTER XI; Xi
13479 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
13480 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
13481 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
13482 % U+03A0 GREEK CAPITAL LETTER PI; Pi
13483 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
13484 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
13485 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
13486 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
13487 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
13488 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
13489 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
13490 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
13491 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
13492 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
13493 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
13494 % U+03A7 GREEK CAPITAL LETTER CHI; Chi

13495 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
13496 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
13497 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
13498 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
13499 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
13500 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
13501 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
13502 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
13503 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilondieresis
13504 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
13505 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
13506 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC
13507 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
13508 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
13509 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
13510 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
13511 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
13512 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
13513 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilondieresis
13514 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0
13515 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
13516 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
13517 % U+03B2 GREEK SMALL LETTER BETA; beta
13518 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
13519 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
13520 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
13521 % U+03B4 GREEK SMALL LETTER DELTA; delta
13522 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
13523 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
13524 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
13525 % U+03B6 GREEK SMALL LETTER ZETA; zeta
13526 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
13527 % U+03B7 GREEK SMALL LETTER ETA; eta
13528 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
13529 % U+03B8 GREEK SMALL LETTER THETA; theta
13530 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
13531 % U+03B9 GREEK SMALL LETTER IOTA; iota
13532 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
13533 % U+03BA GREEK SMALL LETTER KAPPA; kappa
13534 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
13535 % U+03BB GREEK SMALL LETTER LAMDA; lambda
13536 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
13537 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
13538 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
13539 % U+03BD GREEK SMALL LETTER NU; nu
13540 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
13541 % U+03BE GREEK SMALL LETTER XI; xi
13542 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
13543 % U+03BF GREEK SMALL LETTER OMICRON; omicron
13544 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
13545 % U+03C0 GREEK SMALL LETTER PI; pi
13546 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
13547 % U+03C1 GREEK SMALL LETTER RHO; rho
13548 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
13549 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
13550 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
13551 % U+03C3 GREEK SMALL LETTER SIGMA; sigma

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13552 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
13553 % U+03C4 GREEK SMALL LETTER TAU; tau
13554 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
13555 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
13556 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
13557 % U+03C6 GREEK SMALL LETTER PHI; phi
13558 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
13559 % U+03C7 GREEK SMALL LETTER CHI; chi
13560 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
13561 % U+03C8 GREEK SMALL LETTER PSI; psi
13562 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
13563 % U+03C9 GREEK SMALL LETTER OMEGA; omega
13564 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
13565 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iodadieresis
13566 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
13567 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; upsilondieresis
13568 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
13569 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
13570 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
13571 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
13572 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
13573 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
13574 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
13575 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
13576 % U+03DA GREEK LETTER STIGMA; Stigmagreek
13577 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
13578 % U+03DB GREEK SMALL LETTER STIGMA
13579 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
13580 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
13581 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
13582 % U+03DD GREEK SMALL LETTER DIGAMMA
13583 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
13584 % U+03DE GREEK LETTER KOPPA; Koppagreek
13585 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
13586 % U+03DF GREEK SMALL LETTER KOPPA
13587 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
13588 % U+03E0 GREEK LETTER SAMPI; Sampigreek
13589 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
13590 % U+03E1 GREEK SMALL LETTER SAMPI
13591 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

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49.2.9 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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13592 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
13593 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400
13594 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
13595 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
13596 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???
13597 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
13598 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
13599 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
13600 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% U+0403
13601 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
13602 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
13603 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
13604 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405

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13605 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, *afii10055
13606 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
13607 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
13608 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
13609 \DeclareTextCompositeCommand{\}{PU}{\CYRII}{\84\007}% U+0407
13610 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
13611 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
13612 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
13613 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
13614 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
13615 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
13616 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
13617 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
13618 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
13619 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
13620 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
13621 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D
13622 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
13623 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
13624 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
13625 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
13626 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
13627 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
13628 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
13629 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
13630 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
13631 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
13632 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
13633 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
13634 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
13635 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
13636 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
13637 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
13638 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
13639 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
13640 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
13641 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
13642 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
13643 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
13644 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
13645 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
13646 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
13647 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
13648 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
13649 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
13650 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
13651 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
13652 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
13653 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
13654 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
13655 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
13656 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
13657 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
13658 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
13659 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
13660 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
13661 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420

13662 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
13663 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
13664 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
13665 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
13666 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
13667 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
13668 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
13669 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
13670 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
13671 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
13672 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
13673 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
13674 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
13675 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
13676 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
13677 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
13678 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
13679 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
13680 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
13681 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
13682 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
13683 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
13684 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
13685 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
13686 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
13687 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
13688 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
13689 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
13690 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
13691 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
13692 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
13693 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
13694 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
13695 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
13696 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
13697 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
13698 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
13699 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
13700 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
13701 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
13702 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
13703 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
13704 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
13705 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
13706 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
13707 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
13708 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, icyrillic
13709 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
13710 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
13711 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
13712 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
13713 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
13714 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
13715 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
13716 \DeclareTextCommand{\cyr1}{PU}{\84\073}% U+043B
13717 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
13718 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C

13719 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
13720 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
13721 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
13722 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
13723 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
13724 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
13725 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
13726 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
13727 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
13728 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441
13729 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
13730 \DeclareTextCommand{\cyr t}{PU}{\84\102}% U+0442
13731 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
13732 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
13733 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
13734 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
13735 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
13736 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
13737 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
13738 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
13739 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
13740 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
13741 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
13742 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
13743 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
13744 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
13745 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
13746 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A
13747 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
13748 \DeclareTextCommand{\cyry}{PU}{\84\113}% U+044B
13749 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
13750 \DeclareTextCommand{\cyrsftsn}{PU}{\84\114}% U+044C
13751 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
13752 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D
13753 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
13754 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E
13755 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
13756 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F
13757 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
13758 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
13759 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
13760 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
13761 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
13762 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
13763 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
13764 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
13765 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
13766 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
13767 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
13768 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
13769 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
13770 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyrillic
13771 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
13772 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
13773 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457
13774 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457
13775 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic

13776 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
13777 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
13778 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459
13779 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
13780 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
13781 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
13782 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
13783 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
13784 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
13785 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
13786 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
13787 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
13788 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
13789 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
13790 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
13791 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
13792 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
13793 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
13794 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
13795 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
13796 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
13797 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
13798 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
13799 \DeclareTextCommand{\cyr yat}{PU}{\84\143}% U+0463
13800 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
13801 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
13802 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
13803 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
13804 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
13805 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
13806 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
13807 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
13808 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleiotifiedcyrillic
13809 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
13810 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleiotifiedcyrillic
13811 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
13812 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
13813 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
13814 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
13815 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
13816 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotifiedcyrillic
13817 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
13818 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyrillic
13819 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
13820 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
13821 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
13822 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
13823 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
13824 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
13825 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
13826 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
13827 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
13828 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
13829 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
13830 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
13831 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
13832 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148

13833 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
13834 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
13835 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
13836 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; Izhitsadblgravecyrillic
13837 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
13838 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; izhitsadblgravecyrillic
13839 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
13840 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
13841 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
13842 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
13843 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
13844 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic
13845 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
13846 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
13847 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
13848 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic
13849 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
13850 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic
13851 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
13852 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
13853 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
13854 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
13855 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
13856 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
13857 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
13858 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
13859 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
13860 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
13861 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482

\84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrlliccmb
\84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrilliccmb
\84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrilliccmb
\84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrilliccmb
\84\207: U+0487 COMBINING CYRILLIC POKRYTIE
\84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
\84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN

13862 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
13863 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
13864 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
13865 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
13866 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
13867 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
13868 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
13869 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
13870 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
13871 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
13872 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
13873 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
13874 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, *afii10050
13875 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
13876 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, gheupturncyrillic
13877 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
13878 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic

13879 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
13880 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
13881 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
13882 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic
13883 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
13884 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic
13885 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
13886 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic
13887 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
13888 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic
13889 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
13890 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic
13891 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
13892 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
13893 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic
13894 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
13895 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
13896 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic
13897 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
13898 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic
13899 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
13900 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaverticalstrokecyrillic
13901 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
13902 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaverticalstrokecyrillic
13903 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
13904 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
13905 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
13906 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
13907 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
13908 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
13909 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
13910 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
13911 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
13912 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
13913 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
13914 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic
13915 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
13916 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
13917 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
13918 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
13919 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
13920 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
13921 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
13922 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
13923 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
13924 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
13925 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
13926 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
13927 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
13928 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
13929 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
13930 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
13931 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
13932 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
13933 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
13934 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
13935 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC

13936 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
13937 \DeclareTextCommand{\cyrtddsc}{PU}{\84\255}% U+04AD
13938 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
13939 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
13940 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
13941 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF
13942 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
13943 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
13944 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic
13945 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
13946 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesendercyrillic
13947 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
13948 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
13949 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
13950 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
13951 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
13952 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
13953 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
13954 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic
13955 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
13956 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
13957 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7
13958 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Cheverticalstrokecyrillic
13959 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
13960 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; cheverticalstrokecyrillic
13961 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
13962 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
13963 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
13964 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
13965 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
13966 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic
13967 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
13968 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
13969 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
13970 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic
13971 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
13972 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
13973 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic
13974 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
13975 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
13976 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
13977 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
13978 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
13979 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
13980 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
13981 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
13982 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
13983 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
13984 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
13985 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
13986 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
13987 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
13988 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
13989 \DeclareTextCommand{\cyrlddsc}{PU}{\84\306}% U+04C6
13990 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
13991 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
13992 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic

13993 \DeclareTextCommand{\cyrnkh}{PU}{\84\310}% U+04C8
13994 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic
13995 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
13996 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic
13997 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
13998 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
13999 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
14000 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
14001 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
14002 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
14003 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
14004 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
14005 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
14006 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic
14007 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2
14008 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
14009 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3
14010 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
14011 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
14012 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
14013 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
14014 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevocyrillic
14015 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
14016 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevocyrillic
14017 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
14018 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
14019 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
14020 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
14021 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
14022 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiescyrillic
14023 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA
14024 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiescyrillic
14025 \DeclareTextCompositeCommand{\U}{PU}{\cyrschwa}{\84\333}% U+04DB
14026 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresiscyrillic
14027 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC
14028 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic
14029 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\335}% U+04DD
14030 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic
14031 \DeclareTextCompositeCommand{\U}{PU}{\CYRZ}{\84\336}% U+04DE
14032 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic
14033 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\337}% U+04DF
14034 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic
14035 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
14036 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic
14037 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
14038 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
14039 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\342}% U+04E2
14040 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
14041 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\343}% U+04E3
14042 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
14043 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\344}% U+04E4
14044 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
14045 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\345}% U+04E5
14046 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic
14047 \DeclareTextCompositeCommand{\U}{PU}{\CYRO}{\84\346}% U+04E6
14048 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic

14049 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
 14050 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
 14051 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
 14052 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
 14053 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
 14054 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic
 14055 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
 14056 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic
 14057 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
 14058 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
 14059 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
 14060 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
 14061 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
 14062 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
 14063 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE
 14064 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
 14065 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% U+04EF
 14066 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
 14067 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
 14068 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
 14069 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
 14070 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic
 14071 \DeclareTextCompositeCommand{H}{PU}{\CYRU}{\84\362}% U+04F2
 14072 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic
 14073 \DeclareTextCompositeCommand{H}{PU}{\cyru}{\84\363}% U+04F3
 14074 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic
 14075 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4
 14076 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic
 14077 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
 14078 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 14079 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 14080 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
 14081 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 14082 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic
 14083 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
 14084 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic
 14085 \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
 14086 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 14087 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 14088 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 14089 \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

49.2.10 Thai: U+0E00 to U+0E7F

14090 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 14091 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

49.2.11 Latin Extended Additional: U+1E00 to U+1EFF

14092 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 14093 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02
 14094 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 14095 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03

14096 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
14097 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
14098 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
14099 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
14100 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
14101 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
14102 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
14103 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
14104 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
14105 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
14106 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
14107 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
14108 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
14109 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
14110 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
14111 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
14112 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
14113 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E
14114 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
14115 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
14116 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
14117 \DeclareTextCompositeCommand{=} {PU}{G}{\9036\040}% U+1E20
14118 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
14119 \DeclareTextCompositeCommand{=} {PU}{g}{\9036\041}% U+1E21
14120 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
14121 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22
14122 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
14123 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23
14124 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
14125 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26
14126 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
14127 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27
14128 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
14129 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28
14130 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
14131 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
14132 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
14133 \DeclareTextCompositeCommand{\'} {PU}{K}{\9036\060}% U+1E30
14134 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
14135 \DeclareTextCompositeCommand{\'} {PU}{k}{\9036\061}% U+1E31
14136 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
14137 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
14138 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
14139 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
14140 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
14141 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
14142 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
14143 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
14144 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
14145 \DeclareTextCompositeCommand{\'} {PU}{M}{\9036\076}% U+1E3E
14146 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
14147 \DeclareTextCompositeCommand{\'} {PU}{m}{\9036\077}% U+1E3F
14148 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
14149 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
14150 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
14151 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
14152 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent

14153 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
14154 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
14155 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
14156 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
14157 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
14158 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
14159 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
14160 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
14161 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
14162 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
14163 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
14164 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
14165 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
14166 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
14167 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
14168 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
14169 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
14170 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
14171 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
14172 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
14173 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
14174 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
14175 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
14176 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
14177 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
14178 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
14179 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
14180 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
14181 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
14182 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
14183 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
14184 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
14185 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
14186 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
14187 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
14188 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
14189 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
14190 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
14191 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
14192 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
14193 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
14194 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
14195 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
14196 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
14197 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
14198 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
14199 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
14200 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
14201 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
14202 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
14203 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
14204 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
14205 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
14206 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
14207 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
14208 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
14209 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C

14210 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
 14211 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D
 14212 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
 14213 \DeclareTextCompositeCommand{.}{PU}{Y}{\9036\216}% U+1E8E
 14214 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
 14215 \DeclareTextCompositeCommand{.}{PU}{y}{\9036\217}% U+1E8F
 14216 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
 14217 \DeclareTextCompositeCommand{^}{PU}{Z}{\9036\220}% U+1E90
 14218 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
 14219 \DeclareTextCompositeCommand{^}{PU}{z}{\9036\221}% U+1E91
 14220 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
 14221 \DeclareTextCompositeCommand{b}{PU}{Z}{\9036\224}% U+1E94
 14222 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
 14223 \DeclareTextCompositeCommand{b}{PU}{z}{\9036\225}% U+1E95
 14224 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
 14225 \DeclareTextCompositeCommand{b}{PU}{h}{\9036\226}% U+1E96
 14226 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
 14227 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97
 14228 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
 14229 \DeclareTextCompositeCommand{r}{PU}{w}{\9036\230}% U+1E98
 14230 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
 14231 \DeclareTextCompositeCommand{r}{PU}{y}{\9036\231}% U+1E99
 14232 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent
 14233 \DeclareTextCompositeCommand{.}{PU}{\textlongs}{\9036\233}% U+1E9B
 14234 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
 14235 \DeclareTextCompositeCommand{~}{PU}{E}{\9036\274}% U+1EBC
 14236 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
 14237 \DeclareTextCompositeCommand{~}{PU}{e}{\9036\275}% U+1EBD
 14238 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 14239 \DeclareTextCompositeCommand{`}{PU}{Y}{\9036\362}% U+1EF2
 14240 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 14241 \DeclareTextCompositeCommand{`}{PU}{y}{\9036\363}% U+1EF3
 14242 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 14243 \DeclareTextCompositeCommand{~}{PU}{Y}{\9036\370}% U+1EF8
 14244 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 14245 \DeclareTextCompositeCommand{~}{PU}{y}{\9036\371}% U+1EF9

49.2.12 General Punctuation: U+2000 to U+206F

14246 % U+200C ZERO WIDTH NON-JOINER; *afii61664, zerowidthnonjoiner
 14247 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 14248 % U+2013 EN DASH; endash
 14249 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 14250 % U+2014 EM DASH; emdash
 14251 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 14252 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 14253 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 14254 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 14255 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 14256 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 14257 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 14258 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 14259 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 14260 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 14261 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 14262 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 14263 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 14264 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase

14265 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 14266 % U+2020 DAGGER; dagger
 14267 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
 14268 % U+2021 DOUBLE DAGGER; daggerdbl
 14269 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 14270 % U+2022 BULLET; bullet
 14271 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
 14272 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14273 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 14274 % U+2030 PER MILLE SIGN; perthousand
 14275 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 14276 % U+2031 PER TEN THOUSAND SIGN
 14277 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 14278 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft
 14279 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
 14280 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright
 14281 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
 14282 % U+203B REFERENCE MARK; referencemark
 14283 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 14284 % U+203D INTERROBANG
 14285 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 14286 % U+2044 FRACTION SLASH; fraction
 14287 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 14288 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 14289 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 14290 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 14291 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 14292 % U+2052 COMMERCIAL MINUS SIGN
 14293 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

49.2.13 Superscripts and Subscripts: U+2070 to U+209F

14294 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 14295 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
 14296 % U+2074 SUPERSCRIPT FOUR; foursuperior
 14297 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
 14298 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 14299 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
 14300 % U+2076 SUPERSCRIPT SIX; sixsuperior
 14301 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
 14302 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
 14303 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
 14304 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
 14305 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
 14306 % U+2079 SUPERSCRIPT NINE; ninesuperior
 14307 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
 14308 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
 14309 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
 14310 % U+207B SUPERSCRIPT MINUS
 14311 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
 14312 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
 14313 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}
 14314 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
 14315 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
 14316 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
 14317 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
 14318 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
 14319 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}

14320 % U+2080 SUBSCRIPT ZERO; zeroinferior
 14321 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
 14322 % U+2081 SUBSCRIPT ONE; oneinferior
 14323 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
 14324 % U+2082 SUBSCRIPT TWO; twoinferior
 14325 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
 14326 % U+2083 SUBSCRIPT THREE; threeinferior
 14327 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
 14328 % U+2084 SUBSCRIPT FOUR; fourinferior
 14329 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
 14330 % U+2085 SUBSCRIPT FIVE; fiveinferior
 14331 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
 14332 % U+2086 SUBSCRIPT SIX; sixinferior
 14333 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086
 14334 % U+2087 SUBSCRIPT SEVEN; seveninferior
 14335 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
 14336 % U+2088 SUBSCRIPT EIGHT; eightinferior
 14337 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
 14338 % U+2089 SUBSCRIPT NINE; nineinferior
 14339 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
 14340 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
 14341 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
 14342 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
 14343 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

49.2.14 Currency Symbols: U+20A0 to U+20CF

14344 % U+20A1 COLON SIGN; *colonmonetary, colonsign
 14345 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
 14346 % U+20A4 LIRA SIGN; afii08941, *lira
 14347 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 14348 % U+20A6 NAIRA SIGN
 14349 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 14350 % U+20A7 PESETA SIGN; peseta
 14351 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 14352 % U+20A9 WON SIGN; won
 14353 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 14354 % U+20AB DONG SIGN; dong
 14355 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 14356 % U+20AC EURO SIGN; *Euro, euro
 14357 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 14358 % U+20B1 PESO SIGN
 14359 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 14360 % U+20B2 GUARANI SIGN
 14361 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

49.2.15 Letterlike Symbols: U+2100 to U+214F

14362 % U+2103 DEGREE CELSIUS; centigrade
 14363 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 14364 % U+2116 NUMERO SIGN; *afii61352, numero
 14365 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
 14366 % U+2117 SOUND RECORDING COPYRIGHT
 14367 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
 14368 % U+211E PRESCRIPTION TAKE; prescription
 14369 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
 14370 % U+2120 SERVICE MARK
 14371 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
 14372 % U+2122 TRADE MARK SIGN; trademark

14373 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
 14374 % U+2126 OHM SIGN; Ohm, Omega
 14375 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
 14376 % U+2127 INVERTED OHM SIGN
 14377 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
 14378 % U+212B ANGSTROM SIGN; angstrom
 14379 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
 14380 % U+212E ESTIMATED SYMBOL; estimated
 14381 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
 14382 % U+2135 ALEF SYMBOL; aleph
 14383 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

49.2.16 Arrows: U+2190 to U+21FF

14384 % U+2190 LEFTWARDS ARROW; arrowleft
 14385 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
 14386 % U+2191 UPWARDS ARROW; arrowup
 14387 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
 14388 % U+2192 RIGHTWARDS ARROW; arrowright
 14389 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
 14390 % U+2193 DOWNWARDS ARROW; arrowdown
 14391 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

49.2.17 Mathematical Operators: U+2200 to U+22FF

14392 % U+2212 MINUS SIGN; minus
 14393 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
 14394 % U+221A SQUARE ROOT; radical
 14395 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

49.2.18 Miscellaneous Technical: U+2300 to U+23FF

14396 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
 14397 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
 14398 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
 14399 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

49.2.19 Control Pictures: U+2400 to U+243F

14400 % U+2422 BLANK SYMBOL
 14401 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 14402 % U+2423 OPEN BOX; blank
 14403 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

49.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

14404 % U+2460 CIRCLED DIGIT ONE; onecircle
 14405 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
 14406 % U+2461 CIRCLED DIGIT TWO; twocircle
 14407 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
 14408 % U+2462 CIRCLED DIGIT THREE; threecircle
 14409 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
 14410 % U+2463 CIRCLED DIGIT FOUR; fourcircle
 14411 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
 14412 % U+2464 CIRCLED DIGIT FIVE; fivecircle
 14413 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
 14414 % U+2465 CIRCLED DIGIT SIX; sixcircle
 14415 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
 14416 % U+2466 CIRCLED DIGIT SEVEN; sevendigit
 14417 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
 14418 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
 14419 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467

14420 % U+2468 CIRCLED DIGIT NINE; ninecircle
14421 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
14422 % U+2469 CIRCLED NUMBER TEN; tencircle
14423 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
14424 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
14425 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
14426 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
14427 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
14428 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
14429 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
14430 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
14431 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
14432 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
14433 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
14434 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
14435 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
14436 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
14437 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
14438 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
14439 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
14440 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
14441 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
14442 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
14443 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
14444 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
14445 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
14446 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
14447 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
14448 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
14449 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
14450 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
14451 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
14452 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
14453 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
14454 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
14455 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
14456 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
14457 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
14458 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
14459 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
14460 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
14461 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
14462 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
14463 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
14464 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
14465 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
14466 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
14467 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
14468 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
14469 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
14470 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
14471 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
14472 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
14473 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
14474 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
14475 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
14476 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle

14477 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
14478 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
14479 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
14480 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
14481 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
14482 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
14483 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
14484 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
14485 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
14486 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
14487 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
14488 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
14489 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
14490 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
14491 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
14492 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
14493 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
14494 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
14495 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
14496 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
14497 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
14498 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
14499 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
14500 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
14501 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
14502 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
14503 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
14504 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
14505 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
14506 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
14507 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
14508 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
14509 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
14510 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
14511 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
14512 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
14513 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
14514 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
14515 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
14516 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
14517 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
14518 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
14519 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
14520 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
14521 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
14522 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
14523 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
14524 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
14525 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
14526 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
14527 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
14528 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
14529 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
14530 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
14531 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
14532 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
14533 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2

14534 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
14535 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
14536 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
14537 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
14538 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
14539 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
14540 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
14541 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
14542 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
14543 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
14544 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
14545 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
14546 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
14547 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
14548 % U+24EA CIRCLED DIGIT ZERO
14549 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

49.2.21 Box Drawing: U+2500 to U+257F

14550 % U+25E6 WHITE BULLET; *openbullet, whitebullet
14551 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
14552 % U+25EF LARGE CIRCLE; largecircle
14553 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

49.2.22 Miscellaneous Symbols: U+2600 to U+26FF

14554 % U+266A EIGHTH NOTE; musicalnote
14555 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
14556 % U+26AD MARRIAGE SYMBOL
14557 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
14558 % U+26AE DIVORCE SYMBOL
14559 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

49.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

14560 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
14561 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
14562 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
14563 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

49.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

14564 % U+FB01 LATIN SMALL LIGATURE FI; fi
14565 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
14566 % U+FB02 LATIN SMALL LIGATURE FL; fl
14567 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

49.2.25 Miscellaneous

14568 \DeclareTextCommand{\SS}{PU}{SS}

49.2.26 Aliases

Aliases (german.sty)

14569 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
14570 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
14571 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
14572 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
14573 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
14574 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
14575 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
14576 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

```

14577 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
14578 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
14579 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
14580 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
14581 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
14582 \puenc)

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49.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

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14583 \*puvnenc)

14584 \DeclareTextCommand{\abreve}{PU}{\81\003}
14585 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
14586 \DeclareTextCommand{\dj}{PU}{\81\021}
14587 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
14588 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
14589 \DeclareTextCommand{\ohorn}{PU}{\81\241}
14590 \DeclareTextCommand{\uhorn}{PU}{\81\260}
14591 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
14592 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
14593 \DeclareTextCommand{\DJ}{PU}{\81\020}
14594 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
14595 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
14596 \DeclareTextCommand{\OHORN}{PU}{\81\240}
14597 \DeclareTextCommand{\UHORN}{PU}{\81\257}

14598 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
14599 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
14600 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
14601 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
14602 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
14603 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
14604 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
14605 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
14606 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
14607 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
14608 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
14609 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
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14620 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
14621 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
14622 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
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14624 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
14625 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
14626 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}

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14627 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
14628 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
14629 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
14630 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
14631 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
14632 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
14633 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
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14636 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
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14681 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
14682 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
14683 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}

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14684 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
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14688 \DeclareTextCompositeCommand{\'}{PU}{0}{\80\323}
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14690 \DeclareTextCompositeCommand{\'}{PU}{0}{\80\322}
14691 \DeclareTextCompositeCommand{\h}{PU}{0}{\9036\316}
14692 \DeclareTextCompositeCommand{\~}{PU}{0}{\80\325}
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14717 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
14718 </puvnenc>

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49.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```
14719 <*puarenc>
```

```

14720 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
14721 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA A
14722 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA A
14723 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA AE
14724 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HA
14725 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
14726 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
14727 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
14728 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
14729 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
14730 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
14731 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
14732 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
14733 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
14734 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
14735 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL

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14736 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
14737 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
14738 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
14739 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
14740 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
14741 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
14742 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
14743 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
14744 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
14745 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN
14746 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
14747 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
14748 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
14749 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
14750 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
14751 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
14752 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
14753 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
14754 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
14755 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA
14756 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH

14757 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
14758 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
14759 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
14760 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
14761 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
14762 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
14763 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA
14764 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

Farsi

14765 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
14766 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
14767 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
14768 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii????;FARSI LETTER KAF
14769 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
14770 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii????;FARSI LETTER YEH

14771 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
14772 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

14773 </puarenc>

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50 End of file hycheck.tex

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14774 < *check>
14775 \typeout{}
14776 \begin{document}
14777 \end{document}
14778 </check>

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