

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 \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 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).

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

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

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

Example (T_EX):

```

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

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

```

```

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

```

6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

6.1 Description of PDF strings

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

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

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

6.2 Definition of `\pdfstringdef`

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

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

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

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

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

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

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

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

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

```
382 \begingroup
```

6.2.1 Preprocessing

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

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

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

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

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

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

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

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

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

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

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

```
388 \ifHy@unicode
```

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

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

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

```
392 \HyPsd@UTFviii
```

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

```
394 \else
```

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

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

```
397 \fi
```

```
398 \enc@update
```

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

```

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

```

Package color.

```

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

```

Upper- and lowercase.

```

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

```

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

```

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

```

```

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

```

Disable \cyr, used in russianb.ldf.

```

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

```

Package german.

```

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

```

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

Package FrenchPro. This package uses:

```

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

```

AMS classes.

```

481 \HyPsd@AMSclassfix

```

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

```

482 \let\hspace\HyPsd@hspace

```

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

```

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

```

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

```

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

```

Miscellaneous commands.

```

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

```

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

```

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

```

Patch for cjk bookmarks.

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

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

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

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

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

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

Package xspace.

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

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

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

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

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

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

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

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

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

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

```

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{\080\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{%
  \ifmmode
    \@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 be 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.

`\HyPsd@ITALCORR`
`\HyPsd@GLYPHERR`

```

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     \040%
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\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1689   \ifodd#2 %
1690     \number\numexpr(#2-1)/2\relax
1691   \else
1692     \number\numexpr#2/2\relax
1693   \fi
1694   \number\numexpr\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\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1702   \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1703   \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1704   \number\numexpr'#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\numexpr 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\numexpr#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}{%

```



```

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}{hypertextnames}[true]{%
2080   \Hy@boolkey{hypertextnames}{#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\csname 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\cyrn\cyrk}%
```

```
2534 % \def\Accttheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrn\cyrk}%
```

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{hpdfptex}%
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 $\zeta = 0.9995$. I don't know, if older versions also support this. AFAIK older dvipdfmx versions will break, thus the switch cannot be turned on by default.

```

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\refone{\ifx\#2\\\else#2.\fi#3}%
3660 \expandafter\tryhyper@link\refone\{#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 \ifHy@nesting
3668 \hyper@anchor{#1.#2}{#3}%
3669 \else
3670 \hyper@anchor{#1.#2}{\relax}#3%
3671 \fi
3672 }

```

```

3673 \def\label@hyperref[#1]{%
3674   \expandafter\label@@hyperref\cscname r@#1\endcsname{#1}%
3675 }%
3676 \def\label@@hyperref#1#2#3{%
3677   \ifx#1\relax
3678     \protect\G@refundefinedtrue
3679     \@latex@warning{%
3680       Hyper reference ‘#2’ on page \thepage \space undefined%
3681     }%
3682     \hyper@@link{}{??}{#3}%
3683   \else
3684     \hyper@@link{\expandafter\@fifthoffive#1}%
3685       {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3686   \fi
3687 }
3688 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3689                                     % anchor text
3690   \@bsphack
3691   \if@filesw
3692     \protected@write\@auxout{%
3693       {\string\newlabel{#1}{\{#\}\}\@##2.#3}}%
3694   \fi
3695   \@esphack
3696   \ifHy@nesting
3697     \hyper@@anchor{#2.#3}{#4}%
3698   \else
3699     \hyper@@anchor{#2.#3}{\relax}#4%
3700   \fi
3701 }

```

17 Underlying basic hypertext macros

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

```
3702 \def\hyper@@link{\let\Hy@reserved@a\relax
3703   \@ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
3704 }
3705 \def\hyper@link@[#1]#2#3#4{%
3706   \begingroup
3707     \protected@edef\Hy@tempa{#2}%
3708     \Hy@safe@activestrue
3709     \edef\x{#3}%
3710     \ifx\Hy@tempa\@empty
3711       \toks0{\hyper@link{#1}}%
3712     \else
3713       \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3714     \fi
3715     \toks2{%
3716       \Hy@safe@activesfalse
3717       #4%
3718     }%
3719     \edef\Hy@tempa{\the\toks2}%
3720     \edef\x{\endgroup
3721       \ifx\Hy@tempa\@empty
3722         \noexpand\Hy@Warning{Suppressing empty link}%
3723       \else
3724         \the\toks0 \x{\the\toks2}}%
3725     \fi
3726   }%
3727   \x
3728 }
```

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.

```
3729 \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.

```
3730   \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
3731 }
```

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

```

3732 \def\@pdftempwordfile{file}%
3733 \def\@pdftempwordrun{run}%
3734 \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 :

```

3735 \ifx\\#6\\%
3736 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3737 \else
3738 \ifx\\#4\\%
3739 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3740 \else

```

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

```

3741 \def\@pdftempa{#4}%
3742 \ifx\@pdftempa\@pdftempwordfile
3743 \expandafter\@hyper@linkfile#7\\{#3}{#2}%
3744 \else

```

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

```

3745 \ifx\@pdftempa\@pdftempwordrun
3746 \ifHy@pdfa
3747 \PackageError{hyperref}{%
3748 PDF/A: Launch action is prohibited%
3749 }\@ehc
3750 \begingroup
3751 \leavevmode
3752 #2%
3753 \endgroup
3754 \else
3755 \expandafter\@hyper@launch#7\\{#3}{#2}%
3756 \fi
3757 \else

```

otherwise its a URL

```

3758 \hyper@linkurl{#3}{#7\ifx\\#2\\% \else\hyper@hash#2\fi}%
3759 \fi
3760 \fi
3761 \fi
3762 \fi
3763 }

```

By default, turn run: into file:

```

3764 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
3765 \hyper@linkurl{#2}{%
3766 \Hy@linkfileprefix
3767 #1%
3768 \ifx\\#3\\%
3769 \else
3770 \hyper@hash
3771 #3%
3772 \fi
3773 }%
3774 }

```

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

```

3775 \def\@hyper@linkfile file:#1\|#2#3{%
3776     %file url,link string, name
3777     \filename@parse{#1}%
3778     \ifx\filename@ext\relax
3779         \edef\filename@ext{\XR@ext}%
3780     \fi
3781     \def\use@file{\filename@area\filename@base.\filename@ext}%
3782     \ifx\filename@ext\XR@ext
3783         \hyper@linkfile{#2}{\use@file}{#3}%
3784     \else
3785         \ifx\@baseurl\@empty
3786             \hyper@linkurl{#2}{%
3787                 \Hy@linkfileprefix\use@file\ifx\|#3\\\else\hyper@hash#3\fi
3788             }%
3789         \else
3790             \hyper@linkurl{#2}{\use@file\ifx\|#3\\\else\hyper@hash#3\fi}%
3791         \fi
3792     \fi
3793 }

```

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.

```

3794 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3795 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3796     \ifx\|#1\%
3797         #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3798     \else
3799         \def\anchor@spot{#2#3}%
3800         \let\put@me@back\@empty
3801         \ifx\relax#2\relax
3802         \else
3803             \ifHy@nesting
3804             \else
3805                 \ifcat a\noexpand#2\relax
3806                 \else
3807                     \ifcat 0\noexpand#2 \relax
3808                     \else
3809 %                     \typeout{Anchor start is not alphanumeric %
3810 %                         on input line\the\inputlineno%
3811 %                     }%
3812                     \let\anchor@spot\@empty
3813                     \def\put@me@back{#2#3}%
3814                 \fi
3815             \fi
3816         \fi
3817     \fi
3818     \ifHy@activeanchor
3819         \anchor@spot
3820     \else
3821         \hyper@anchor{#1}%
3822     \fi
3823     \expandafter\put@me@back

```



```

3824 \fi
3825 \let\anchor@spot\@empty
3826 }

```

18 Compatibility with the *LT_{EX}2html* 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.

```

3827 \let\htmladding\hyperimage
3828 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3829 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3830 \def\htmlref#1#2{% anchor text, label
3831   \label@hyperref[{#2}]{#1}%
3832 }

```

This is really too much. The *LT_{EX}2html* 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.

```

3833 \def\@latextohtmlX{%
3834   \let\hhyperref\hyperref
3835   \def\hyperref##1##2##3##4{% anchor text for HTML
3836                                     % text to print before label in print
3837                                     % label
3838                                     % post-label text in print
3839     ##2\ref{##4}##3%
3840   }%
3841 }

```

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.

```

3842 \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
3843 \def\HyField@NewFlag#1#2{%
3844   \lowercase{\HyField@NewOption{#2}}%

```

```

3845 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3846 }

```

\HyField@NewFlagOnly

```

3847 \def\HyField@NewFlagOnly#1#2{%
3848   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3849 }

```

\HyField@NewOption #1: option name

```

3850 \def\HyField@NewOption#1{%
3851   \expandafter\newif\csname ifFld@#1\endcsname
3852   \define@key{Field}{#1}[true]{%
3853     \lowercase{\Field@boolkey{##1}}{#1}%
3854   }%
3855 }

```

\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

```

3856 \def\HyField@NewBitsetFlag#1#2#3#4{%
3857   \begingroup
3858     \count@=#4\relax
3859     \advance\count@\m@ne
3860     \def\x##1{%
3861       \endgroup
3862       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
3863       \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
3864         \expandafter\edef\csname HyField@#3@##1\endcsname{%
3865           (\number#4) #2%
3866         }%
3867       \else
3868         \expandafter\edef\csname HyField@#3@##1\endcsname{%
3869           \csname HyField@#3@##1\endcsname
3870           /#2%
3871         }%
3872       \fi
3873     }%
3874     \expandafter\x\expandafter{\the\count@}%
3875 }

```

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

```

3876 \def\HyField@UseFlag#1#2{%
3877   \lowercase{\HyField@@UseFlag{#2}}{#1}%
3878 }

```

\HyField@@UseFlag

```

3879 \def\HyField@@UseFlag#1#2{%
3880   \bitsetSetValue{HyField@#2}{%
3881     \csname HyField@#2@#1\endcsname
3882   }{%
3883     \csname ifFld@#1\endcsname 1\else 0\fi
3884   }%
3885 }

```

```

\HyField@SetFlag The bit set is HyField@#1
3886 \def\HyField@SetFlag#1#2{%
3887   \lowercase{\HyField@@SetFlag{#2}}{#1}%
3888 }

\HyField@@SetFlag
3889 \def\HyField@@SetFlag#1#2{%
3890   \bitsetSetValue{HyField@#2}{%
3891     \csname HyField@#2@#1\endcsname
3892   }{1}%
3893 }

\HyField@PrintFlags
3894 \def\HyField@PrintFlags#1#2{%
3895   \ifHy@verbose
3896     \begingroup
3897     \let\Hy@temp\@empty
3898     \let\MessageBreak\relax
3899     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
3900     \bitsetGetSetBitList{HyField@#1}\do{%
3901       \edef\Hy@temp{%
3902         \Hy@temp
3903         \csname HyField@#1@\x\endcsname\MessageBreak
3904       }%
3905     }%
3906   \edef\x{\endgroup
3907     \noexpand\Hy@Info{%
3908       Field flags: %
3909       \expandafter\ifx\@car#1\@nil S\else/\fi
3910       #1 %
3911       \bitsetGetDec{HyField@#1} %
3912       (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
3913       \Hy@temp
3914       for #2%
3915     }%
3916   }\x
3917 \fi
3918 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

3919 \HyField@NewFlag{Ff}{ReadOnly}{1}
3920 \HyField@NewFlag{Ff}{Required}{2}
3921 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

3922 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
3923 \HyField@NewFlag{Ff}{Radio}{16}
3924 \HyField@NewFlag{Ff}{Pushbutton}{17}
3925 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

3926 \HyField@NewFlag{Ff}{Multiline}{13}
3927 \HyField@NewFlag{Ff}{Password}{14}
3928 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
3929 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4

```

```

3930 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
3931 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
3932 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

3933 \HyField@NewFlag{Ff}{Combo}{18}
3934 \HyField@NewFlag{Ff}{Edit}{19}
3935 \HyField@NewFlag{Ff}{Sort}{20}
3936 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
3937 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3938 \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.

```

3939 \newif\ifFld@popdown
3940 \define@key{Field}{popdown}[true]{%
3941   \lowercase{\Field@boolkey{#1}}{popdown}%
3942 }

```

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.

```

3943 \HyField@NewFlag{F}{Invisible}{1}
3944 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
3945 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
3946 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
3947 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
3948 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
3949 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
3950 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
3951 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

3952 \ifHy@pdfa
3953   \def\HyField@PDFAFflagWarning#1#2{%
3954     \Hy@Warning{%
3955       PDF/A: Annotation flag ‘#1’ must\MessageBreak
3956       be set to ‘#2’%
3957     }%
3958   }%
3959   \Fld@invisiblefalse
3960   \def\Fld@invisibletrue{%
3961     \HyField@PDFAFflagWarning{invisible}{false}%
3962   }%
3963   \Fld@hiddenfalse
3964   \def\Fld@hiddentrue{%
3965     \HyField@PDFAFflagWarning{hidden}{false}%
3966   }%
3967   \Fld@printtrue
3968   \def\Fld@printfalse{%
3969     \HyField@PDFAFflagWarning{print}{true}%
3970   }%
3971   \Fld@nozoomtrue
3972   \def\Fld@nozoomfalse{%
3973     \HyField@PDFAFflagWarning{nozoom}{true}%
3974   }%
3975   \Fld@norotatetrue

```

```

3976 \def\Fld@norotatefalse{%
3977   \HyField@PDFAFflagWarning{norotate}{true}%
3978 }%
3979 \Fld@noviewfalse
3980 \def\Fld@noviewtrue{%
3981   \HyField@PDFAFflagWarning{noview}{false}%
3982 }%
3983 \fi

```

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

```

3984 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
3985 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
3986 \HyField@NewFlag{Submit}{GetMethod}{4}
3987 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
3988 \HyField@NewFlagOnly{Submit}{XFDF}{6}
3989 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
3990 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
3991 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
3992 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
3993 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
3994 \HyField@NewFlag{Submit}{ExclFKey}{12}
3995 \HyField@NewFlag{Submit}{EmbedForm}{14}

3996 \define@key{Field}{export}{%
3997   \lowercase{\def\Hy@temp{#1}}%
3998   \@ifundefined{Fld@export@\Hy@temp}{%
3999     \@onelevel@sanitize\Hy@temp
4000     \PackageError{hyperref}{%
4001       Unknown export format '\Hy@temp'.\MessageBreak
4002       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
4003     }\@ehc
4004   }{%
4005     \let\Fld@export\Hy@temp
4006   }%
4007 }
4008 \def\Fld@export{fdf}
4009 \@namedef{Fld@export@fdf}{0}%
4010 \@namedef{Fld@export@html}{1}%
4011 \@namedef{Fld@export@xfdf}{2}%
4012 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

4013 \def\HyField@FlagsSubmit{%
4014   \bitsetReset{HyField@Submit}%
4015   \ifcase\@nameuse{Fld@export@\Fld@export} %
4016     % FDF
4017     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4018     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4019     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
4020     \HyField@UseFlag{Submit}{IncludeAnnotations}%
4021     \HyField@UseFlag{Submit}{CanonicalFormat}%
4022     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
4023     \HyField@UseFlag{Submit}{ExclFKey}%
4024     \HyField@UseFlag{Submit}{EmbedForm}%
4025   \or % HTML
4026     \HyField@SetFlag{Submit}{ExportFormat}%

```

```

4027 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4028 \HyField@UseFlag{Submit}{GetMethod}%
4029 \HyField@UseFlag{Submit}{SubmitCoordinates}%
4030 \HyField@UseFlag{Submit}{CanonicalFormat}%
4031 \or % XFDF
4032 \HyField@SetFlag{Submit}{XFDF}%
4033 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4034 \HyField@UseFlag{Submit}{SubmitCoordinates}%
4035 \HyField@UseFlag{Submit}{CanonicalFormat}%
4036 \or % PDF
4037 \HyField@SetFlag{Submit}{SubmitPDF}%
4038 \HyField@UseFlag{Submit}{GetMethod}%
4039 \fi
4040 \HyField@PrintFlags{Submit}{submit button field}%
4041 \bitsetIsEmpty{HyField@Submit}{%
4042 \def\Fld@submitflags{%
4043 }{%
4044 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
4045 }%
4046 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

4047 \def\HyField@FlagsAnnot#1{%
4048 \bitsetReset{HyField@F}%
4049 \HyField@UseFlag{F}{Invisible}%
4050 \HyField@UseFlag{F}{Hidden}%
4051 \HyField@UseFlag{F}{Print}%
4052 \HyField@UseFlag{F}{NoZoom}%
4053 \HyField@UseFlag{F}{NoRotate}%
4054 \HyField@UseFlag{F}{NoView}%
4055 \HyField@UseFlag{F}{Locked}%
4056 \HyField@UseFlag{F}{ToggleNoView}%
4057 \HyField@UseFlag{F}{LockedContents}%
4058 \HyField@PrintFlags{F}{#1}%
4059 \bitsetIsEmpty{HyField@F}{%
4060 \def\Fld@annotflags{%
4061 }{%
4062 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
4063 }%
4064 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

4065 \def\HyField@FlagsPushButton{%
4066 \HyField@FlagsAnnot{push button field}%
4067 \bitsetReset{HyField@Ff}%
4068 \HyField@UseFlag{Ff}{ReadOnly}%
4069 \HyField@UseFlag{Ff}{Required}%
4070 \HyField@UseFlag{Ff}{NoExport}%
4071 \HyField@SetFlag{Ff}{PushButton}%
4072 \HyField@PrintFlags{Ff}{push button field}%
4073 \bitsetIsEmpty{HyField@Ff}{%
4074 \def\Fld@flags{%

```

```

4075 }{%
4076     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4077 }%
4078 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

4079 \def\HyField@FlagsCheckBox{%
4080     \HyField@FlagsAnnot{check box field}%
4081     \bitsetReset{HyField@Ff}%
4082     \HyField@UseFlag{Ff}{ReadOnly}%
4083     \HyField@UseFlag{Ff}{Required}%
4084     \HyField@UseFlag{Ff}{NoExport}%
4085     \HyField@PrintFlags{Ff}{check box field}%
4086     \bitsetIsEmpty{HyField@Ff}{%
4087         \def\Fld@flags{%
4088             }{%
4089                 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4090             }%
4091         }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

4092 \def\HyField@FlagsRadioButton{%
4093     \HyField@FlagsAnnot{radio button field}%
4094     \bitsetReset{HyField@Ff}%
4095     \HyField@UseFlag{Ff}{ReadOnly}%
4096     \HyField@UseFlag{Ff}{Required}%
4097     \HyField@UseFlag{Ff}{NoExport}%
4098     \HyField@UseFlag{Ff}{NoToggleToOff}%
4099     \HyField@SetFlag{Ff}{Radio}%
4100     \HyField@UseFlag{Ff}{RadiosInUnison}%
4101     \HyField@PrintFlags{Ff}{radio button field}%
4102     \bitsetIsEmpty{HyField@Ff}{%
4103         \def\Fld@flags{%
4104             }{%
4105                 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4106             }%
4107         }

```

19.1.7 Text fields

\HyField@FlagsText

```

4108 \def\HyField@FlagsText{%
4109     \HyField@FlagsAnnot{text field}%
4110     \bitsetReset{HyField@Ff}%
4111     \HyField@UseFlag{Ff}{ReadOnly}%
4112     \HyField@UseFlag{Ff}{Required}%
4113     \HyField@UseFlag{Ff}{NoExport}%
4114     \HyField@UseFlag{Ff}{Multiline}%
4115     \HyField@UseFlag{Ff}{Password}%
4116     \HyField@UseFlag{Ff}{FileSelect}%
4117     \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4118     \HyField@UseFlag{Ff}{DoNotScroll}%

```

```

4119 \ifFld@comb
4120   \ifcase0\ifFld@multiline
4121       \else\ifFld@password
4122       \else\ifFld@fileselect
4123       \else 1\fi\fi\fi\relax
4124   \PackageError{hyperref}{%
4125       Field option 'comb' cannot used together with\MessageBreak
4126       'multiline', 'password', or 'fileselect'%
4127   }\@ehc
4128   \else
4129   \HyField@UseFlag{Ff}{Comb}%
4130   \fi
4131 \fi
4132 \HyField@UseFlag{Ff}{RichText}%
4133 \HyField@PrintFlags{Ff}{text field}%
4134 \bitsetIsEmpty{HyField@Ff}{%
4135   \def\Fld@flags{%
4136   }{%
4137   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4138   }%
4139 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

4140 \def\HyField@FlagsChoice{%
4141   \HyField@FlagsAnnot{choice field}%
4142   \bitsetReset{HyField@Ff}%
4143   \HyField@UseFlag{Ff}{ReadOnly}%
4144   \HyField@UseFlag{Ff}{Required}%
4145   \HyField@UseFlag{Ff}{NoExport}%
4146   \HyField@UseFlag{Ff}{Combo}%
4147   \ifFld@combo
4148     \HyField@UseFlag{Ff}{Edit}%
4149   \fi
4150   \HyField@UseFlag{Ff}{Sort}%
4151   \HyField@UseFlag{Ff}{MultiSelect}%
4152   \ifFld@combo
4153     \ifFld@edit
4154     \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4155   \fi
4156   \fi
4157   \HyField@UseFlag{Ff}{CommitOnSelChange}%
4158   \HyField@PrintFlags{Ff}{choice field}%
4159   \bitsetIsEmpty{HyField@Ff}{%
4160     \def\Fld@flags{%
4161     }{%
4162     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4163     }%
4164 }

```

19.2 Choice field

4165 \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.

```

4166 \def\HyField@PDFChoices#1{%
4167   \begingroup
4168     \gdef\Fld@choices{}%
4169     \def\HyTmp@optlist{}%
4170     \let\HyTmp@optitem\relax
4171     \count@=0 %
4172     \kv@parse{#1}{%
4173       \Hy@pdfstringdef\kv@key\kv@key
4174       \ifx\kv@value\relax
4175         \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4176           \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4177         \else
4178           \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4179         \fi
4180       \else
4181         \Hy@pdfstringdef\kv@value\kv@value
4182         \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
4183       \fi
4184     \edef\HyTmp@optlist{%
4185       \HyTmp@optlist
4186       \HyTmp@optitem{the\count@}{\kv@key}0%
4187     }%
4188     \advance\count@ by 1 %
4189     \@gobbletwo
4190   }%
4191   \xdef\Fld@choices{/Opt[\Fld@choices]}%
4192   \ifFld@multiselect
4193     \HyField@@PDFChoices{DV}\Fld@default
4194     \HyField@@PDFChoices{V}\Fld@value
4195   \else
4196     \ifx\Fld@default\relax
4197     \else
4198       \pdfstringdef\Hy@gtemp\Fld@default
4199       \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4200     \fi
4201     \ifx\Fld@value\relax
4202     \else
4203       \pdfstringdef\Hy@gtemp\Fld@value
4204       \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4205     \fi
4206   \fi
4207 \endgroup
4208 }

```

\HyField@@PDFChoices

```

4209 \def\HyField@@PDFChoices#1#2{%
4210   \ifx#2\relax
4211   \else
4212     \count@=0 %
4213     \def\HyTmp@optitem##1##2##3{%
4214       \def\HyTmp@key{##2}%
4215       \ifx\HyTmp@key\Hy@gtemp
4216         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4217           \HyTmp@optlist
4218           \HyTmp@optitem{##1}{##2}1%
4219         }%

```

```

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

```

19.3 Forms

\HyField@SetKeys

```

4270 \def\HyField@SetKeys{%
4271     \setkeys{Field}%
4272 }

```

```

4273 \newif\ifFld@checked
4274 \newif\ifFld@disabled
4275 \Fld@checkedfalse
4276 \Fld@disabledfalse
4277 \newcount\Fld@menulength
4278 \newdimen\Fld@Width
4279 \newdimen\Fld@charsize
4280 \Fld@charsize=10\p@
4281 \def\Fld@maxlen{0}
4282 \def\Fld@align{0}
4283 \def\Fld@color{0 0 0 rg}
4284 \def\Fld@bcolor{1 1 1}
4285 \def\Fld@bordercolor{1 0 0}
4286 \def\Fld@bordersep{1\p@}
4287 \def\Fld@borderwidth{1}
4288 \def\Fld@borderstyle{S}
4289 \def\Fld@cbsymbol{4}
4290 \def\Fld@radiosymbol{H}
4291 \def\Fld@rotation{0}
4292 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4293 \def\endForm{\@endForm}
4294 \newif\ifForm@html
4295 \Form@htmlfalse
4296 \def\Form@boolkey#1#2{%
4297   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4298 }
4299 \define@key{Form}{action}{%
4300   \hyper@normalise\Hy@DefFormAction{#1}%
4301 }
4302 \def\Hy@DefFormAction{\def\Form@action}
4303 \def\enc@html{html}
4304 \define@key{Form}{encoding}{%
4305   \def\Hy@tempa{#1}%
4306   \ifx\Hy@tempa\enc@html
4307     \Form@htmltrue
4308     \def\Fld@export{html}%
4309   \else
4310     \typeout{hyperref: form 'encoding' key set to #1 %
4311       -- unknown type%
4312     }%
4313     \Form@htmlfalse
4314   \fi
4315 }
4316 \define@key{Form}{method}{%
4317   \lowercase{\def\Hy@temp{#1}}%
4318   \@ifundefined{Form@method@Hy@temp}{%
4319     \onelevel@sanitize\Hy@temp
4320     \PackageError{hyperref}{%
4321       Unknown method '\Hy@temp'.\MessageBreak
4322       Known values are 'post' and 'get'%
4323     }\@ehc
4324   }{%
4325     \let\Form@method\Hy@temp
4326     \ifcase\@nameuse{Form@method@Hy@temp} %
4327       \Fld@getmethodfalse
4328     \else
4329       \Fld@getmethodtrue

```

```

4330     \fi
4331 }%
4332 }
4333 \def\Form@method{}
4334 \@namedef{Form@method@post}{0}
4335 \@namedef{Form@method@get}{1}
4336 \def\Field@boolkey#1#2{%
4337   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4338 }
4339 \newtoks\Field@toks
4340 \Field@toks={ }%
4341 \def\Field@addtoks#1#2{%
4342   \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
4343   \@processme
4344 }
4345 \def\Fld@checkequals#1=#2=#3\\{%
4346   \def\@currDisplay{#1}%
4347   \ifx\\#2\\%
4348     \def\@currValue{#1}%
4349   \else
4350     \def\@currValue{#2}%
4351   \fi
4352 }
4353 \define@key{Field}{loc}{%
4354   \def\Fld@loc{#1}%
4355 }
4356 \define@key{Field}{checked}[true]{%
4357   \lowercase{\Field@boolkey{#1}}{checked}%
4358 }
4359 \define@key{Field}{disabled}[true]{%
4360   \lowercase{\Field@boolkey{#1}}{disabled}%
4361 }
4362 \define@key{Field}{accesskey}{%
4363   \Field@addtoks{accesskey}{#1}%
4364 }
4365 \define@key{Field}{tabkey}{%
4366   \Field@addtoks{tabkey}{#1}%
4367 }
4368 \define@key{Field}{name}{%
4369   \def\Fld@name{#1}%
4370 }
4371 \define@key{Field}{width}{%
4372   \def\Fld@width{#1}%
4373   \Field@Width#1\setbox0=\hbox{m}%
4374 }
4375 \define@key{Field}{maxlen}{%
4376   \def\Fld@maxlen{#1}%
4377 }
4378 \define@key{Field}{menulength}{%
4379   \Fld@menulength=#1\relax
4380 }
4381 \define@key{Field}{height}{%
4382   \def\Fld@height{#1}%
4383 }
4384 \define@key{Field}{charsize}{%
4385   \Fld@charsize#1%
4386 }

```

```

4387 \define@key{Field}{borderwidth}{%
4388   \def\Fld@borderwidth{#1}%
4389 }
4390 \define@key{Field}{borderstyle}{%
4391   \def\Fld@borderstyle{#1}%
4392 }
4393 \define@key{Field}{bordersep}{%
4394   \def\Fld@bordersep{#1}%
4395 }
4396 \define@key{Field}{default}{%
4397   \def\Fld@default{#1}%
4398 }
4399 \define@key{Field}{align}{%
4400   \def\Fld@align{#1}%
4401 }
4402 \define@key{Field}{value}{%
4403   \def\Fld@value{#1}%
4404 }
4405 \define@key{Field}{checkboxsymbol}{%
4406   \Fld@DingDef\Fld@cbsymbol{#1}%
4407 }
4408 \define@key{Field}{radiosymbol}{%
4409   \Fld@DingDef\Fld@radiosymbol{#1}%
4410 }
4411 \def\Fld@DingDef#1#2{%
4412   \def\Fld@temp{%
4413     \Fld@@DingDef#2\ding{}\@nil
4414     \let#1\Fld@temp
4415 }
4416 \def\Fld@@DingDef#1\ding#2#3\@nil{%
4417   \expandafter\def\expandafter\Fld@temp\expandafter{%
4418     \Fld@temp
4419     #1%
4420   }%
4421   \ifx\#3\%
4422     \expandafter\@gobble
4423   \else
4424     \begingroup
4425     \lccode'0=#2\relax
4426     \lowercase{\endgroup
4427     \expandafter\def\expandafter\Fld@temp\expandafter{%
4428       \Fld@temp
4429       0%
4430     }%
4431   }%
4432   \expandafter\@firstofone
4433 \fi
4434 {%
4435   \Fld@@DingDef#3\@nil
4436 }%
4437 }
4438 \define@key{Field}{rotation}{%
4439   \def\Fld@rotation{#1}%
4440 }
4441 \define@key{Field}{backgroundcolor}{%
4442   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4443 }

```

```

4444 \define@key{Field}{bordercolor}{%
4445   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4446 }
4447 \define@key{Field}{color}{%
4448   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4449 }

4450 \def\Fld@onclick@code{}
4451 \def\Fld@format@code{}
4452 \def\Fld@validate@code{}
4453 \def\Fld@calculate@code{}
4454 \def\Fld@keystroke@code{}
4455 \def\Fld@onfocus@code{}
4456 \def\Fld@onblur@code{}
4457 \def\Fld@onmousedown@code{}
4458 \def\Fld@onmouseup@code{}
4459 \def\Fld@onenter@code{}
4460 \def\Fld@onexit@code{}
4461 \def\Hy@temp#1{%
4462   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4463 }
4464 \def\Hy@@temp#1#2{%
4465   \ifHy@pdfa
4466     \define@key{Field}{#2}{%
4467       \PackageError{hyperref}{%
4468         PDF/A: Additional action ‘#2’ is prohibited%
4469       }\@ehc
4470     }%
4471   \else
4472     \define@key{Field}{#2}{%
4473       \def#1{##1}%
4474     }%
4475   \fi
4476 }
4477 \Hy@temp{keystroke}
4478 \Hy@temp{format}
4479 \Hy@temp{validate}
4480 \Hy@temp{calculate}
4481 \Hy@temp{onfocus}
4482 \Hy@temp{onblur}
4483 \Hy@temp{onenter}
4484 \Hy@temp{onexit}
4485 \def\Hy@temp#1{%
4486   \define@key{Field}{#1}{%
4487     \Field@addtoks{#1}{##1}%
4488   }%
4489 }
4490 \Hy@temp{onselect}
4491 \Hy@temp{onchange}
4492 \Hy@temp{ondblclick}
4493 \Hy@temp{onmousedown}
4494 \Hy@temp{onmouseup}
4495 \Hy@temp{onmouseover}
4496 \Hy@temp{onmousemove}
4497 \Hy@temp{onmouseout}
4498 \Hy@temp{onkeypress}
4499 \Hy@temp{onkeydown}
4500 \Hy@temp{onkeyup}

```

```

4501 \ifHy@pdfa
4502   \define@key{Field}{onclick}{%
4503     \PackageError{hyperref}{%
4504       PDF/A: Action 'onclick' is prohibited%
4505     }\@ehc
4506   }%
4507 \else
4508   \define@key{Field}{onclick}{%
4509     \def\Fld@onclick@code{#1}%
4510     \Field@addtoks{onclick}{#1}%
4511   }%
4512 \fi

4513 \DeclareRobustCommand\TextField{%
4514   \@ifnextchar[{\@TextField}{\@TextField[]}%
4515 }
4516 \DeclareRobustCommand\ChoiceMenu{%
4517   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4518 }
4519 \DeclareRobustCommand\CheckBox{%
4520   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4521 }
4522 \DeclareRobustCommand\PushButton{%
4523   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4524 }
4525 \DeclareRobustCommand\Gauge{%
4526   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4527 }
4528 \DeclareRobustCommand\Submit{%
4529   \@ifnextchar[{\@Submit}{\@Submit[]}%
4530 }
4531 \DeclareRobustCommand\Reset{%
4532   \@ifnextchar[{\@Reset}{\@Reset[]}%
4533 }
4534 \def\LayoutTextField#1#2{% label, field
4535   #1 #2%
4536 }
4537 \def\LayoutChoiceField#1#2{% label, field
4538   #1 #2%
4539 }
4540 \def\LayoutCheckField#1#2{% label, field
4541   #1 #2%
4542 }
4543 \def\LayoutPushButtonField#1{% button
4544   #1%
4545 }
4546 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4547 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4548 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4549 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4550 \def\MakeButtonField#1{%
4551   \sbox0{%
4552     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4553   }%
4554   \@tempdima\ht0 %
4555   \advance\@tempdima by \Fld@borderwidth bp %
4556   \advance\@tempdima by \Fld@borderwidth bp %
4557   \ht0\@tempdima

```

```

4558 \@tempdima\dp0 %
4559 \advance\@tempdima by \Fld@borderwidth bp %
4560 \advance\@tempdima by \Fld@borderwidth bp %
4561 \dp0\@tempdima
4562 \box0\relax
4563 }
4564 \def\DefaultHeightofSubmit{14pt}
4565 \def\DefaultWidthofSubmit{2cm}
4566 \def\DefaultHeightofReset{14pt}
4567 \def\DefaultWidthofReset{2cm}
4568 \def\DefaultHeightofCheckBox{\baselineskip}
4569 \def\DefaultWidthofCheckBox{\baselineskip}
4570 \def\DefaultHeightofChoiceMenu{\baselineskip}
4571 \def\DefaultWidthofChoiceMenu{\baselineskip}
4572 \def\DefaultHeightofText{\baselineskip}
4573 \def\DefaultHeightofTextMultiline{4\baselineskip}
4574 \def\DefaultWidthofText{3cm}
4575 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4576 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4577 \def\DefaultOptionsofPushButton{print}
4578 \def\DefaultOptionsofCheckBox{print}
4579 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

4580 \def\DefaultOptionsofListBox{print}
4581 \def\DefaultOptionsofComboBox{print,edit,sort}
4582 \def\DefaultOptionsofPopdownBox{print}
4583 \def\DefaultOptionsofRadio{print,notoggletoooff}

```

20 Setup

```

4584 \ifHy@figures
4585 \Hy@Info{Hyper figures ON}%
4586 \else
4587 \Hy@Info{Hyper figures OFF}%
4588 \fi
4589 \ifHy@nesting
4590 \Hy@Info{Link nesting ON}%
4591 \else
4592 \Hy@Info{Link nesting OFF}%
4593 \fi
4594 \ifHy@hyperindex
4595 \Hy@Info{Hyper index ON}%
4596 \else
4597 \Hy@Info{Hyper index OFF}%
4598 \fi
4599 \ifHy@backref
4600 \Hy@Info{backreferencing ON}%
4601 \else
4602 \Hy@Info{backreferencing OFF}%
4603 \fi
4604 \ifHy@colorlinks
4605 \Hy@Info{Link coloring ON}%
4606 \else
4607 \Hy@Info{Link coloring OFF}%
4608 \fi
4609 \ifHy@ocgcolorlinks

```



```

4610 \Hy@Info{Link coloring with OCG ON}%
4611 \else
4612 \Hy@Info{Link coloring with OCG OFF}%
4613 \fi
4614 \ifHy@pdfa
4615 \Hy@Info{PDF/A mode ON}%
4616 \else
4617 \Hy@Info{PDF/A mode OFF}%
4618 \fi

```

21 Low-level utility macros

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

```

4619 \edef\hyper@hash{\string#}
4620 \edef\hyper@tilde{\string~}
4621 \edef\hyper@quote{\string"}
4622 \let\@currentHref\@empty
4623 \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.

```

4624 \AfterBeginDocument{%
4625 \Hy@pdfstringtrue
4626 \PDF@SetupDoc
4627 \let\PDF@SetupDoc\@empty
4628 \Hy@DisableOption{pdfpagescrop}%
4629 \Hy@DisableOption{pdfpagemode}%
4630 \Hy@DisableOption{pdfnonfullscreenpagemode}%
4631 \Hy@DisableOption{pdfdirection}%
4632 \Hy@DisableOption{pdfviewarea}%
4633 \Hy@DisableOption{pdfviewclip}%
4634 \Hy@DisableOption{pdfprintarea}%
4635 \Hy@DisableOption{pdfprintclip}%
4636 \Hy@DisableOption{pdfprintscaling}%
4637 \Hy@DisableOption{pdfduplex}%
4638 \Hy@DisableOption{pdfpicktraybypdfsize}%
4639 \Hy@DisableOption{pdfprintpagerange}%
4640 \Hy@DisableOption{pdfnumcopies}%
4641 \Hy@DisableOption{pdfstartview}%
4642 \Hy@DisableOption{pdfstartpage}%
4643 \Hy@DisableOption{pdftoolbar}%
4644 \Hy@DisableOption{pdfmenubar}%
4645 \Hy@DisableOption{pdfwindowui}%
4646 \Hy@DisableOption{pdfwindow}%
4647 \Hy@DisableOption{pdfcenterwindow}%
4648 \Hy@DisableOption{pdfdisplaydoctitle}%
4649 \Hy@DisableOption{pdfpagelayout}%
4650 \Hy@DisableOption{pdflang}%
4651 \Hy@DisableOption{baseurl}%
4652 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4653 \Hy@pdfstringfalse
4654 }

```

22 Localized nullifying of package

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

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

```

4655 \def\NoHyper{%
4656   \def\hyper@link@{##1}##2##3##4{##4}%
4657   \def\hyper@@anchor##1{%
4658     \global\let\hyper@livelink\hyper@link
4659     \gdef\hyper@link##1##2##3{##3}%
4660     \def\hyper@anchorstart##1{%
4661       \let\hyper@anchorend\@empty
4662       \def\hyper@linkstart##1##2{%
4663         \let\hyper@linkend\@empty
4664         \def\hyper@linkurl##1##2{##1}%
4665         \def\hyper@linkfile##1##2##3{##1}%
4666         \def\hyper@link@{##1}##2##3{%
4667           \let\Hy@backout\@gobble
4668         }
4669       \def\stop@hyper{%
4670         \def\hyper@link@{##1}##2##3##4{##4}%
4671         \let\Hy@backout\@gobble
4672         \def\hyper@@anchor##1{%
4673           \def\hyper@link##1##2##3{##3}%
4674           \def\hyper@anchorstart##1{%
4675             \let\hyper@anchorend\@empty
4676             \def\hyper@linkstart##1##2{%
4677               \let\hyper@linkend\@empty
4678               \def\hyper@linkurl##1##2{##1}%
4679               \def\hyper@linkfile##1##2##3{##1}%
4680               \def\hyper@link@{##1}##2##3{%
4681             }
4682           \def\endNoHyper{%
4683             \global\let\hyper@link\hyper@livelink
4684           }
4685 \let\Hy@backout\@gobble

```

23 Package nohyperref

This package is introduced by Sebastian Rahtz.

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

Some low-level commands:

```

4686 \*nohyperref
4687 \let\hyper@@anchor\@gobble
4688 \def\hyper@link#1#2#3{##3}%
4689 \let\hyper@anchorstart\@gobble
4690 \let\hyper@anchorend\@empty
4691 \let\hyper@linkstart\@gobbletwo
4692 \let\hyper@linkend\@empty
4693 \def\hyper@linkurl#1#2{##1}%
4694 \def\hyper@linkfile#1#2#3{##1}%
4695 \def\hyper@link@{##1}##2##3{%
4696   \let\PDF@SetupDoc\@empty
4697   \let\PDF@FinishDoc\@empty
4698 \def\nohyperpage#1{##1}

```

Some top-level commands:

```
4699 \def\Acrobatmenu#1#2{\leavevmode#2}
4700 \let\pdfstringdefDisableCommands@gobbletwo
4701 \let\texorpdfstring@firstoftwo
4702 \let\pdfbookmark@undefined
4703 \newcommand\pdfbookmark[3][]{\{}
4704 \let\phantomsection@empty
4705 \let\hypersetup@gobble
4706 \let\hyperbaseurl@gobble
4707 \let\href@gobble
4708 \let\hyperdef@gobbletwo
4709 \let\hyperlink@gobble
4710 \let\hypertarget@gobble
4711 \def\hyperref{%
4712   \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4713 }
4714 \long\def\@gobbleopt[#1]{\{}
4715 \let\hyperpage@empty
```

Ignore star from referencing macros:

```
4716 \let\NoHy@OrgRef\ref
4717 \def\ref{%
4718   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
4719 }
4720 \let\NoHy@OrgPageRef\pageref
4721 \def\pageref{%
4722   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
4723 }
4724 \nohyperref
```

24 The Mangling Of Aux and Toc Files

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

```
4725 \*package
4726 \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.

```
4727 \if@filesw
4728   \ifHy@typexml
4729     \immediate\closeout\@mainaux
4730     \immediate\openout\@mainaux\jobname.aux\relax
4731     \immediate\write\@auxout{<relaxxml>\relax}%
4732   \fi
4733   \immediate\write\@auxout{%
4734     \string\ifx\string\hyper@anchor\string\@undefined^^J%
4735     \global\let\string\oldcontentsline\string\contentsline^^J%
4736     \gdef\string\contentsline%
4737       \string#1\string#2\string#3\string#4{%
4738       \string\oldcontentsline%
4739       {\string#1}{\string#2}{\string#3}}^^J%
4740     \global\let\string\oldnewlabel\string\newlabel^^J%
```

```

4741 \gdef\string\newlabel\string#1\string#2{%
4742 \string\newlabelxx{\string#1}\string#2}^^J%
4743 \gdef\string\newlabelxx%
4744 \string#1\string#2\string#3\string#4\string#5\string#6{%
4745 \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.

```

4746 \string\AtEndDocument{%
4747 \let\string\contentsline\string\oldcontentsline^^J%
4748 \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.

```

4749 \string\else^^J%
4750 \global\let\string\hyper@last\relax^^J%
4751 \string\fi^^J%
4752 }%
4753 \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.

```

4754 \ifx\hyper@last\undefined
4755 \def\@starttoc#1{%
4756 \begingroup
4757 \makeatletter
4758 \IfFileExists{\jobname.#1}{%
4759 \Hy@WarningNoLine{%
4760 old #1 file detected, not used; run LaTeX again%
4761 }%
4762 }{%
4763 \if@filesw
4764 \expandafter\newwrite\csname tf@#1\endcsname
4765 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4766 \fi
4767 \@nobreakfalse
4768 \endgroup
4769 }%
4770 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
4771 \fi
4772 }

```

25 Title strings

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

```

4773 \ifHy@usetitle
4774 \let\HyOrg@title\title
4775 \let\HyOrg@author\author
4776 \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
4777 \def\Hy@scanopttitle[#1]{%
4778 \gdef\Hy@title{#1}%
4779 \HyOrg@title[#1]%

```

```

4780 }%
4781 \def\Hy@scantitle#1{%
4782   \gdef\Hy@title{#1}%
4783   \HyOrg@title{#1}%
4784 }%
4785 \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4786 \def\Hy@scanoptauthor[#1]{%
4787   \gdef\Hy@author{#1}%
4788   \HyOrg@author[{#1}]%
4789 }%
4790 \def\Hy@scanauthor#1{%
4791   \gdef\Hy@author{#1}%
4792   \HyOrg@author{#1}%
4793 }%

```

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

```

4794 \begingroup
4795   \def\process@me#1\@nil#2{%
4796     \expandafter\let\expandafter\x\csname @#2\endcsname
4797     \edef\y{\expandafter\strip@prefix\meaning\x}%
4798     \def\c##1#1##2\@nil{%
4799       \ifx\\##1\\%
4800         \else
4801           \expandafter\gdef\csname Hy#2\expandafter\endcsname
4802             \expandafter{\x}%
4803         \fi
4804       }%
4805       \expandafter\c\y\relax#1\@nil
4806     }%
4807     \expandafter\process@me\string\@latex@\@nil{title}%
4808     \expandafter\process@me\string\@latex@\@nil{author}%
4809   \endgroup
4810 \fi
4811 \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.

```

4812 \def\Hy@UseMaketitleString#1{%
4813   \@ifundefined{Hy@#1}{-}{%
4814     \begingroup
4815       \let\Hy@saved@hook\pdfstringdefPreHook
4816       \pdfstringdefDisableCommands{%
4817         \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
4818         \let\newline\\%
4819       }%
4820       \expandafter\ifx\csname @pdf#1\endcsname\@empty
4821         \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4822           \csname Hy@#1\endcsname\@empty
4823         }%

```

```

4824     \fi
4825     \global\let\pdfstringdefPreHook\Hy@saved@hook
4826   \endgroup
4827 }%
4828 }
4829 \def\Hy@newline@title#1{ #1}
4830 \def\Hy@newline@author#1{, #1}
4831 \def\Hy@UseMaketitleInfos{%
4832   \Hy@UseMaketitleString{title}%
4833   \Hy@UseMaketitleString{author}%
4834 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

4835 \RequirePackage{atbegshi}[2007/09/09]
4836 \def\Hy@EveryPageHook{}
4837 \def\Hy@EveryPageBoxHook{}
4838 \def\Hy@FirstPageHook{}
4839 \AtBeginShipout{%
4840   \Hy@EveryPageHook
4841   \ifx\Hy@EveryPageBoxHook\@empty
4842   \else
4843     \setbox\AtBeginShipoutBox=\vbox{%
4844       \offinterlineskip
4845       \Hy@EveryPageBoxHook
4846       \box\AtBeginShipoutBox
4847     }%
4848   \fi
4849 }
4850 \AtBeginShipoutFirst{%
4851   \Hy@FirstPageHook
4852 }
4853 \g@addto@macro\Hy@FirstPageHook{%
4854   \PDF@FinishDoc
4855   \gdef\PDF@FinishDoc{}}%
4856 }

```

27.1 PDF /PageLabels

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

```

4857 \ifHy@pagelabels
4858   \begingroup\expandafter\expandafter\expandafter\endgroup
4859   \expandafter\ifx\csname thepage\endcsname\relax
4860     \Hy@pagelabelsfalse
4861     \Hy@WarningNoLine{%
4862       Option ‘pdfpagelabels’ is turned off\MessageBreak
4863       because \string\thepage\space is undefined%
4864     }%
4865     \csname fi\endcsname
4866     \csname iffalse\expandafter\endcsname
4867   \fi

```

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

```
4868 \def\thispdfpagelabel#1{%
4869   \gdef\HyPL@thisLabel{#1}%
4870 }%
4871 \global\let\HyPL@thisLabel\relax
```

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

```
4872 \def\HyPL@Labels{%
```

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

```
4873 \newcount\Hy@abspage
4874 \Hy@abspage=0 %
```

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

```
4875 \def\HyPL@LastType{init}%
4876 \def\HyPL@LastNumber{0}%
4877 \def\HyPL@LastPrefix{%
```

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

```
4878 \def\HyPL@arabic{D}%
4879 \def\HyPL@Roman{R}%
4880 \def\HyPL@roman{r}%
4881 \def\HyPL@Alph{A}%
4882 \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.

```
4883 \def\HyPL@EveryPage{%
4884   \begingroup
4885   \ifx\HyPL@thisLabel\relax
4886     \let\HyPL@page\thepage
4887   \else
4888     \let\HyPL@page\HyPL@thisLabel
4889     \global\let\HyPL@thisLabel\relax
4890   \fi
4891   \let\HyPL@Type\relax
4892   \ifnum\the\c@page>0 %
4893     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4894   \fi
4895   \let\Hy@temp Y%
4896   \ifx\HyPL@Type\HyPL@LastType
4897   \else
4898     \let\Hy@temp N%
4899   \fi
4900   \ifx\HyPL@Type\relax
4901     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4902   \else
4903     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4904   \fi
4905   \ifx\HyPL@Prefix\HyPL@LastPrefix
4906   \else
4907     \let\Hy@temp N%
4908   \fi
4909   \if Y\Hy@temp
4910     \advance\c@page by -1 %
4911     \ifnum\HyPL@LastNumber=\the\c@page\relax
```

```

4912         \else
4913         \let\Hy@temp N%
4914         \fi
4915         \Hy@StepCount\c@page
4916     \fi
4917     \if N\Hy@temp
4918         \ifx\HyPL@Type\relax
4919             \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
4920         \else
4921             \HyPL@StorePageLabel{%
4922                 \ifx\HyPL@Prefix\@empty
4923                 \else
4924                     /P(\HyPL@Prefix)%
4925                 \fi
4926                 /S/\csname HyPL\HyPL@Type\endcsname
4927                 \ifnum\the\c@page=1 %
4928                 \else
4929                     \space/St \the\c@page
4930                 \fi
4931             }%
4932         \fi
4933     \fi
4934     \xdef\HyPL@LastNumber{\the\c@page}%
4935     \global\let\HyPL@LastType\HyPL@Type
4936     \global\let\HyPL@LastPrefix\HyPL@Prefix
4937 \endgroup
4938 \Hy@GlobalStepCount\Hy@abspage
4939 }%

```

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

```

4940 \def\HyPL@CheckThePage#1\@nil{%
4941     \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
4942 }%

```

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

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

```

4943 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4944     \def\Hy@tempa{#4}%
4945     \def\Hy@tempb{\csname\endcsname\c@page}%
4946     \ifx\Hy@tempa\Hy@tempb
4947         \expandafter\ifx\csname HyPL#3\endcsname\relax
4948         \else
4949             \def\HyPL@Type{#3}%
4950             \def\HyPL@Prefix{#2}%
4951         \fi
4952     \else
4953         \begingroup
4954         \let\Hy@next\endgroup
4955         \let\HyPL@found\@undefined
4956         \def\arabic{\HyPL@Format{arabic}}%
4957         \def\Roman{\HyPL@Format{Roman}}%
4958         \def\roman{\HyPL@Format{roman}}%
4959         \def\Alph{\HyPL@Format{Alph}}%
4960         \def\alph{\HyPL@Format{alph}}%
4961         \protected@edef\Hy@temp{#1}%

```



```

4962     \ifx\HyPL@found\relax
4963       \toks@{\expandafter{\Hy@temp}}%
4964       \edef\Hy@next{\endgroup
4965         \noexpand\HyPL@@@CheckThePage\the\toks@
4966         \noexpand\HyPL@found\relax\noexpand\@nil
4967       }%
4968     \fi
4969   \Hy@next
4970 \fi
4971 }%

```

\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`.

```

4972 \def\HyPL@Format#1#2{%
4973   \ifx\HyPL@found\@undefined
4974     \expandafter\ifx\csname c@#2\endcsname\c@page
4975       \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
4976     \else
4977       \expandafter\noexpand\csname#1\endcsname{#2}%
4978     \fi
4979   \else
4980     \expandafter\noexpand\csname#1\endcsname{#2}%
4981   \fi
4982 }%

```

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

```

4983 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
4984   \def\Hy@tempa{#3}%
4985   \def\Hy@tempb{\HyPL@found\relax}%
4986   \ifx\Hy@tempa\Hy@tempb
4987     \def\HyPL@Type{#2}%
4988     \def\HyPL@Prefix{#1}%
4989   \fi
4990 }%

```

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

```

4991 \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`.

```

4992 \def\HyPL@Useless{0<</S/D>>}%
4993 \@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.

```

4994 \def\HyPL@SetPageLabels{%
4995   \@onelevel@sanitize\HyPL@Labels
4996   \ifx\HyPL@Labels\@empty
4997   \else
4998     \ifx\HyPL@Labels\HyPL@Useless
4999     \else
5000       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
5001     \fi
5002   \fi
5003 }%

```

```

5004 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
5005 \fi

```

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

```

5006 \Hy@DisableOption{pdfpagelabels}
5007 \endpackage

```

27.1.1 pdfTeX and VTeX

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

\Hy@PutCatalog

```

5008 \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.

```

5009 \*vTeX
5010 \providecommand*{\XR@ext}{pdf}
5011 \edef\Hy@VTeXversion{%
5012   \ifx\VTeXversion\undefined
5013     \z@
5014   \else
5015     \ifx\VTeXversion\relax
5016       \z@
5017     \else
5018       \VTeXversion
5019     \fi
5020   \fi
5021 }
5022 \begingroup
5023   \ifnum\Hy@VTeXversion<660 %
5024     \gdef\Hy@PutCatalog#1{%
5025       \Hy@WarningNoLine{%
5026         VTeX 6.59g or above required for pdfpagelabels%
5027       }%
5028     }%
5029   \else
5030     \gdef\Hy@PutCatalog#1{%
5031       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
5032     }%
5033     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
5034       \ifx\#2\%
5035         \else
5036           \immediate\special{!pdfpagelabels #2}%
5037         \fi
5038       }%
5039     \fi
5040   \endgroup
5041 \*vTeX
5042 \*pdfTeX | vTeX

```

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

```

5043 \ifHy@pagelabels

```

```

5044 \def\HyPL@StorePageLabel#1{%
5045   \toks@\expandafter{\HyPL@Labels}%
5046   \xdef\HyPL@Labels{%
5047     \the\toks@
5048     \the\Hy@abspage<<#1>>%
5049   }%
5050 }%

```

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.

```

5051 \@ifclassloaded{revtex4}{%
5052   \g@addto@macro\clear@document{\HyPL@SetPageLabels}%
5053 }{%
5054   \AtEndDocument{\clearpage\HyPL@SetPageLabels}%
5055 }%

5056 \fi
5057 </pdfTeX | vTeX>

```

27.1.2 pdfmarkbase, dvipdfm

```

5058 <*pdfmarkbase>
5059 \begingroup
5060   \toks@\expandafter{\Hy@FirstPageHook}%
5061   \xdef\Hy@FirstPageHook{%
5062     \noexpand\headerps@out{%
5063       systemdict /pdfmark known%
5064       {%
5065         userdict /?pdfmark systemdict /exec get put%
5066       }{%
5067         userdict /?pdfmark systemdict /pop get put %
5068         userdict /pdfmark systemdict /cleartomark get put%
5069       }%
5070       ifelse%
5071     }%
5072     \the\toks@
5073   }%
5074 \endgroup
5075 </pdfmarkbase>

```

\Hy@PutCatalog

```

5076 <dvipdfm>\def\Hy@PutCatalog#1{\pdfmark{docview << #1 >>}}
5077 <*pdfmarkbase>
5078 \def\Hy@PutCatalog#1{%
5079   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
5080 }
5081 </pdfmarkbase>

5082 <*pdfmarkbase | dvipdfm>
5083 \ifHy@pagelabels

```

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

```

5084 \def\HyPL@StorePageLabel#1{%
5085   \if@filesw
5086     \begingroup
5087       \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
5088       \immediate\write\@mainaux{%
5089         \string\HyPL@Entry{\Hy@tempa}%

```

```

5090      }%
5091      \endgroup
5092      \fi
5093  }%

```

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.

```

5094  \AfterBeginDocument{%
5095      \if@filesw
5096          \immediate\write\@mainaux{%
5097              \string\providecommand\string*\string\HyPL@Entry[1]{}%
5098          }%
5099      \fi
5100      \ifx\HyPL@Labels\@empty
5101          \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
5102      \else
5103          \HyPL@SetPageLabels
5104      \fi
5105      \let\HyPL@Entry\@gobble
5106  }%

```

`\HyPL@Entry`

```

5107  \def\HyPL@Entry#1{%
5108      \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
5109          \HyPL@Labels
5110          #1%
5111      }%
5112  }%

5113 \fi
5114 </pdfmarkbase | dvipdfm>
5115 <*package>
5116 \MaybeStopEarly

```

28 Automated L^AT_EX hypertext cross-references

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

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

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

Start with a fallback for equations

```

5117 \def\Hy@CounterExists#1{%
5118     \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

5119 \expandafter\ifx\csname c@#1\endcsname\relax
5120   \expandafter\@gobble
5121 \else
5122   \begingroup\expandafter\expandafter\expandafter\endgroup
5123   \expandafter\ifx\csname the#1\endcsname\relax
5124     \expandafter\expandafter\expandafter\@gobble
5125   \else
5126     \expandafter\expandafter\expandafter\@firstofone
5127   \fi
5128 \fi
5129 }
5130 \Hy@CounterExists{section}{%
5131   \newcommand\theHequation{\theHsection.\arabic{equation}}%
5132 }
5133 \Hy@CounterExists{part}{%
5134   \newcommand\theHpart{\arabic{part}}%
5135 }
5136 \@ifundefined{thechapter}{%
5137   \newcommand\theHsection    {\arabic{section}}%
5138   \newcommand\theHfigure    {\arabic{figure}}%
5139   \newcommand\theHtable     {\arabic{table}}%
5140 }{%
5141   \newcommand\theHchapter    {\arabic{chapter}}%
5142   \newcommand\theHfigure     {\theHchapter.\arabic{figure}}%
5143   \newcommand\theHtable      {\theHchapter.\arabic{table}}%
5144   \newcommand\theHsection    {\theHchapter.\arabic{section}}%
5145 }
5146 \newcommand\theHsubsection   {\theHsection.\arabic{subsection}}
5147 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5148 \newcommand\theHparagraph    {\theHsubsubsection.\arabic{paragraph}}
5149 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
5150 \newcommand\theHtheorem      {\theHsection.\arabic{theorem}}
5151 \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.

```

5152 \let\H@item\item
5153 \newcounter{Item}
5154 \def\theHItem{\arabic{Item}}
5155 \def\item{%
5156   \@hyper@itemfalse
5157   \if@nmbrlist\@hyper@itemtrue\fi
5158   \H@item
5159 }
5160 \newcommand\theHenumi    {\theHItem}
5161 \newcommand\theHenumii   {\theHItem}
5162 \newcommand\theHenumiii  {\theHItem}
5163 \newcommand\theHenumiv   {\theHItem}
5164 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5165 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5166 \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.

```

5167 \let\H@refstepcounter\refstepcounter
5168 \edef\name@of@eq{equation}%
5169 \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.

```

5170 \newif\if@hyper@item
5171 \newif\if@skiphyperref
5172 \@hyper@itemfalse
5173 \@skiphyperreffalse
5174 \def\refstepcounter#1{%
5175   \ifHy@pdfstring
5176   \else
5177     \H@refstepcounter{#1}%
5178     \edef\This@name{#1}%
5179     \ifx\This@name\name@of@slide
5180     \else
5181       \if@skiphyperref
5182       \else
5183         \if@hyper@item
5184           \stepcounter{Item}%
5185           \hyper@refstepcounter{Item}%
5186           \@hyper@itemfalse
5187         \else
5188           \hyper@refstepcounter{#1}%
5189         \fi
5190       \fi
5191     \fi
5192   \fi
5193 }

```

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.

```

5194 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@measuring@false}

```

`\hyper@refstepcounter`

```

5195 \def\hyper@refstepcounter#1{%
5196   \edef\This@name{#1}%
5197   \ifx\This@name\name@of@eq
5198     \@ifundefined{theHequation}{%
5199       \make@stripped@name{\theequation}%
5200       \let\theHequation\newname
5201     }{}%
5202   \fi
5203   \@ifundefined{theH#1}{%
5204     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5205   }{}%
5206   \hyper@makecurrent{#1}%
5207   \ifmeasuring@
5208   \else
5209     \Hy@raisedlink{%
5210       \hyper@anchorstart{\@currentHref}\hyper@anchorend
5211     }%
5212   \fi
5213 }

```

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`.

```

5214 \begingroup\expandafter\expandafter\expandafter\endgroup
5215 \expandafter\ifx\csname chapter\endcsname\relax
5216   \def\Hy@chapterstring{section}%
5217 \else
5218   \def\Hy@chapterstring{chapter}%
5219 \fi
5220 \def\Hy@appendixstring{appendix}
5221 \def\Hy@chapapp{\Hy@chapterstring}
5222 \let\HyOrg@appendix\appendix
5223 \def\appendix{%
5224   \ifundefined{chapter}%
5225     {\gdef\theHsection{\Alph{section}}}%
5226     {\gdef\theHchapter{\Alph{chapter}}}%
5227   \xdef\Hy@chapapp{\Hy@appendixstring}%
5228   \HyOrg@appendix
5229 }
```

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

```

5230 \def\hyper@makecurrent#1{%
5231   \begingroup
5232     \edef\Hy@param{#1}%
5233     \ifx\Hy@param\Hy@chapterstring
5234       \let\Hy@param\Hy@chapapp
5235     \fi
5236     \ifHy@hypertextnames
5237       \let\@number\@firstofone
5238       \ifundefined{latin@Alph}{-}{%
5239         \ifx\@Alph\greek@Alph
5240           \def\@Alph{Alph\@arabic}%
5241         \fi
5242       }%
5243       \ifx\@Alph\@Alph@bul
5244         \def\@Alph{Alph\@arabic}%
5245       \fi
5246       \ifx\@alph\@alph@bul
5247         \def\@alph{alph\@arabic}%
5248       \fi
5249       \ifHy@naturalnames
5250         \let\textlatin\@firstofone
5251         \xdef\@currentHlabel{\csname the#1\endcsname}%
5252       \else
5253         \xdef\@currentHlabel{%
5254           \csname
5255             the%
5256             \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
5257             #1%
5258           \endcsname
5259         }%
5260       \fi
5261       \xdef\@currentHref{%
```

```

5262     \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5263   }%
5264   \else
5265     \Hy@GlobalStepCount\Hy@linkcounter
5266     \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
5267   \fi
5268 \endgroup
5269 }

5270 \@ifpackageloaded{fancyvrb}{%
5271   \@ifpackagelater{fancyvrb}{1998/05/20}{%}%
5272     \def\FV@StepLineNo{%
5273       \FV@SetLineNo
5274       \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5275       \FV@StepLineNo
5276     }%
5277   }%
5278 }{}

```

29 Package lastpage support

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

`\lastpage@putlabel`

```

5279 \AtBeginDocument{%
5280   \@ifclassloaded{revtex4}{%
5281     \@namedef{ver@lastpage.sty}{1994/06/25}%
5282   }{}%
5283   \@ifpackageloaded{lastpage}{%
5284     \ifHy@pageanchor
5285     \else
5286       \Hy@WarningNoLine{%
5287         The \string\pageref{LastPage} link doesn't work\MessageBreak
5288         with disabled option 'pageanchor'%
5289       }%
5290     \fi
5291     \def\lastpage@putlabel{%
5292       \addtocounter{page}{-1}%
5293       \if@filesw
5294         \begingroup
5295           \let\@number\@firstofone
5296           \ifHy@pageanchor
5297             \ifHy@hypertexnames
5298               \ifHy@plainpages
5299                 \def\Hy@temp{\arabic{page}}%
5300               \else
5301                 \Hy@unicodedefalse
5302                 \pdfstringdef\Hy@temp{\thepage}%
5303             \fi
5304           \else
5305             \def\Hy@temp{\the\Hy@pagecounter}%

```



```

5306         \fi
5307     \fi
5308     \immediate\write\@auxout{%
5309         \string\newlabel
5310         {LastPage}{\thepage}{\thepage}%
5311         \ifHy@pageanchor page.\Hy@temp\fi}}%
5312     }%
5313 \endgroup
5314 \fi
5315 \addtocounter{page}{1}%
5316 }%
5317 \@ifclassloaded{revtex4}{%
5318     \begingroup
5319     \toks@{\expandafter{\lastpage@putlabel}}%
5320     \edef\x{\endgroup
5321         \def\noexpand\lastpage@putlabel{%
5322             \noexpand\stepcounter{page}%
5323             \the\toks@
5324             \noexpand\addtocounter{page}\noexpand\m@ne
5325         }%
5326     }%
5327     \x
5328 }{}%
5329 }{}%
5330 }
5331 \</package>
5332 \<*check>
5333 \checkpackage{lastpage}[1994/06/25]
5334 \checkcommand\def\lastpage@putlabel{%
5335     \addtocounter{page}{-1}%
5336     \immediate\write\@auxout{%
5337         \string\newlabel{LastPage}{\thepage}{\thepage}}%
5338     }%
5339     \addtocounter{page}{1}%
5340 }
5341 \</check>
5342 \<*package>

```

30 Package ifthen support

Since version 6.75a this is done in package nameref.

For compatibility `\hypergetref` and `\hypergetpageref` are still provided. But they do not generate warnings, if the reference is undefined.

```

5343 \def\hypergetref#1{\getrefbykeydefault{#1}{\{??\}}
5344 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

31 Package titlesec and titletoc support

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

Package titlesec support:

```

5345 \@ifpackageloaded{titlesec}{%
5346     \def\ttl@Hy@steplink#1{%
5347         \Hy@GlobalStepCount\Hy@linkcounter
5348         \xdef\@currentHref{#1*.\the\Hy@linkcounter}%

```

```

5349 \def\ttl@Hy@saveanchor{%
5350 \Hy@raisedlink{%
5351 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5352 }%
5353 }%
5354 }%
5355 \def\ttl@Hy@refstepcounter#1{%
5356 \let\ttl@b\Hy@raisedlink
5357 \def\Hy@raisedlink##1{%
5358 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5359 }%
5360 \refstepcounter{#1}%
5361 \let\Hy@raisedlink\ttl@b
5362 }%
5363 }{}

```

Package titletoc support:

```

5364 \ifpackageloaded{titletoc}{%
5365 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5366 }{}

```

32 Package varioref support

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

```

5367 \def\Hy@varioref@undefined{???}{?}{?}{?}{?}
5368 \ifpackageloaded{varioref}{%
5369 \def\vref#1#2{%
5370 \ifundefined{r@#2}{%
5371 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5372 }{}%
5373 \edef#1{\getpagerefnumber{#2}}%
5374 }%
5375 }{}

```

33 Package longtable support

Sometimes the anchor of the longtable goes to the previous page. Thus the following patch separates the anchor setting and counter incrementation by hyperref's \refstepcounter and the anchor setting is moved after \vskip\LTpre.

Patch of \LT@array: replace \refstepcounter by the original \H@refstepcounter without anchor generation

```

5376 \ifpackageloaded{longtable}{%
5377 \begingroup
5378 \def\y{\LT@array}%
5379 \ifundefined{scr@LT@array}{\def\y{\scr@LT@array}}%
5380 \long\def\x\refstepcounter#1#2\sharp#3#4\nil{%
5381 \expandafter\endgroup
5382 \expandafter\def\y[#1]##2{%
5383 \H@refstepcounter{#1}%
5384 \hyper@makecurrent{table}%
5385 \let\Hy@LT@currentHlabel\@currentHlabel
5386 \let\Hy@LT@currentHref\@currentHref
5387 #2\sharp####4%
5388 }%

```

```

5389 }%
5390 \expandafter\expandafter\expandafter\x\y[{\#1}]{\#2}\@nil
Patch of \LT@start: add anchor before first line after \vskip\LTpre
5391 \begingroup
5392   \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5393     \endgroup
5394     \def\LT@start{%
5395       #1%
5396       \let\@currentHlabel\Hy@LT@currentHlabel
5397       \let\@currentHref\Hy@LT@currentHref
5398       \Hy@raisedlink{%
5399         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5400       }%
5401       \ifvoid\LT@firsthead\copy
5402         #2%
5403     }%
5404   }%
5405 \expandafter\x\LT@start\@nil
5406 }{}

```

34 Equations

We want to make the whole equation a target anchor. Overload equation, temporarily reverting to original `\refstepcounter`. If, however, it is in AMS math, we do not do anything, as the tag mechanism is used there (see section 41). The exception is that we move the equation incrementation inside the math environment to avoid specials outside and a wrong vertical spacing of equation environments.

```

5407 \let\new@refstepcounter\refstepcounter
5408 \let\H@equation\equation
5409 \let\H@endequation\endequation
5410 \@ifpackageloaded{amsmath}{%
5411   \long\def\Hy@temp{%
5412     \incr@eqnum
5413     \mathdisplay@push
5414     \st@rredfalse \global\@eqnswtrue
5415     \mathdisplay{equation}%
5416   }%
5417   \ifx\Hy@temp\equation
5418     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5419       \csname iftrue\endcsname
5420   \else
5421     \long\def\equation{%
5422       \mathdisplay@push
5423       \st@rredfalse \global\@eqnswtrue
5424       \mathdisplay{equation}%
5425       \incr@eqnum
5426     }%
5427   \fi
5428 \fi
5429 }{}%
5430 \def\equation{%
5431   \let\refstepcounter\H@refstepcounter
5432   \H@equation
5433   \@ifundefined{theHequation}{%
5434     \make@stripped@name{\theequation}%

```

```

5435     \let\theHequation\newname
5436   }{}%
5437   \hyper@makecurrent{equation}%
5438   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5439   \let\refstepcounter\new@refstepcounter
5440 }%
5441 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5442 }

```

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.

```

5443 \newif\if@eqnstar
5444 \@eqnstarfalse
5445 \let\H@eqnarray\eqnarray
5446 \let\H@endeqnarray\endeqnarray
5447 \def\eqnarray{%
5448   \let\Hy@reserved@a\relax
5449   \def\@currentHref{}%
5450   \H@eqnarray
5451   \if@eqnstar
5452   \else
5453     \ifx\\\@currentHref\\%
5454     \else
5455       \@ifundefined{theHequation}{%
5456         \make@stripped@name{\theequation}%
5457         \let\theHequation\newname
5458       }{}%
5459       \hyper@makecurrent{equation}%
5460       \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5461     \fi
5462   \fi
5463 }
5464 \def\endeqnarray{%
5465   \H@endeqnarray
5466 }

```

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.

```

5467 \@namedef{eqnarray*}{%
5468   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
5469 }
5470 \@namedef{endeqnarray*}{%
5471   \nonumber\endeqnarray\@eqnstarfalse
5472 }

```

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

```

5473 \@ifundefined{subeqnarray}{%
5474   \let\H@subeqnarray\subeqnarray
5475   \let\H@endsubeqnarray\endsubeqnarray
5476   \def\subeqnarray{%
5477     \let\Hy@reserved@a\relax
5478     \H@subeqnarray
5479     \@ifundefined{theHequation}{%
5480       \make@stripped@name{\theequation}%
5481       \let\theHequation\newname

```

```

5482   }{}%
5483   \hyper@makecurrent{equation}%
5484   \hyper@anchorstart{\@currentHref}{}\hyper@anchorend
5485 }%
5486 \def\endsubeqnarray{%
5487   \H@endsubeqnarray
5488 }%
5489 \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5490 }

```

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

```

5491 \def\make@stripped@name#1{%
5492   \begingroup
5493     \escapechar\m@ne
5494     \global\let\newname\@empty
5495     \protected@edef\Hy@tempa{#1}%
5496     \edef\@tempb{%
5497       \noexpand\@tfor\noexpand\Hy@tempa:=%
5498       \expandafter\strip@prefix\meaning\Hy@tempa
5499     }%
5500     \@tempb\do{%
5501       \if\Hy@tempa\else
5502         \if}\Hy@tempa\else
5503           \xdef\newname{\newname\Hy@tempa}%
5504         \fi
5505       \fi
5506     }%
5507   \endgroup
5508 }

```

Support for amsmath's subequations:

```

5509 \begingroup\expandafter\expandafter\expandafter\endgroup
5510 \expandafter\ifx\csname subequations\endcsname\relax
5511 \else
5512   \let\HyOrg@subequations\subequations
5513   \def\subequations{%
5514     \stepcounter{equation}%
5515     \protected@edef\theHparentequation{%
5516       \ifundefined{theHequation}\theequation\theHequation
5517     }%
5518     \addtocounter{equation}{-1}%
5519     \HyOrg@subequations
5520     \def\theHequation{\theHparentequation\alph{equation}}%
5521     \ignorespaces
5522   }%
5523 \fi

```

Support for package amsthm (Daniel Müllner):

```

5524 \@ifpackageloaded{amsthm}{%
5525   \def\@thm#1#2#3{%
5526     \ifhmode
5527       \unskip\unskip\par
5528     \fi
5529     \normalfont
5530     \trivlist
5531     \let\thmheadnl\relax
5532     \let\thm@swap\@gobble
5533     \thm@notefont{\fontseries\mddefault\upshape}%

```

```

5534 \thm@headpunct{.}% add period after heading
5535 \thm@headsep 5\p@ plus\p@ minus\p@\relax
5536 \thm@space@setup
5537 #1% style overrides
5538 \@topsep \thm@preskip % used by thm head
5539 \@topsepadd \thm@postskip % used by \@endparent
5540 \def\dth@counter{#2}%
5541 \ifx\@empty\dth@counter
5542 \def\@tempa{%
5543 \oparg{\@begintheorem{#3}{}} []%
5544 }%
5545 \else
5546 \H@refstepcounter{#2}%
5547 \hyper@makecurrent{#2}%
5548 \def\@tempa{%
5549 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}} []%
5550 }%
5551 \fi
5552 \@tempa
5553 }%
5554 \dth@everypar{%
5555 \@minipagefalse
5556 \global\@newlistfalse
5557 \noparitemfalse
5558 \if@inlabel
5559 \global\@inlabelfalse
5560 \begingroup
5561 \setbox\z@\lastbox
5562 \ifvoid\z@
5563 \kern-\itemindent
5564 \fi
5565 \endgroup
5566 \ifx\@empty\dth@counter
5567 \else
5568 \Hy@raisedlink{%
5569 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5570 }%
5571 \fi
5572 \unhbox\@labels
5573 \fi
5574 \if@nobreak
5575 \@nobreakfalse \clubpenalty\@M
5576 \else
5577 \clubpenalty\@clubpenalty \everypar{%
5578 \fi
5579 }%
5580 }{}

```

35 Footnotes

The footnote mark is a hypertext link, and the text is a target. We separately number the footnotes sequentially through the text, separately from whatever labels the text assigns. Too hard to keep track of markers otherwise. If the raw forms `\footnotemark` and `\footnotetext` are used, force them to use un-hyper original.

Tabularx causes footnote problems, disable the linking if that is loaded.

```

5581 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}

```

```

5582 \ifHy@hyperfootnotes
5583   \newcounter{Hfootnote}%
5584   \let\H@@footnotetext\@footnotetext
5585   \let\H@@footnotemark\@footnotemark
5586   \def\@xfootnotenext[#1]{%
5587     \begingroup
5588       \csname c@\@mpfn\endcsname #1\relax
5589       \unrestored@protected@xdef\@thefnmark{\thempfn}%
5590     \endgroup
5591     \ifx\@footnotetext\@mpfootnotetext
5592       \expandafter\H@@mpfootnotetext
5593     \else
5594       \expandafter\H@@footnotetext
5595     \fi
5596   }%
5597   \def\@xfootnotemark[#1]{%
5598     \begingroup
5599       \c@footnote #1\relax
5600       \unrestored@protected@xdef\@thefnmark{\thefnmark}%
5601     \endgroup
5602     \H@@footnotemark
5603   }%
5604   \let\H@@mpfootnotetext\@mpfootnotetext
5605   \long\def\@mpfootnotetext#1{%
5606     \H@@mpfootnotetext{%
5607       \ifHy@nesting
5608         \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5609       \else
5610         \Hy@raisedlink{%
5611           \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5612         }#1%
5613       \fi
5614     }%
5615   }%
5616   \long\def\@footnotetext#1{%
5617     \H@@footnotetext{%
5618       \ifHy@nesting
5619         \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5620       \else
5621         \Hy@raisedlink{%
5622           \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5623         }%
5624         \let\@currentHlabel\Hy@footnote@currentHlabel
5625         \let\@currentHref\Hy@footnote@currentHref
5626         \let\@currentlabelname\@empty
5627         #1%
5628       \fi
5629     }%
5630   }%

```

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.

```

5631 \def\@footnotemark{%
5632   \leavevmode
5633   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
5634   \stepcounter{Hfootnote}%

```

```

5635 \global\let\Hy@saved@currentHlabel\@currentHlabel
5636 \global\let\Hy@saved@currentHref\@currentHref
5637 \hyper@makecurrent{Hfootnote}%
5638 \global\let\Hy@footnote@currentHlabel\@currentHlabel
5639 \global\let\Hy@footnote@currentHref\@currentHref
5640 \global\let\@currentHlabel\Hy@saved@currentHlabel
5641 \global\let\@currentHref\Hy@saved@currentHref
5642 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5643 \@makefnmark
5644 \hyper@linkend
5645 \ifhmode\spacefactor\@x@sf\fi
5646 \relax
5647 }%

```

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

```

5648 \@ifpackageloaded{longtable}{%
5649 \CheckCommand*{\LT@p@ftntext}[1]{%
5650 \edef\@tempa{%
5651 \the\LT@p@ftn
5652 \noexpand\footnotetext[\the\c@footnote]%
5653 }%
5654 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5655 }%
5656 \long\def\LT@p@ftntext#1{%
5657 \edef\@tempa{%
5658 \the\LT@p@ftn
5659 \begingroup
5660 \noexpand\c@footnote=\the\c@footnote\relax
5661 \noexpand\protected@xdef
5662 \noexpand\@thefnmark{\noexpand\thempfn}%
5663 \noexpand\protected@xdef\noexpand\@thefnmark{%
5664 \noexpand\thempfn
5665 }%
5666 \expandafter\expandafter\expandafter\noexpand
5667 \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5668 \expandafter\expandafter\expandafter{%
5669 \expandafter\Hy@footnote@currentHref\expandafter
5670 }\expandafter{\Hy@footnote@currentHlabel}%
5671 }%
5672 \global\LT@p@ftn\expandafter{%
5673 \@tempa{#1}%
5674 \endgroup
5675 }%
5676 }%
5677 \long\def\Hy@LT@footnotetext#1#2#3{%
5678 \H@@@footnotetext{%
5679 \ifHy@nesting
5680 \hyper@@anchor{#1}{#3}%
5681 \else
5682 \Hy@raisedlink{%
5683 \hyper@@anchor{#1}{\relax}%
5684 }%
5685 \def\@currentHlabel{#2}%
5686 \def\@currentHref{#1}%
5687 \let\@currentlabelname\@empty

```



```

5688         #3%
5689         \fi
5690     }%
5691 }%
5692 }{}%

```

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

```

5693 \@ifpackageloaded{fancyvrb}{%
5694     \def\V@@footnotetext{%
5695         \insert\footins\bgroup
5696         \csname reset@font\endcsname
5697         \footnotesize
5698         \interlinepenalty\interfootnotelinepenalty
5699         \splittopskip\footnotesep
5700         \splitmaxdepth\dp\strutbox
5701         \floatingpenalty \@MM
5702         \hsize\columnwidth
5703         \@parboxrestore
5704         \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5705         \@makefnintext{}%
5706         \rule{\z@}{\footnotesep}%
5707         \bgroup
5708         \aftergroup\V@@@footnotetext
5709         \Hy@raisedlink{%
5710             \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5711         }%
5712         \let\@currentHlabel\Hy@footnote@currentHlabel
5713         \let\@currentHref\Hy@footnote@currentHref
5714         \let\@currentlabelname\@empty
5715         \ignorespaces
5716     }%
5717 }{}%

```

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.

```

5718 \let\HyOrg@maketitle\maketitle
5719 \def\maketitle{%
5720     \let\Hy@saved@footnotemark\@footnotemark
5721     \let\Hy@saved@footnotetext\@footnotetext
5722     \let\@footnotemark\H@@footnotemark
5723     \let\@footnotetext\H@@footnotetext
5724     \@ifnextchar[\Hy@maketitle@optarg{% ]
5725         \HyOrg@maketitle
5726         \Hy@maketitle@end
5727     }%
5728 }%
5729 \def\Hy@maketitle@optarg[#1]{%
5730     \HyOrg@maketitle[#1]%
5731     \Hy@maketitle@end
5732 }%
5733 \def\Hy@maketitle@end{%
5734     \ifx\@footnotemark\H@@footnotemark
5735         \let\@footnotemark\Hy@saved@footnotemark
5736     \fi
5737     \ifx\@footnotetext\H@@footnotetext
5738         \let\@footnotetext\Hy@saved@footnotetext
5739     \fi
5740 }%

```

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

```

5741 \def\realfootnote{%
5742   \@ifnextchar[\@xfootnote{%
5743     \stepcounter{\@mpfn}%
5744     \protected@xdef\@thefnmark{\thempfn}%
5745     \H@@footnotemark\H@@footnotetext
5746   }%
5747 }%

5748 \fi
5749 \Hy@DisableOption{hyperfootnotes}

5750 </package>
5751 <*check>
5752 \checklatex
5753 \checkcommand\def\@xfootnotenext[#1]{%
5754   \begingroup
5755     \csname c@\@mpfn\endcsname #1\relax
5756     \unrestored@protected@xdef\@thefnmark{\thempfn}%
5757   \endgroup
5758   \@footnotetext
5759 }
5760 \checkcommand\def\@xfootnotemark[#1]{%
5761   \begingroup
5762     \c@footnote #1\relax
5763     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5764   \endgroup
5765   \@footnotemark
5766 }
5767 \checkcommand\def\@footnotemark{%
5768   \leavevmode
5769   \ifhmode\edef\@xsf{\the\spacefactor}\nobreak\fi
5770   \@makefnmark
5771   \ifhmode\spacefactor\@xsf\fi
5772   \relax
5773 }
5774 </check>
5775 <*package>

```

36 Float captions

Make the float caption the hypertext anchor; curiously enough, we can't just copy the definition of `\@caption`. Its all to do with expansion. It screws up. Sigh.

```

5776 \def\caption{%
5777   \ifx\@captype\@undefined
5778     \@latex@error{\noexpand\caption outside float}\@ehd
5779     \expandafter\@gobble
5780   \else
5781     \H@refstepcounter\@captype
5782     \let\Hy@tempa\@caption
5783     \@ifundefined{float@caption}{%
5784       {%
5785         \expandafter\ifx\csname @float@c@\@captype\endcsname
5786           \float@caption
5787         \let\Hy@tempa\Hy@float@caption
5788       }

```

```

5789 }%
5790 \expandafter\@firstofone
5791 \fi
5792 {\@dblarg{\Hy@tempa\@capttype}}%
5793 }
5794 \long\def\@caption#1[#2]#3{%
5795 \expandafter\ifx\csname if@capstart\expandafter\endcsname
5796 \csname iftrue\endcsname
5797 \global\let\@currentHref\hc@currentHref
5798 \else
5799 \hyper@makecurrent{\@capttype}%
5800 \fi
5801 \def\@currentlabelname{#2}%
5802 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5803 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5804 }%
5805 \begingroup
5806 \@parboxrestore
5807 \if@minipage
5808 \setminipage
5809 \fi
5810 \normalsize
5811 \expandafter\ifx\csname if@capstart\expandafter\endcsname
5812 \csname iftrue\endcsname
5813 \global\@capstartfalse
5814 \makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5815 \else
5816 \makecaption{\csname fnum@#1\endcsname}{%
5817 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

5818 \ifHy@nesting
5819 \hyper@@anchor{\@currentHref}{#3}%
5820 \else
5821 \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%
5822 \fi
5823 }%
5824 \fi
5825 \par
5826 \endgroup
5827 }

```

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.

```

5828 \let\Hy@float@caption\@caption
5829 \ifpackageloaded{float}{%
5830 \def\Hy@float@caption{%
5831 \ifx\Hy@float@currentHref\@undefined
5832 \hyper@makecurrent{\@capttype}%
5833 \global\let\Hy@float@currentHref\@currentHref
5834 \else
5835 \let\@currentHref\Hy@float@currentHref
5836 \fi
5837 \float@caption
5838 }%
5839 \let\HyOrg@float@makebox\float@makebox
5840 \renewcommand{\float@makebox}[1]{%
5841 \HyOrg@float@makebox{%

```

```

5842     #1\relax
5843     \ifx\Hy@float@currentHref\@undefined
5844     \else
5845         \hyper@@anchor{\Hy@float@currentHref}{\relax}%
5846         \global\let\Hy@float@currentHref\@undefined
5847     \fi
5848 }%
5849 }%
5850 }{}

5851 </package>
5852 <*check>
5853 \checklatex[1999/06/01 - 2000/06/01]
5854 \checkcommand\def\caption{%
5855     \ifx\@capttype\@undefined
5856     \latex@error{\noexpand\caption outside float}\@ehd
5857     \expandafter\@gobble
5858     \else
5859     \refstepcounter\@capttype
5860     \expandafter\@firstofone
5861     \fi
5862     {\@dblarg{\@caption\@capttype}}}%
5863 }
5864 \checkcommand\long\def\@caption#1[#2]#3{%
5865     \par
5866     \addcontentsline{\csname ext@#1\endcsname}{#1}%
5867     {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
5868     \begingroup
5869     \@parboxrestore
5870     \if@minipage
5871     \@setminipage
5872     \fi
5873     \normalsize
5874     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5875     \endgroup
5876 }
5877 </check>
5878 <*package>

```

37 Bibliographic references

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

```

5879 \def\hyper@natlinkstart#1{%
5880     \Hy@backout{#1}%
5881     \hyper@linkstart{cite}{cite.#1}%
5882     \def\hyper@nat@current{#1}%
5883 }
5884 \def\hyper@natlinkend{%
5885     \hyper@linkend

```

```

5886 }
5887 \def\hyper@natlinkbreak#1#2{%
5888   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
5889 }
5890 \def\hyper@natanchorstart#1{%
5891   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
5892 }
5893 \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.

```

5894 \@ifundefined{NAT@parse}{%
5895   \providecommand*\extra@binfo{}%
5896   \providecommand*\extra@b@citeb{}%
5897   \def\bibcite#1#2{%
5898     \newl@bel{b}{#1\extra@binfo}{%
5899       \hyper@link[cite]{cite.#1\extra@b@citeb}{#2}%
5900     }%
5901   }%
5902   \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.”.

```

5903 \let\Hy@bibcite\bibcite
5904 \begingroup
5905   \@ifundefined{bbl@cite@choice}{}{%
5906     \g@addto@macro\bbl@cite@choice{%
5907       \let\bibcite\Hy@bibcite
5908     }%
5909   }%
5910 \endgroup

```

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

```

5911 \providecommand*\@BIBLABEL{\@biblabel}%
5912 \def\@lbibitem[#1]#2{%
5913   \@skiphyperreftrue
5914   \H@item[%
5915     \ifx\Hy@raisedlink\@empty
5916       \hyper@anchorstart{cite.#2\extra@b@citeb}%
5917       \@BIBLABEL{#1}%
5918       \hyper@anchorend
5919     \else
5920       \Hy@raisedlink{%
5921         \hyper@anchorstart{cite.#2\extra@b@citeb}\hyper@anchorend
5922       }%
5923     \@BIBLABEL{#1}%
5924     \fi
5925     \hfill
5926   ]%
5927   \@skiphyperreffalse
5928   \if@filesw
5929     \begingroup
5930       \let\protect\noexpand
5931       \immediate\write\@auxout{%
5932         \string\bibcite{#2}{#1}%
5933       }%

```

```

5934     \endgroup
5935     \fi
5936     \ignorespaces
5937 }%

```

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

```

5938 \def\@bibitem#1{%
5939   \@skiphyperreftrue\H@item\@skiphyperreffalse
5940   \Hy@raisedlink{%
5941     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
5942   }%
5943   \if@filesw
5944     \begingroup
5945       \let\protect\noexpand
5946       \immediate\write\@auxout{%
5947         \string\bibcite{#1}{\the\value{\@listctr}}}%
5948       }%
5949     \endgroup
5950   \fi
5951   \ignorespaces
5952 }%
5953 }{}

5954 </package>
5955 <*check>
5956 \checklatex
5957 \checkcommand\def\@lbibitem[#1]#2{%
5958   \item[\@biblabel{#1}\hfill]%
5959   \if@filesw
5960     {%
5961       \let\protect\noexpand
5962       \immediate\write\@auxout{%
5963         \string\bibcite{#2}{#1}%
5964       }%
5965     }%
5966   \fi
5967   \ignorespaces
5968 }
5969 \checkcommand\def\@bibitem#1{%
5970   \item
5971   \if@filesw
5972     \immediate\write\@auxout{%
5973       \string\bibcite{#1}{\the\value{\@listctr}}}%
5974     }%
5975   \fi
5976   \ignorespaces
5977 }
5978 </check>
5979 <*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.

```

5980 \@ifclassloaded{revtex}{%
5981   \Hy@Info{*** compatibility with revtex **** }%
5982   \def\revtex@checking#1#2{%
5983     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname

```

```

5984 \expandafter\def\csname b@#1\endcsname{#2}%
5985 \@SetMaxRnhefLabel{#1}%
5986 \expandafter\let\csname b@#1\endcsname\T@temp
5987 }%

```

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

```

5988 \@ifundefined{CITE}{\def\CITE{\@cite}}{}%
5989 \providecommand*{\@extra@b@citeb}{}%
5990 \def\CITEX[#1]#2{%
5991   \let\@citea\@empty
5992   \leavevmode
5993   \unskip
5994   $^{}%
5995   \scriptstyle
5996   \CITE{%
5997     \@for\@citeb:=#2\do{%
5998       \@citea
5999       \def\@citea{,\penalty\@m\ }%
6000       \edef\@citeb{\expandafter\@firstofone\@citeb}%
6001       \if@filesw
6002         \immediate\write\@auxout{\string\citation{\@citeb}}%
6003       \fi
6004       \@ifundefined{b@\@citeb\extra@b@citeb}{%
6005         \mbox{\reset@font\bfseries ?}%
6006         \G@refundefinedtrue
6007         \@latex@warning{%
6008           Citation ‘\@citeb’ on page \thepage \space undefined%
6009         }%
6010       }{%
6011         {\csname b@\@citeb\@extra@b@citeb\endcsname}%
6012       }%
6013     }%
6014   }{#1}%
6015 }$%
6016 }%

```

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.

```

6017 \def\citex[#1]#2{%
6018   \let\@citea\@empty
6019   \@cite{%
6020     \@for\@citeb:=#2\do{%
6021       \@citea
6022       \def\@citea{,\penalty\@m\ }%
6023       \edef\@citeb{\expandafter\@firstofone\@citeb}%
6024       \if@filesw
6025         \immediate\write\@auxout{\string\citation{\@citeb}}%
6026       \fi
6027       \@ifundefined{b@\@citeb\@extra@b@citeb}{%
6028         \mbox{\reset@font\bfseries ?}%
6029         \G@refundefinedtrue
6030         \@latex@warning{%
6031           Citation ‘\@citeb’ on page \thepage \space undefined%
6032         }%
6033       }{%
6034         \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
6035       }%

```

```

6036     }%
6037     }{#1}%
6038   }%
6039 }{}

```

37.1 Package harvard

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

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

```

6040 \ifpackageloaded{harvard}{%
6041   \AtBeginDocument{%
6042     \Hy@Info{*** compatibility with harvard *** }%
6043     \Hy@raiselinksfalse
6044     \def\harvardcite#1#2#3#4{%
6045       \global\@namedef{HAR@fn@#1}{\hyper@@link[cite]{}{cite.#1}{#2}}%
6046       \global\@namedef{HAR@an@#1}{\hyper@@link[cite]{}{cite.#1}{#3}}%
6047       \global\@namedef{HAR@yr@#1}{\hyper@@link[cite]{}{cite.#1}{#4}}%
6048       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
6049     }%
6050     \def\HAR@citetoaux#1{%
6051       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
6052       \ifHy@backref
6053         \ifx\@empty\@currentlabel
6054         \else
6055           \@bsphack
6056           \if@filesw
6057             \protected@write\@auxout{}{%
6058               \string\writefile{brf}{%
6059                 \string\backcite{#1}{%
6060                   {\thepage}{\@currentlabel}{\@currentHref}}%
6061               }%
6062             }%
6063           \fi
6064         \fi
6065         \@esphack
6066       \fi
6067     \fi
6068   }%
6069   \def\harvarditem{%
6070     \ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
6071   }%
6072   \def\@harvarditem[#1]#2#3#4#5\par{%
6073     \item[]%
6074     \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
6075     \if@filesw
6076       \begingroup
6077         \def\protect##1{\string ##1\space}%
6078         \ifthenelse{\equal{#1}{\null}}{%
6079           {\def\next{{#4}{#2}{#2}{#3}}}%
6080           {\def\next{{#4}{#2}{#1}{#3}}}%
6081         \immediate\write\@auxout{\string\harvardcite\codeof\next}%
6082       \endgroup

```



```

6083     \fi
6084     \protect\hspace*{-\labelwidth}%
6085     \protect\hspace*{-\labelsep}%
6086     \ignorespaces
6087     #5%
6088     \ifHy@backref
6089         \newblock
6090         \backref{\csname br@#4\endcsname}%
6091     \fi
6092     \par
6093 }%

```

`\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`:

```

6094     \long\def\HAR@checkcitations#1#2#3#4{%
6095         \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
6096         \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
6097             \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
6098             \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
6099                 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
6100                 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
6101                     \else
6102                         \@tempswatrue
6103                     \fi
6104                 \else
6105                     \@tempswatrue
6106                 \fi
6107             \else
6108                 \@tempswatrue
6109             \fi
6110         }%
6111     }%

6112 }{}

```

37.2 Package `chicago`

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

```

6113 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

6114     \def\citeN{%
6115         \def\@citesep{~1000}%
6116         \def\@cite##1##2{##1}%
6117         \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
6118         \@citedata@opt
6119     }%

```

`\shortciteN`

```

6120     \def\shortciteN{%
6121         \def\@citesep{~1000}%
6122         \def\@cite##1##2{##1}%
6123         \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
6124         \@citedata@opt
6125     }%

```

```

\@citedata@opt
6126 \def\@citedata@opt{%
6127   \let\@cite@opt\@empty
6128   \ifnextchar [{%
6129     \@tempswatrue
6130     \@citedatax@opt
6131   }{%
6132     \@tempswafalse
6133     \@citedatax[]%
6134   }%
6135 }%

\@citedatax@opt
6136 \def\@citedatax@opt[#1]{%
6137   \def\@cite@opt{, #1}%
6138   \@citedatax[{#1}]%
6139 }%

6140 }{}

```

38 Page numbers

The last page should not contain a /Dur key, because there is no page after the last page. Therefore at the last page there should be a command `\hypersetup{pdfpageduration={}}`. This can be set with `\AtEndDocument`, but it can be too late, if the last page is already finished, or too early, if lots of float pages will follow. Therefore currently nothing is done by `hyperref`.

This where we supply a destination for each page.

```

6141 \def\Hy@EveryPageAnchor{%
6142   \Hy@DistillerDestFix
6143   \ifHy@pageanchor
6144     \ifHy@hypertextnames
6145       \ifHy@plainpages
6146         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
6147       \else
6148         \begingroup
6149           \let\@number\@firstofone
6150           \Hy@unicodedefalse
6151           \pdfstringdef\@theH@page{\thepage}%
6152         \endgroup
6153         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\theH@page}}%
6154       \fi
6155     \else
6156       \Hy@GlobalStepCount\Hy@pagecounter
6157       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
6158     \fi
6159   \vbox to 0pt{%
6160     \kern\voffset
6161     \kern\topmargin
6162     \kern-1bp\relax
6163     \hbox to 0pt{%
6164       \kern\hoffset
6165       \kern\ifodd\value{page}%
6166         \oddsidemargin
6167       \else

```

```

6168             \evensidemargin
6169         \fi
6170     \kern-1bp\relax
6171     \Hy@TempPageAnchor
6172     \hss
6173 }%
6174 \vss
6175 }%
6176 \fi
6177 }
6178 \g@addto@macro\Hy@EveryPageBoxHook{%
6179     \Hy@EveryPageAnchor
6180 }

```

39 Table of contents

TV Raman noticed that people who add arbitrary material into the TOC generate a bad or null link. We avoid that by checking if the current destination is empty. But if ‘the most recent destination’ is not what you expect, you will be in trouble.

```

6181 \def\addcontentsline#1#2#3{% toc extension, type, tag
6182     \begingroup
6183     \let\label\@gobble
6184     \ifx\@currentHref\@empty
6185         \Hy@Warning{%
6186             No destination for bookmark of \string\addcontentsline,%
6187             \MessageBreak destination is added%
6188         }%
6189     \phantomsection
6190     \fi
6191     \expandafter\ifx\csname toplevel@#2\endcsname\relax
6192     \begingroup
6193         \def\Hy@tempa{#1}%
6194         \ifx\Hy@tempa\Hy@bookmarkstype
6195             \Hy@WarningNoLine{%
6196                 bookmark level for unknown #2 defaults to 0%
6197             }%
6198         \else
6199             \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6200         \fi
6201     \endgroup
6202     \expandafter\gdef\csname toplevel@#2\endcsname{0}%
6203     \fi
6204     \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
6205     \Hy@writebookmark{\csname the#2\endcsname}%
6206         {#3}%
6207         {\@currentHref}%
6208         {\Hy@toclevel}%
6209         {#1}%
6210     \ifHy@verbose
6211         \def\Hy@tempa{#3}%
6212         \@onelevel@sanitize\Hy@tempa
6213         \typeout{pdfTeX: bookmark at \the\inputlineno: %
6214             {\csname the#2\endcsname}%
6215             {\Hy@tempa}%
6216             {\@currentHref}%
6217             {\Hy@toclevel}%

```

```

6218         {#1}%
6219     }%
6220 \fi
6221 \addtocontents{#1}{%
6222     \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6223 }%
6224 \endgroup
6225 }
6226 \def\contentsline#1#2#3#4{%
6227     \ifx\#4\%
6228         \csname l@#1\endcsname{#2}{#3}%
6229     \else
6230         \ifcase\Hy@linktoc % none
6231             \csname l@#1\endcsname{#2}{#3}%
6232         \or % section
6233             \csname l@#1\endcsname{%
6234                 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6235             }{#3}%
6236         \or % page
6237             \csname l@#1\endcsname{#2}{%
6238                 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6239             }%
6240         \else % all
6241             \csname l@#1\endcsname{%
6242                 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6243             }{%
6244                 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6245             }%
6246         \fi
6247     \fi
6248 }
6249 </package>
6250 <*check>
6251 \checklatex
6252 \checkcommand\def\addcontentsline#1#2#3{%
6253     \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
6254 }
6255 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6256 </check>
6257 <*package>

```

40 New counters

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

```

6258 \let\H@definecounter\@definecounter
6259 \def\@definecounter#1{%
6260     \H@definecounter{#1}%
6261     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6262 }

```

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.

```

6263 \let\H@newctr\@newctr
6264 \def\@newctr#1[#2]{%
6265     \H@newctr#1[{#2}]%

```

```

6266 \expandafter\def\csname theH#1\endcsname{%
6267   \csname the\@ifundefined{theH#2}{H}#2\endcsname.\arabic{#1}%
6268 }%
6269 }

```

41 AMS_{La}T_EX 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.

```

6270 \@ifpackageloaded{amsmath}{%
6271   \def\Hy@make@anchor{%
6272     \Hy@GlobalStepCount\Hy@linkcounter
6273     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6274     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6275   }%
6276   \def\Hy@make@df@tag@@#1{%
6277     \gdef\df@tag{%
6278       \maketag@@@{\Hy@make@anchor#1}%
6279       \def\@currentlabel{#1}%
6280     }%
6281   }%
6282   \def\Hy@make@df@tag@@@#1{%
6283     \gdef\df@tag{%
6284       \tagform@{\Hy@make@anchor#1}%
6285       \toks@{\xp{\p@equation{#1}}}%
6286       \edef\@currentlabel{\the\toks@}%
6287     }%
6288   }%
6289   \let\HyOrg@make@df@tag@@\make@df@tag@@
6290   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
6291   \let\make@df@tag@@\Hy@make@df@tag@@
6292   \let\make@df@tag@@@\Hy@make@df@tag@@@
6293 }{}

```

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

```

6294 \@ifpackagewith{hyperref}{pdftex}{%
6295   \let\H@seteqlabel\@seteqlabel
6296   \def\@seteqlabel#1{%
6297     \H@seteqlabel{#1}%
6298     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6299     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6300   }%
6301 }{}

```

This code I simply cannot remember what I was trying to achieve. The final result seems to do nothing anyway.

```

\let\H@tagform@tagform@
\def\tagform@#1{%
  \maketag@@@{\hyper@@anchor{\@currentHref}%
    {\ignorespaces#1\unskip}}}%
}

```

```
\def\eqref#1{\textup{\H@tagform@{\ref{#1}}}}
```

41.1 \@addtoreset and \numberwithin patches

\@addtoreset puts a counter to the reset list of another counter. After a reset the counter starts again with perhaps already used values. Therefore the hyperref version of the counter print command \theHcounter is redefined in order to add the parent counter.

```
6302 \let\HyOrg@addtoreset\@addtoreset
6303 \def\@addtoreset#1#2{%
6304   \HyOrg@addtoreset{#1}-{#2}%
6305   \expandafter\xdef\csname theH#1\endcsname{%
6306     \expandafter\noexpand
6307     \csname the\@ifundefined{theH#2}{}H#2\endcsname
6308     .\noexpand\the\noexpand\value{#1}%
6309   }%
6310 }
```

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

```
6311 </package>
6312 <*check>
6313 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6314 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6315   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6316     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6317       \@addtoreset{#2}{#3}%
6318       \@xp\xdef\csname the#2\endcsname{%
6319         \@xp@nx\csname the#3\endcsname .\@nx#1{#2}%
6320       }%
6321     }%
6322   }%
6323 }%
6324 </check>
6325 <*package>
6326 \ifpackageloaded{amsmath}{%
6327   \ifpackagelater{amsmath}{1999/12/14}{%
6328     \renewcommand*\numberwithin[3][\arabic]{%
6329       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6330         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6331           \HyOrg@addtoreset{#2}{#3}%
6332           \@xp\xdef\csname the#2\endcsname{%
6333             \@xp@nx\csname the#3\endcsname .\@nx#1{#2}%
6334           }%
6335           \@xp\xdef\csname theH#2\endcsname{%
6336             \@xp@nx
6337             \csname the\@ifundefined{theH#3}{}H#3\endcsname
6338             .\@nx#1{#2}%
6339           }%
6340         }%
6341       }%
6342     }%
6343   }%
6344   \Hy@WarningNoLine{%
6345     \string\numberwithin\space of package 'amsmath' %
6346     only fixed\MessageBreak
6347     for version 2000/06/06 v2.12 or newer%
6348   }%
6349 }
```

```

6349 }%
6350 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

6351 \ifHy@figures
6352   \let\Hy@Gin@setfile\Gin@setfile
6353   \def\Gin@setfile#1#2#3{%
6354     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6355   }%
6356 \fi
6357 \Hy@DisableOption{hyperfigures}

```

43 hyperindex entries

Internal command names are prefixed with \HyInd@.

Hyper-indexing works crudely, by forcing code onto the end of the index entry with the | feature; this puts a hyperlink around the printed page numbers. It will not proceed if the author has already used the | specifier for something like boldening entries. That would make Makeindex fail (cannot have two | specifiers). The solution is for the author to use generic coding, and put in the requisite \hyperpage in his/her own macros along with the boldness.

This section is poor stuff; it's open to all sorts of abuse. Sensible large projects will design their own indexing macros any bypass this.

```

6358 \ifHy@hyperindex
6359   \def\HyInd@ParenLeft{ }%
6360   \def\HyInd@ParenRight{ }%
6361   \def\hyperindexformat#1#2{%
6362     \let\HyOrg@hyperpage\hyperpage
6363     \let\hyperpage\@firstofone
6364     #1{\HyOrg@hyperpage{#2}}%
6365     \let\hyperpage\HyOrg@hyperpage
6366   }%
6367   \Hy@nextfalse
6368   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6369   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6370   \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
6371   \begingroup
6372     \lccode'\|=\expandafter'\HyInd@EncapChar\relax
6373     \lccode'\|=\'\relax
6374   \lowercase{\endgroup
6375     \ifHy@next
6376       \let\HyInd@org@wrindex\@wrindex
6377       \def\@wrindex#1#2{\HyInd@@wrindex{#1}{#2}||}%
6378       \def\HyInd@@wrindex#1#2|#3|#4\|{%
6379         \ifx\|3\|
6380           \HyInd@org@wrindex{#1}{#2|hyperpage}%
6381         \else
6382           \HyInd@@@wrindex{#1}{#2}{#3}\|
6383         \fi
6384       }%
6385       \def\HyInd@@@wrindex#1#2#3#4\|{%
6386         \def\Hy@temp@A{#3}%

```

```

6387 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6388 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6389 \relax
6390 \HyInd@org@wrindex{#1}{%
6391 #2|hyperindexformat{/#3#4}%
6392 }%
6393 \else
6394 \ifx\#4\%
6395 \ifx\Hy@temp@A\HyInd@ParenRight
6396 \HyInd@org@wrindex{#1}{#2|#3}%
6397 \else
6398 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6399 \fi
6400 \else
6401 \HyInd@org@wrindex{#1}{%
6402 #2|#3hyperindexformat{/#4}%
6403 }%
6404 \fi
6405 \fi
6406 }%
6407 \else
6408 \def\@wrindex#1{\@wrindex#1||\}%
6409 \def\@wrindex#1|#2|#3\{\%
6410 \if@files
6411 \ifx\#2\%
6412 \protected@write\@indexfile{\%
6413 \string\indexentry{#1|hyperpage}{\thepage}%
6414 }%
6415 \else
6416 \HyInd@@@wrindex{#1}#2\%
6417 \fi
6418 \fi
6419 \endgroup
6420 \@esphack
6421 }%
6422 \def\HyInd@@@wrindex#1#2#3\{\%
6423 \def\Hy@temp@A{#2}%
6424 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6425 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6426 \relax
6427 \protected@write\@indexfile{\%
6428 \string\indexentry{
6429 #1|hyperindexformat{/#2#3}%
6430 }{\thepage}%
6431 }%
6432 \else
6433 \ifx\#3\%
6434 \ifx\Hy@temp@A\HyInd@ParenRight
6435 \protected@write\@indexfile{\%
6436 \string\indexentry{#1|#2}{\thepage}%
6437 }%
6438 \else
6439 \protected@write\@indexfile{\%
6440 \string\indexentry{#1|#2hyperpage}{\thepage}%
6441 }%
6442 \fi
6443 \else

```



```

6444         \protected@write\@indexfile{}\{%
6445             \string\indexentry{%
6446                 #1|#2hyperindexformat{/#3}%
6447             }\thepage}%
6448         }%
6449     \fi
6450 \fi
6451 }%
6452 \fi
6453 }%
6454 \fi
6455 \Hy@DisableOption{hyperindex}
6456 \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.

```

6457 \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.

```

6458 \def\hyperpage#1{%
6459   \HyInd@hyperpage#1\nohyperpage{}\@nil
6460 }
6461 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
6462   \HyInd@@hyperpage{#1}%
6463   #2%
6464   \def\Hy@temp{#3}%
6465   \ifx\Hy@temp\@empty
6466   \else
6467     \Hy@ReturnAfterFi{%
6468       \HyInd@hyperpage#3\@nil
6469     }%
6470   \fi
6471 }
6472 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
6473 \def\@hyperpage#1--#2--#3\{%
6474   \ifx\#2\%
6475     \@commahyperpage{#1}%
6476   \else
6477     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6478   \fi
6479 }
6480 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6481 \def\@commahyperpage#1, #2,#3\{%
6482   \ifx\#2\%
6483     \HyInd@pagelink{#1}%
6484   \else
6485     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6486   \fi
6487 }

```

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

```

6488 \def\HyInd@pagelink#1{%
6489   \begingroup
6490   \toks@={}%
6491   \HyInd@removespaces#1 \@nil

```

```

6492 \endgroup
6493 }
6494 \def\HyInd@removespaces#1 #2\@nil{%
6495   \toks@=\expandafter{\the\toks@#1}%
6496   \ifx\#2\%
6497     \edef\x{\the\toks@}%
6498     \ifx\x\@empty
6499       \else
6500         \hyperlink{page.\the\toks@}{\the\toks@}%
6501       \fi
6502     \else
6503       \Hy@ReturnAfterFi{%
6504         \HyInd@removespaces#2\@nil
6505       }%
6506     \fi
6507 }

```

44 Compatibility with foiltex

```

6508 \@ifclassloaded{foils}{%
6509   \providecommand*\ext@table{lot}%
6510   \providecommand*\ext@figure{lof}%
6511 }{}

```

45 Compatibility with seminar slide package

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

```

6512 \@ifclassloaded{seminar}{%
6513   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}%
6514 }{%
6515   \Hy@seminarslidesfalse
6516 }
6517 \@ifpackageloaded{slidesec}{%
6518   \newcommand\theHslidesection {\arabic{slidesection}}%
6519   \newcommand\theHslidesubsection{%
6520     \theHslidesection.\arabic{slidesubsection}}%
6521   }%
6522   \def\slide@heading[#1]#2{%
6523     \H@refstepcounter{slidesection}%
6524     \@addtoreset{slidesubsection}{slidesection}%
6525     \addtocontents{los}{%
6526       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6527       {\@SCTR}{slideheading.\theslidesection}}%
6528   }%
6529   \def\Hy@tempa{#2}%
6530   \ifx\Hy@tempa\@empty
6531     \else
6532       {%
6533         \edef\@currentlabel{%
6534           \csname p@slidesection\endcsname\theslidesection
6535         }%
6536         \makeslideheading{#2}%
6537       }%
6538     \fi
6539   \gdef\theslideheading{#1}%

```

```

6540 \gdef\theslidesubheading{%
6541 \ifHy@bookmarksnumbered
6542 \def\Hy@slidetitle{\theslide\section\space #1}%
6543 \else
6544 \def\Hy@slidetitle{#1}%
6545 \fi
6546 \ifHy@hypertextnames
6547 \ifHy@naturalnames
6548 \hyper@@anchor{slideheading.\theslide\section}{\relax}%
6549 \Hy@writebookmark
6550 {\theslide\section}%
6551 {\Hy@slidetitle}%
6552 {slideheading.\theslide\section}%
6553 {1}%
6554 {toc}%
6555 \else
6556 \hyper@@anchor{slideheading.\theHslide\section}{\relax}%
6557 \Hy@writebookmark
6558 {\theslide\section}%
6559 {\Hy@slidetitle}%
6560 {slideheading.\theHslide\section}%
6561 {1}%
6562 {toc}%
6563 \fi
6564 \else
6565 \Hy@GlobalStepCount\Hy@linkcounter
6566 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6567 \Hy@writebookmark
6568 {\theslide\section}%
6569 {\Hy@slidetitle}%
6570 {slideheading.\the\Hy@linkcounter}%
6571 {1}%
6572 {toc}%
6573 \fi
6574 }%
6575 \def\slide@subheading[#1]#2{%
6576 \H@refstepcounter{slidesubsection}%
6577 \addtocontents{los}{%
6578 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6579 {\@SCTR}{slideheading.\theslide\subsubsection}%
6580 }%
6581 \def\Hy@tempa{#2}%
6582 \ifx\Hy@tempa\@empty
6583 \else
6584 {%
6585 \edef\@currentlabel{%
6586 \csname p@slidesubsection\endcsname\theslide\subsubsection
6587 }%
6588 \makeslidesubheading{#2}%
6589 }%
6590 \fi
6591 \gdef\theslidesubheading{#1}%
6592 \ifHy@bookmarksnumbered
6593 \def\Hy@slidetitle{\theslide\subsubsection\space #1}%
6594 \else
6595 \def\Hy@slidetitle{#1}%
6596 \fi

```

```

6597 \ifHy@hypertextnames
6598 \ifHy@naturalnames
6599 \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6600 \Hy@writebookmark
6601 {\theslidesubsection}%
6602 {\Hy@slidetitle}%
6603 {slideheading.\theslidesubsection}%
6604 {2}%
6605 {toc}%
6606 \else
6607 \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6608 \Hy@writebookmark
6609 {\theslidesubsection}%
6610 {\Hy@slidetitle}%
6611 {slideheading.\theHslidesubsection}%
6612 {2}%
6613 {toc}%
6614 \fi
6615 \else
6616 \Hy@GlobalStepCount\Hy@linkcounter
6617 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6618 \Hy@writebookmark
6619 {\theslidesubsection}%
6620 {\Hy@slidetitle}%
6621 {slideheading.\the\Hy@linkcounter}%
6622 {1}%
6623 {toc}%
6624 \fi
6625 }%
6626 \providecommand*{\listslidenam}{List of Slides}%
6627 \def\listofslides{%
6628 \section*{%
6629 \listslidenam
6630 \@mkboth{%
6631 \expandafter\MakeUppercase\listslidenam
6632 }{%
6633 \expandafter\MakeUppercase\listslidenam
6634 }%
6635 }%
6636 \def\l@slide##1##2##3##4{%
6637 \slide@undottedcline{%
6638 \slidenumberline{##3}{\hyperlink{##4}{##2}}%
6639 }{}%
6640 }%
6641 \let\l@subslide\l@slide
6642 \@startlos
6643 }%
6644 \def\slide@contents{%
6645 \def\l@slide##1##2##3##4{%
6646 \slide@cline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6647 }%
6648 \let\l@subslide\@gobblefour
6649 \@startlos
6650 }%
6651 \def\Slide@contents{%
6652 \def\l@slide##1##2##3##4{%
6653 \ifcase\lslide@flag

```

```

6654 \message{##1 ** \the\c@slide@section}%
6655 \ifnum##1>\c@slide@section
6656 \def\lslide@flag{1}%
6657 {%
6658 \large
6659 \slide@cline{%
6660 \slidenumberline{$\rightarrow\bullet$}%
6661 {\hyperlink{##4}{##2}}%
6662 }{##3}%
6663 }%
6664 \else
6665 {%
6666 \large
6667 \slide@cline{%
6668 \slidenumberline{$\surd\;\bullet$}%
6669 {\hyperlink{##4}{##2}}%
6670 }{##3}%
6671 }%
6672 \fi
6673 \or
6674 \def\lslide@flag{2}%
6675 {%
6676 \large
6677 \slide@cline{%
6678 \slidenumberline{$\bullet$}%
6679 {\hyperlink{##4}{##2}}%
6680 }{##3}%
6681 }%
6682 \or
6683 {%
6684 \large
6685 \slide@cline{%
6686 \slidenumberline{$\bullet$}%
6687 {\hyperlink{##4}{##2}}%
6688 }{##3}%
6689 }%
6690 \fi
6691 }%
6692 \def\l@subslide##1##2##3##4{%
6693 \ifnum\lslide@flag=1 %
6694 \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6695 \fi
6696 }%
6697 \def\lslide@flag{0}%
6698 \@startlos
6699 }%
6700 }{}

```

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.)

```

6701 \ifHy@texht
6702 \expandafter\endinput
6703 \fi
6704 \let\real@setref\@setref
6705 \def\@setref#1#2#3{% csname, extract group, refname
6706 \ifx#1\relax
6707 \protect\G@refundefinedtrue

```

```

6708 \nfss@text{\reset@font\bfseries ??}%
6709 \latex@warning{%
6710   Reference '#3' on page \thepage \space undefined%
6711 }%
6712 \else
6713 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6714 \fi
6715 }

```

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

```

6716 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6717 \begingroup
6718 \toks0={\hyper@@link{#5}{#4}}%
6719 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6720 \edef\x{\endgroup
6721   \the\toks0 {\the\toks1 }}%
6722 }%
6723 \x
6724 }
6725 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6726 \ifx#1\relax
6727 \protect\G@refundefinedtrue
6728 \nfss@text{\reset@font\bfseries ??}%
6729 \latex@warning{%
6730   Reference '#3' on page \thepage \space undefined%
6731 }%
6732 \else
6733 \protect\hyper@@link
6734 {\expandafter\@fifthoffive#1}%
6735 {page.\expandafter\@secondoffive#1}%
6736 {\expandafter\@secondoffive#1}%
6737 \fi
6738 }
6739 \</package>
6740 \<*check>
6741 \checklatex
6742 \checkcommand\def\@setref#1#2#3{%
6743 \ifx#1\relax
6744 \protect\G@refundefinedtrue
6745 \nfss@text{\reset@font\bfseries ??}%
6746 \latex@warning{%
6747   Reference '#3' on page \thepage\space undefined%
6748 }%
6749 \else
6750 \expandafter#2#1\@null
6751 \fi
6752 }
6753 \</check>
6754 \<*package>

```

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

```

6755 \def\HyRef@StarSetRef#1{%
6756 \begingroup
6757 \Hy@safe@activetrue
6758 \edef\x{#1}%
6759 \@onelevel@sanitize\x

```

```

6760 \edef\x{\endgroup
6761 \noexpand\HyRef@StarSetRef
6762 \expandafter\noexpand\csname r@\x\endcsname{\x}%
6763 }%
6764 \x
6765 }
6766 \def\HyRef@StarSetRef#1#2#3{%
6767 \ifx#1\undefined
6768 \let#1\relax
6769 \fi
6770 \real@setref#1#3{#2}%
6771 }
6772 \def\@refstar#1{%
6773 \HyRef@StarSetRef{#1}\@firstoffive
6774 }
6775 \def\@pagerefstar#1{%
6776 \HyRef@StarSetRef{#1}\@secondoffive
6777 }
6778 \AtBeginDocument{%
6779 \ifpackageloaded{varioref}{%
6780 \def\@Refstar#1{%
6781 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6782 }%
6783 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
6784 \MakeUppercase#1%
6785 }%
6786 \DeclareRobustCommand*\Ref*{%
6787 \@ifstar\@Refstar\HyRef@Ref
6788 }%
6789 \def\HyRef@Ref#1{%
6790 \hyperref[#{1}]{\Ref*{#1}}%
6791 }%
6792 \def\Vr@f#1{%
6793 \leavevmode\unskip\vref@space
6794 \hyperref[#{1}]{%
6795 \Ref*{#1}%
6796 \let\vref@space\nobreakspace
6797 \@vpageref[\unskip]{#1}%
6798 }%
6799 }%
6800 \def\vr@f#1{%
6801 \leavevmode\unskip\vref@space
6802 \begingroup
6803 \let\T@pageref\@pagerefstar
6804 \hyperref[#{1}]{%
6805 \ref*{#1}%
6806 \vpageref[\unskip]{#1}%
6807 }%
6808 \endgroup
6809 }%
6810 }{}%
6811 }
6812 \DeclareRobustCommand*\autopageref*{%
6813 \@ifstar{%
6814 \HyRef@autopagerefname\pageref*%
6815 }\HyRef@autopageref
6816 }

```

```

6817 \def\HyRef@autopageref#1{%
6818   \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%
6819 }
6820 \def\HyRef@autopagerefname{%
6821   \@ifundefined{pageautorefname}{%
6822     \@ifundefined{pagename}{%
6823       \Hy@Warning{No autoref name for 'page'}%
6824     }{%
6825       \pagename\nobreakspace
6826     }%
6827   }{%
6828     \pageautorefname\nobreakspace
6829   }%
6830 }
6831 \DeclareRobustCommand*\autoref{%
6832   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@link}%
6833 }
6834 \def\HyRef@autoref#1#2{%
6835   \begingroup
6836     \Hy@safe@activetrue
6837     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
6838   \endgroup
6839 }
6840 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
6841   \HyRef@ShowKeysRef{#2}%
6842   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6843     \edef\HyRef@thisref{%
6844       \expandafter\@fourthoffive#1\@empty\@empty\@empty
6845     }%
6846     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6847     \Hy@safe@activesfalse
6848     #3{%
6849       \expandafter\@fifthoffive#1\@empty\@empty\@empty
6850     }{%
6851       \expandafter\@fourthoffive#1\@empty\@empty\@empty
6852     }{%
6853       \HyRef@currentHtag
6854       \expandafter\@firstoffive#1\@empty\@empty\@empty
6855       \null
6856     }%
6857   \else
6858     \protect\G@refundefinedtrue
6859     \nfss@text{\reset@font\bfseries ??}%
6860     \@latex@warning{%
6861       Reference '#2' on page \thepage\space undefined%
6862     }%
6863   \fi
6864 }
6865 \def\HyRef@testreftype#1.#2\{%
6866   \@ifundefined{#1autorefname}{%
6867     \@ifundefined{#1name}{%
6868       \HyRef@StripStar#1\*\@nil{#1}%
6869     \@ifundefined{\HyRef@name autorefname}{%
6870       \@ifundefined{\HyRef@name name}{%
6871         \def\HyRef@currentHtag{%
6872           \Hy@Warning{No autoref name for '#1'}%
6873         }{%

```



```

6874         \edef\HyRef@currentHtag{%
6875             \expandafter\noexpand\csname\HyRef@name name\endcsname
6876             \noexpand~%
6877         }%
6878     }%
6879 }{%
6880     \edef\HyRef@currentHtag{%
6881         \expandafter\noexpand\csname\HyRef@name autorefname\endcsname
6882         \noexpand~%
6883     }%
6884 }%
6885 }{%
6886     \edef\HyRef@currentHtag{%
6887         \expandafter\noexpand\csname#1name\endcsname
6888         \noexpand~%
6889     }%
6890 }%
6891 }{%
6892     \edef\HyRef@currentHtag{%
6893         \expandafter\noexpand\csname#1autorefname\endcsname
6894         \noexpand~%
6895     }%
6896 }%
6897 }
6898 \def\HyRef@StripStar#1*\#2\@nil#3{%
6899     \def\HyRef@name{#2}%
6900     \ifx\HyRef@name\HyRef@CaseStar
6901         \def\HyRef@name{#1}%
6902     \else
6903         \def\HyRef@name{#3}%
6904     \fi
6905 }
6906 \def\HyRef@CaseStar{*\\}
6907 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

6908 \let\HyRef@ShowKeysRef\@gobble
6909 \def\HyRef@ShowKeysInit{%
6910     \begingroup\expandafter\expandafter\expandafter\endgroup
6911     \expandafter\ifx\csname SK@@label\endcsname\relax
6912     \else
6913         \ifx\SK@ref\@empty
6914         \else
6915             \def\HyRef@ShowKeysRef{%
6916                 \SK@\SK@@ref
6917             }%
6918         \fi
6919     \fi
6920 }
6921 \@ifpackageloaded{showkeys}{%
6922     \HyRef@ShowKeysInit
6923 }{%
6924     \AtBeginDocument{%
6925         \@ifpackageloaded{showkeys}{%
6926             \HyRef@ShowKeysInit
6927         }{}%

```

```

6928 }%
6929 }

```

Defaults for the names that `\autoref` uses.

```

6930 \providecommand*{\AMSautorefname}{\equationautorefname}
6931 \providecommand*{\Hfootnoteautorefname}{\footnoteautorefname}
6932 \providecommand*{\Itemautorefname}{\itemautorefname}
6933 \providecommand*{\itemautorefname}{item}
6934 \providecommand*{\equationautorefname}{Equation}
6935 \providecommand*{\footnoteautorefname}{footnote}
6936 \providecommand*{\itemautorefname}{item}
6937 \providecommand*{\figureautorefname}{Figure}
6938 \providecommand*{\tableautorefname}{Table}
6939 \providecommand*{\partautorefname}{Part}
6940 \providecommand*{\appendixautorefname}{Appendix}
6941 \providecommand*{\chapterautorefname}{chapter}
6942 \providecommand*{\sectionautorefname}{section}
6943 \providecommand*{\subsectionautorefname}{subsection}
6944 \providecommand*{\subsubsectionautorefname}{subsubsection}
6945 \providecommand*{\paragraphautorefname}{paragraph}
6946 \providecommand*{\subparagraphautorefname}{subparagraph}
6947 \providecommand*{\FancyVerbLineautorefname}{line}
6948 \providecommand*{\theoremautorefname}{Theorem}
6949 \providecommand*{\pageautorefname}{page}
6950 </package>

```

46 Configuration files

46.1 PS/PDF strings

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

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

```

6951 < *pdfTex | dvipdfm | vtex | pdfmarkbase | dviwindo >
6952 \RequirePackage{pdfTexcmds}[2009/04/10]
6953 \begingroup\expandafter\expandafter\expandafter\endgroup
6954 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
6955   \begingroup
6956     \catcode'\|=0 %
6957     \@makeother\| %
6958     |@firstofone{| \endgroup
6959     |def|Hy@pstringdef#1#2{%
6960       |begingroup
6961         |edef~{|string~}%
6962         |xdef|Hy@gtemp{#2}%
6963       |endgroup
6964       |let#1|Hy@gtemp
6965       |@onelevel@sanitize#1%
6966       |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
6967       |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
6968       |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
6969     }%

```

```

6970 |def|Hy@ExchangeBackslash#1\#2|@nil{%
6971 #1%
6972 |ifx|\#2|\%%
6973 |else
6974 \\\%
6975 |Hy@ReturnAfterFi{%
6976 |Hy@ExchangeBackslash#2|@nil
6977 }%
6978 |fi
6979 }%
6980 }%
6981 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
6982 #1%
6983 \ifx\\#2\\%
6984 \else
6985 \@backslashchar(%
6986 \Hy@ReturnAfterFi{%
6987 \Hy@ExchangeLeftParenthesis#2\@nil
6988 }%
6989 \fi
6990 }%
6991 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
6992 #1%
6993 \ifx\\#2\\%
6994 \else
6995 \@backslashchar)%
6996 \Hy@ReturnAfterFi{%
6997 \Hy@ExchangeRightParenthesis#2\@nil
6998 }%
6999 \fi
7000 }%
7001 \else
7002 \def\Hy@pstringdef#1#2{%
7003 \begingroup
7004 \edef~{\string~}%
7005 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
7006 \endgroup
7007 \let#1\Hy@gtemp
7008 }%
7009 \fi
7010 </pdfTeX | dvipdfm | vTeX | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

7011 <*pdfTeX>
7012 \providecommand*\XR@ext}{pdf}
7013 \Hy@setbreaklinks{true}

```

This driver is for Han The Thanh's \TeX 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`.

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

```

7014 \let\Hy@pdfminorversion\relax
7015 \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

7016 \expandafter\ifx\csname pdfminorversion\endcsname\relax
7017 \begingroup\expandafter\expandafter\expandafter\endgroup
7018 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
7019 \else
7020 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
7021 \fi
7022 \else
7023 \def\Hy@pdfminorversion{\pdfminorversion}%
7024 \fi
7025 \ifundefined{Hy@pdfminorversion}{%
7026 \PackageInfo{hyperref}{%
7027 PDF version is not set, because pdfTeX is too old (<1.10a)%
7028 }%
7029 }{%
7030 \ifHy@ocgcolorlinks
7031 \ifnum\Hy@pdfminorversion<5 %
7032 \setkeys{Hyp}{pdfversion=1.5}%
7033 \fi
7034 \fi
7035 \ifHy@setpdfversion
7036 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
7037 \else
7038 \Hy@pdfminorversion=\Hy@pdfversion\relax
7039 \fi
7040 \PackageInfo{hyperref}{%
7041 \expandafter\string\Hy@pdfminorversion
7042 :=\number\Hy@pdfversion\space
7043 }%
7044 \fi
7045 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
7046 }
7047 \Hy@DisableOption{pdfversion}%

7048 \ifHy@ocgcolorlinks
7049 \immediate\pdfobj{%
7050 <<%
7051 /Type/OCG%
7052 /Name(View)%
7053 /Usage<<%
7054 /Print<<%
7055 /PrintState/OFF%
7056 >>%
7057 /View<<%
7058 /ViewState/ON%
7059 >>%
7060 >>%
7061 >>%
7062 }%
7063 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
7064 \immediate\pdfobj{%
7065 <<%
7066 /Type/OCG%
7067 /Name(Print)%
7068 /Usage<<%
7069 /Print<<%
7070 /PrintState/ON%
7071 >>%
7072 /View<<%

```

```

7073         /ViewState/OFF%
7074     >>%
7075 >>%
7076 >>%
7077 }%
7078 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
7079 \immediate\pdfobj{%
7080     [%
7081         \OBJ@OCG@view\space\OBJ@OCG@print
7082     ]%
7083 }%
7084 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
7085 \pdfcatalog{%
7086     /OCProperties<<%
7087         /OCGs \OBJ@OCGs
7088     /D<<%
7089         /OFF[\OBJ@OCG@print]%
7090         /AS[%
7091             <<%
7092                 /Event/View%
7093                 /OCGs \OBJ@OCGs
7094                 /Category[/View]%
7095             >>%
7096             <<%
7097                 /Event/Print%
7098                 /OCGs \OBJ@OCGs
7099                 /Category[/Print]%
7100             >>%
7101             <<%
7102                 /Event/Export%
7103                 /OCGs \OBJ@OCGs
7104                 /Category[/Print]%
7105             >>%
7106         ]%
7107     >>%
7108 >>%
7109 }%
7110 \begingroup
7111     \edef\x{\endgroup
7112         \pdfpageresources{%
7113             /Properties<<%
7114                 /OCView \OBJ@OCG@view
7115                 /OCPrint \OBJ@OCG@print
7116             >>%
7117         }%
7118     }%
7119 \x
7120 \AtBeginDocument{%
7121     \def\Hy@colorlink#1{%
7122         \begingroup
7123             \ifHy@ocgcolorlinks
7124                 \def\Hy@ocgcolor{#1}%
7125                 \setbox0=\color@hbox
7126             \else
7127                 \HyColor@UseColor#1%
7128             \fi
7129         }%

```

```

7130 \def\Hy@endcolorlink{%
7131 \ifHy@ocgcolorlinks
7132 \color@endbox
7133 \mbox{%
7134 \pdfliteral page{/OC/OCPrint BDC}%
7135 \rlap{\copy0}%
7136 \pdfliteral page{EMC/OC/OCView BDC}%
7137 \begingroup
7138 \expandafter\HyColor@UseColor\Hy@ocgcolor
7139 \box0 %
7140 \endgroup
7141 \pdfliteral page{EMC}%
7142 }%
7143 \fi
7144 \endgroup
7145 }%
7146 }%
7147 \else
7148 \Hy@DisableOption{ocgcolorlinks}%
7149 \fi

```

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

```

7150 \def\setpdflinkmargin#1{\pdflinkmargin#1}
7151 \ifx\pdfstartlink\@undefined% less than version 14
7152 \let\pdfstartlink\pdfannotlink
7153 \let\pdflinkmargin\@tempdima
7154 \let\pdfxform\pdfform
7155 \let\pdflastxform\pdfastform
7156 \let\pdfrefxform\pdfrefform
7157 \else
7158 \pdflinkmargin1pt %
7159 \fi

```

First set up the default linking

```
7160 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

7161 \def\new@pdflink#1{%
7162 \ifHy@verbose
7163 \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
7164 \fi
7165 \Hy@SaveLastskip
7166 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7167 \Hy@DestName\Hy@pstringDest\@pdfview
7168 \Hy@RestoreLastskip
7169 }
7170 \let\pdf@endanchor\@empty

```

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

```

7171 \def\Hy@DestName#1#2{%
7172 \pdfdest name{#1}#2\relax
7173 }

```

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.

```

7174 \providecommand*\@pdfborder{0 0 1}
7175 \providecommand*\@pdfborderstyle{}
7176 \def\Hy@undefinedname{UNDEFINED}
7177 \def\find@pdflink#1#2{%
7178   \leavevmode
7179   \protected@edef\Hy@testname{#2}%
7180   \ifx\Hy@testname\@empty
7181     \Hy@Warning{%
7182       Empty destination name,\MessageBreak
7183       using '\Hy@undefinedname'%
7184     }%
7185     \let\Hy@testname\Hy@undefinedname
7186   \else
7187     \Hy@pstringdef\Hy@testname{%
7188       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7189     }%
7190   \fi
7191   \Hy@StartlinkName{%
7192     \ifHy@pdfa /F 4\fi
7193     \Hy@setpdfborder
7194     \ifx\@pdfhighlight\@empty
7195       \else
7196         /H\@pdfhighlight
7197       \fi
7198       \ifx\CurrentBorderColor\relax
7199       \else
7200         /C[\CurrentBorderColor]%
7201       \fi
7202     }\Hy@testname
7203     \expandafter\Hy@colorlink\csname @#1color\endcsname
7204   }
7205   \def\Hy@StartlinkName#1#2{%
7206     \pdfstartlink attr{#1}goto name{#2}\relax
7207   }
7208   \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
7209   \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
7210   \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
7211   \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
7212   \def\hyper@linkstart#1#2{%
7213     \@ifundefined{@#1bordercolor}{%
7214       \let\CurrentBorderColor\relax
7215     }{%
7216       \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7217     }%
7218     \find@pdflink{#1}{#2}%
7219   }
7220   \def\hyper@linkend{\close@pdflink}
7221   \def\hyper@link#1#2#3{%
7222     \@ifundefined{@#1bordercolor}{%
7223       \let\CurrentBorderColor\relax
7224     }{%
7225       \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7226     }%
7227     \find@pdflink{#1}{#2}#3%
7228     \close@pdflink
7229   }
7230   \let\CurrentBorderColor\@linkbordercolor

```

```

7231 \def\hyper@linkurl#1#2{%
7232   \begingroup
7233   \Hy@pstringdef\Hy@pstringURI{#2}%
7234   \hyper@chars
7235   \leavevmode
7236   \pdfstartlink
7237   attr{%
7238     \Hy@setpdfborder
7239     \ifx\@pdfhighlight\@empty
7240     \else
7241       /H\@pdfhighlight
7242     \fi
7243     \ifx\@urlbordercolor\relax
7244     \else
7245       /C[\@urlbordercolor]%
7246     \fi
7247   }%
7248   user{%
7249     /Subtype/Link%
7250     \ifHy@pdfa /F 4\fi
7251     /A<<%
7252       /Type/Action%
7253       /S/URI%
7254       /URI(\Hy@pstringURI)%
7255     >>%
7256   }%
7257   \relax
7258   \Hy@colorlink\@urlcolor#1%
7259   \close@pdflink
7260 \endgroup
7261 }
7262 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7263   \begingroup
7264   \Hy@pstringdef\Hy@pstringF{#2}%
7265   \Hy@pstringdef\Hy@pstringD{#3}%
7266   \leavevmode
7267   \pdfstartlink
7268   attr{%
7269     \Hy@setpdfborder
7270     \ifx\@pdfhighlight\@empty
7271     \else
7272       /H\@pdfhighlight
7273     \fi
7274     \ifx\@filebordercolor\relax
7275     \else
7276       /C[\@filebordercolor]%
7277     \fi
7278   }%
7279   user {%
7280     /Subtype/Link%
7281     \ifHy@pdfa /F 4\fi
7282     /A<<%
7283       /F(\Hy@pstringF)%
7284       /S/GoToR%
7285       \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}

7286      \ifx\|#3\%
7287      /D[0 \@pdfstartview]%
7288      \else
7289      /D(\Hy@pstringD)%
7290      \fi
7291      >>%
7292      }%
7293      \relax
7294      \Hy@colorlink\@filecolor#1%
7295      \close@pdflink
7296      \endgroup
7297 }
7298 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
7299   \begingroup
7300     \Hy@pstringdef\Hy@pstringF{#1}%
7301     \Hy@pstringdef\Hy@pstringP{#3}%
7302     \leavevmode
7303     \pdfstartlink
7304     attr{%
7305       \Hy@setpdfborder
7306       \ifx\@pdfhighlight\@empty
7307       \else
7308       /H\@pdfhighlight
7309       \fi
7310       \ifx\@runbordercolor\relax
7311       \else
7312       /C[\@runbordercolor]%
7313       \fi
7314     }%
7315     user {%
7316       /Subtype/Link%
7317       \ifHy@pdfa /F 4\fi
7318       /A<<%
7319       /F(\Hy@pstringF)%
7320       /S/Launch%
7321       \Hy@SetNewWindow
7322       \ifx\|#3\%
7323       \else
7324       /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7325       \fi
7326       >>%
7327     }%
7328     \relax
7329     \Hy@colorlink\@runcolor#2%
7330     \close@pdflink
7331   \endgroup
7332 }

```

\@pdfproducer

```

7333 \ifx\@pdfproducer\relax
7334   \begingroup\expandafter\expandafter\expandafter\endgroup
7335   \expandafter\ifx\csname luatexversion\endcsname\relax
7336     \def\@pdfproducer{pdfTeX}%
7337     \ifx\TeXversion\@undefined
7338       \else
7339         \ifx\TeXversion\relax
7340           \else
7341             \ifnum\TeXversion>0 %
7342               \def\@pdfproducer{pdfTeX}%
7343             \fi
7344           \fi
7345         \fi
7346       \ifx\pdfTeXversion\@undefined
7347       \else
7348         \ifnum\pdfTeXversion<100 %
7349           \edef\@pdfproducer{%
7350             \@pdfproducer
7351             \the\pdfTeXversion.\pdfTeXrevision
7352           }%
7353         \else
7354           \ifnum\pdfTeXversion<130 %
7355             \edef\@pdfproducer{%
7356               \@pdfproducer-%
7357               \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7358               \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
7359               \pdfTeXrevision
7360             }%
7361           \else
7362             \ifnum\pdfTeXversion<140 %
7363               \else
7364                 \def\@pdfproducer{pdfTeX}%
7365               \fi
7366             \edef\@pdfproducer{%
7367               \@pdfproducer-%
7368               \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7369               \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7370               \pdfTeXrevision
7371             }%
7372           \fi
7373         \fi
7374       \fi
7375     \else
7376       \begingroup
7377       \count@=\luatexversion
7378       \divide\count@ by 100 %
7379       \edef\x{\the\count@}%
7380       \count@=-\x\relax
7381       \multiply\count@ by 100 %
7382       \advance\count@ by \luatexversion
7383       \edef\x{\endgroup
7384         \def\noexpand\@pdfproducer{%
7385           LuaTeX-\x.\the\count@.\luatexrevision
7386         }%
7387       }%
7388     \x
7389   \fi

```

7390 \fi

\PDF@SetupDox

```
7391 \def\PDF@SetupDoc{%
7392   \ifx\@pdfpagescrop\@empty
7393   \else
7394     \edef\process@me{%
7395       \pdfpagesattr={%
7396         /CropBox[\@pdfpagescrop]%
7397         \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
7398         \else
7399         ^^J\the\pdfpagesattr
7400       }%
7401     }%
7402   \process@me
7403 \fi
7404 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7405 \pdfcatalog{%
7406   /PageMode/\@pdfpagemode
7407   \ifx\@baseurl\@empty
7408   \else
7409     /URI<</Base(\Hy@pstringB)>>%
7410   \fi
7411 }%
7412 \ifx\@pdfstartpage\@empty
7413 \else
7414   \ifx\@pdfstartview\@empty
7415   \else
7416     openaction goto page\@pdfstartpage{\@pdfstartview}%
7417   \fi
7418 \fi
7419 \edef\Hy@temp{%
7420   \ifHy@toolbar\else /HideToolbar true\fi
7421   \ifHy@menubar\else /HideMenubar true\fi
7422   \ifHy>windowui\else /HideWindowUI true\fi
7423   \ifHy@fitwindow /FitWindow true\fi
7424   \ifHy@centerwindow /CenterWindow true\fi
7425   \ifHy@displaydoctitle /DisplayDocTitle true\fi
7426   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7427   \Hy@UseNameKey{Direction}\@pdfdirection
7428   \Hy@UseNameKey{ViewArea}\@pdfviewarea
7429   \Hy@UseNameKey{ViewClip}\@pdfviewclip
7430   \Hy@UseNameKey{PrintArea}\@pdfprintarea
7431   \Hy@UseNameKey{PrintClip}\@pdfprintclip
7432   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7433   \Hy@UseNameKey{Duplex}\@pdfduplex
7434   \ifx\@pdfpicktraybypdfsize\@empty
7435   \else
7436     /PickTrayByPDFSize \@pdfpicktraybypdfsize
7437   \fi
7438   \ifx\@pdfprintpagerange\@empty
7439   \else
7440     /PrintPageRange[\@pdfprintpagerange]%
7441   \fi
7442   \ifx\@pdfnumcopies\@empty
7443   \else
```

```

7445     /NumCopies \@pdfnumcopies
7446   \fi
7447 }%
7448 \pdfcatalog{%
7449   \ifx\Hy@temp\@empty
7450   \else
7451     /ViewerPreferences<<\Hy@temp>>%
7452   \fi
7453   \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7454   \ifx\@pdflang\@empty
7455   \else
7456     /Lang(\@pdflang)%
7457   \fi
7458 }%
7459 }

```

\PDF@FinishDoc

```

7460 \def\PDF@FinishDoc{%
7461   \Hy@UseMaketitleInfos
7462   \pdfinfo{%
7463     /Author(\@pdfauthor)%
7464     /Title(\@pdftitle)%
7465     /Subject(\@pdfsubject)%
7466     /Creator(\@pdfcreator)%
7467     \ifx\@pdfcreationdate\@empty
7468     \else
7469       /CreationDate(\@pdfcreationdate)%
7470     \fi
7471     \ifx\@pdfmoddate\@empty
7472     \else
7473       /ModDate(\@pdfmoddate)%
7474     \fi
7475     \ifx\@pdfproducer\relax
7476     \else
7477       /Producer(\@pdfproducer)%
7478     \fi
7479     /Keywords(\@pdfkeywords)%
7480   }%
7481   \Hy@DisableOption{pdfauthor}%
7482   \Hy@DisableOption{pdftitle}%
7483   \Hy@DisableOption{pdfsubject}%
7484   \Hy@DisableOption{pdfcreator}%
7485   \Hy@DisableOption{pdfcreationdate}%
7486   \Hy@DisableOption{pdfmoddate}%
7487   \Hy@DisableOption{pdfproducer}%
7488   \Hy@DisableOption{pdfkeywords}%
7489 }

```

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

```

7490 \def\hyper@pagetransition{%
7491   \ifx\@pdfpagetransition\relax
7492   \else
7493     \expandafter\Hy@RemoveTransPageAttr
7494     \the\pdfpageattr~J/Trans{>>>\END
7495     \ifx\@pdfpagetransition\@empty

```

```

7496     \else
7497         \edef\@processme{%
7498             \global\pdfpageattr{%
7499                 \the\pdfpageattr
7500                 ^^J/Trans << /S /\@pdfpagetransition\space >>%
7501             }%
7502         }%
7503     \@processme
7504 \fi
7505 \fi
7506 }

```

`\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.

```

7507 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7508     \ifx\#2\%
7509         \global\pdfpageattr{#1}%
7510     \else
7511         \Hy@RemoveTransPageAttr#1#4\END
7512     \fi
7513 }

```

`\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`.

```

7514 \def\hyper@pageduration{%
7515     \ifx\@pdfpageduration\relax
7516     \else
7517         \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{ } \END
7518         \ifx\@pdfpageduration\@empty
7519         \else
7520             \edef\@processme{%
7521                 \global\pdfpageattr{%
7522                     \the\pdfpageattr
7523                     ^^J/Dur \@pdfpageduration\space
7524                 }%
7525             }%
7526         \@processme
7527     \fi
7528 \fi
7529 }

```

`\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.

```

7530 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7531     \ifx\#2\%
7532         \global\pdfpageattr{#1}%
7533     \else
7534         \Hy@RemoveDurPageAttr#1#4\END
7535     \fi
7536 }

```

`\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).

```

7537 \def\hyper@pagehidden{%
7538   \ifHy@useHidKey
7539     \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7540     \ifHy@pdfpagehidden
7541       \edef\@processme{%
7542         \global\pdfpageattr{%
7543           \the\pdfpageattr
7544             ^^J/Hid true % SPACE
7545         }%
7546       }%
7547       \@processme
7548     \fi
7549   \fi
7550 }

```

`\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.

```

7551 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7552   \ifx\#2\%
7553     \global\pdfpageattr{#1}%
7554   \else
7555     \Hy@RemoveHidPageAttr#1#4\END
7556   \fi
7557 }

7558 \g@addto@macro\Hy@EveryPageHook{%
7559   \hyper@pagetransition
7560   \hyper@pageduration
7561   \hyper@pagehidden
7562 }

7563 \AtBeginDocument{%
7564   \ifHy@setpagesize
7565     \expandafter\@firstofone
7566   \else
7567     \expandafter\@gobble
7568   \fi
7569   {%
7570     \@ifclassloaded{seminar}{%
7571       \setlength{\pdfhorigin}{1truein}%
7572       \setlength{\pdfvorigin}{1truein}%
7573     \ifportrait
7574       \ifdim\paperwidth=\z@
7575     \else
7576       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7577     \fi
7578     \ifdim\paperheight=\z@
7579     \else
7580       \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7581     \fi
7582   \else
7583     \ifdim\paperheight=\z@
7584   \else

```

```

7585         \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7586     \fi
7587     \ifdim\paperwidth=\z@
7588     \else
7589         \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7590     \fi
7591 \fi
7592 }{%
7593     \@ifundefined{stockwidth}{%
7594         \ifdim\paperwidth=\z@
7595         \else
7596             \setlength{\pdfpagewidth}{\paperwidth}%
7597         \fi
7598         \ifdim\paperheight=\z@
7599         \else
7600             \setlength{\pdfpageheight}{\paperheight}%
7601         \fi
7602     }{%
7603         \ifdim\stockwidth=\z@
7604         \else
7605             \setlength{\pdfpagewidth}{\stockwidth}%
7606         \fi
7607         \ifdim\stockheight=\z@
7608         \else
7609             \setlength{\pdfpageheight}{\stockheight}%
7610         \fi
7611     }%
7612 }%
7613 }%
7614 \Hy@DisableOption{setpagesize}%
7615 }
7616 \def\Acrobatmenu#1#2{%
7617     \Hy@Acrobatmenu{#1}{#2}{%
7618         \pdfstartlink
7619         attr{%
7620             \Hy@setpdfborder
7621             \ifx\@pdfhighlight\@empty
7622             \else
7623                 /H\@pdfhighlight
7624             \fi
7625             \ifx\@menubordercolor\relax
7626             \else
7627                 /C[\@menubordercolor]%
7628             \fi
7629         }%
7630         user{%
7631             /Subtype/Link%
7632             \ifHy@pdfa /F 4\fi
7633             /A<<%
7634                 /S/Named/N/#1%
7635             >>%
7636         }%
7637         \relax
7638         \Hy@colorlink\@menucolor#2%
7639         \close@pdflink
7640     }%
7641 }

```

46.2.1 Fix for problem with different nesting levels

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

The problem could be fixed by replacing `\AtBeginShipoutFirst`, because the box layer is not necessary for pdf_T_EX— 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`.

```
7642 \def\Hy@FixNotFirstPage{%
7643   \gdef\Hy@FixNotFirstPage{%
7644     \setbox\AtBeginShipoutBox=\hbox{%
7645       \copy\AtBeginShipoutBox
7646     }%
7647   }%
7648 }
7649 \AtBeginShipout{\Hy@FixNotFirstPage}
7650 \</pdfTeX>
```

46.3 hypertex

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

href: `html:`

name: `html:`

end: `html:`

image: `html:`

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

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

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

```
7651 \<*hypertex>
7652 \providecommand*{\XR@ext}{dvi}
7653 \def\PDF@FinishDoc{}
```



```

7654 \def\PDF@SetupDoc{%
7655   \ifx\@baseurl\@empty
7656   \else
7657     \special{html:<base href="\@baseurl">}%
7658   \fi
7659 }
7660 \def\hyper@anchor#1{%
7661   \Hy@SaveLastskip
7662   \begingroup
7663     \let\protect=\string
7664     \hyper@chars
7665     \special{html:<a name=%
7666       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7667   \endgroup
7668   \Hy@activeanchortrue
7669   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7670   \special{html:</a>}%
7671   \Hy@activeanchorfalse
7672   \Hy@RestoreLastskip
7673 }
7674 \def\hyper@anchorstart#1{%
7675   \Hy@SaveLastskip
7676   \begingroup
7677     \hyper@chars
7678     \special{html:<a name=%
7679       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7680   \endgroup
7681   \Hy@activeanchortrue
7682 }
7683 \def\hyper@anchorend{%
7684   \special{html:</a>}%
7685   \Hy@activeanchorfalse
7686   \Hy@RestoreLastskip
7687 }
7688 \def\@urltype{url}
7689 \def\hyper@linkstart#1#2{%
7690   \expandafter\Hy@colorlink\csname @#1color\endcsname
7691   \def\Hy@tempa{#1}%
7692   \ifx\Hy@tempa\@urltype
7693     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7694   \else
7695     \begingroup
7696       \hyper@chars
7697       \special{html:<a href=%
7698         \hyper@quote\#HyperDestNameFilter{#2}\hyper@quote>}%
7699     \endgroup
7700   \fi
7701 }
7702 \def\hyper@linkend{%
7703   \special{html:</a>}%
7704   \Hy@endcolorlink
7705 }
7706 \def\hyper@linkfile#1#2#3{%
7707   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
7708 }
7709 \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.

```

7710 \leavevmode
7711 \ifHy@raiselinks
7712   \setbox\@tempboxa=\color@hbox #1\color@endbox
7713   \@linkdim\dp\@tempboxa
7714   \lower\@linkdim\hbox{%
7715     \hyper@chars
7716     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7717   }%
7718   \Hy@colorlink\@urlcolor#1%
7719   \@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).

```

7720   \advance\@linkdim by -6.5\p@
7721   \raise\@linkdim\hbox{\special{html:</a>}}%
7722   \Hy@endcolorlink
7723 \else
7724   \begingroup
7725     \hyper@chars
7726     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7727     \Hy@colorlink\@urlcolor#1%
7728     \special{html:</a>}}%
7729     \Hy@endcolorlink
7730   \endgroup
7731 \fi
7732 }

```

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

```

7733 \def\hyper@link#1#2#3{%
7734   \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
7735 }

7736 \def\hyper@image#1#2{%
7737   \begingroup
7738     \hyper@chars
7739     \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
7740   \endgroup
7741 }
7742 </hypertex>
7743 <*dviwindo>

```

46.4 dviwindo

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

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

```

7744 \providecommand*{\XR@ext}{dvi}
7745 \providecommand*{\wwwbrowser}{c:\string\netscape\string\netscape}
7746 \def\hyper@anchor#1{%
7747   \Hy@SaveLastskip
7748   \begingroup
7749     \let\protect=\string
7750     \special{mark: #1}%
7751   \endgroup
7752   \Hy@activeanchortrue
7753   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7754   \Hy@activeanchorfalse
7755   \Hy@RestoreLastskip
7756 }
7757 \def\hyper@anchorstart#1{%
7758   \Hy@SaveLastskip
7759   \special{mark: #1}%
7760   \Hy@activeanchortrue
7761 }
7762 \def\hyper@anchorend{%
7763   \Hy@activeanchorfalse
7764   \Hy@RestoreLastskip
7765 }
7766 \def\hyper@linkstart#1#2{%
7767   \expandafter\Hy@colorlink\csname @#1color\endcsname
7768   \special{button: %
7769     10000000 %
7770     \number\baselineskip\space
7771     #2%
7772   }%
7773 }
7774 \def\hyper@linkend{%
7775   \Hy@endcolorlink
7776 }
7777 \def\hyper@link#1#2#3{%
7778   \setbox\@tempboxa=\color@hbox #3\color@endbox
7779   \leavevmode
7780   \ifHy@raiselinks
7781     \@linkdim\dp\@tempboxa
7782     \lower\@linkdim\hbox{%
7783       \special{button: %
7784         \number\wd\@tempboxa\space
7785         \number\ht\@tempboxa\space
7786         #2%
7787       }%
7788       \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7789       \Hy@endcolorlink
7790     }%
7791     \@linkdim\ht\@tempboxa
7792     \advance\@linkdim by -6.5\p@
7793     \raise\@linkdim\hbox{}%
7794   \else
7795     \special{button: %
7796       \number\wd\@tempboxa\space
7797       \number\ht\@tempboxa\space
7798       #2%
7799     }%
7800     \expandafter\Hy@colorlink\csname @#1color\endcsname#3%

```

```

7801 \Hy@endcolorlink
7802 \fi
7803 }
7804 \def\hyper@linkurl#1#2{%
7805 \begingroup
7806 \hyper@chars
7807 \leavevmode
7808 \setbox\@tempboxa=\color@hbox #1\color@endbox
7809 \ifHy@raiselinks
7810 \@linkdim\dp\@tempboxa
7811 \lower\@linkdim\hbox{%
7812 \special{button: %
7813 \number\wd\@tempboxa\space
7814 \number\ht\@tempboxa\space
7815 launch: \wwwbrowser\space
7816 #2%
7817 }%
7818 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7819 }%
7820 \@linkdim\ht\@tempboxa
7821 \advance\@linkdim by -6.5\p@
7822 \raise\@linkdim\hbox{}}%
7823 \else
7824 \special{button: %
7825 \number\wd\@tempboxa\space
7826 \number\ht\@tempboxa\space
7827 launch: \wwwbrowser\space
7828 #2%
7829 }%
7830 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7831 \fi
7832 \endgroup
7833 }
7834 \def\hyper@linkfile#1#2#3{%
7835 \begingroup
7836 \hyper@chars
7837 \leavevmode
7838 \setbox\@tempboxa=\color@hbox #1\color@endbox
7839 \ifHy@raiselinks
7840 \@linkdim\dp\@tempboxa
7841 \lower\@linkdim\hbox{%
7842 \special{button: %
7843 \number\wd\@tempboxa\space
7844 \number\ht\@tempboxa\space
7845 #3,%
7846 file: #2%
7847 }%
7848 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7849 }%
7850 \@linkdim\ht\@tempboxa
7851 \advance\@linkdim by -6.5\p@
7852 \raise\@linkdim\hbox{}}%
7853 \else
7854 \special{button: %
7855 \number\wd\@tempboxa\space
7856 \number\ht\@tempboxa\space
7857 #3,%

```

```

7858         file: #2%
7859     }%
7860     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7861     \fi
7862 \endgroup
7863 }
7864 \ifx\@pdfproducer\relax
7865 \def\@pdfproducer{dviwindo + Distiller}%
7866 \fi
7867 \def\PDF@FinishDoc{%
7868     \Hy@UseMaketitleInfos
7869     \special{PDF: Keywords \@pdfkeywords}%
7870     \special{PDF: Title \@pdftitle}%
7871     \special{PDF: Creator \@pdfcreator}%
7872     \ifx\@pdfcreationdate\@empty
7873     \else
7874         \special{PDF: CreationDate \@pdfcreationdate}%
7875     \fi
7876     \ifx\@pdfmoddate\@empty
7877     \else
7878         \special{PDF: ModDate \@pdfmoddate}%
7879     \fi
7880     \special{PDF: Author \@pdfauthor}%
7881     \ifx\@pdfproducer\relax
7882     \else
7883         \special{PDF: Producer \@pdfproducer}%
7884     \fi
7885     \special{PDF: Subject \@pdfsubject}%
7886     \Hy@DisableOption{pdfauthor}%
7887     \Hy@DisableOption{pdftitle}%
7888     \Hy@DisableOption{pdfsubject}%
7889     \Hy@DisableOption{pdfcreator}%
7890     \Hy@DisableOption{pdfcreationdate}%
7891     \Hy@DisableOption{pdfmoddate}%
7892     \Hy@DisableOption{pdfproducer}%
7893     \Hy@DisableOption{pdfkeywords}%
7894 }
7895 \def\PDF@SetupDoc{%
7896     \ifx\@baseurl\@empty
7897     \else
7898         \special{PDF: Base \@baseurl}%
7899     \fi
7900     \ifx\@pdfpagescrop\@empty\else
7901         \special{PDF: BBox \@pdfpagescrop}%
7902     \fi
7903     \def\Hy@temp{%
7904     \ifx\@pdfstartpage\@empty
7905     \else
7906         \ifx\@pdfstartview\@empty
7907         \else
7908             \edef\Hy@temp{%
7909                 ,Page=\@pdfstartpage
7910                 ,View=\@pdfstartview
7911             }%
7912         \fi
7913     \fi
7914     \edef\Hy@temp{%

```

```

7915     \noexpand\pdfmark{%
7916         pdfmark=/DOCVIEW,%
7917         PageMode=/\@pdfpagemode
7918         \Hy@temp
7919     }%
7920 }%
7921 \Hy@temp
7922 \ifx\@pdfpagescrop\@empty
7923 \else
7924     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7925 \fi
7926 \edef\Hy@temp{%
7927     \ifHy@toolbar\else /HideToolbar true\fi
7928     \ifHy@menubar\else /HideMenubar true\fi
7929     \ifHy>windowui\else /HideWindowUI true\fi
7930     \ifHy@fitwindow /FitWindow true\fi
7931     \ifHy@centerwindow /CenterWindow true\fi
7932     \ifHy@displaydoctitle /DisplayDocTitle true\fi
7933     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7934     \Hy@UseNameKey{Direction}\@pdfdirection
7935     \Hy@UseNameKey{ViewArea}\@pdfviewarea
7936     \Hy@UseNameKey{ViewClip}\@pdfviewclip
7937     \Hy@UseNameKey{PrintArea}\@pdfprintarea
7938     \Hy@UseNameKey{PrintClip}\@pdfprintclip
7939     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7940     \Hy@UseNameKey{Duplex}\@pdfduplex
7941     \ifx\@pdfpicktraybypdfsize\@empty
7942     \else
7943         /PickTrayByPDFSize \@pdfpicktraybypdfsize
7944     \fi
7945     \ifx\@pdfprintpagerange\@empty
7946     \else
7947         /PrintPageRange[\@pdfprintpagerange]%
7948     \fi
7949     \ifx\@pdfnumcopies\@empty
7950     \else
7951         /NumCopies \@pdfnumcopies
7952     \fi
7953 }%
7954 \pdfmark{pdfmark=/PUT,%
7955     Raw={%
7956         \string{Catalog\string}<<%
7957         \ifx\Hy@temp\@empty
7958         \else
7959             /ViewerPreferences<<\Hy@temp>>%
7960         \fi
7961         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7962         \ifx\@pdflang\@empty
7963         \else
7964             /Lang(\@pdflang)%
7965         \fi
7966         >>%
7967     }%
7968 }%
7969 }
7970 </dviwindo>
7971 <*dvipdfm>

```

46.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```
7972 \providecommand*{\XR@ext}{pdf}
7973 \Hy@setbreaklinks{true}
7974 \newsavebox{\pdfm@box}
7975 \def\@pdfm@mark#1{\special{pdf:#1}}
7976 \def\@pdfm@dest#1{%
7977   \Hy@SaveLastskip
7978   \begingroup
7979     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7980     \def\x{XYZ}%
7981     \ifx\x\@pdfview
7982       \def\x{XYZ @xpos @ypos null}%
7983     \else
7984       \def\x{FitH}%
7985       \ifx\x\@pdfview
7986         \def\x{FitH @ypos}%
7987       \else
7988         \def\x{FitBH}%
7989         \ifx\x\@pdfview
7990           \def\x{FitBH @ypos}%
7991         \else
7992           \def\x{FitV}%
7993           \ifx\x\@pdfview
7994             \def\x{FitV @xpos}%
7995           \else
7996             \def\x{FitBV}%
7997             \ifx\x\@pdfview
7998               \def\x{FitBV @xpos}%
7999             \else
8000               \def\x{Fit}%
8001               \ifx\x\@pdfview
8002                 \let\x\@pdfview
8003             \else
8004               \def\x{FitB}%
8005               \ifx\x\@pdfview
8006                 \let\x\@pdfview
8007             \else
8008               \def\x{FitR}%
8009               \ifx\x\@pdfview
8010                 \Hy@Warning{'pdfview=FitR' is not supported}%
8011                 \def\x{XYZ @xpos @ypos null}%
8012             \else
8013               \@onelevel@sanitize\@pdfview
8014               \Hy@Warning{Unknown value '\@pdfview' for pdfview}%
8015               \def\x{XYZ @xpos @ypos null}%
8016             \fi
8017           \fi
8018         \fi
8019       \fi
8020     \fi
8021   \fi
8022 \fi
8023 \fi
8024 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
8025 \endgroup
```

```

8026 \Hy@RestoreLastskip
8027 }
8028 \providecommand*\@pdfview{XYZ}
8029 \providecommand*\@pdfborder{0 0 1}
8030 \providecommand*\@pdfborderstyle{}
8031 \def\hyper@anchor#1{%
8032   \@pdfm@dest{#1}%
8033 }
8034 \def\hyper@anchorstart#1{%
8035   \Hy@activeanchortrue
8036   \@pdfm@dest{#1}%
8037 }
8038 \def\hyper@anchorend{%
8039   \Hy@activeanchorfalse
8040 }

8041 \newcounter{Hy@AnnotLevel}

8042 \ifHy@ocgcolorlinks
8043   \def\OBJ@OCG@view{@OCG@view}%
8044   \@pdfm@mark{%
8045     obj \OBJ@OCG@view <<%
8046       /Type/OCG%
8047       /Name(View)%
8048       /Usage<<%
8049       /Print<<%
8050       /PrintState/OFF%
8051       >>%
8052       /View<<%
8053       /ViewState/ON%
8054       >>%
8055       >>%
8056     >>%
8057   }%
8058   \@pdfm@mark{close \OBJ@OCG@view}%
8059   \def\OBJ@OCG@print{@OCG@print}%
8060   \@pdfm@mark{%
8061     obj \OBJ@OCG@print <<%
8062       /Type/OCG%
8063       /Name(Print)%
8064       /Usage<<%
8065       /Print<<%
8066       /PrintState/ON%
8067       >>%
8068       /View<<%
8069       /ViewState/OFF%
8070       >>%
8071       >>%
8072     >>%
8073   }%
8074   \@pdfm@mark{close \OBJ@OCG@print}%
8075   \def\OBJ@OCGs{@OCGs}%
8076   \@pdfm@mark{%
8077     obj \OBJ@OCGs [%
8078       \OBJ@OCG@view\space\OBJ@OCG@print
8079     ]%
8080   }%
8081   \@pdfm@mark{close \OBJ@OCGs}%
8082   \@pdfm@mark{%

```



```

8083     put @catalog <<%
8084         /OCProperties<<%
8085         /OCGs \OBJ@OCGs
8086         /D<<%
8087         /OFF[\OBJ@OCG@print]%
8088         /AS[%
8089             <<%
8090             /Event/View%
8091             /OCGs \OBJ@OCGs
8092             /Category[/View]%
8093             >>%
8094             <<%
8095             /Event/Print%
8096             /OCGs \OBJ@OCGs
8097             /Category[/Print]%
8098             >>%
8099             <<%
8100             /Event/Export%
8101             /OCGs \OBJ@OCGs
8102             /Category[/Print]%
8103             >>%
8104         ]%
8105     >>%
8106 >>%
8107 >>%
8108 }%
8109 \AtBeginShipout{%
8110     \setbox\AtBeginShipoutBox=\hbox{%
8111         \copy\AtBeginShipoutBox
8112         \@pdfm@mark{%
8113             put @resources <<%
8114             /Properties<<%
8115             /OCView \OBJ@OCG@view
8116             /OCPrint \OBJ@OCG@print
8117             >>%
8118             >>%
8119         }%
8120     }%
8121 }%
8122 \AtBeginDocument{%
8123     \def\Hy@colorlink#1{%
8124         \begingroup
8125         \ifHy@ocgcolorlinks
8126             \def\Hy@ocgcolor{#1}%
8127             \setbox0=\color@hbox
8128             \else
8129             \HyColor@UseColor#1%
8130         \fi
8131     }%
8132     \def\Hy@endcolorlink{%
8133         \ifHy@ocgcolorlinks
8134             \color@endbox
8135             \mbox{%
8136                 \@pdfm@mark{content /OC/OCPrint BDC}%
8137                 \rlap{\copy0}%
8138                 \@pdfm@mark{content EMC/OC/OCView BDC}%
8139                 \begingroup

```

```

8140         \expandafter\HyColor@UseColor\Hy@ocgcolor
8141         \box0 %
8142     \endgroup
8143     \@pdfmark{content EMC}%
8144 }%
8145 \fi
8146 \endgroup
8147 }%
8148 }%
8149 \else
8150 \Hy@DisableOption{ocgcolorlinks}%
8151 \fi

8152 \def\Hy@BeginAnnot#1{%
8153 \stepcounter{Hy@AnnotLevel}%
8154 \ifnum\value{Hy@AnnotLevel}=\@ne
8155 #1%
8156 \fi
8157 }

8158 \def\Hy@endAnnot{%
8159 \ifnum\value{Hy@AnnotLevel}=\@ne
8160 \Hy@endcolorlink
8161 \@pdfmark{eann}%
8162 \fi
8163 \addtocounter{Hy@AnnotLevel}\m@ne
8164 }

8165 \def\Hy@undefinedname{UNDEFINED}
8166 \def\hyper@linkstart#1#2{%
8167 \Hy@BeginAnnot{%
8168 \protected@edef\Hy@testname{#2}%
8169 \ifx\Hy@testname\@empty
8170 \Hy@Warning{%
8171 Empty destination name,\MessageBreak
8172 using '\Hy@undefinedname'%
8173 }%
8174 \let\Hy@testname\Hy@undefinedname
8175 \else
8176 \Hy@pstringdef\Hy@testname{%
8177 \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8178 }%
8179 \fi
8180 \@pdfmark{%
8181 bann<<%
8182 /Type/Annot%
8183 /Subtype/Link%
8184 \ifHy@pdfa /F 4\fi
8185 \Hy@setpdfborder
8186 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
8187 \else
8188 /C[\csname @#1bordercolor\endcsname]%
8189 \fi
8190 /A<<%
8191 /S/GoTo%
8192 /D(\Hy@testname)%
8193 >>%
8194 >>%
8195 }%
8196 \expandafter\Hy@colorlink\csname @#1color\endcsname

```

```

8197 }%
8198 }
8199 \def\hyper@linkend{\Hy@EndAnnot}%
8200 \def\hyper@link#1#2#3{%
8201   \hyper@linkstart{#1}{#2}#3\hyper@linkend
8202 }
8203 \def\hyper@linkfile#1#2#3{%
8204   \leavevmode
8205   \Hy@BeginAnnot{%
8206     \Hy@pstringdef\Hy@pstringF{#2}%
8207     \Hy@pstringdef\Hy@pstringD{#3}%
8208     \@pdfm@mark{%
8209       bann<<%
8210         /Type/Annot%
8211         /Subtype/Link%
8212         \ifHy@pdfa /F 4\fi
8213         \Hy@setpdfborder
8214         \ifx\@filebordercolor\relax
8215           \else
8216             /C[\@filebordercolor]%
8217           \fi
8218         /A<<%
8219         /S/GoToR%
8220         /F(\Hy@pstringF)%
8221         /D\ifx\#3\[\[0 \@pdfstartview]\else(\Hy@pstringD)\fi
8222         \Hy@SetNewWindow
8223       >>%
8224     >>%
8225   }%
8226   \Hy@colorlink\@filecolor
8227 }%
8228 #1%
8229 \Hy@EndAnnot
8230 }
8231 \def\hyper@linkurl#1#2{%
8232   \leavevmode
8233   \Hy@BeginAnnot{%
8234     \Hy@pstringdef\Hy@pstringURI{#2}%
8235     \@pdfm@mark{%
8236       bann<<%
8237         /Type/Annot%
8238         /Subtype/Link%
8239         \ifHy@pdfa /F 4\fi
8240         \Hy@setpdfborder
8241         \ifx\@urlbordercolor\relax
8242           \else
8243             /C[\@urlbordercolor]%
8244           \fi
8245         /A<<%
8246         /S/URI%
8247         /URI(\Hy@pstringURI)%
8248       >>%
8249     >>%
8250   }%
8251   \Hy@colorlink\@urlcolor
8252 }%
8253 #1%

```

```

8254 \Hy@EndAnnot
8255 }
8256 \def\Acrobatmenu#1#2{%
8257 \Hy@Acrobatmenu{#1}{#2}{%
8258 \Hy@BeginAnnot{%
8259 \pdfmark{%
8260 bann<<%
8261 /Type/Annot%
8262 /Subtype/Link%
8263 \ifHy@pdfa /F 4\fi
8264 /A<<%
8265 /S/Named%
8266 /N/#1%
8267 >>%
8268 \Hy@setpdfborder
8269 \ifx\@menubordercolor\relax
8270 \relax
8271 /C[\@menubordercolor]%
8272 \fi
8273 >>%
8274 }%
8275 \Hy@colorlink\@menucolor
8276 }%
8277 #2%
8278 \Hy@EndAnnot
8279 }%
8280 }
8281 \ifx\pdfproducer\relax
8282 \def\pdfproducer{dvipdfm}%

```

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

```

8283 \begingroup\expandafter\expandafter\expandafter\endgroup
8284 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8285 \else
8286 \edef\pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8287 \fi
8288 \fi
8289 \def\PDF@FinishDoc{%
8290 \Hy@UseMaketitleInfos
8291 \pdfmark{%
8292 docinfo<<%
8293 /Title(\pdftitle)%
8294 /Subject(\pdfsubject)%
8295 /Creator(\pdfcreator)%
8296 \ifx\pdfcreationdate\empty
8297 \else
8298 /CreationDate(\pdfcreationdate)%
8299 \fi
8300 \ifx\pdfmoddate\empty
8301 \else
8302 /ModDate(\pdfmoddate)%
8303 \fi
8304 /Author(\pdfauthor)%
8305 \ifx\pdfproducer\relax
8306 \else
8307 /Producer(\pdfproducer)%
8308 \fi
8309 /Keywords(\pdfkeywords)%

```

```

8310     >>%
8311 }%
8312 \Hy@DisableOption{pdfauthor}%
8313 \Hy@DisableOption{pdftitle}%
8314 \Hy@DisableOption{pdfsubject}%
8315 \Hy@DisableOption{pdfcreator}%
8316 \Hy@DisableOption{pdfcreationdate}%
8317 \Hy@DisableOption{pdfmoddate}%
8318 \Hy@DisableOption{pdfproducer}%
8319 \Hy@DisableOption{pdfkeywords}%
8320 }

8321 \def\PDF@SetupDoc{%
8322   \edef\Hy@temp{%
8323     \ifHy@toolbar\else /HideToolbar true\fi
8324     \ifHy@menubar\else /HideMenubar true\fi
8325     \ifHy@windowui\else /HideWindowUI true\fi
8326     \ifHy@fitwindow /FitWindow true\fi
8327     \ifHy@centerwindow /CenterWindow true\fi
8328     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8329     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8330     \Hy@UseNameKey{Direction}\@pdfdirection
8331     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8332     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8333     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8334     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8335     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8336     \Hy@UseNameKey{Duplex}\@pdfduplex
8337     \ifx\@pdfpicktraybypdfsize\@empty
8338     \else
8339       /PickTrayByPDFSize \@pdfpicktraybypdfsize
8340     \fi
8341     \ifx\@pdfprintpagerange\@empty
8342     \else
8343       /PrintPageRange[\@pdfprintpagerange]%
8344     \fi
8345     \ifx\@pdfnumcopies\@empty
8346     \else
8347       /NumCopies \@pdfnumcopies
8348     \fi
8349   }%
8350   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8351   \@pdfm@mark{%
8352     docview<<%
8353     \ifx\@pdfstartpage\@empty
8354     \else
8355       \ifx\@pdfstartview\@empty
8356       \else
8357         /OpenAction[@page\@pdfstartpage\@pdfstartview]%
8358       \fi
8359     \fi
8360     \ifx\@baseurl\@empty
8361     \else
8362       /URI<</Base(\Hy@pstringB)>>%
8363     \fi
8364     /PageMode/\@pdfpagemode
8365     \ifx\Hy@temp\@empty
8366     \else

```

```

8367         /ViewerPreferences<<\Hy@temp>>%
8368     \fi
8369     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8370     \ifx\@pdflang\@empty
8371     \else
8372         /Lang(\@pdflang)%
8373     \fi
8374 >>%
8375 }%
8376 \ifx\@pdfpagescrop\@empty
8377 \else
8378     \pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
8379 \fi
8380 }

8381 \AtBeginShipoutFirst{%
8382     \ifHy@setpagesize
8383     \begingroup
8384         \@ifundefined{stockwidth}{%
8385             \ifx\special@paper\@empty
8386                 \special{papersize=\the\paperwidth,\the\paperheight}%
8387             \else
8388                 \special{papersize=\special@paper}%
8389             \fi
8390         }{%
8391             \ifdim\stockwidth=\z@
8392             \else
8393                 \special{papersize=\the\stockwidth,\the\stockheight}%
8394             \fi
8395         }%
8396     \endgroup
8397 \fi
8398 \Hy@DisableOption{setpagesize}%
8399 }
8400 </dvipdfm>

```

46.6 VTeX typesetting system

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

```

8401 <*vtexhtml>
8402 \providecommand*{\XR@ext}{htm}
8403 \RequirePackage{vtexhtml}
8404 \newif\if@Localurl
8405 \def\PDF@FinishDoc{}
8406 \def\PDF@SetupDoc{%
8407     \ifx\@baseurl\@empty
8408     \else
8409         \special{!direct <base href="\@baseurl">}%
8410     \fi
8411 }
8412 \def\@urltype{url}
8413 \def\hyper@link#1#2#3{%
8414     \leavevmode
8415     \special{!direct <a href=
8416         \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8417     #3%

```

```

8418 \special{!direct </a>}%
8419 }
8420 \def\hyper@linkurl#1#2{%
8421 \begingroup
8422 \hyper@chars
8423 \leavevmode
8424 \MathBSuppress=1\relax
8425 \special{!direct <a href=%
8426 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8427 #1%
8428 \MathBSuppress=0\relax
8429 \special{!direct </a>}%
8430 \endgroup
8431 }
8432 \def\hyper@linkfile#1#2#3{%
8433 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
8434 }
8435 \def\hyper@linkstart#1#2{%
8436 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8437 \@Localurltrue
8438 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8439 \else
8440 \@Localurlfalse
8441 \begingroup
8442 \hyper@chars
8443 \special{!aref \HyperDestNameFilter{#2}}%
8444 \endgroup
8445 \fi
8446 }
8447 \def\hyper@linkend{%
8448 \if@Localurl
8449 \special{!endaref}%
8450 \else
8451 \special{!direct </a>}%
8452 \fi
8453 }
8454 \def\hyper@anchorstart#1{%
8455 \Hy@SaveLastskip
8456 \begingroup
8457 \hyper@chars
8458 \special{!aname #1}%
8459 \special{!direct <a name=%
8460 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8461 \endgroup
8462 \Hy@activeanchortrue
8463 }
8464 \def\hyper@anchorend{%
8465 \special{!direct </a>}%
8466 \Hy@activeanchorfalse
8467 \Hy@RestoreLastskip
8468 }
8469 \def\hyper@anchor#1{%
8470 \Hy@SaveLastskip
8471 \begingroup
8472 \let\protect=\string
8473 \hyper@chars
8474 \leavevmode

```

```

8475 \special{!aname #1}%
8476 \special{!direct <a name=%
8477 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8478 \endgroup
8479 \Hy@activeanchortrue
8480 \bgroup\anchor@spot\egroup
8481 \special{!direct </a>}%
8482 \Hy@activeanchorfalse
8483 \Hy@RestoreLastskip
8484 }
8485 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
8486 \def\@endForm{}
8487 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8488 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8489 }
8490 \def\@TextField[#1]#2{% parameters, label
8491 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8492 }
8493 \def\@CheckBox[#1]#2{% parameters, label
8494 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8495 }
8496 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8497 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8498 }
8499 \def\@PushButton[#1]#2{% parameters, label
8500 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8501 }
8502 \def\@Reset[#1]#2{%
8503 \typeout{Sorry, TeXpider does not yet support FORMs}%
8504 }
8505 \def\@Submit[#1]#2{%
8506 \typeout{Sorry, TeXpider does not yet support FORMs}%
8507 }
8508 </vtexhtml>
8509 <*vtex>

```

VTeX version 6.68 supports \mediawidth and \mediaheight. The \ifx construct is better than a \csname, because it avoids the definition and the hash table entry of a previous undefined macro.

```

8510 \ifx\mediaheight\@undefined
8511 \else
8512 \ifx\mediaheight\relax
8513 \else
8514 \ifHy@setpagesize
8515 \providecommand*{\VTeXInitMediaSize}{%
8516 \ifundefined{stockwidth}{%
8517 \ifdim\paperheight>0pt %
8518 \setlength\mediaheight\paperheight
8519 \fi
8520 \ifdim\paperheight>0pt %
8521 \setlength\mediawidth\paperwidth
8522 \fi
8523 }{%
8524 \ifdim\stockheight>0pt %
8525 \setlength\mediaheight\stockheight
8526 \fi
8527 \ifdim\stockwidth>0pt %

```



```

8528         \setlength\mediawidth\stockwidth
8529     \fi
8530 }%
8531 }%
8532 \AtBeginDocument{\VTeXInitMediaSize}%
8533 \fi
8534 \Hy@DisableOption{setpagesize}%
8535 \fi
8536 \fi

```

Older versions of VTeX require xyz in lower case.

```

8537 \providecommand*\@pdfview{xyz}
8538 \providecommand*\@pdfborder{0 0 1}
8539 \providecommand*\@pdfborderstyle{}
8540 \let\CurrentBorderColor\@linkbordercolor
8541 \def\hyper@anchor#1{%
8542     \Hy@SaveLastskip
8543     \begingroup
8544         \let\protect=\string
8545         \hyper@chars
8546         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8547     \endgroup
8548     \Hy@activeanchortrue
8549     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8550     \Hy@activeanchorfalse
8551     \Hy@RestoreLastskip
8552 }
8553 \def\hyper@anchorstart#1{%
8554     \Hy@SaveLastskip
8555     \begingroup
8556         \hyper@chars
8557         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8558     \endgroup
8559     \Hy@activeanchortrue
8560 }
8561 \def\hyper@anchorend{%
8562     \Hy@activeanchorfalse
8563     \Hy@RestoreLastskip
8564 }
8565 \def\@urltype{url}
8566 \def\Hy@undefinedname{UNDEFINED}
8567 \def\hyper@linkstart#1#2{%
8568     \Hy@pstringdef\Hy@pstringURI{#2}%
8569     \expandafter\Hy@colorlink\csname @#1color\endcsname
8570     \@ifundefined{#@#1bordercolor}{%
8571         \let\CurrentBorderColor\relax
8572     }{%
8573         \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8574     }%
8575     \def\Hy@tempa{#1}%
8576     \ifx\Hy@tempa\@urltype
8577         \special{!%
8578             aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8579             a=<%
8580                 \ifHy@pdfa /F 4\fi
8581                 \Hy@setpdfborder
8582                 \ifx\CurrentBorderColor\relax
8583                     \else

```

```

8584         /C [\CurrentBorderColor]%
8585     \fi
8586     >%
8587 }%
8588 \else
8589     \protected@edef\Hy@testname{#2}%
8590     \ifx\Hy@testname\@empty
8591         \Hy@Warning{%
8592             Empty destination name,\MessageBreak
8593             using '\Hy@undefinedname'%
8594         }%
8595     \let\Hy@testname\Hy@undefinedname
8596 \fi
8597 \special{!%
8598     aref \expandafter\HyperDestNameFilter
8599     \expandafter{\Hy@testname};%
8600     a=<%
8601         \ifHy@pdfa /F 4\fi
8602         \Hy@setpdfborder
8603         \ifx\CurrentBorderColor\relax
8604             \else
8605                 /C [\CurrentBorderColor]%
8606             \fi
8607         >%
8608     }%
8609 \fi
8610 }
8611 \def\hyper@linkend{%
8612     \special{!endaref}%
8613     \Hy@endcolorlink
8614 }
8615 \def\hyper@linkfile#1#2#3{%
8616     \leavevmode
8617     \special{!%
8618         aref <%
8619         \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8620         f=#2>#3;%
8621         a=<%
8622             \ifHy@pdfa /F 4\fi
8623             \Hy@setpdfborder
8624             \ifx\@filebordercolor\relax
8625                 \else
8626                     /C [\@filebordercolor]%
8627                 \fi
8628             >%
8629         }%
8630         \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8631     \special{!endaref}%
8632 }
8633 \def\hyper@linkurl#1#2{%
8634     \begingroup
8635         \Hy@pstringdef\Hy@pstringURI{#2}%
8636         \hyper@chars
8637         \leavevmode
8638         \special{!%
8639             aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8640             a=<%

```

```

8641         \ifHy@pdfa /F 4\fi
8642         \Hy@setpdfborder
8643         \ifx\@urlbordercolor\relax
8644         \else
8645             /C [\@urlbordercolor]%
8646         \fi
8647     >%
8648 }%
8649 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8650 \special{!endaref}%
8651 \endgroup
8652 }
8653 \def\hyper@link#1#2#3{%
8654     \@ifundefined{@#1bordercolor}{%
8655         \let\CurrentBorderColor\relax
8656     }{%
8657         \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8658     }%
8659     \leavevmode
8660     \protected@edef\Hy@testname{#2}%
8661     \ifx\Hy@testname\@empty
8662         \Hy@Warning{%
8663             Empty destination name,\MessageBreak
8664             using '\Hy@undefinedname'%
8665         }%
8666         \let\Hy@testname\Hy@undefinedname
8667     \fi
8668     \special{!%
8669         aref \expandafter\HyperDestNameFilter
8670             \expandafter{\Hy@testname};%
8671         a=<%
8672             \ifHy@pdfa /F 4\fi
8673             \Hy@setpdfborder
8674             \ifx\CurrentBorderColor\relax
8675             \else
8676                 /C [\CurrentBorderColor]%
8677             \fi
8678             >%
8679         }%
8680     \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8681     \special{!endaref}%
8682 }
8683 \def\hyper@image#1#2{%
8684     \hyper@linkurl{#2}{#1}%
8685 }
8686 \def\@hyper@launch run:#1\#2#3{%
8687     \Hy@pstringdef\Hy@pstringF{#1}%
8688     \Hy@pstringdef\Hy@pstringP{#3}%
8689     \leavevmode
8690     \special{!aref %
8691         <u=%
8692             /Type/Action%
8693             /S/Launch%
8694             /F(\Hy@pstringF)%
8695             \Hy@SetNewWindow
8696             \ifx\#3\@empty /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
8697         >;%

```

```

8698   a=<%
8699       \ifHy@pdfa /F 4\fi
8700       \Hy@setpdfborder
8701       \ifx\@runbordercolor\relax
8702       \else
8703         /C[\@runbordercolor]%
8704       \fi
8705   >%
8706 }%
8707 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8708 \special{!endaref}%
8709 }
8710 \def\Acrobatmenu#1#2{%
8711   \Hy@Acrobatmenu{#1}{#2}{%
8712     \special{!%
8713       aref <u=/S /Named /N /#1>;%
8714     a=<%
8715         \ifHy@pdfa /F 4\fi
8716         \Hy@setpdfborder
8717         \ifx\@menubordercolor\relax
8718         \else
8719           /C[\@menubordercolor]%
8720         \fi
8721       >%
8722     }%
8723     \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8724     \special{!endaref}%
8725   }%
8726 }

```

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

The code below makes sense for VT_EX 7.02 or later.

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

```

8727 \ifnum\Hy@VTeXversion<702 %
8728 \else
8729   \def\hyper@pagetransition{%
8730     \ifx\@pdfpagetransition\relax
8731     \else
8732       \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

8733   \else
8734     \hvtex@parse@trans\@pdfpagetransition
8735   \fi
8736 \fi
8737 }%

```

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

Syntax of VT_EX \special{!trans <transition_effect>}:

```

<transition_effect> ::= <transition_style>[,<transition_duration>]
<transition_style> ::= <Blinds_effect> | <Box_effect> |
                        <Dissolve_effect> | <Glitter_effect> |
                        <Split_effect> | <Wipe_effect>
<Blinds_effect> ::= B[<effect_dimension>]
<Box_effect> ::= X[<effect_motion>]
<Dissolve_effect> ::= D

```

```

<Glitter_effect> ::= G[<effect_direction>]
<Split_effect> ::= S[<effect_motion>][<effect_dimension>]
<Wipe_effect> ::= W[<effect_direction>]
<Replace_effect> ::= R
<effect_direction> ::= <number>
<effect_dimension> ::= H | V
<effect_motion> ::= I | O
<transition_duration> ::= <number>

```

Transition codes:

```

8738 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8739 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8740 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8741 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8742 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8743 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8744 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

8745 \def\hvtex@par@dimension{/Dm}%
8746 \def\hvtex@par@direction{/Di}%
8747 \def\hvtex@par@duration{/D}%
8748 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

8749 \def\hvtex@gettoken{\expandafter\hvtex@gettoken@\hvtex@buffer\@nil}%

```

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

```

8750 \def\hvtex@gettoken@#1 #2\@nil{%
8751   \edef\hvtex@token{#1}%
8752   \edef\hvtex@buffer{#2}%
8753 }%
8754 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

8755 \let\hvtex@trans@code\@empty
8756 \let\hvtex@param@dimension\@empty
8757 \let\hvtex@param@direction\@empty
8758 \let\hvtex@param@duration\@empty
8759 \let\hvtex@param@motion\@empty
8760 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

8761 \hvtex@gettoken
8762 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

8763 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

8764 \else
8765 \hvtex@gettoken
8766 \fi
8767 \fi
8768 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

8769 \hvtex@trans@params
8770 }%

```

Reentrant macro to parse optional parameters.

```

8771 \def\hvtex@trans@params{%
8772   \ifx\hvtex@buffer\@empty
8773   \else
8774     \hvtex@gettoken
8775     \let\hvtex@trans@par\hvtex@token
8776     \ifx\hvtex@buffer\@empty
8777     \else
8778       \hvtex@gettoken
8779       \ifx\hvtex@trans@par\hvtex@par@duration

```

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

```

8780       \let\hvtex@param@duration\hvtex@token
8781     \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

8782       \expandafter\edef\expandafter\hvtex@param@motion
8783       \expandafter{\expandafter\@gobble\hvtex@token}%
8784     \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

8785       \expandafter\edef\expandafter\hvtex@param@dimension
8786       \expandafter{\expandafter\@gobble\hvtex@token}%
8787     \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).

```

8788       \let\hvtex@param@direction\hvtex@token
8789       \fi\fi\fi\fi
8790     \fi
8791   \fi
8792   \ifx\hvtex@buffer\@empty
8793     \let\next\hvtex@produce@trans
8794   \else
8795     \let\next\hvtex@trans@params
8796   \fi
8797   \next
8798 }%

```

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

```

8799 \def\hvtex@produce@trans{%
8800   \let\vtex@trans@special\@empty
8801   \if S\hvtex@trans@code
8802     \edef\vtex@trans@special{\hvtex@trans@code
8803       \hvtex@param@dimension\hvtex@param@motion}%
8804   \else\if B\hvtex@trans@code
8805     \edef\vtex@trans@special{%
8806       \hvtex@trans@code\hvtex@param@dimension
8807     }%
8808   \else\if X\hvtex@trans@code
8809     \edef\vtex@trans@special{%
8810       \hvtex@trans@code\hvtex@param@motion
8811     }%
8812   \else\if W\hvtex@trans@code
8813     \edef\vtex@trans@special{%
8814       \hvtex@trans@code\hvtex@param@direction
8815     }%
8816   \else\if D\hvtex@trans@code

```

```

8817     \let\vtex@trans@special\hvtex@trans@code
8818     \else\if R\hvtex@trans@code
8819         \let\vtex@trans@special\hvtex@trans@code
8820     \else\if G\hvtex@trans@code
8821         \edef\vtex@trans@special{%
8822             \hvtex@trans@code\hvtex@param@direction
8823         }%
8824     \fi\fi\fi\fi\fi\fi\fi
8825     \ifx\vtex@trans@special\@empty
8826     \else
8827         \ifx\hvtex@param@duration\@empty
8828         \else
8829             \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

8830         \multiply\dimen@\@m
8831         \edef\vtex@trans@special{%
8832             \vtex@trans@special,\strip@pt\dimen@
8833         }%
8834     \fi

```

And all the mess is just for this.

```

8835     \special{!trans \vtex@trans@special}%
8836     \fi
8837 }%

8838 \def\hyper@pageduration{%
8839     \ifx\@pdfpageduration\relax
8840     \else
8841         \ifx\@pdfpageduration\@empty
8842             \special{!duration-}%
8843         \else
8844             \special{!duration \@pdfpageduration}%
8845         \fi
8846     \fi
8847 }%

8848 \def\hyper@pagehidden{%
8849     \ifHy@useHidKey
8850         \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8851     \fi
8852 }%

8853 \g@addto@macro\Hy@EveryPageBoxHook{%
8854     \hyper@pagetransition
8855     \hyper@pageduration
8856     \hyper@pagehidden
8857 }%
8858 \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

```

8859 \ifx\@pdfproducer\relax
8860   \def\@pdfproducer{VTeX}%
8861   \ifnum\Hy@VTeXversion>\z@
8862     \count@\VTeXversion
8863     \divide\count@ 100 %
8864     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
8865     \multiply\count@ -100 %
8866     \advance\count@\VTeXversion
8867     \edef\@pdfproducer{%
8868       \@pdfproducer
8869       .\ifnum\count@<10 0\fi\the\count@
8870       \ifx\VTeXOS\undefined\else
8871         \ifnum\VTeXOS>0 %
8872           \ifnum\VTeXOS<6 %
8873             \space(%
8874             \ifcase\VTeXOS
8875               \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
8876             \fi
8877             )%
8878           \fi
8879         \fi
8880       \fi
8881       ,\space
8882       \ifnum\OpMode=\@ne PDF\else PS\fi
8883       \space backend%
8884       \ifx\gexmode\undefined\else
8885         \ifnum\gexmode>\z@\space with GeX\fi
8886       \fi
8887     }%
8888   \fi
8889 \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).

```

8890 \def\PDF@SetupDoc{%
8891   \ifx\@pdfpagescrop\@empty
8892   \else
8893     \special{!pdfinfo b=<\@pdfpagescrop>}%
8894   \fi
8895   \ifx\@pdfstartpage\@empty
8896   \else
8897     \ifx\@pdfstartview\@empty
8898     \else
8899       \special{!onopen Page\@pdfstartpage}%
8900     \fi

```



```

8901 \fi
8902 \special{!pdfinfo p=</\@pdfpagemode>}%
8903 \ifx\@baseurl\@empty
8904 \else
8905   \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
8906 \fi
8907 \special{!pdfinfo v=<<<%
8908   \ifHy@toolbar\else /HideToolbar true\fi
8909   \ifHy@menubar\else /HideMenubar true\fi
8910   \ifHy@windowui\else /HideWindowUI true\fi
8911   \ifHy@fitwindow /FitWindow true\fi
8912   \ifHy@centerwindow /CenterWindow true\fi
8913   \ifHy@displaydoctitle /DisplayDocTitle true\fi
8914   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8915   \Hy@UseNameKey{Direction}\@pdfdirection
8916   \Hy@UseNameKey{ViewArea}\@pdfviewarea
8917   \Hy@UseNameKey{ViewClip}\@pdfviewclip
8918   \Hy@UseNameKey{PrintArea}\@pdfprintarea
8919   \Hy@UseNameKey{PrintClip}\@pdfprintclip
8920   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8921   \Hy@UseNameKey{Duplex}\@pdfduplex
8922   \ifx\@pdfpicktraybypdfsize\@empty
8923   \else
8924     /PickTrayByPDFSize \@pdfpicktraybypdfsize
8925   \fi
8926   \ifx\@pdfprintpagerange\@empty
8927   \else
8928     /PrintPageRange[\@pdfprintpagerange]%
8929   \fi
8930   \ifx\@pdfnumcopies\@empty
8931   \else
8932     /NumCopies \@pdfnumcopies
8933   \fi
8934 >>>}%
8935 \ifx\@pdfpagelayout\@empty
8936 \else
8937   \special{!pdfinfo l=</\@pdfpagelayout\space>}%
8938 \fi
8939 }%
8940 \def\PDF@FinishDoc{%
8941   \Hy@UseMaketitleInfos
8942   \special{!pdfinfo a=<\@pdfauthor>}%
8943   \special{!pdfinfo t=<\@pdftitle>}%
8944   \special{!pdfinfo s=<\@pdfsubject>}%
8945   \special{!pdfinfo c=<\@pdfcreator>}%
8946   \ifx\@pdfproducer\relax
8947   \else
8948     \special{!pdfinfo r=<\@pdfproducer>}%
8949   \fi
8950   \special{!pdfinfo k=<\@pdfkeywords>}%
8951   \Hy@DisableOption{pdfauthor}%
8952   \Hy@DisableOption{pdftitle}%
8953   \Hy@DisableOption{pdfsubject}%
8954   \Hy@DisableOption{pdfcreator}%
8955   \Hy@DisableOption{pdfcreationdate}%
8956   \Hy@DisableOption{pdfmoddate}%
8957   \Hy@DisableOption{pdfproducer}%

```

```

8958 \Hy@DisableOption{pdfkeywords}%
8959 }
8960 \</vtex>

```

46.7 Fix for Adobe bug number 466320

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

```

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

```

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

```

8961 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
8962 <package>\providecommand*\Hy@DistillerDestFix{}
8963 <*pdfmark | dviwindo>
8964 \def\Hy@DistillerDestFix{%
8965   \begingroup
8966     \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

8967   \ifnum \@ifundefined{OpMode}{0}{%
8968     \@ifundefined{gexmode}{0}{%
8969       \ifnum\gexmode>0 \OpMode\else 0\fi
8970     }>1 %
8971   \def\x##1{%
8972     \immediate\special{!=##1}%
8973   }%
8974 \fi
8975 \x{%
8976   /product where{%
8977     pop %
8978     product(Distiller)search{%
8979       pop pop pop %
8980       version(.)search{%
8981         exch pop exch pop%
8982         (3011)eq{%
8983           gsave %
8984           newpath 0 0 moveto closepath clip%
8985           /Courier findfont 10 scalefont setfont %
8986           72 72 moveto(.)show %
8987           grestore%
8988         }if%
8989       }{pop}ifelse%
8990     }{pop}ifelse%
8991   }if%
8992 }%
8993 \endgroup
8994 }
8995 </pdfmark | dviwindo>

```

46.8 Direct pdfmark support

Drivers that load pdfmark.def have to provide the correct macro definitions of

<code>\pdfproducer</code>	for document information
<code>\literalps@out</code>	PostScript output
<code>\headerps@out</code>	PostScript output that goes in the header area

and the correct definitions of the following PostScript procedures:

<code>H.S</code>	start of anchor, link or rect
<code>#1 H.A</code>	end of anchor, argument=baselineskip in pt
<code>#1 H.L</code>	end of link, argument=baselineskip in pt
<code>H.R</code>	end of rect
<code>H.B</code>	raw rect code

```

8996 <*pdfmark>
8997 \Hy@breaklinks@unsupported
8998 \def\hyper@anchor#1{%
8999   \Hy@SaveLastskip
9000   \beginngroup
9001     \pdfmark[\anchor@spot]{%
9002       pdfmark=/DEST,%
9003       linktype=anchor,%
9004       View=/\@pdfview \@pdfviewparams,%
9005       DestAnchor={#1}%
9006     }%
9007   \endgroup
9008   \Hy@RestoreLastskip
9009 }
9010 \@ifundefined{hyper@anchorstart}{\endinput}{}
9011 \def\hyper@anchorstart#1{%
9012   \Hy@SaveLastskip
9013   \literalps@out{H.S}%
9014   \xdef\hyper@currentanchor{#1}%
9015   \Hy@activeanchortrue
9016 }
9017 \def\hyper@anchorend{%
9018   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
9019   \pdfmark{%
9020     pdfmark=/DEST,%
9021     linktype=anchor,%
9022     View=/\@pdfview \@pdfviewparams,%
9023     DestAnchor=\hyper@currentanchor,%
9024   }%
9025   \Hy@activeanchorfalse
9026   \Hy@RestoreLastskip
9027 }
9028 \def\hyper@linkstart#1#2{%
9029   \ifHy@breaklinks
9030   \else
9031     \leavevmode\hbox\bgroup
9032     \fi
9033     \expandafter\Hy@colorlink\csname @#1color\endcsname
9034     \literalps@out{H.S}%
9035     \xdef\hyper@currentanchor{#2}%
9036     \gdef\hyper@currentlinktype{#1}%
9037 }
9038 \def\hyper@linkend{%
9039   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
9040   \@ifundefined{@\hyper@currentlinktype bordercolor}{%
9041     \let\Hy@tempcolor\relax

```

```

9042 }{%
9043   \edef\Hy@tempcolor{%
9044     \csname @\hyper@currentlinktype bordercolor\endcsname
9045   }%
9046 }%
9047 \pdfmark{%
9048   pdfmark=/ANN,%
9049   linktype=link,%
9050   Subtype=/Link,%
9051   PDFAFlags=4,%
9052   Dest=\hyper@currentanchor,%
9053   AcroHighlight=\@pdfhighlight,%
9054   Border=\@pdfborder,%
9055   BorderStyle=\@pdfborderstyle,%
9056   Color=\Hy@tempcolor,%
9057   Raw=H.B%
9058 }%
9059 \Hy@endcolorlink
9060 \ifHy@breaklinks
9061 \else
9062   \egroup
9063 \fi
9064 }

```

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.

```

9065 \begingroup
9066   \catcode'P=12 %
9067   \catcode'T=12 %
9068   \lowercase{\endgroup
9069   \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
9070 }
9071 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

9072 \def\hyper@pagetransition{%
9073   \ifx\@pdfpagetransition\relax
9074   \else
9075     \ifx\@pdfpagetransition\@empty
9076       % 1. Does an old entry have to be deleted?
9077       % 2. If 1=yes, how to delete?
9078     \else
9079       \pdfmark{%
9080         pdfmark=/PUT,%
9081         Raw={%
9082           \string{ThisPage\string}%
9083           <</Trans << /S /\@pdfpagetransition\space >> >>%
9084         }%
9085       }%
9086     \fi
9087   \fi
9088 }

```

\hyper@pageduration

```

9089 \def\hyper@pageduration{%
9090   \ifx\@pdfpageduration\relax

```

```

9091 \else
9092   \ifx\@pdfpageduration\@empty
9093     % 1. Does an old entry have to be deleted?
9094     % 2. If 1=yes, how to delete?
9095   \else
9096     \pdfmark{%
9097       pdfmark=/PUT,%
9098       Raw={%
9099         \string{ThisPage\string}%
9100         <</Dur \@pdfpageduration>>%
9101       }%
9102     }%
9103   \fi
9104 \fi
9105 }

```

\hyper@pagehidden

```

9106 \def\hyper@pagehidden{%
9107   \ifHy@useHidKey
9108     \pdfmark{%
9109       pdfmark=/PUT,%
9110       Raw={%
9111         \string{ThisPage\string}%
9112         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
9113       }%
9114     }%
9115   \fi
9116 }

9117 \g@addto@macro\Hy@EveryPageBoxHook{%
9118   \hyper@pagetransition
9119   \hyper@pageduration
9120   \hyper@pagehidden
9121 }

9122 \def\hyper@image#1#2{%
9123   \hyper@linkurl{#2}{#1}%
9124 }

9125 \def\Hy@undefinedname{UNDEFINED}
9126 \def\hyper@link#1#2#3{%
9127   \@ifundefined{#1bordercolor}{%
9128     \let\Hy@tempcolor\relax
9129   }{%
9130     \edef\Hy@tempcolor{\csname #1bordercolor\endcsname}%
9131   }%
9132   \begingroup
9133     \protected@edef\Hy@testname{#2}%
9134     \ifx\Hy@testname\@empty
9135       \Hy@Warning{%
9136         Empty destination name,\MessageBreak
9137         using '\Hy@undefinedname'%
9138       }%
9139     \let\Hy@testname\Hy@undefinedname
9140   \fi
9141   \pdfmark[#{#3}]{%
9142     Color=\Hy@tempcolor,%
9143     linktype={#1},%
9144     AcroHighlight=\@pdfhighlight,%

```

```

9145     Border=\@pdfborder,%
9146     BorderStyle=\@pdfborderstyle,%
9147     pdfmark=/ANN,%
9148     Subtype=/Link,%
9149     PDFAFlags=4,%
9150     Dest=\Hy@testname
9151 }%
9152 \endgroup
9153 }
9154 \newtoks\pdf@docset
9155 \def\PDF@FinishDoc{%
9156   \Hy@UseMaketitleInfos
9157   \let\Hy@temp\@empty
9158   \ifx\@pdfcreationdate\@empty
9159   \else
9160     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
9161   \fi
9162   \ifx\@pdfmoddate\@empty
9163   \else
9164     \expandafter\def\expandafter\Hy@temp\expandafter{%
9165       \Hy@temp
9166       ModDate=\@pdfmoddate,%
9167     }%
9168   \fi
9169   \ifx\@pdfproducer\relax
9170   \else
9171     \expandafter\def\expandafter\Hy@temp\expandafter{%
9172       \Hy@temp
9173       Producer=\@pdfproducer,%
9174     }%
9175   \fi
9176   \expandafter
9177   \pdfmark\expandafter{%
9178     \Hy@temp
9179     pdfmark=/DOCINFO,%
9180     Title=\@pdftitle,%
9181     Subject=\@pdfsubject,%
9182     Creator=\@pdfcreator,%
9183     Author=\@pdfauthor,%
9184     Keywords=\@pdfkeywords
9185   }%
9186   \Hy@DisableOption{pdfauthor}%
9187   \Hy@DisableOption{pdftitle}%
9188   \Hy@DisableOption{pdfsubject}%
9189   \Hy@DisableOption{pdfcreator}%
9190   \Hy@DisableOption{pdfcreationdate}%
9191   \Hy@DisableOption{pdfmoddate}%
9192   \Hy@DisableOption{pdfproducer}%
9193   \Hy@DisableOption{pdfkeywords}%
9194 }
9195 \def\PDF@SetupDoc{%
9196   \def\Hy@temp{}%
9197   \ifx\@pdfstartpage\@empty
9198   \else
9199     \ifx\@pdfstartview\@empty
9200     \else
9201       \edef\Hy@temp{%

```

```

9202         ,Page=\@pdfstartpage
9203         ,View=\@pdfstartview
9204     }%
9205     \fi
9206 \fi
9207 \edef\Hy@temp{%
9208     \noexpand\pdfmark{%
9209         pdfmark=/DOCVIEW,%
9210         PageMode=/\@pdfpagemode
9211     }\Hy@temp
9212 }%
9213 }%
9214 \Hy@temp
9215 \ifx\@pdfpagescrop\@empty
9216 \else
9217     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9218 \fi
9219 \edef\Hy@temp{%
9220     \ifHy@toolbar\else /HideToolbar true\fi
9221     \ifHy@menubar\else /HideMenubar true\fi
9222     \ifHy>windowui\else /HideWindowUI true\fi
9223     \ifHy@fitwindow /FitWindow true\fi
9224     \ifHy@centerwindow /CenterWindow true\fi
9225     \ifHy@displaydoctitle /DisplayDocTitle true\fi
9226     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9227     \Hy@UseNameKey{Direction}\@pdfdirection
9228     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9229     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9230     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9231     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9232     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9233     \Hy@UseNameKey{Duplex}\@pdfduplex
9234     \ifx\@pdfpicktraybypdfsize\@empty
9235     \else
9236         /PickTrayByPDFSize \@pdfpicktraybypdfsize
9237     \fi
9238     \ifx\@pdfprintpagerange\@empty
9239     \else
9240         /PrintPageRange[\@pdfprintpagerange]%
9241     \fi
9242     \ifx\@pdfnumcopies\@empty
9243     \else
9244         /NumCopies \@pdfnumcopies
9245     \fi
9246 }%
9247 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9248 \pdfmark{%
9249     pdfmark=/PUT,%
9250     Raw={%
9251         \string{Catalog\string}<<%
9252         \ifx\Hy@temp\@empty
9253         \else
9254             /ViewerPreferences<<\Hy@temp>>%
9255         \fi
9256         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9257         \ifx\@pdflang\@empty
9258         \else

```

```

9259         /Lang(\@pdflang)%
9260     \fi
9261     \ifx\@baseurl\@empty
9262     \else
9263         /URI<</Base(\Hy@pstringB)>>%
9264     \fi
9265     >>%
9266 }%
9267 }%
9268 }
9269 </pdfmark>
9270 <*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.

```

9271 \newif\ifHy@pdfmarkerror
9272 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
9273 \def\pdfmark@[#1]#2{%
9274     \Hy@pdfmarkerrorfalse
9275     \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9276     \@processme
9277     \let\pdf@type\relax
9278     \setkeys{PDF}{#2}%
9279     \ifHy@pdfmarkerror
9280     \else
9281         \ifx\pdf@type\relax
9282             \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9283             \ifx\#1\%
9284             \else
9285                 \pdf@rect{#1}%
9286             \fi
9287         \else
9288             \ifx\#1\%
9289                 \literalps@out{%
9290                     [\the\pdf@toks\space\pdf@type\space pdfmark%
9291                     ]%
9292                 \else
9293                     \@ifundefined{@\pdf@linktype color}{%
9294                         \Hy@colorlink\@linkcolor
9295                     }{%
9296                         \expandafter\Hy@colorlink
9297                         \csname @\pdf@linktype color\endcsname
9298                     }%
9299                     \pdf@rect{#1}%
9300                     \literalps@out{%
9301                         [\the\pdf@toks\space\pdf@type\space pdfmark%
9302                         ]%
9303                         \Hy@endcolorlink
9304                     }%
9305                 \fi
9306             \fi
9307 }

```

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}
```

```
9308 \newsavebox{\pdf@box}
9309 \providecommand*{\Hy@setouterhbox}{\sbox}
9310 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
9311 \def\Hy@DEST{/DEST}
9312 \def\pdf@rect#1{%
9313   \leavevmode
9314   \ifHy@breaklinks
9315     \Hy@setouterhbox\pdf@box{#1}%
9316   \else
9317     \sbox\pdf@box{#1}%
9318   \fi
9319   \dimen@ht\pdf@box
9320   \ifdim\dp\pdf@box=\z@
9321     \literalps@out{H.S}%
9322   \else
9323     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9324   \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...).

```
9325 \ifHy@breaklinks
9326   \expandafter\Hy@breaklinksunhbox
9327 \else
9328   \expandafter\box
9329 \fi
9330 \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
```

```
9331 \ifdim\dimen@=\z@
9332   \literalps@out{H.R}%
9333 \else
9334   \raise\dimen@\hbox{\literalps@out{H.R}}%
9335 \fi
9336 \ifx\pdf@type\Hy@DEST
9337 \else
9338   \pdf@addtoksx{H.B}%
9339 \fi
9340 }
```

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.

```
9341 \newtoks\pdf@toks
9342 \newtoks\pdf@defaulttoks
9343 \pdf@defaulttoks={}
9344 \def\pdf@addtoks#1#2{%
```

```

9345 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9346 \@processme
9347 }
9348 \def\pdf@addtoksx#1{%
9349 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9350 \@processme
9351 }
9352 \def\PDFdefaults#1{%
9353 \pdf@defaulttoks={#1}%
9354 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

9355 % what is the type of pdfmark?
9356 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9357 % what is the link type?
9358 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
9359 \def\pdf@linktype{link}
9360 % parameter is a stream of PDF
9361 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
9362 % parameter is a name
9363 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9364 % parameter is a array
9365 \define@key{PDF}{Border}{%
9366 \edef\Hy@temp{#1}%
9367 \ifx\Hy@temp\@empty
9368 \else
9369 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
9370 \fi
9371 }
9372 \let\Hy@BorderArrayPatch\@empty
9373 % parameter is a dictionary
9374 \define@key{PDF}{BorderStyle}{%
9375 \edef\Hy@temp{#1}%
9376 \ifx\Hy@temp\@empty
9377 \else
9378 \pdf@addtoks{<<#1>>}{BS}%
9379 \fi
9380 }
9381 % parameter is a array
9382 \define@key{PDF}{Color}{%
9383 \ifx\relax#1\relax
9384 \else
9385 \pdf@addtoks{[#1]}{Color}% hash-ok
9386 \fi
9387 }
9388 % parameter is a string
9389 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9390 % parameter is a integer
9391 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9392 % parameter is a array
9393 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9394 % parameter is a string
9395 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9396 % parameter is a string or file
9397 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9398 % parameter is a destination
9399 \define@key{PDF}{Dest}{%
9400 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%

```

```

9401 \ifx\Hy@pstringDest\@empty
9402   \Hy@pdfmarkerrortrue
9403   \Hy@Warning{Destination with empty name ignored}%
9404 \else
9405   \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9406 \fi
9407 }
9408 \define@key{PDF}{DestAnchor}{%
9409   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9410   \ifx\Hy@pstringDest\@empty
9411     \Hy@pdfmarkerrortrue
9412     \Hy@Warning{Destination with empty name ignored}%
9413   \else
9414     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9415   \fi
9416 }
9417 % parameter is a string
9418 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9419 % parameter is a string
9420 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9421 % parameter is a int
9422 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9423 \define@key{PDF}{PDFAFlags}{%
9424   \ifHy@pdfa
9425     \pdf@addtoks{#1}{F}%
9426   \fi
9427 }
9428 % parameter is a name
9429 \define@key{PDF}{AcroHighlight}{%
9430   \begingroup
9431     \edef\x{#1}%
9432     \expandafter\endgroup\ifx\x\@empty
9433     \else
9434       \pdf@addtoks{#1}{H}%
9435     \fi
9436 }
9437 % parameter is a string
9438 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9439 % parameter is a string
9440 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9441 % parameter is a string
9442 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9443 % parameter is a string
9444 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9445 % parameter is a Boolean
9446 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9447 % parameter is a integer or name
9448 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9449 % parameter is a name
9450 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9451 % parameter is a string
9452 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9453 % parameter is a array
9454 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9455 % parameter is a integer
9456 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9457 % parameter is a name

```

```

9458 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9459 % parameter is a string
9460 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9461 % parameter is a string
9462 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9463 % parameter is a string
9464 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9465 % parameter is an array
9466 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9467 % parameter is a string
9468 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9469 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9470 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9471 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9472 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9473 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
9474 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9475 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9476 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9477 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9478 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
9479 </pdfmarkbase>
9480 <*pdfmark>
9481 \def\Acrobatmenu#1#2{%
9482   \Hy@Acrobatmenu{#1}{#2}{%
9483     \pdfmark[#{#2}]{%
9484       linktype=menu,%
9485       pdfmark=/ANN,%
9486       AcroHighlight=\pdfhighlight,%
9487       Border=\pdfborder,%
9488       BorderStyle=\pdfborderstyle,%
9489       Action={<< /Subtype /Named /N /#1 >>},%
9490       Subtype=/Link,%
9491       PDFAFflags=4%
9492     }%
9493   }%
9494 }

```

And now for some useful examples:

```

9495 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9496 \def\PDFNextPage@[#1]#2{%
9497   \pdfmark[#{#2}]{%
9498     #1,%
9499     Border=\pdfborder,%
9500     BorderStyle=\pdfborderstyle,%
9501     Color=.2 .1 .5,%
9502     pdfmark=/ANN,%
9503     Subtype=/Link,%
9504     PDFAFflags=4,%
9505     Page=/Next%
9506   }%
9507 }
9508 \def\PDFPreviousPage{%
9509   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9510 }
9511 \def\PDFPreviousPage@[#1]#2{%

```

```

9512 \pdfmark[{#2}]{%
9513   #1,%
9514   Border=\pdfborder,%
9515   BorderStyle=\pdfborderstyle,%
9516   Color=.4 .4 .1,%
9517   pdfmark=/ANN,%
9518   Subtype=/Link,%
9519   PDFAFlags=4,%
9520   Page=/Prev%
9521 }%
9522 }
9523 \def\PDFOpen#1{%
9524   \pdfmark{#1,pdfmark=/DOCVIEW}%
9525 }

```

This will only work if you use Distiller 2.1 or higher.

```

9526 \def\hyper@linkurl#1#2{%
9527   \begingroup
9528     \Hy@pstringdef\Hy@pstringURI{#2}%
9529     \hyper@chars
9530     \leavevmode
9531     \pdfmark[{#1}]{%
9532       pdfmark=/ANN,%
9533       linktype=url,%
9534       AcroHighlight=\pdfhighlight,%
9535       Border=\pdfborder,%
9536       BorderStyle=\pdfborderstyle,%
9537       Color=\urlbordercolor,%
9538       Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9539       Subtype=/Link,%
9540       PDFAFlags=4%
9541     }%
9542   \endgroup
9543 }
9544 \def\hyper@linkfile#1#2#3{%
9545   \begingroup
9546     \Hy@pstringdef\Hy@pstringF{#2}%
9547     \Hy@pstringdef\Hy@pstringD{#3}%
9548     \leavevmode
9549     \pdfmark[{#1}]{%
9550       pdfmark=/ANN,%
9551       Subtype=/Link,%
9552       PDFAFlags=4,%
9553       AcroHighlight=\pdfhighlight,%
9554       Border=\pdfborder,%
9555       BorderStyle=\pdfborderstyle,%
9556       linktype=file,%
9557       Color=\filebordercolor,%
9558       Action={%
9559         <<%
9560           /S/GoToR%
9561           \Hy@SetNewWindow
9562           /F(\Hy@pstringF)%
9563           /D\ifx\#3\ [O \pdfstartview]\else(\Hy@pstringD)cvn\fi
9564         >>%
9565       }%
9566     }%
9567   \endgroup

```

```

9568 }
9569 \def\@hyper@launch run:#1\#2#3{%
9570   \begingroup
9571     \Hy@pstringdef\Hy@pstringF{#1}%
9572     \Hy@pstringdef\Hy@pstringP{#3}%
9573     \leavevmode
9574     \pdfmark[{#2}]{%
9575       pdfmark=/ANN,%
9576       Subtype=/Link,%
9577       PDFAFlags=4,%
9578       AcroHighlight=\@pdfhighlight,%
9579       Border=\@pdfborder,%
9580       BorderStyle=\@pdfborderstyle,%
9581       linktype=run,%
9582       Color=\@runbordercolor,%
9583       Action={%
9584         <<%
9585           /S/Launch%
9586           \Hy@SetNewWindow
9587           /F(\Hy@pstringF)%
9588           \ifx\#3\%
9589             \else
9590               /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9591             \fi
9592           >>%
9593         }%
9594       }%
9595   \endgroup
9596 }
9597 \pdfmark

```

Unfortunately, some parts of the pdfmark PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

46.9 Rokicki's dvips

dvips thinks in 10ths of a big point, its coordinate space is resolution dependent, and its *y* axis starts at the top of the page. Other drivers can and will be different!

The work is done in SDict, because we add in some header definitions in a moment.

```

9598 < *dvips>
9599 \providecommand*\XR@ext}{pdf}
9600 \def\Hy@raisedlink{}
9601 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9602 \def\headerps@out#1{\special{! #1}}%
9603 \input{pdfmark.def}%
9604 \ifx\@pdfproducer\relax
9605   \def\@pdfproducer{dvips + Distiller}%
9606 \fi
9607 \providecommand*\@pdfborder{0 0 1}
9608 \providecommand*\@pdfborderstyle{}
9609 \providecommand*\@pdfview{XYZ}
9610 \providecommand*\@pdfviewparams{ H.V}
9611 \def\Hy@BorderArrayPatch{BorderArrayPatch}
9612 \g@addto@macro\Hy@FirstPageHook{%
9613   \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.

```
9614 /DvipsToPDF{72.27 mul Resolution div} def%
9615 /PDFToDvips{72.27 div Resolution mul} def%
9616 /BPToDvips{72 div Resolution mul}def%
```

The values inside the /Border 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.

```
9617 /BorderArrayPatch{%
9618   [exch%
9619     dup dup type/integertype eq exch type/realtype eq or%
9620     {BPToDvips}if%
9621     }forall]%
9622   }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.

```
9623 /HyperBorder {1 PDFToDvips} def%
9624 /H.V {pdf@hoff pdf@voff null} def%
9625 /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

```
9626 /H.S {%
9627   currentpoint %
9628   HyperBorder add /pdf@lly exch def %
9629   dup DvipsToPDF 72 add /pdf@hoff exch def %
9630   HyperBorder sub /pdf@llx exch def%
9631 } 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

```
9632 /H.L {%
9633   2 sub dup%
9634   /HyperBasePt exch def %
9635   PDFToDvips /HyperBaseDvips exch def %
9636   currentpoint %
9637   HyperBaseDvips sub /pdf@ury exch def%
9638   /pdf@urx exch def%
9639 } def%
9640 /H.A {%
```

```

9641      H.L %
9642 % |/\pdf@voff| = the distance from the top of the page to a point
9643 % |\baselineskip| above the current point in PDF coordinates
9644      currentpoint exch pop %
9645      vsize 72 sub exch DvipsToPDF %
9646      HyperBasePt sub % baseline skip
9647      sub /\pdf@voff exch def%
9648  } def%
9649  /H.R {%
9650      currentpoint %
9651      HyperBorder sub /\pdf@ury exch def %
9652      HyperBorder add /\pdf@urx exch def %
9653 % |/\pdf@voff| = the distance from the top of the page to the current point, in
9654 % PDF coordinates
9655      currentpoint exch pop vsize 72 sub %
9656      exch DvipsToPDF sub /\pdf@voff exch def%
9657  } def%
9658 }%
9659 }
9660 \AtBeginShipoutFirst{%
9661   \ifHy@setpagesize
9662     \begingroup
9663     \@ifundefined{stockwidth}{%
9664       \ifx\special@paper\@empty
9665         \special{papersize=\the\paperwidth,\the\paperheight}%
9666       \else
9667         \special{papersize=\special@paper}%
9668       \fi
9669     }{%
9670       \ifdim\stockwidth=\z@
9671       \else
9672         \special{papersize=\the\stockwidth,\the\stockheight}%
9673       \fi
9674     }%
9675   \endgroup
9676 \fi
9677 \Hy@DisableOption{setpagesize}%
9678 }
9679 </dvips>

```

46.10 VTeX's vtexpdfmark driver

This part is derived from the dvips (many names reflect this).

The origin seems to be the same as TeX's origin, 1 in from the left and 1 in downwards from the top. The direction of the y axis is downwards, the opposite of the dvips case. Units seems to be pt or bp.

```

9680 <*vtexpdfmark>
9681 \providecommand*{\XR@ext}{pdf}
9682 \def\Hy@raisedlink{}
9683 \def\literalps@out#1{\special{pS:#1}}%
9684 \def\headerps@out#1{\immediate\special{pS:#1}}%
9685 \input{pdfmark.def}%
9686 \ifx\@pdfproducer\relax
9687   \ifnum\OpMode=\@ne
9688     \def\@pdfproducer{VTeX}%
9689   \else

```



```

9690 \def\@pdfproducer{VTeX + Distiller}%
9691 \fi
9692 \fi
9693 \providecommand*\@pdfborder{0 0 1}
9694 \providecommand*\@pdfborderstyle{}
9695 \providecommand*\@pdfview{XYZ}
9696 \providecommand*\@pdfviewparams{ H.V}

9697 \g@addto@macro\Hy@FirstPageHook{%
9698 \headerps@out{%
9699 /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.

```

9700 /HyperBorder {1} def%
9701 /H.V {pdf@hoff pdf@voff null} def%
9702 /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9703 /H.S {%
9704 currentpoint %
9705 HyperBorder sub%
9706 /pdf@lly exch def %
9707 dup 72 add /pdf@hoff exch def %
9708 HyperBorder sub%
9709 /pdf@llx exch def%
9710 } def%

```

The x and y coordinates of the current point, minus the `\baselineskip`: $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

9711 /H.L {%
9712 2 sub%
9713 /HyperBasePt exch def %
9714 currentpoint %
9715 HyperBasePt add HyperBorder add%
9716 /pdf@ury exch def %
9717 HyperBorder add%
9718 /pdf@urx exch def%
9719 } def%
9720 /H.A {%
9721 H.L %
9722 currentpoint exch pop %
9723 vsize 72 sub exch %
9724 HyperBasePt add add%
9725 /pdf@voff exch def%
9726 } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

9727 /H.R {%
9728 currentpoint %
9729 HyperBorder add%
9730 /pdf@ury exch def %
9731 HyperBorder add%
9732 /pdf@urx exch def %
9733 currentpoint exch pop vsize 72 sub add%
9734 /pdf@voff exch def%
9735 } def%

```

```

9736 }%
9737 }
9738 </vtxpdfmark>

```

46.11 Textures

```

9739 <*textures>
9740 \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.

```

9741 \begingroup
9742 \obeylines %
9743 \gdef\Hy@ps@CR{\noexpand
9744 }%
9745 \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`.

```

9746 \def\literalps@out#1{%
9747 \special{postscript 0 0 transform}%
9748 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9749 }%
9750 %

```

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.

```

9751 \def\headerps@out#1{%
9752 \special{%
9753 prepostscript TeXdict begin\Hy@ps@CR
9754 #1\Hy@ps@CR
9755 end%
9756 }%
9757 }%
9758 %

```

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.

```

9759 \g@addto@macro\Hy@FirstPageHook{%
9760 \headerps@out{%
9761 /betterpdfmark {%
9762 systemdict begin %

```

```

9763      dup /BP eq%
9764      {cleartomark gsave nulldevice []}%
9765      {dup /EP eq%
9766        {cleartomark cleartomark grestore}%
9767        {cleartomark}%
9768        ifelse%
9769      }ifelse %
9770    end%
9771  }def\Hy@ps@CR
9772  __pdfmark__ not{/pdfmark /betterpdfmark load def}if%
9773 }% end of \headerps@out
9774}% end of \AtBeginShipoutFirst
9775 %
9776 \input{pdfmark.def}%
9777 %
9778 \ifx\@pdfproducer\relax
9779   \def\@pdfproducer{Textures + Distiller}%
9780 \fi
9781 \providecommand*\@pdfborder{0 0 1}
9782 \providecommand*\@pdfborderstyle{}
9783 \providecommand*\@pdfview{XYZ}
9784 \providecommand*\@pdfviewparams{ H.V}
9785 %

```

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 .

```

9786 \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

9787 /vsize {\Hy@pageheight} def%
9788 /DvipsToPDF {} def%
9789 /PDFToDvips {} def%
9790 /BPToDvips {} def%
9791 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9792 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9793 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9794 /H.S {%
9795   currentpoint %
9796   HyperBorder add /pdf@lly exch def %
9797   dup DvipsToPDF 72 add /pdf@hoff exch def %
9798   HyperBorder sub /pdf@llx exch def%
9799 } def\Hy@ps@CR
9800 /H.L {%
9801   2 sub %
9802   PDFToDvips /HyperBase exch def %
9803   currentpoint %
9804   HyperBase sub /pdf@ury exch def%
9805   /pdf@urx exch def%
9806 } def\Hy@ps@CR
9807 /H.A {%
9808   H.L %
9809   currentpoint exch pop %
9810   vsize 72 sub exch DvipsToPDF %
9811   HyperBase sub % baseline skip
9812   sub /pdf@voff exch def%

```

```

9813 } def\Hy@ps@CR
9814 /H.R {%
9815   currentpoint %
9816   HyperBorder sub /pdf@ury exch def %
9817   HyperBorder add /pdf@urx exch def %
9818   currentpoint exch pop vsize 72 sub %
9819   exch DvipsToPDF sub /pdf@voff exch def%
9820 } def\Hy@ps@CR
9821 }

9822 \AfterBeginDocument{%
9823   \ifHy@colorlinks
9824     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9825   \fi
9826 }

```

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.

```

9827 \expandafter\let\expandafter\keepPDF@SetupDoc
9828   \csname PDF@SetupDoc\endcsname
9829 \def\PDF@SetupDoc{%
9830   \ifx\@baseurl\@empty
9831   \else
9832     \special{html:<base href="\@baseurl">}%
9833   \fi
9834   \keepPDF@SetupDoc
9835 }

9836 \def\hyper@anchor#1{%
9837   \Hy@SaveLastskip
9838   \begingroup
9839     \let\protect=\string
9840     \special{html:<a name=%
9841       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9842   \endgroup
9843   \Hy@activeanchortrue
9844   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9845   \special{html:</a>}%
9846   \Hy@activeanchorfalse
9847   \Hy@RestoreLastskip
9848 }

9849 \def\hyper@anchorstart#1{%
9850   \Hy@SaveLastskip
9851   \begingroup
9852     \hyper@chars
9853     \special{html:<a name=%
9854       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9855   \endgroup
9856   \Hy@activeanchortrue
9857 }

9858 \def\hyper@anchorend{%
9859   \special{html:</a>}%
9860   \Hy@activeanchorfalse
9861   \Hy@RestoreLastskip
9862 }

9863 \def\@urltype{url}
9864 \def\hyper@linkstart#1#2{%
9865   \expandafter\Hy@colorlink\csname @#1color\endcsname
9866   \def\Hy@tempa{#1}%

```

```

9867 \ifx\Hy@tempa\@urltype
9868 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9869 \else
9870 \begingroup
9871 \hyper@chars
9872 \special{html:<a href=%
9873 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9874 \endgroup
9875 \fi
9876 }
9877 \def\hyper@linkend{%
9878 \special{html:</a>}%
9879 \Hy@endcolorlink
9880 }
9881 \def\hyper@linkfile#1#2#3{%
9882 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9883 }
9884 \def\hyper@linkurl#1#2{%
9885 \leavevmode
9886 \ifHy@raiselinks
9887 \setbox\@tempboxa=\color@hbox #1\color@endbox
9888 \@linkdim\dp\@tempboxa
9889 \lower\@linkdim\hbox{%
9890 \hyper@chars
9891 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9892 }%
9893 \Hy@colorlink\@urlcolor#1%
9894 \@linkdim\ht\@tempboxa
9895 \advance\@linkdim by -6.5\p@
9896 \raise\@linkdim\hbox{\special{html:</a>}}%
9897 \Hy@endcolorlink
9898 \else
9899 \begingroup
9900 \hyper@chars
9901 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9902 \Hy@colorlink\@urlcolor#1%
9903 \special{html:</a>}}%
9904 \Hy@endcolorlink
9905 \endgroup
9906 \fi
9907 }

```

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

```

9908 \def\hyper@link#1#2#3{%
9909 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
9910 }
9911 \def\hyper@image#1#2{%
9912 \begingroup
9913 \hyper@chars
9914 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
9915 \endgroup
9916 }
9917 </textures>

```

46.12 dvipsone

```

9918% \subsection{dvipsone driver}
9919% Over-ride the default setup macro in pdfmark driver to use Y\&Y

```

```

9920 % |\special| commands.
9921 \<dvipsone>
9922 \providecommand*\XR@ext\{pdf}
9923 \def\Hy@raisedlink{}
9924 \providecommand*\@pdfborder{0 0 1}
9925 \providecommand*\@pdfborderstyle{}
9926 \def\literalps@out#1{\special{ps:#1}}%
9927 \def\headerps@out#1{\special{headertext=#1}}%
9928 \input{pdfmark.def}%
9929 \ifx\@pdfproducer\relax
9930   \def\@pdfproducer{dvipsone + Distiller}%
9931 \fi
9932 \def\PDF@FinishDoc{%
9933   \Hy@UseMaketitleInfos
9934   \special{PDF: Keywords \@pdfkeywords}%
9935   \special{PDF: Title \@pdftitle}%
9936   \special{PDF: Creator \@pdfcreator}%
9937   \ifx\@pdfcreationdate\@empty
9938   \else
9939     \special{PDF: CreationDate \@pdfcreationdate}%
9940   \fi
9941   \ifx\@pdfmoddate\@empty
9942   \else
9943     \special{PDF: ModDate \@pdfmoddate}%
9944   \fi
9945   \special{PDF: Author \@pdfauthor}%
9946   \ifx\@pdfproducer\relax
9947   \else
9948     \special{PDF: Producer \@pdfproducer}%
9949   \fi
9950   \special{PDF: Subject \@pdfsubject}%
9951   \Hy@DisableOption{pdfauthor}%
9952   \Hy@DisableOption{pdftitle}%
9953   \Hy@DisableOption{pdfsubject}%
9954   \Hy@DisableOption{pdfcreator}%
9955   \Hy@DisableOption{pdfcreationdate}%
9956   \Hy@DisableOption{pdfmoddate}%
9957   \Hy@DisableOption{pdfproducer}%
9958   \Hy@DisableOption{pdfkeywords}%
9959 }
9960 \def\PDF@SetupDoc{%
9961   \def\Hy@temp{}%
9962   \ifx\@pdfstartpage\@empty
9963   \else
9964     \ifx\@pdfstartview\@empty
9965     \else
9966       \edef\Hy@temp{%
9967         ,Page=\@pdfstartpage
9968         ,View=\@pdfstartview
9969       }%
9970     \fi
9971   \fi
9972   \edef\Hy@temp{%
9973     \noexpand\pdfmark{%
9974       pdfmark=/DOCVIEW,%
9975       PageMode=/\@pdfpagemode
9976     }\Hy@temp

```

```

9977     }%
9978 }%
9979 \Hy@temp
9980 \ifx\@pdfpagescrop\@empty
9981 \else
9982     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9983 \fi
9984 \edef\Hy@temp{%
9985     \ifHy@toolbar\else /HideToolbar true\fi
9986     \ifHy@menubar\else /HideMenubar true\fi
9987     \ifHy@windowui\else /HideWindowUI true\fi
9988     \ifHy@fitwindow /FitWindow true\fi
9989     \ifHy@centerwindow /CenterWindow true\fi
9990     \ifHy@displaydoctitle /DisplayDocTitle true\fi
9991     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9992     \Hy@UseNameKey{Direction}\@pdfdirection
9993     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9994     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9995     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9996     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9997     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9998     \Hy@UseNameKey{Duplex}\@pdfduplex
9999     \ifx\@pdfpicktraybypdfsize\@empty
10000     \else
10001         /PickTrayByPDFSize \@pdfpicktraybypdfsize
10002     \fi
10003     \ifx\@pdfprintpagerange\@empty
10004     \else
10005         /PrintPageRange[\@pdfprintpagerange]%
10006     \fi
10007     \ifx\@pdfnumcopies\@empty
10008     \else
10009         /NumCopies \@pdfnumcopies
10010     \fi
10011 }%
10012 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10013 \pdfmark{%
10014     pdfmark=/PUT,%
10015     Raw={%
10016         \string{Catalog\string}<<%
10017         \ifx\Hy@temp\@empty
10018         \else
10019             /ViewerPreferences<<\Hy@temp>>%
10020         \fi
10021         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10022         \ifx\@pdflang\@empty
10023         \else
10024             /Lang(\@pdflang)%
10025         \fi
10026         \ifx\@baseurl\@empty
10027         \else
10028             /URI<</Base(\Hy@pstringB)>>%
10029         \fi
10030     >>%
10031 }%
10032 }%
10033 }

```

```

10034 \providecommand*\@pdfview{XYZ}
10035 \providecommand*\@pdfviewparams{ %
10036   gsave revscl currentpoint grestore %
10037   72 add exch pop null exch null%
10038 }
10039 \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 .

```

10040 \g@addto@macro\Hy@FirstPageHook{%
10041   \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

10042   /DvipsToPDF { 65781 div } def%
10043   /PDFToDvips { 65781 mul } def%
10044   /BPToDvips{65781 mul}def%
10045   /HyperBorder { 1 PDFToDvips } def%
10046   /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.

```

10047   /BorderArrayPatch{%
10048     [exch{%
10049       dup dup type/integertype eq exch type/realtype eq or%
10050       {BPToDvips}if%
10051     }forall]%
10052   }def%
10053   /H.S {%
10054     currentpoint %
10055     HyperBorder add /pdf@lly exch def %
10056     dup DvipsToPDF 72 add /pdf@hoff exch def %
10057     HyperBorder sub /pdf@llx exch def%
10058   } def%
10059   /H.L {%
10060     2 sub %
10061     PDFToDvips /HyperBase exch def %
10062     currentpoint %
10063     HyperBase sub /pdf@ury exch def%
10064     /pdf@urx exch def%
10065   } def%
10066   /H.A {%
10067     H.L %
10068     currentpoint exch pop %
10069     HyperBase sub % baseline skip
10070     DvipsToPDF /pdf@voff exch def%
10071   } def%
10072   /H.R {%
10073     currentpoint %
10074     HyperBorder sub /pdf@ury exch def %
10075     HyperBorder add /pdf@urx exch def %
10076     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
10077   } def%
10078   }%
10079 }
10080 \</dvipsone>

```


46.13 TeX4ht

```
10081 <*tex4ht>
10082 \providecommand*{\XR@ext}{html}
10083 \def\Hy@raisedlink{}
10084 \@ifpackageloaded{tex4ht}{%
10085   \typeout{hyperref tex4ht: tex4ht already loaded}%
10086 }{%
10087   \RequirePackage[htex4ht]{tex4ht}%
10088 }
10089 \hyperlinkfileprefix{}
10090 \def\PDF@FinishDoc{}
10091 \def\PDF@SetupDoc{%
10092   \ifx\@baseurl\@empty
10093   \else
10094     \special{t4ht=<base href="\@baseurl">}%
10095   \fi
10096 }
10097 \def\hyper@anchor#1{%
10098   \Hy@SaveLastskip
10099   \begingroup
10100     \let\protect=\string
10101     \special{t4ht=<a name=%
10102       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10103   \endgroup
10104   \Hy@activeanchortrue
10105   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10106   \special{t4ht=</a>}%
10107   \Hy@activeanchorfalse
10108   \Hy@RestoreLastskip
10109 }
10110 \def\hyper@anchorstart#1{%
10111   \Hy@SaveLastskip
10112   \begingroup
10113     \hyper@chars\special{t4ht=<a name=%
10114       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10115   \endgroup
10116   \Hy@activeanchortrue
10117 }
10118 \def\hyper@anchorend{%
10119   \special{t4ht=</a>}%
10120   \Hy@activeanchorfalse
10121   \Hy@RestoreLastskip
10122 }
10123 \def\@urltype{url}
10124 \def\hyper@linkstart#1#2{%
10125   \expandafter\Hy@colorlink\csname @#1color\endcsname
10126   \def\Hy@tempa{#1}%
10127   \ifx\Hy@tempa\@urltype
10128     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10129   \else
10130     \begingroup
10131       \hyper@chars
10132       \special{t4ht=<a href=%
10133         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
10134     \endgroup
10135   \fi
10136 }
```

```

10137 \def\hyper@linkend{%
10138   \special{t4ht=</a>}%
10139   \Hy@endcolorlink
10140 }
10141 \def\hyper@linkfile#1#2#3{%
10142   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
10143 }
10144 \def\hyper@linkurl#1#2{%
10145   \leavevmode
10146   \ifHy@raiselinks
10147     \setbox\@tempboxa=\color@hbox #1\color@endbox
10148     \@linkdim\dp\@tempboxa
10149     \lower\@linkdim\hbox{%
10150       \begingroup
10151         \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10152       \endgroup
10153     }%
10154     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10155     \@linkdim\ht\@tempboxa
10156     \advance\@linkdim by -6.5\p@
10157     \raise\@linkdim\hbox{\special{t4ht=</a>}}%
10158   \else
10159     \begingroup
10160     \hyper@chars
10161     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10162     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10163     \special{t4ht=</a>}%
10164   \endgroup
10165 \fi
10166 }

```

Poor implementation of \hyper@link without considering #1.

```

10167 \def\hyper@link#1#2#3{%
10168   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
10169 }
10170 \def\hyper@image#1#2{%
10171   \begingroup
10172   \hyper@chars
10173   \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
10174   \endgroup
10175 }
10176 \let\autoref\ref
10177 \ifx \rEfLiNK \UnDef
10178   \def\rEfLiNK #1#2{#2}%
10179 \fi
10180 \def\backref#1{}
10181 </tex4ht>
10182 <*tex4htcfg>
10183 \IfFileExists{\jobname.cfg}{\endinput}{}
10184 \Preamble{html}
10185   \begin{document}%
10186 \EndPreamble
10187 \def\TeX{TeX}
10188 \def\OMEGA{\Omega}
10189 \def\LaTeX{LaTeX}
10190 \def\LaTeXe{\LaTeX2e}
10191 \def\eTeX{e-TeX}
10192 \def\MF{Metafont}

```

```
10193 \def\MP{MetaPost}
10194 \</tex4htcfg>
```

47 Driver-specific form support

47.1 pdfmarks

```
10195 <*pdfmark>
10196 \long\def\@Form[#1]{%
10197 \g@addto@macro\Hy@FirstPageHook{%
10198   \headerps@out{%
10199     [%
10200       /_objdef{pdfDocEncoding}%
10201       /type/dict%
10202     /OBJ pdfmark%
10203     [%
10204       {pdfDocEncoding}%
10205       <<%
10206         /Type/Encoding%
10207         /Differences[%
10208           24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
10209           /tilde %
10210           39/quotesingle %
10211           96/grave %
10212           128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10213           /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10214           /quotedblbase/quotedblleft/quotedblright/quoteleft%
10215           /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
10216           /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10217           164/currency %
10218           166/brokenbar %
10219           168/dieresis/copyright/ordfeminine %
10220           172/logicalnot/.notdef/registered/macron/degree/plusminus%
10221           /twosuperior/threesuperior/acute/mu %
10222           183/periodcentered/cedilla/onesuperior/ordmasculine %
10223           188/onequarter/onehalf/threequarters %
10224           192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10225           /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10226           /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10227           /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10228           /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10229           /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10230           /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10231           /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
10232           /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
10233           /ucircumflex/udieresis/yacute/thorn/ydieresis%
10234         ]%
10235       >>%
10236     /PUT pdfmark%
10237     [%
10238       /_objdef{ZaDb}%
10239       /type/dict%
10240     /OBJ pdfmark%
10241     [%
10242       {ZaDb}%
10243       <<%
10244         /Type/Font%
10245         /Subtype/Type1%
```

```

10246     /Name/ZaDb%
10247     /BaseFont/ZapfDingbats%
10248   >>%
10249 /PUT pdfmark%
10250 [%
10251   /_objdef{Helv}%
10252   /type/dict%
10253 /OBJ pdfmark%
10254 [%
10255   {Helv}%
10256   <<%
10257     /Type/Font%
10258     /Subtype/Type1%
10259     /Name/Helv%
10260     /BaseFont/Helvetica%
10261     /Encoding{pdfDocEncoding}%
10262   >>%
10263 /PUT pdfmark%
10264 [%
10265   /_objdef{aform}%
10266   /type/dict%
10267 /OBJ pdfmark%
10268 [%
10269   /_objdef{afields}%
10270   /type/array%
10271 /OBJ pdfmark%
10272 {%
10273   [%
10274     /BBox[0 0 100 100]%
10275     /_objdef{Check}%
10276   /BP pdfmark %
10277   1 0 0 setrgbcolor%
10278   /ZapfDingbats 80 selectfont %
10279   20 20 moveto%
10280   (4)show%
10281   [/EP pdfmark%
10282   [%
10283     /BBox[0 0 100 100]%
10284     /_objdef{Cross}%
10285   /BP pdfmark %
10286   1 0 0 setrgbcolor%
10287   /ZapfDingbats 80 selectfont %
10288   20 20 moveto%
10289   (8)show%
10290   [/EP pdfmark%
10291   [%
10292     /BBox[0 0 250 100]%
10293     /_objdef{Submit}%
10294   /BP pdfmark %
10295   0.6 setgray %
10296   0 0 250 100 rectfill %
10297   1 setgray %
10298   2 2 moveto %
10299   2 98 lineto %
10300   248 98 lineto %
10301   246 96 lineto %
10302   4 96 lineto %

```

```

10303 4 4 lineto %
10304 fill %
10305 0.34 setgray %
10306 248 98 moveto %
10307 248 2 lineto %
10308 2 2 lineto %
10309 4 4 lineto %
10310 246 4 lineto %
10311 246 96 lineto %
10312 fill%
10313 /Helvetica 76 selectfont %
10314 0 setgray %
10315 8 22.5 moveto%
10316 (Submit)show%
10317 [/EP pdfmark%
10318 [%
10319 /BBox[0 0 250 100]%
10320 /_objdef{SubmitP}%
10321 /BP pdfmark %
10322 0.6 setgray %
10323 0 0 250 100 rectfill %
10324 0.34 setgray %
10325 2 2 moveto %
10326 2 98 lineto %
10327 248 98 lineto %
10328 246 96 lineto %
10329 4 96 lineto %
10330 4 4 lineto %
10331 fill %
10332 1 setgray %
10333 248 98 moveto %
10334 248 2 lineto %
10335 2 2 lineto %
10336 4 4 lineto %
10337 246 4 lineto %
10338 246 96 lineto %
10339 fill%
10340 /Helvetica 76 selectfont %
10341 0 setgray %
10342 10 20.5 moveto%
10343 (Submit)show%
10344 [/EP pdfmark%
10345 } ?pdfmark%
10346 [%
10347 {aform}%
10348 <<%
10349 /Fields{afields}%
10350 /DR<<%
10351 /Font<<%
10352 /ZaDb{ZaDb}%
10353 /Helv{Helv}%
10354 >>%
10355 >>%
10356 /DA(/Helv 10 Tf 0 g)%
10357 /CO{corder}%
10358 \ifHy@pdfa
10359 \else

```

```

10360      /NeedAppearances true%
10361      \fi
10362    >>%
10363  /PUT pdfmark%
10364 [%
10365   {Catalog}%
10366   <<%
10367     /AcroForm{aform}%
10368   >>%
10369  /PUT pdfmark%
10370 [%
10371   /_objdef{corder}%
10372   /type/array%
10373  /OBJ pdfmark% dps
10374 }]%
10375   \setkeys{Form}{#1}%
10376 }
10377 \def\endForm{}
10378 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10379   \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10380 }
10381 \def\@TextField[#1]#2{% parameters, label
10382   \def\Fld@name{#2}%
10383   \def\Fld@default{}%
10384   \let\Fld@value\@empty
10385   \def\Fld@width{\DefaultWidthofText}%
10386   \def\Fld@height{%
10387     \ifFld@multiline
10388       \DefaultHeightofTextMultiline
10389     \else
10390       \DefaultHeightofText
10391     \fi
10392   }%
10393   \begingroup
10394     \Field@toks={ }%
10395     \expandafter\HyField@SetKeys\expandafter{%
10396       \DefaultOptionsofText,#1%
10397     }%
10398     \HyField@FlagsText
10399     \ifFld@hidden\def\Fld@width{1sp}\fi
10400     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10401     \LayoutTextField{#2}{%
10402       \Hy@escapeform\PDFForm@Text
10403       \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10404         pdfmark=/ANN,Raw={\PDFForm@Text}%
10405       }%
10406     }%
10407   \endgroup
10408 }
10409 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10410   \def\Fld@name{#2}%
10411   \let\Fld@default\relax
10412   \let\Fld@value\relax
10413   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10414   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10415   \begingroup
10416     \Fld@menulength=0 %

```

```

10417 \@tempdima\z@
10418 \@for\@curropt:=#3\do{%
10419 \expandafter\Fld@checkequals\@curropt==\%
10420 \Hy@StepCount\Fld@menulength
10421 \settowidth{\@tempdimb}{\@currDisplay}%
10422 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10423 }%
10424 \advance\@tempdima by 15\p@
10425 \Field@toks={ }%
10426 \beginngroup
10427 \HyField@SetKeys{#1}%
10428 \edef\x{\endgroup
10429 \noexpand\expandafter
10430 \noexpand\HyField@SetKeys
10431 \noexpand\expandafter{%
10432 \expandafter\noexpand\csname DefaultOptionsof%
10433 \ifFld@radio
10434 Radio%
10435 \else
10436 \ifFld@combo
10437 \ifFld@popdown
10438 PopdownBox%
10439 \else
10440 ComboBox%
10441 \fi
10442 \else
10443 ListBox%
10444 \fi
10445 \fi
10446 \endcsname
10447 }%
10448 }\x
10449 \HyField@SetKeys{#1}%
10450 \ifFld@hidden\def\Fld@width{1sp}\fi
10451 \ifx\Fld@value\relax
10452 \let\Fld@value\Fld@default
10453 \fi
10454 \LayoutChoiceField{#2}{%
10455 \ifFld@radio
10456 \HyField@FlagsRadioButton
10457 @@Radio{#3}%
10458 \else
10459 \beginngroup
10460 \HyField@FlagsChoice
10461 \ifdim\Fld@width<\@tempdima
10462 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10463 \edef\Fld@width{\the\@tempdima}%
10464 \fi
10465 \ifFld@combo
10466 \else
10467 \@tempdima=\the\Fld@menulength\Fld@charsize
10468 \advance\@tempdima by \Fld@borderwidth bp %
10469 \advance\@tempdima by \Fld@borderwidth bp %
10470 \edef\Fld@height{\the\@tempdima}%
10471 \fi
10472 @@ListBox{#3}%
10473 \endgroup

```

```

10474     \fi
10475   }%
10476 \endgroup
10477 }
10478 \def\@@Radio#1{%
10479   \Fld@listcount=0 %
10480   \@for\@curropt:=#1\do{%
10481     \expandafter\Fld@checkequals\@curropt==\%
10482     \Hy@StepCount\Fld@listcount
10483     \@currDisplay\space
10484     \Hy@escapeform\PDFForm@Radio
10485     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10486       pdfmark=/ANN,%
10487       Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
10488     } % deliberate space between radio buttons
10489   }%
10490 }
10491 \newcount\Fld@listcount
10492 \def\@@ListBox#1{%
10493   \HyField@PDFChoices{#1}%
10494   \Hy@escapeform\PDFForm@List
10495   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10496     pdfmark=/ANN,Raw={\PDFForm@List}%
10497   }%
10498 }
10499 \def\@PushButton[#1]#2{% parameters, label
10500   \def\Fld@name{#2}%
10501   \begingroup
10502     \Field@toks={ }%
10503     \expandafter\HyField@SetKeys\expandafter{%
10504       \DefaultOptionsofPushButton,#1%
10505     }%
10506     \ifHy@pdfa
10507       \PackageError{hyperref}{%
10508         PDF/A: Push button with JavaScript is prohibited%
10509       }\@ehc
10510       \LayoutPushButtonField{%
10511         \leavevmode
10512         \MakeButtonField{#2}%
10513       }%
10514     \else
10515       \HyField@FlagsPushButton
10516       \ifFld@hidden\def\Fld@width{1sp}\fi
10517       \LayoutPushButtonField{%
10518         \leavevmode
10519         \Hy@escapeform\PDFForm@Push
10520         \pdfmark[\MakeButtonField{#2}]{%
10521           pdfmark=/ANN,Raw={\PDFForm@Push}%
10522         }%
10523       }%
10524     \fi
10525   \endgroup
10526 }
10527 \def\@Submit[#1]#2{%
10528   \Field@toks={ }%
10529   \def\Fld@width{\DefaultWidthofSubmit}%
10530   \def\Fld@height{\DefaultHeightofSubmit}%

```



```

10531 \begingroup
10532   \expandafter\HyField@SetKeys\expandafter{%
10533     \DefaultOptionsofSubmit,#1%
10534   }%
10535   \HyField@FlagsPushButton
10536   \HyField@FlagsSubmit
10537   \ifFld@hidden\def\Fld@width{1sp}\fi
10538   \Hy@escapeform\PDFForm@Submit
10539   \pdfmark[\MakeButtonField{#2}]{%
10540     pdfmark=/ANN,%
10541     Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10542   }%
10543 \endgroup
10544 }
10545 \def\@Reset[#1]#2{%
10546   \Field@toks={ }%
10547   \def\Fld@width{\DefaultWidthofReset}%
10548   \def\Fld@height{\DefaultHeightofReset}%
10549   \begingroup
10550     \expandafter\HyField@SetKeys\expandafter{%
10551       \DefaultOptionsofReset,#1%
10552     }%
10553     \leavevmode
10554     \ifHy@pdfa
10555       \PackageError{hyperref}{%
10556         PDF/A: Reset action is prohibited%
10557       }{\@ehc
10558         \MakeButtonField{#2}%
10559       }%
10560     \else
10561       \HyField@FlagsPushButton
10562       \ifFld@hidden\def\Fld@width{1sp}\fi
10563       \Hy@escapeform\PDFForm@Reset
10564       \pdfmark[\MakeButtonField{#2}]{%
10565         pdfmark=/ANN,Raw={\PDFForm@Reset}%
10566       }%
10567     \fi
10568   \endgroup
10569 }%
10570 \def\@CheckBox[#1]#2{% parameters, label
10571   \def\Fld@name{#2}%
10572   \def\Fld@default{0}%
10573   \begingroup
10574     \def\Fld@width{\DefaultWidthofCheckBox}%
10575     \def\Fld@height{\DefaultHeightofCheckBox}%
10576     \Field@toks={ }%
10577     \expandafter\HyField@SetKeys\expandafter{%
10578       \DefaultOptionsofCheckBox,#1%
10579     }%
10580     \HyField@FlagsCheckBox
10581     \ifFld@hidden\def\Fld@width{1sp}\fi
10582     \LayoutCheckField{#2}{%
10583       \Hy@escapeform\PDFForm@Check
10584       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10585         pdfmark=/ANN,Raw={\PDFForm@Check}%
10586       }%
10587     }%
10588   \endgroup

```

```

10588 }
10589 </pdfmark>

```

47.2 HyperTeX

```

10590 <*hypertext>
10591 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10592 \def\@endForm{}
10593 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10594   \typeout{Sorry, HyperTeX does not support FORM gauges}%
10595 }
10596 \def\@TextField[#1]#2{% parameters, label
10597   \typeout{Sorry, HyperTeX does not support FORM text fields}%
10598 }
10599 \def\@CheckBox[#1]#2{% parameters, label
10600   \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10601 }
10602 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10603   \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10604 }
10605 \def\@PushButton[#1]#2{% parameters, label
10606   \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10607 }
10608 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10609 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10610 </hypertext>

```

47.3 TeX4ht

```

10611 <*tex4ht>
10612 \def\@Form[#1]{%
10613   \setkeys{Form}{#1}%
10614   \HCode{<form action="\Form@action" method="\Form@method">}%
10615 }
10616 \def\@endForm{\HCode{</form>}}
10617 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10618   \typeout{Sorry, TeX4ht does not support gauges}%
10619 }
10620 \def\@TextField[#1]#2{% parameters, label
10621   \let\Hy@reserved@a\@empty
10622   \def\Fld@name{#2}%
10623   \def\Fld@default{}%
10624   \bgroup
10625     \Field@toks={ }%
10626     \setkeys{Field}{#1}%
10627     \HCode{<label for="\Fld@name">#2</label>}%
10628     \ifFld@password
10629       \@@PasswordField
10630     \else
10631       \@@TextField
10632     \fi
10633   \egroup
10634 }
10635 \def\@@PasswordField{%
10636   \HCode{%
10637     <input type="password" %
10638       id="\Fld@name" %
10639       name="\Fld@name" %
10640       \ifFld@hidden type="hidden" \fi

```

```

10641     value="\Fld@default" %
10642     \the\Field@toks
10643     >%
10644 }%
10645 }
10646 \def\@@TextField{%
10647   \ifFld@multiline
10648     \HCode{<textarea %
10649       \ifFld@readonly readonly \fi
10650       id="\Fld@name" %
10651       name="\Fld@name" %
10652       \ifFld@hidden type="hidden" \fi
10653       \the\Field@toks>%
10654     }%
10655     \Fld@default
10656     \HCode{</textarea>}%
10657   \else
10658     \HCode{<input type="textbox" %
10659       \ifFld@readonly readonly \fi
10660       id="\Fld@name" %
10661       name="\Fld@name" %
10662       \ifFld@hidden type="hidden" \fi
10663       value="\Fld@default" %
10664       \the\Field@toks>%
10665     }%
10666   \fi
10667 }
10668 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10669   \def\Fld@name{#2}%
10670   \def\Fld@default{}%
10671   \let\Hy@reserved@a\relax
10672   \begin{group}
10673     \expandafter\Fld@findlength#3\\%
10674     \Field@toks={ }%
10675     \setkeys{Field}{#1}%
10676     #2%
10677     \ifFld@radio
10678       \expandafter\@@Radio#3\\%
10679     \else
10680       \expandafter\@@Menu#3\\%
10681     \fi
10682   \end{group}
10683 }
10684 \def\Fld@findlength#1\\{%
10685   \Fld@menulength=0 %
10686   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10687 }
10688 \def\@@Menu#1\\{%
10689   \HCode{<select size="\the\Fld@menulength" %
10690     name="\Fld@name" %
10691     \the\Field@toks>%
10692   }%
10693   \@for\@curropt:=#1\do{%
10694     \expandafter\Fld@checkequals\@curropt==\\%
10695     \HCode{<option %
10696       \ifx\@curropt\Fld@default selected \fi
10697       value="\@currValue">\@currDisplay</option>%

```

```

10698     }%
10699   }%
10700   \HCode{</select>}%
10701 }
10702 \def\@Radio#1\{%
10703   \@for\@curropt:=#1\do{%
10704     \expandafter\Fld@checkequals\@curropt==\%
10705     \HCode{<input type="radio" %
10706       \ifx\@curropt\Fld@default checked \fi
10707       name="\Fld@name" %
10708       value="\@currValue" %
10709       \the\Field@toks>%
10710     }%
10711     \@currDisplay
10712   }%
10713 }
10714 \def\@PushButton[#1]#2{% parameters, label
10715   \def\Fld@name{#2}%
10716   \bgroup
10717     \Field@toks={ }%
10718     \setkeys{Field}{#1}%
10719     \HCode{<input type="button" %
10720       name="\Fld@name" %
10721       value="#2" %
10722       \the\Field@toks>%
10723     }%
10724     \HCode{</button>}%
10725   \egroup
10726 }
10727 \def\@Submit[#1]#2{%
10728   \HCode{<button type="submit">#2</button>}%
10729 }
10730 \def\@Reset[#1]#2{%
10731   \HCode{<button type="reset">#2</button>}%
10732 }
10733 \def\@CheckBox[#1]#2{% parameters, label
10734   \let\Hy@reserved@a\@empty
10735   \def\Fld@name{#2}%
10736   \def\Fld@default{0}%
10737   \bgroup
10738     \Field@toks={ }%
10739     \setkeys{Field}{#1}%
10740     \HCode{<input type="checkbox" %
10741       \ifFld@checked checked \fi
10742       \ifFld@disabled disabled \fi
10743       \ifFld@readonly readonly \fi
10744       name="\Fld@name" %
10745       \ifFld@hidden type="hidden" \fi
10746       value="\Fld@default" %
10747       \the\Field@toks>%
10748     #2%
10749   }%
10750   \egroup
10751 }
10752 </tex4ht>

```

47.4 pdfTeX

```

10753 <*pdfTeX>
10754 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10755   \typeout{Sorry, pdfTeX does not support FORM gauges}%
10756 }
10757 \def\MakeFieldObject#1#2{\sbox0{#1}%
10758   \immediate\pdfxform0 %
10759   \expandafter\edef\csname #2object\endcsname{%
10760     \the\pdflastxform\space 0 R%
10761   }%
10762 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
10763 }%
10764 \def\HyField@afields{}
10765 \begingroup\expandafter\expandafter\expandafter\endgroup
10766 \expandafter\ifx\csname pdfastlink\endcsname\relax
10767   \let\HyField@AddToFields\relax
10768   \PackageInfo{hyperref}{%
10769     You need pdfTeX 1.40.0 for setting the /Fields entry.\MessageBreak
10770     Adobe Reader/Acrobat accepts an empty /Field array,\MessageBreak
10771     but other PDF viewers might complain%
10772   }%
10773 \else
10774   \def\HyField@AddToFields{%
10775     \xdef\HyField@afields{%
10776       \ifx\HyField@afields\@empty
10777         \else
10778           \HyField@afields
10779           \space
10780         \fi
10781       \the\pdfastlink\space 0 R%
10782     }%
10783   }%
10784 \fi
10785 \def\@Form[#1]{%
10786   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}}%
10787   \setkeys{Form}{#1}%
10788   \Hy@FormObjects
10789   \ifnum\pdfTeXversion>13 %
10790     \pdfrefobj\OBJ@pdfdocencoding
10791     \pdfrefobj\OBJ@ZaDb
10792     \pdfrefobj\OBJ@Helv
10793   \fi
10794   \AtEndDocument{%
10795     \immediate\pdfobj{%
10796       <<%
10797         /Fields[\HyField@afields]%
10798         /DR<<%
10799           /Font<<%
10800             /ZaDb \OBJ@ZaDb\space 0 R%
10801             /Helv \OBJ@Helv\space 0 R%
10802           >>%
10803         >>%
10804         /DA(/Helv 10 Tf 0 g)%
10805         \ifHy@pdfa
10806         \else
10807           /NeedAppearances true%
10808         \fi
10809       >>%

```

```

10810 }%
10811 \edef\OBJ@acroform{\the\pdflastobj}%
10812 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10813 }%
10814 \MakeFieldObject{%
Same as \ding{123} of package pifont.
10815 \beginngroup
10816 \fontfamily{pzd}%
10817 \fontencoding{U}%
10818 \fontseries{m}%
10819 \fontshape{n}%
10820 \selectfont
10821 \char123 %
10822 \endgroup
10823 }{Ding}%
10824 \MakeFieldObject{%
10825 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10826 }{Submit}%
10827 \MakeFieldObject{%
10828 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10829 }{SubmitP}%
10830 }
10831 \def\@endForm{}
10832 \def\@TextField[#1]#2{% parameters, label
10833 \def\Fld@name{#2}%
10834 \def\Fld@default{}%
10835 \let\Fld@value\@empty
10836 \def\Fld@width{\DefaultWidthofText}%
10837 \def\Fld@height{%
10838 \ifFld@multiline
10839 \DefaultHeightofTextMultiline
10840 \else
10841 \DefaultHeightofText
10842 \fi
10843 }%
10844 \beginngroup
10845 \Field@toks={ }%
10846 \expandafter\HyField@SetKeys\expandafter{%
10847 \DefaultOptionsofText,#1%
10848 }%
10849 \PDFForm@Name
10850 \HyField@FlagsText
10851 \ifFld@hidden\def\Fld@width{1sp}\fi
10852 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10853 \LayoutTextField{#2}{%
10854 \Hy@escapeform\PDFForm@Text
10855 \pdfstartlink user {\PDFForm@Text}\relax
10856 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
10857 \HyField@AddToFields
10858 }%
10859 \endgroup
10860 }
10861 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10862 \def\Fld@name{#2}%
10863 \let\Fld@default\relax
10864 \let\Fld@value\relax
10865 \def\Fld@width{\DefaultWidthofChoiceMenu}%

```

```

10866 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10867 \begingroup
10868   \Fld@menulength=0 %
10869   \@tempdima\z@
10870   \@for\@curropt:=#3\do{%
10871     \expandafter\Fld@checkequals\@curropt==\\%
10872     \Hy@StepCount\Fld@menulength
10873     \settowidth{\@tempdimb}{\@currDisplay}%
10874     \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10875   }%
10876   \advance\@tempdima by 15\p@
10877   \Field@toks={ }%
10878   \begingroup
10879     \HyField@SetKeys{#1}%
10880   \edef\x{\endgroup
10881     \noexpand\expandafter
10882     \noexpand\HyField@SetKeys
10883     \noexpand\expandafter{%
10884       \expandafter\noexpand\csname DefaultOptionsof%
10885         \ifFld@radio
10886           Radio%
10887         \else
10888           \ifFld@combo
10889             \ifFld@popdown
10890               PopdownBox%
10891             \else
10892               ComboBox%
10893             \fi
10894           \else
10895             ListBox%
10896           \fi
10897         \fi
10898       \endcsname
10899     }%
10900   }\x
10901   \HyField@SetKeys{#1}%
10902   \PDFForm@Name
10903   \ifFld@hidden\def\Fld@width{1sp}\fi
10904   \ifx\Fld@value\relax
10905     \let\Fld@value\Fld@default
10906   \fi
10907   \LayoutChoiceField{#2}{%
10908     \ifFld@radio
10909       \HyField@FlagsRadioButton
10910       \@@Radio{#3}%
10911     \else
10912       \begingroup
10913         \HyField@FlagsChoice
10914         \ifdim\Fld@width<\@tempdima
10915           \ifdim\@tempdima<1cm\@tempdima1cm\fi
10916           \edef\Fld@width{\the\@tempdima}%
10917         \fi
10918         \ifFld@combo
10919         \else
10920           \@tempdima=\the\Fld@menulength\Fld@charsize
10921           \advance\@tempdima by \Fld@borderwidth bp %
10922           \advance\@tempdima by \Fld@borderwidth bp %

```

```

10923         \edef\Fld@height{\the\@tempdima}%
10924         \fi
10925         \@@Listbox{#3}%
10926     \endgroup
10927 \fi
10928 }%
10929 \endgroup
10930 }
10931 \def\@@Radio#1{%
10932     \Fld@listcount=0 %
10933     \@for\@curropt:=#1\do{%
10934         \expandafter\Fld@checkequals\@curropt==\%
10935         \Hy@StepCount\Fld@listcount
10936         \@currDisplay\space
10937         \leavevmode
10938         \Hy@escapeform\PDFForm@Radio
10939         \pdfstartlink user {%
10940             \PDFForm@Radio
10941             /AP<<%
10942             /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.

```

10943         /\@currValue\space \DingObject
10944         >>%
10945     >>%
10946 }%
10947 \relax
10948 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10949 \ifnum\Fld@listcount=1 %
10950     \HyField@AddToFields
10951 \fi
10952 \space % deliberate space between radio buttons
10953 }%
10954 }
10955 \newcount\Fld@listcount
10956 \def\@@Listbox#1{%
10957     \HyField@PDFChoices{#1}%
10958     \leavevmode
10959     \Hy@escapeform\PDFForm@List
10960     \pdfstartlink user {\PDFForm@List}\relax
10961     \MakeChoiceField{\Fld@width}{\Fld@height}%
10962     \pdfendlink
10963     \HyField@AddToFields
10964 }
10965 \def\@PushButton[#1]#2{% parameters, label
10966     \def\Fld@name{#2}%
10967     \begingroup
10968         \Field@toks={ }%
10969         \expandafter\HyField@SetKeys\expandafter{%
10970             \DefaultOptionsofPushButton,#1%
10971         }%
10972         \PDFForm@Name
10973         \ifHy@pdfa
10974             \PackageError{hyperref}{%
10975                 PDF/A: Push button with JavaScript is prohibited%
10976             }\@ehc

```



```

10977     \LayoutPushButtonField{%
10978     \leavevmode
10979     \MakeButtonField{#2}%
10980     }%
10981 \else
10982     \HyField@FlagsPushButton
10983     \ifFld@hidden\def\Fld@width{1sp}\fi
10984     \LayoutPushButtonField{%
10985     \leavevmode
10986     \Hy@escapeform\PDFForm@Push
10987     \pdfstartlink user {\PDFForm@Push}\relax
10988     \MakeButtonField{#2}%
10989     \pdfendlink
10990     \HyField@AddToFields
10991     }%
10992 \fi
10993 \endgroup
10994 }
10995 \def\@Submit[#1]#2{%
10996 \Field@toks={ }%
10997 \def\Fld@width{\DefaultWidthofSubmit}%
10998 \def\Fld@height{\DefaultHeightofSubmit}%
10999 \begingroup
11000 \expandafter\HyField@SetKeys\expandafter{%
11001 \DefaultOptionsofSubmit,#1%
11002 }%
11003 \HyField@FlagsPushButton
11004 \HyField@FlagsSubmit
11005 \ifFld@hidden\def\Fld@width{1sp}\fi
11006 \leavevmode
11007 \Hy@escapeform\PDFForm@Submit
11008 \pdfstartlink user {%
11009 \PDFForm@Submit
11010 /AP<</N \SubmitObject/D \SubmitPObject>>%
11011 }%
11012 \relax
11013 \MakeButtonField{#2}%
11014 \pdfendlink
11015 \HyField@AddToFields
11016 \endgroup
11017 }
11018 \def\@Reset[#1]#2{%
11019 \Field@toks={ }%
11020 \def\Fld@width{\DefaultWidthofReset}%
11021 \def\Fld@height{\DefaultHeightofReset}%
11022 \begingroup
11023 \expandafter\HyField@SetKeys\expandafter{%
11024 \DefaultOptionsofReset,#1%
11025 }%
11026 \leavevmode
11027 \ifHy@pdfa
11028 \PackageError{hyperref}{%
11029 PDF/A: Reset action is prohibited%
11030 }\@ehc
11031 \MakeButtonField{#2}%
11032 \else
11033 \HyField@FlagsPushButton

```

```

11034 \ifFld@hidden\def\Fld@width{1sp}\fi
11035 \Hy@escapeform\PDFForm@Reset
11036 \pdfstartlink user {\PDFForm@Reset}\relax
11037 \MakeButtonField{#2}%
11038 \pdfendlink
11039 \HyField@AddToFields
11040 \fi
11041 \endgroup
11042 }
11043 \def\@CheckBox[#1]#2{% parameters, label
11044 \def\Fld@name{#2}%
11045 \def\Fld@default{0}%
11046 \begingroup
11047 \def\Fld@width{\DefaultWidthofCheckBox}%
11048 \def\Fld@height{\DefaultHeightofCheckBox}%
11049 \Field@toks={ }%
11050 \expandafter\HyField@SetKeys\expandafter{%
11051 \DefaultOptionsofCheckBox,#1%
11052 }%
11053 \PDFForm@Name
11054 \HyField@FlagsCheckBox
11055 \ifFld@hidden\def\Fld@width{1sp}\fi
11056 \LayoutCheckField{#2}{%
11057 \Hy@escapeform\PDFForm@Check
11058 \pdfstartlink user {\PDFForm@Check}\relax
11059 \MakeCheckField{\Fld@width}{\Fld@height}%
11060 \pdfendlink
11061 \HyField@AddToFields
11062 }%
11063 \endgroup
11064 }
11065 \def\Hy@FormObjects{%
11066 \pdfobj {%
11067 <<%
11068 /Type/Encoding%
11069 /Differences[%
11070 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
11071 /ring/tilde %
11072 39/quotesingle %
11073 96/grave %
11074 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11075 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11076 /quotedblbase/quotedblleft/quotedblright/quoteleft%
11077 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
11078 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11079 164/currency %
11080 166/brokenbar %
11081 168/dieresis/copyright/ordfeminine %
11082 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11083 /twosuperior/threesuperior/acute/mu %
11084 183/periodcentered/cedilla/onesuperior/ordmasculine %
11085 188/onequarter/onehalf/threequarters %
11086 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11087 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11088 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11089 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11090 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%

```

```

11091      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11092      /cedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11093      /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
11094      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
11095      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
11096    ]%
11097  >>%
11098 }%
11099 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
11100 \pdfobj{%
11101   <<%
11102     /Type/Font%
11103     /Subtype/Type1%
11104     /Name/ZaDb%
11105     /BaseFont/ZapfDingbats%
11106   >>%
11107 }%
11108 \xdef\OBJ@ZaDb{\the\pdflastobj}%
11109 \pdfobj{%
11110   <<%
11111     /Type/Font%
11112     /Subtype/Type1%
11113     /Name/Helv%
11114     /BaseFont/Helvetica%
11115     /Encoding \OBJ@pdfdocencoding\space 0 R%
11116   >>%
11117 }%
11118 \xdef\OBJ@Helv{\the\pdflastobj}%
11119 \global\let\Hy@FormObjects\relax
11120 }
11121 </pdfTeX>

```

47.5 dvipdfm

D. P. Story adapted the pdf_TE_X forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
11122 < *dvipdfm >
```

\@Gauge

```

11123 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11124   \typeout{Sorry, dvipdfm does not support FORM gauges}%
11125 }

```

\@Form

```

11126 \def\@Form[#1]{%
11127   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}}%
11128   \setkeys{Form}{#1}%
11129   \Hy@FormObjects
11130   \@pdfm@mark{obj @afields []}%
11131   \@pdfm@mark{obj @corder []}%
11132   \@pdfm@mark{%
11133     obj @aform <<%
11134       /Fields @afields%
11135       /DR<<%
11136       /Font<<%
11137       /ZaDb @OBJZaDb%
11138       /Helv @OBJHelv%

```

```

11139         >>%
11140     >>%
11141     /DA(/Helv 10 Tf 0 g)%
11142     /CO @corder%
11143     \ifHy@pdfa
11144     \else
11145         /NeedAppearances true%
11146     \fi
11147 >>%
11148 }%
11149 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
11150 }

\@endForm

11151 \def\@endForm{}

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
11152 \def\dvipdfm@setdim{%
11153     height \the\ht\pdfm@box\space
11154     width \the\wd\pdfm@box\space
11155     depth \the\dp\pdfm@box\space
11156 }

\HyField@AnnotCount
11157 \newcount\HyField@AnnotCount
11158 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
11159 \def\HyField@AdvanceAnnotCount{%
11160     \global\advance\HyField@AnnotCount\@ne
11161 }

\HyField@TheAnnotCount
11162 \def\HyField@TheAnnotCount{%
11163     \the\HyField@AnnotCount
11164 }

\@TextField
11165 \def\@TextField[#1]#2{% parameters, label
11166     \def\Fld@name{#2}%
11167     \def\Fld@default{}%
11168     \let\Fld@value\@empty
11169     \def\Fld@width{\DefaultWidthofText}%
11170     \def\Fld@height{%
11171         \ifFld@multiline
11172             \DefaultHeightofTextMultiline
11173         \else
11174             \DefaultHeightofText
11175         \fi
11176     }%
11177     \begingroup
11178     \Field@toks={ }%
11179     \expandafter\HyField@SetKeys\expandafter{%
11180         \DefaultOptionsofText,#1%
11181     }%
11182     \PDFForm@Name

```

```

11183 \HyField@FlagsText
11184 \ifFld@hidden\def\Fld@width{1sp}\fi
11185 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11186 \setbox\pdfm@box=\hbox{%
11187   \MakeTextField{\Fld@width}{\Fld@height}%
11188 }%
11189 \HyField@AdvanceAnnotCount
11190 \LayoutTextField{#2}{%
11191   \Hy@escapeform\PDFForm@Text
11192   \@pdfm@mark{%
11193     ann @text\HyField@TheAnnotCount\space
11194     \dvipdfm@setdim << \PDFForm@Text >>%
11195   }%
11196 }%
11197 \unhbox\pdfm@box
11198 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
11199 % record in @afields array
11200 \endgroup
11201 }

```

\@ChoiceMenu

```

11202 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11203   \def\Fld@name{#2}%
11204   \let\Fld@default\relax
11205   \let\Fld@value\relax
11206   \def\Fld@width{\DefaultWidthofChoiceMenu}%
11207   \def\Fld@height{\DefaultHeightofChoiceMenu}%
11208   \begingroup
11209     \Fld@menulength=0 %
11210     \@tempdima\z@
11211     \@for\@curropt:=#3\do{%
11212       \expandafter\Fld@checkequals\@curropt==\%
11213       \Hy@StepCount\Fld@menulength
11214       \settowidth{\@tempdimb}{\@currDisplay}%
11215       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11216     }%
11217     \advance\@tempdima by 15\p@
11218     \Field@toks={ }%
11219     \begingroup
11220       \HyField@SetKeys{#1}%
11221     \edef\x{\endgroup
11222       \noexpand\expandafter
11223       \noexpand\HyField@SetKeys
11224       \noexpand\expandafter{%
11225         \expandafter\noexpand\cname DefaultOptionsof%
11226         \ifFld@radio
11227           Radio%
11228         \else
11229           \ifFld@combo
11230             \ifFld@popdown
11231               PopdownBox%
11232             \else
11233               ComboBox%
11234             \fi
11235           \else
11236             ListBox%
11237           \fi

```

```

11238         \fi
11239         \endcsname
11240     }%
11241 } \x
11242 \HyField@SetKeys{#1}%
11243 \PDFForm@Name
11244 \ifFld@hidden\def\Fld@width{1sp}\fi
11245 \ifx\Fld@value\relax
11246     \let\Fld@value\Fld@default
11247 \fi
11248 \LayoutChoiceField{#2}{%
11249     \ifFld@radio
11250         \HyField@FlagsRadioButton
11251         \@@Radio{#3}%
11252     \else
11253         \begingroup
11254             \HyField@FlagsChoice
11255             \ifdim\Fld@width<\@tempdima
11256                 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11257                 \edef\Fld@width{\the\@tempdima}%
11258             \fi
11259             \ifFld@combo
11260             \else
11261                 \@tempdima=\the\Fld@menulength\Fld@charsize
11262                 \advance\@tempdima by \Fld@borderwidth bp %
11263                 \advance\@tempdima by \Fld@borderwidth bp %
11264                 \edef\Fld@height{\the\@tempdima}%
11265             \fi
11266             \@@ListBox{#3}%
11267         \endgroup
11268     \fi
11269 }%
11270 \endgroup
11271 }

```

\@@Radio

```

11272 \def\@@Radio#1{%
11273     \Fld@listcount=0 %
11274     \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
11275     \@for\@curropt:=#1\do{%
11276         \expandafter\Fld@checkequals\@curropt==\%
11277         \Hy@StepCount\Fld@listcount
11278         \@currDisplay\space
11279         \leavevmode
11280         \Hy@escapeform\PDFForm@Radio
11281         \ifnum\Fld@listcount=1 %
11282             \HyField@AdvanceAnnotCount
11283         \fi
11284         \@pdfm@mark{%
11285             ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi
11286             \dvi pdfm@setdim
11287             <<%
11288                 \PDFForm@Radio
11289                 /AP<</N<</\@currValue /null>>>>%
11290             >>%
11291         }%
11292         \unhcopy\pdfm@box\space% deliberate space between radio buttons

```

```

11293 \ifnum\Fld@listcount=1 %
11294 \@pdfm@mark{put @afields @radio\HyField@TheAnnotCount}%
11295 \fi
11296 }%
11297 }

\Fld@listcount

11298 \newcount\Fld@listcount

\@@Listbox

11299 \def\@@Listbox#1{%
11300 \HyField@PDFChoices{#1}%
11301 \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
11302 \leavevmode
11303 \Hy@escapeform\PDFForm@List
11304 \HyField@AdvanceAnnotCount
11305 \@pdfm@mark{%
11306 ann @list\HyField@TheAnnotCount\space
11307 \dvipdfm@setdim
11308 <<\PDFForm@List>>%
11309 }%
11310 \unhbox\pdfm@box
11311 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
11312 }

\@PushButton

11313 \def\@PushButton[#1]#2{% parameters, label
11314 \def\Fld@name{#2}%
11315 \beginngroup
11316 \Field@toks={}%
11317 \expandafter\HyField@SetKeys\expandafter{%
11318 \DefaultOptionsofPushButton,#1%
11319 }%
11320 \PDFForm@Name
11321 \ifHy@pdfa
11322 \PackageError{hyperref}{%
11323 PDF/A: Push button with JavaScript is prohibited%
11324 }{\@ehc
11325 \LayoutPushButtonField{%
11326 \leavevmode
11327 \MakeButtonField{#2}%
11328 }%
11329 \else
11330 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11331 \HyField@FlagsPushButton
11332 \ifFld@hidden\def\Fld@width{1sp}\fi
11333 \HyField@AdvanceAnnotCount
11334 \LayoutPushButtonField{%
11335 \leavevmode
11336 \Hy@escapeform\PDFForm@Push
11337 \@pdfm@mark{%
11338 ann @push\HyField@TheAnnotCount\space
11339 \dvipdfm@setdim
11340 <<\PDFForm@Push>>%
11341 }%
11342 }%
11343 \unhbox\pdfm@box

```

```

11344 \pdfmark{put @afields @push\HyField@TheAnnotCount}%
11345 \fi
11346 \endgroup
11347 }

\@Submit

11348 \def\@Submit[#1]#2{%
11349 \Field@toks={ }%
11350 \def\Fld@width{\DefaultWidthofSubmit}%
11351 \def\Fld@height{\DefaultHeightofSubmit}%
11352 \begingroup
11353 \expandafter\HyField@SetKeys\expandafter{%
11354 \DefaultOptionsofSubmit,#1%
11355 }%
11356 \HyField@FlagsPushButton
11357 \HyField@FlagsSubmit
11358 \ifFld@hidden\def\Fld@width{1sp}\fi
11359 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11360 \leavevmode
11361 \Hy@escapeform\PDFForm@Submit
11362 \HyField@AdvanceAnnotCount
11363 \pdfmark{%
11364 ann @submit\HyField@TheAnnotCount\space
11365 \dvi pdfm@setdim
11366 <<\PDFForm@Submit>>%
11367 }%
11368 \unhbox\pdfm@box%
11369 \pdfmark{put @afields @submit\HyField@TheAnnotCount}%
11370 \endgroup
11371 }

\@Reset

11372 \def\@Reset[#1]#2{%
11373 \Field@toks={ }%
11374 \def\Fld@width{\DefaultWidthofReset}%
11375 \def\Fld@height{\DefaultHeightofReset}%
11376 \begingroup
11377 \expandafter\HyField@SetKeys\expandafter{%
11378 \DefaultOptionsofReset,#1%
11379 }%
11380 \leavevmode
11381 \ifHy@pdfa
11382 \PackageError{hyperref}{%
11383 PDF/A: Reset action is prohibited%
11384 }\@ehc
11385 \MakeButtonField{#2}%
11386 \else
11387 \HyField@FlagsPushButton
11388 \ifFld@hidden\def\Fld@width{1sp}\fi
11389 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11390 \Hy@escapeform\PDFForm@Reset
11391 \HyField@AdvanceAnnotCount
11392 \pdfmark{%
11393 ann @reset\HyField@TheAnnotCount\space
11394 \dvi pdfm@setdim
11395 <<\PDFForm@Reset>>%
11396 }%

```



```

11397      \unhbox\pdfm@box
11398      \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11399      \fi
11400 \endgroup
11401 }

```

\@CheckBox

```

11402 \def\@CheckBox[#1]#2{% parameters, label
11403   \def\Fld@name{#2}%
11404   \def\Fld@default{0}%
11405   \beginngroup
11406     \def\Fld@width{\DefaultWidthofCheckBox}%
11407     \def\Fld@height{\DefaultHeightofCheckBox}%
11408     \Field@toks={ }%
11409     \expandafter\HyField@SetKeys\expandafter{%
11410       \DefaultOptionsofCheckBox,#1%
11411     }%
11412     \PDFForm@Name
11413     \HyField@FlagsCheckBox
11414     \ifFld@hidden\def\Fld@width{1sp}\fi
11415     \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
11416     \HyField@AdvanceAnnotCount
11417     \LayoutCheckField{#2}{%
11418       \Hy@escapeform\PDFForm@Check
11419       \@pdfm@mark{%
11420         ann @check\HyField@TheAnnotCount\space
11421         \dvipdfm@setdim
11422         <<\PDFForm@Check>>%
11423       }%
11424       \unhbox\pdfm@box
11425       \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11426     }%
11427   \endgroup
11428 }

11429 \def\Hy@FormObjects{%
11430   \@pdfm@mark{obj @OBJpdfdocencoding%
11431     <<%
11432       /Type/Encoding%
11433       /Differences[%
11434         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11435         39/quotesingle %
11436         96/grave %
11437         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11438         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11439         /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11440         /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11441         /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11442         164/currency %
11443         166/brokenbar %
11444         168/dieresis/copyright/ordfeminine %
11445         172/logicalnot/.notdef/registered/macron/degree/plusminus%
11446         /twosuperior/threesuperior/acute/mu %
11447         183/periodcentered/cedilla/onesuperior/ordmasculine %
11448         188/onequarter/onehalf/threequarters %
11449         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11450         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11451         /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%

```

```

11452         /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11453         /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11454         /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11455         /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11456         /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
11457         /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11458         /thorn/ydieresis%
11459     ]%
11460 >>%
11461 }%
11462 \@pdfm@mark{obj @OBJZaDb%
11463 <<%
11464     /Type/Font%
11465     /Subtype/Type1%
11466     /Name/ZaDb%
11467     /BaseFont/ZapfDingbats%
11468 >>%
11469 }%
11470 \@pdfm@mark{obj @OBJHelv%
11471 <<%
11472     /Type/Font%
11473     /Subtype/Type1%
11474     /Name/Helv%
11475     /BaseFont/Helvetica%
11476     /Encoding @OBJpdfdocencoding%
11477 >>%
11478 }%
11479 \global\let\Hy@FormObjects\relax
11480 }
11481 \</dvipdfm>

```

47.6 Common forms part

```

11482 \<*pdfform>

```

\Hy@escapestring

```

11483 \begingroup\expandafter\expandafter\expandafter\endgroup
11484 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11485   \let\Hy@escapestring\@firstofone
11486   \def\Hy@escapeform#1{%
11487     \ifHy@escapeform
11488       \def\Hy@escapestring##1{%
11489         \noexpand\Hy@escapestring{\noexpand##1}%
11490       }%
11491       \edef\Hy@temp{#1}%
11492       \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
11493     \def\Hy@escapestring##1{%
11494       \@ifundefined{Hy@esc@\string##1}{%
11495         ##1%
11496         \ThisShouldNotHappen
11497       }{%
11498         \csname Hy@esc@\string##1\endcsname
11499       }%
11500     }%
11501   \else
11502     \let\Hy@escapestring\@firstofone
11503   \fi

```

```

11504 }%
11505 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11506   \ifx\#3\%
11507     \else
11508       \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11509       \Hy@ReturnAfterFi{%
11510         \Hy@@escapeform#3\@nil
11511       }%
11512     \fi
11513   }%
11514 \else
11515   \def\Hy@escapeform#1{%
11516     \ifHy@escapeform
11517       \let\Hy@escapestring\pdfescapestring
11518     \else
11519       \let\Hy@escapestring\@firstofone
11520     \fi
11521   }%
11522   \Hy@escapeform{}}%
11523 \fi

```

\PDFForm@Name

```

11524 \def\PDFForm@Name{%
11525   \begingroup
11526     \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11527       \ifHy@unicode
11528         \Hy@unicodedefalse
11529       \fi
11530     \fi
11531     \pdfstringdef\Hy@gtemp\Fld@name
11532   \endgroup
11533   \let\Fld@name\Hy@gtemp
11534 }

```

\PDFForm@Check

```

11535 \def\PDFForm@Check{%
11536   /Subtype/Widget%
11537   \Fld@annotflags
11538   /T(\Fld@name)%
11539   /FT/Btn%
11540   \Fld@flags
11541   /Q \Fld@align
11542   /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11543   /MK<<%
11544     \ifnum\Fld@rotation=\z@
11545     \else
11546       /R \Fld@rotation
11547     \fi
11548     \ifx\Fld@bordercolor\relax
11549     \else
11550       /BC[\Fld@bordercolor]%
11551     \fi
11552     \ifx\Fld@bcolor\relax
11553     \else
11554       /BG[\Fld@bcolor]%
11555     \fi
11556     /CA(\Hy@escapestring{\Fld@cbsymbol})%

```

```

11557 >>%
11558 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11559 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11560 /H/P%
11561 \ifFld@checked /V/Yes\else /V/Off\fi
11562 }

```

\PDFForm@Push

```

11563 \ifHy@pdfa
11564 \else
11565 \def\PDFForm@Push{%
11566 \Subtype/Widget%
11567 \Fld@annotflags
11568 /T(\Fld@name)%
11569 /FT/Btn%
11570 \Fld@flags
11571 /H/P%
11572 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11573 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11574 \ifx\Fld@bordercolor\relax\else 1\fi
11575 \space
11576 \else
11577 /MK<<%
11578 \ifnum\Fld@rotation=\z@
11579 \else
11580 /R \Fld@rotation
11581 \fi
11582 \ifx\Fld@bordercolor\relax
11583 \else
11584 /BC[\Fld@bordercolor]%
11585 \fi
11586 >>%
11587 \fi
11588 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
11589 }%
11590 \fi

```

\Fld@additionalactions

```

11591 \def\Fld@@additionalactions{%
K input (keystroke) format
11592 \ifx\Fld@keystroke@code\@empty
11593 \else
11594 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11595 \fi
F display format
11596 \ifx\Fld@format@code\@empty
11597 \else
11598 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11599 \fi
V validation
11600 \ifx\Fld@validate@code\@empty
11601 \else
11602 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11603 \fi

```

C calculation

```
11604 \ifx\Fld@calculate@code\@empty
11605 \else
11606 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11607 \fi
```

Fo receiving the input focus

```
11608 \ifx\Fld@onfocus@code\@empty
11609 \else
11610 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11611 \fi
```

Bl loosing the input focus (blurred)

```
11612 \ifx\Fld@onblur@code\@empty
11613 \else
11614 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11615 \fi
```

D pressing the mouse button (down)

```
11616 \ifx\Fld@onmousedown@code\@empty
11617 \else
11618 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11619 \fi
```

U releasing the mouse button (up)

```
11620 \ifx\Fld@onmouseup@code\@empty
11621 \else
11622 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11623 \fi
```

E cursor enters the annotation's active area.

```
11624 \ifx\Fld@onenter@code\@empty
11625 \else
11626 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11627 \fi
```

X cursor exits the annotation's active area.

```
11628 \ifx\Fld@onexit@code\@empty
11629 \else
11630 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11631 \fi
```

```
11632 }
```

```
11633 \def\Fld@additionalactions{%
11634 \if-\Fld@@additionalactions-%
11635 \else
11636 \ifHy@pdfa
11637 \else
11638 /AA<<\Fld@@additionalactions>>%
11639 \fi
11640 \fi
11641 }
```

\PDFForm@List

```
11642 \def\PDFForm@List{%
11643 /Subtype/Widget%
11644 \Fld@annotflags
11645 /T(\Fld@name)%
11646 /FT/Ch%
11647 \Fld@flags
```

```

11648 /Q \Fld@align
11649 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11650 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11651 \ifx\Fld@bordercolor\relax\else 1\fi
11652 \ifx\Fld@bcolor\relax \else 1\fi
11653 \space
11654 \else
11655 /MK<<%
11656 \ifnum\Fld@rotation=\z@
11657 \else
11658 /R \Fld@rotation
11659 \fi
11660 \ifx\Fld@bordercolor\relax
11661 \else
11662 /BC[\Fld@bordercolor]%
11663 \fi
11664 \ifx\Fld@bcolor\relax
11665 \else
11666 /BG[\Fld@bcolor]%
11667 \fi
11668 >>%
11669 \fi
11670 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11671 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11672 \Fld@choices
11673 \Fld@additionalactions
11674 }

```

\PDFForm@Radio

```

11675 \def\PDFForm@Radio{%
11676 /Subtype/Widget%
11677 \Fld@annotflags
11678 /T(\Fld@name)%
11679 /FT/Btn%
11680 \Fld@flags
11681 /H/P%
11682 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11683 /MK<<%
11684 \ifnum\Fld@rotation=\z@
11685 \else
11686 /R \Fld@rotation
11687 \fi
11688 \ifx\Fld@bordercolor\relax
11689 \else
11690 /BC[\Fld@bordercolor]%
11691 \fi
11692 \ifx\Fld@bcolor\relax
11693 \else
11694 /BG[\Fld@bcolor]%
11695 \fi
11696 /CA(\Fld@radiosymbol)%
11697 >>%
11698 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11699 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11700 \ifx\@currValue\Fld@default
11701 /V\Fld@default
11702 \else

```

```

11703     /V/Off%
11704   \fi
11705   \Fld@additionalactions
11706 }

```

\PDFForm@Text

```

11707 \def\PDFForm@Text{%
11708   /Subtype/Widget%
11709   \Fld@annotflags
11710   /T(\Fld@name)%
11711   /FT/Tx%
11712   \Fld@flags
11713   /Q \Fld@align
11714   /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11715   \ifcase0\ifnum\Fld@rotation=\z@   \else 1\fi
11716       \ifx\Fld@bordercolor\relax\else 1\fi
11717       \ifx\Fld@bcolor\relax         \else 1\fi
11718       \space
11719   \else
11720     /MK<<%
11721       \ifnum\Fld@rotation=\z@
11722       \else
11723         /R \Fld@rotation
11724       \fi
11725       \ifx\Fld@bordercolor\relax
11726       \else
11727         /BC[\Fld@bordercolor]%
11728       \fi
11729       \ifx\Fld@bcolor\relax
11730       \else
11731         /BG[\Fld@bcolor]%
11732       \fi
11733     >>%
11734   \fi
11735   /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11736     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11737   /DV(\Hy@escapestring{\Fld@default})%
11738   /V(\Hy@escapestring{\Fld@value})%
11739   \Fld@additionalactions
11740   \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11741 }

```

\PDFForm@Submit

```

11742 \def\PDFForm@Submit{%
11743   /Subtype/Widget%
11744   \Fld@annotflags
11745   /T(\Fld@name)%
11746   /FT/Btn%
11747   \Fld@flags
11748   /H/P%
11749   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11750   \ifcase0\ifnum\Fld@rotation=\z@   \else 1\fi
11751       \ifx\Fld@bordercolor\relax\else 1\fi
11752       \space
11753   \else
11754     /MK<<%
11755     \ifnum\Fld@rotation=\z@

```

```

11756     \else
11757         /R \Fld@rotation
11758     \fi
11759     \ifx\Fld@bordercolor\relax
11760     \else
11761         /BC[\Fld@bordercolor]%
11762     \fi
11763     >>%
11764 \fi
11765 /A<<%
11766     /S/SubmitForm%
11767     /F<<%
11768         /FS/URL%
11769         /F(\Hy@escapestring{\Form@action})%
11770     >>%
11771     \Fld@submitflags
11772 >>%
11773 }

```

\PDFForm@Reset

```

11774 \ifHy@pdfa
11775 \else
11776     \def\PDFForm@Reset{%
11777         /Subtype/Widget%
11778         \Fld@annotflags
11779         /T(\Fld@name)%
11780         /FT/Btn%
11781         \Fld@flags
11782         /H/P%
11783         /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11784         \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11785             \ifx\Fld@bordercolor\relax\else 1\fi
11786             \space
11787     \else
11788         /MK<<%
11789             \ifnum\Fld@rotation=\z@
11790             \else
11791                 /R \Fld@rotation
11792             \fi
11793             \ifx\Fld@bordercolor\relax
11794             \else
11795                 /BC[\Fld@bordercolor]%
11796             \fi
11797         /CA (Clear)
11798         /AC (Done)
11799     >>%
11800     \fi
11801     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11802     /A<</S/ResetForm>>%
11803     }%
11804 \fi

11805 </pdfform>
11806 <*package>

```


48 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in \LaTeX macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```
11807 \def\phantomsection{%
11808   \Hy@GlobalStepCount\Hy@linkcounter
11809   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11810   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11811 }
11812 \</package>
```

48.1 Bookmarks

```
11813 \<*outlines>
```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.

When using the right-to-left typesetting based on $\varepsilon\text{-TeX}$, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of $\varepsilon\text{-TeX}$'s implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document). The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

To work around this problem, the `bookmark@seq@number` counter is used to write the bookmark's sequential number into a comment in the `\@outlinefile`, which could be used to post-process it to achieve the proper ordering of `\BOOKMARK` commands in that file.

```
11814 \def\Hy@writebookmark#1#2#3#4#5{%
11815   % section number, text, label, level, file
11816   \ifx\WriteBookmarks\relax%
11817     \else
11818       \ifnum#4>\Hy@bookmarksdepth\relax
11819       \else
11820         \@writetorep{#1}{#2}{#3}{#4}{#5}%
11821       \fi
11822     \fi
11823 }
11824 \def\Hy@currentbookmarklevel{0}
11825 \def\Hy@numberline#1{#1 }
11826 \def\@writetorep#1#2#3#4#5{%
11827   \begingroup
11828     \edef\Hy@tempa{#5}%
11829     \ifx\Hy@tempa\Hy@bookmarkstype
11830       \edef\Hy@level{#4}%
11831       \ifx\Hy@levelcheck Y%
11832         \@tempcnta\Hy@level\relax
11833         \advance\@tempcnta by -1 %
11834         \ifnum\Hy@currentbookmarklevel<\@tempcnta
```

```

11835         \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
11836         \advance\@tempcnta by 1 %
11837         \Hy@Warning{%
11838             Difference (\the\@tempcnta) between bookmark levels is %
11839             greater \MessageBreak than one, level fixed%
11840         }%
11841         \@tempcnta\Hy@currentbookmarklevel
11842         \advance\@tempcnta by 1 %
11843         \edef\Hy@level{\the\@tempcnta}%
11844         \fi
11845     \else
11846         \global\let\Hy@levelcheck Y%
11847     \fi
11848     \global\let\Hy@currentbookmarklevel\Hy@level
11849     \@tempcnta\Hy@level\relax
11850     \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
11851     \advance\@tempcnta by -1 %
11852     \edef\Hy@tempa{#3}%
11853     \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
11854     \ifx\Hy@tempa\Hy@tempb
11855         \Hy@Warning{%
11856             The anchor of a bookmark and its parent's must not%
11857             \MessageBreak be the same. Added a new anchor%
11858         }%
11859         \phantomsection
11860     \fi
11861     \ifHy@bookmarksnumbered
11862         \let\numberline\Hy@numberline
11863         \let\partnumberline\Hy@numberline
11864         \let\chapternumberline\Hy@numberline
11865     \else
11866         \let\numberline\@gobble
11867         \let\partnumberline\@gobble
11868         \let\chapternumberline\@gobble
11869     \fi
11870     \pdfstringdef\Hy@tempa{#2}%
11871     \if@filesn
11872         \stepcounter{bookmark@seq@number}%
11873         \protected@write\@outlinefile{}{%
11874             \protect\BOOKMARK
11875             [\Hy@level] [\@bookmarkopenstatus{\Hy@level}] {#3}%
11876             {\Hy@tempa}{\Hy@tempb}%
11877             \@percentchar\space\thebookmark@seq@number
11878         }%
11879     \fi
11880     \fi
11881 \endgroup
11882 }
11883 \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] .

```

11884 \newcommand{\currentpdfbookmark}{%
11885     \pdfbookmark[\Hy@currentbookmarklevel]%
11886 }
11887 \newcommand{\subpdfbookmark}{%
11888     \@tempcnta\Hy@currentbookmarklevel
11889     \Hy@StepCount\@tempcnta

```

```

11890 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
11891 }
11892 \newcommand{\belowpdfbookmark}[2]{%
11893   \@tempcnta\Hy@currentbookmarklevel
11894   \Hy@StepCount\@tempcnta
11895   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
11896   \advance\@tempcnta by -1 %
11897   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
11898 }

```

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.

```

11899 \renewcommand\pdfbookmark[3][0]{%
11900   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
11901   \hyper@anchorstart{#3.#1}\hyper@anchorend
11902 }
11903 \def\BOOKMARK{\@ifnextchar[{\@BOOKMARK}{\@BOOKMARK[1][-]}}
11904 \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.

48.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

11905 \def\Hy@OutlineRerunCheck{%
11906   \begingroup
11907     \xdef\Hy@OutlineCheckSumBefore{%
11908       \@ifundefined{pdf@filemdfivesum}{}%
11909       \pdf@filemdfivesum{\jobname.out}%
11910     }%
11911     :%
11912     \@ifundefined{pdf@filesize}{}%
11913     \pdf@filesize{\jobname.out}%
11914   }%
11915 }%
11916 \endgroup
11917 \AtEndDocument{%
11918   \clearpage
11919   \if@filesw
11920     \immediate\write\@mainaux{%
11921       \string\csname\space Hy@OutlineCheckEnd\string\endcsname
11922     }%
11923   \fi
11924 }%
11925 }
11926 \AtBeginDocument{%
11927   \def\Hy@OutlineCheckEnd{%
11928     \begingroup
11929     \immediate\closeout\@outlinefile
11930     \edef\Hy@OutlineCheckSumAfter{%
11931       \@ifundefined{pdf@filemdfivesum}{}%
11932       \pdf@filemdfivesum{\jobname.out}%
11933     }%
11934     :%
11935     \@ifundefined{pdf@filesize}{}%
11936     \pdf@filesize{\jobname.out}%
11937   }%

```

```

11938 }%
11939 \ifx\Hy@OutlineChecksumBefore\Hy@OutlineChecksumAfter
11940 \else
11941   \Hy@WarningNoLine{%
11942     Rerun to get outlines right\MessageBreak
11943     or use package 'bookmark'%
11944   }%
11945 \fi
11946 \endgroup
11947 }%
11948 }

```

48.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou (denis.girou@idris.fr), then by by Taco Hoekwater (taco.hoekwater@wkap.nl). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping \ and the like.

```

11949 <*vtex>
11950 \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.

```

11951 \begingroup
11952 \catcode'\'=12 %
11953 \ifnum\Hy@VTeXversion<650 %
11954 \catcode'\ "=12 %
11955 \gdef\hv@pdf@char#1#2#3{%
11956 \char
11957 \ifcase'#1#2#3 %
11958 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
11959 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
11960 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
11961 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
11962 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
11963 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
11964 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
11965 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
11966 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
11967 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
11968 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
11969 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
11970 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
11971 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
11972 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
11973 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
11974 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
11975 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
11976 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
11977 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
11978 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
11979 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
11980 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
11981 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
11982 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%

```

```

11983 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
11984 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
11985 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
11986 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
11987 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
11988 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
11989 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
11990 \fi
11991 }%
11992 \else
11993 \gdef\hv@pdf@char{\char'}%
11994 \fi
11995 \endgroup

```

\@@BOOKMARK

```

11996 \def\@@BOOKMARK[#1][#2]#3#4#5{%
11997 \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
11998 \edef\@mycount{\the\@serial@counter}%
11999 \Hy@StepCount\@serial@counter
12000 \edef\@parcount{%
12001 \expandafter\ifx\csname @count@#5\endcsname\relax
12002 0%
12003 \else
12004 \csname @count@#5\endcsname
12005 \fi
12006 }%
12007 \immediate\special{%
12008 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
12009 s=\ifx#2-c\else o\fi,t=#4%
12010 }%
12011 }%

```

\ReadBookmarks

```

12012 \def\ReadBookmarks{%
12013 \begingroup
12014 \def\0{\hv@pdf@char 0}%
12015 \def\1{\hv@pdf@char 1}%
12016 \def\2{\hv@pdf@char 2}%
12017 \def\3{\hv@pdf@char 3}%
12018 \def\({}%
12019 \def\)}%
12020 \def\do##1{%
12021 \ifnum\the\catcode'##1=\active
12022 \makeoother##1%
12023 \fi
12024 }%
12025 \dospecials
12026 \InputIfFileExists{\jobname.out}{-}{-}%
12027 \endgroup
12028 \ifx\WriteBookmarks\relax
12029 \else
12030 \if@filesw
12031 \newwrite\@outlinefile
12032 \Hy@OutlineRerunCheck
12033 \immediate\openout\@outlinefile=\jobname.out\relax
12034 \ifHy@typexml
12035 \immediate\write\@outlinefile{<relaxxml>\relax}%

```

```

12036     \fi
12037     \fi
12038     \fi
12039 }

12040 </vtex>
12041 <!*vtex>
12042 \def\ReadBookmarks{%
12043     \begingroup
12044     \escapechar='\'
12045     \let\escapechar\@gobble %
12046     \def\@BOOKMARK[##1][##2]###4##5{\calc@bm@number{##5}}%
12047     \InputIfFileExists{\jobname.out}{-}{-}%
12048     \ifx\WriteBookmarks\relax
12049         \global\let\WriteBookmarks\relax
12050     \fi
12051     \def\@BOOKMARK[##1][##2]###4##5{%
12052         \def\Hy@temp{##4}%
12053     <*pdftex>
12054         \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12055         \Hy@OutlineName{}\Hy@pstringName{%
12056             ##2\check@bm@number{##3}}%
12057         }{%
12058             \expandafter\strip@prefix\meaning\Hy@temp
12059         }%
12060 </pdftex>
12061 <*pdfmark>
12062     \pdfmark{%
12063         pdfmark=/OUT,%
12064         Count={##2\check@bm@number{##3}},%
12065         Dest={##3},%
12066         Title=\expandafter\strip@prefix\meaning\Hy@temp
12067     }%
12068 </pdfmark>
12069 <*dvipdfm>
12070     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12071     \@pdfm@mark{%
12072         outline \ifHy@DvipdfmxOutlineOpen
12073             [%
12074                 \ifnum##21>\z@
12075                 \else
12076                 -%
12077                 \fi
12078             ] %
12079         \fi
12080         ##1<<%
12081         /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
12082         /A<<%
12083         /S/GoTo%
12084         /D(\Hy@pstringName)%
12085         >>%
12086         >>%
12087     }%
12088 </dvipdfm>
12089 }%
12090 {%
12091     \def\WriteBookmarks{0}%
12092     \InputIfFileExists{\jobname.out}{-}{-}%

```

```

12093 }%
12094 %{\escapechar\mOne\InputIfFileExists{\jobname.out}{\}}}%
12095 \ifx\WriteBookmarks\relax
12096 \else
12097 \if@files
12098 \newwrite\@outlinefile
12099 \Hy@OutlineRerunCheck
12100 \immediate\openout\@outlinefile=\jobname.out\relax
12101 \ifHy@typexml
12102 \immediate\write\@outlinefile{<relaxxml>\relax}%
12103 \fi
12104 \fi
12105 \fi
12106 \endgroup
12107 }
12108 <*pdfTeX>
12109 \def\Hy@OutlineName#1#2#3#4{%
12110 \pdfoutline goto name{#2}count#3{#4}%
12111 }
12112 </pdfTeX>
12113 \def\check@bm@number#1{%
12114 \expandafter\ifx\csname B_#1\endcsname\relax
12115 0%
12116 \else
12117 \csname B_#1\endcsname
12118 \fi
12119 }
12120 \def\calc@bm@number#1{%
12121 \@tempcnta=\check@bm@number{#1}\relax
12122 \advance\@tempcnta by 1 %
12123 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
12124 }
12125 </!vTeX>

12126 \ifHy@implicit
12127 \else
12128 \expandafter\endinput
12129 \fi

12130 </outlines>
12131 <*outlines | hypertex>

12132 \let\H@old@ssect\@ssect
12133 \def\@ssect#1#2#3#4#5{%
12134 \Hy@GlobalStepCount\Hy@linkcounter
12135 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12136 \H@old@ssect{#1}{#2}{#3}{#4}{%
12137 \leavevmode
12138 \hbox to 0pt{%
12139 \dimen@=#1\relax\kern-\dimen@
12140 \Hy@raisedlink{%
12141 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12142 }%
12143 \hss
12144 }%
12145 #5%
12146 }%
12147 }
12148 \let\H@old@schapter\@schapter

```

```

12149 \def\@schapter#1{%
12150   \begingroup
12151     \let\@mkboth\@gobbletwo
12152     \Hy@GlobalStepCount\Hy@linkcounter
12153     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12154     \Hy@raisedlink{%
12155       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12156     }%
12157   \endgroup
12158   \H@old@schapter{#1}%
12159 }

```

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:

```

12160 \@ifundefined{chapter}{-}{%
12161   \let\Hy@org@chapter\@chapter
12162   \def\@chapter{%
12163     \def\Hy@next{%
12164       \Hy@GlobalStepCount\Hy@linkcounter
12165       \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12166       \Hy@raisedlink{%
12167         \hyper@anchorstart{\@currentHref}\hyper@anchorend
12168       }%
12169     }%
12170     \ifnum\c@secnumdepth>\m@ne
12171       \@ifundefined{if@mainmatter}%
12172       \iftrue{csname if@mainmatter\endcsname}%
12173       \let\Hy@next\relax
12174     \fi
12175     \fi
12176     \Hy@next
12177     \Hy@org@chapter
12178   }%
12179 }

12180 \let\H@old@part\@part
12181 \begingroup\expandafter\expandafter\expandafter\endgroup
12182 \expandafter\ifx\csname chapter\endcsname\relax
12183   \let\Hy@secnum@part\z@
12184 \else
12185   \let\Hy@secnum@part\m@ne
12186 \fi
12187 \def\@part{%
12188   \ifnum\Hy@secnum@part>\c@secnumdepth
12189     \phantomsection
12190   \fi
12191   \H@old@part
12192 }

12193 \let\H@old@spart\@spart
12194 \def\@spart#1{%
12195   \Hy@GlobalStepCount\Hy@linkcounter
12196   \xdef\@currentHref{part*.\the\Hy@linkcounter}%
12197   \Hy@raisedlink{%
12198     \hyper@anchorstart{\@currentHref}\hyper@anchorend
12199   }%
12200   \H@old@spart{#1}%
12201 }

```



```

12202 \let\H@old@sect\@sect
12203 \def\@sect#1#2#3#4#5#6[#7]#8{%
12204   \ifnum #2>\c@secnumdepth
12205     \expandafter\@firstoftwo
12206   \else
12207     \expandafter\@secondoftwo
12208   \fi
12209   {%
12210     \Hy@GlobalStepCount\Hy@linkcounter
12211     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12212     \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[[#7]]{%
12213       \leavevmode
12214       \hbox to Opt{%
12215         \dimen@=#3\relax\kern-\dimen@
12216         \Hy@raisedlink{%
12217           \hyper@anchorstart{\@currentHref}\hyper@anchorend
12218         }%
12219         \hss
12220       }%
12221       #8%
12222     }%
12223   }{%
12224     \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[[#7]][#8]%
12225   }%
12226 }

12227 </outlines | hypertex>
12228 <*outlines>

12229 \expandafter\def\csname Parent-4\endcsname{}
12230 \expandafter\def\csname Parent-3\endcsname{}
12231 \expandafter\def\csname Parent-2\endcsname{}
12232 \expandafter\def\csname Parent-1\endcsname{}
12233 \expandafter\def\csname Parent0\endcsname{}
12234 \expandafter\def\csname Parent1\endcsname{}
12235 \expandafter\def\csname Parent2\endcsname{}
12236 \expandafter\def\csname Parent3\endcsname{}
12237 \expandafter\def\csname Parent4\endcsname{}

12238 </outlines>

```

49 Compatibility with koma-script classes

```
12239 <*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.

```

12240 \def\Hy@tempa{%
12241   \def\@addchap[##1]##2{%
12242     \typeout{##2}%
12243     \if@twoside
12244       \@mkboth{##1}{}%
12245     \else
12246       \@mkboth{}{##1}%
12247     \fi
12248     \addtocontents{lof}{\protect\addvspace{10\p@}}%
12249     \addtocontents{lot}{\protect\addvspace{10\p@}}%
12250     \Hy@GlobalStepCount\Hy@linkcounter

```

```

12251 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12252 \Hy@raisedlink{%
12253   \hyper@anchorstart{\@currentHref}\hyper@anchorend
12254 }%
12255 \if@twocolumn
12256   \@topnewpage[\@makeschapterhead{##2}]%
12257 \else
12258   \@makeschapterhead{##2}%
12259   \@afterheading
12260 \fi
12261 \addcontentsline{toc}{chapter}{##1}%
12262 }%
12263 }
12264 \@ifclassloaded{scrbook}{%
12265   \@ifclasslater{scrbook}{2001/01/01}{%
12266     \let\Hy@tempa\@empty
12267   }{}%
12268 }{%
12269   \@ifclassloaded{scrreprt}{%
12270     \@ifclasslater{scrreprt}{2001/01/01}{%
12271       \let\Hy@tempa\@empty
12272     }{}%
12273   }{}%
12274   \let\Hy@tempa\@empty
12275 }%
12276 }%
12277 \Hy@tempa
12278 </outlines | hypertext>

```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek oberdiek@ruf.uni-freiburg.de

50.1 PD1 encoding

```

12279 <*pd1enc>
12280 \DeclareFontEncoding{PD1}{}{}

```

Accents

```

12281 \DeclareTextAccent{\'}{PD1}{\textasciigrave}
12282 \DeclareTextAccent{\'}{PD1}{\textacute}
12283 \DeclareTextAccent{\^}{PD1}{\textasciicircum}
12284 \DeclareTextAccent{\~}{PD1}{\texttilde}
12285 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
12286 \DeclareTextAccent{\r}{PD1}{\textring}
12287 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
12288 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
12289 \DeclareTextAccent{\c}{PD1}{\textcedilla}
12290 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
12291 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
12292 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
12293 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textasciigrave}
12294 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
12295 \DeclareTextCompositeCommand{\^}{PD1}{\@empty}{\textasciicircum}
12296 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
12297 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
12298 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}

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12299 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
12300 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
12301 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
12302 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
12303 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
12304 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
12305 \DeclareTextCompositeCommand{\' }{PD1}{\ }{\textasciigrave}
12306 \DeclareTextCompositeCommand{\' }{PD1}{\ }{\textacute}
12307 \DeclareTextCompositeCommand{\^}{PD1}{\ }{\textasciicircum}
12308 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
12309 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
12310 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textstring}
12311 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
12312 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
12313 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
12314 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
12315 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
12316 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
12317 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
12318 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
12319 \DeclareTextCommand{\newtie}{PD1}[1]{\TextSymbolUnavailable{\newtie{#1}}#1}

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

12320 % U+0009 (CHARACTER TABULATION)
12321 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
12322 % U+000A (LINE FEED)
12323 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
12324 % U+000D (CARRIAGE RETURN)
12325 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

12326 % U+02D8 BREVE; breve
12327 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
12328 % U+02C7 CARON; caron
12329 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
12330 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
12331 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
12332 % U+02D9 DOT ABOVE; dotaccent
12333 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
12334 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
12335 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
12336 % U+02DB OGONEK; ogonek
12337 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
12338 % U+02DA RING ABOVE; ring
12339 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
12340 % U+02DC SMALL TILDE; ilde, *tilde
12341 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; *space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

```

12342 % U+0022 QUOTATION MARK; quotedbl
12343 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
12344 % U+0023 NUMBER SIGN; numbersign
12345 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
12346 % U+0024 DOLLAR SIGN; dollar
12347 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
12348 % U+0025 PERCENT SIGN; percent
12349 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
12350 % U+0026 AMPERSAND; ampersand

```

12351 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026
 \047: U+0027 APOSTROPHE; quotesingle

 12352 % U+0028 LEFT PARENTHESIS; parenleft
 12353 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028
 12354 % U+0029 RIGHT PARENTHESIS; parenright
 12355 \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
 12356 % U+002E FULL STOP; period
 12357 \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
 12358 % U+003C LESS-THAN SIGN; less
 12359 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
 \075: U+003D EQUALS SIGN; equal
 12360 % U+003E GREATER-THAN SIGN; greater
 12361 \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
 12362 % U+005C REVERSE SOLIDUS; backslash
 12363 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 12364 % U+005E CIRCUMFLEX ACCENT; asciicircum
 12365 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 12366 % U+005F LOW LINE; underscore
 12367 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 12368 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 12369 % U+0060 GRAVE ACCENT; grave
 12370 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 12371 % U+0069 LATIN SMALL LETTER I; i
 12372 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 12373 % U+007B LEFT CURLY BRACKET; braceleft
 12374 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 12375 % U+007C VERTICAL LINE; *bar, verticalbar
 12376 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C

12377 % U+007D RIGHT CURLY BRACKET; braceright
 12378 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 12379 % U+007E TILDE; asciitilde
 12380 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 12381 % U+2022 BULLET; bullet
 12382 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 12383 % U+2020 DAGGER; dagger
 12384 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 12385 % U+2021 DOUBLE DAGGER; daggerdbl
 12386 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 12387 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 12388 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 12389 % U+2014 EM DASH; emdash
 12390 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 12391 % U+2013 EN DASH; endash
 12392 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 12393 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 12394 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 12395 % U+2044 FRACTION SLASH; fraction
 12396 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 12397 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft
 12398 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039
 12399 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright
 12400 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A
 12401 % U+2212 MINUS SIGN; minus
 12402 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 12403 % U+2030 PER MILLE SIGN; perthousand
 12404 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 12405 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 12406 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 12407 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 12408 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 12409 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 12410 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
 12411 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 12412 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
 12413 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 12414 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
 12415 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 12416 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 12417 % U+2122 TRADE MARK SIGN; trademark
 12418 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 12419 % U+FB01 LATIN SMALL LIGATURE FI; fi
 12420 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
 12421 % U+FB02 LATIN SMALL LIGATURE FL; fl
 12422 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
 12423 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 12424 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
 12425 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 12426 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
 12427 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
 12428 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
 12429 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 12430 \DeclareTextCompositeCommand{\Y}{PD1}{Y}{\230}% U+0178
 12431 \DeclareTextCommand{\IJ}{PD1}{\230}
 12432 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron

12433 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
 12434 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 12435 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
 12436 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 12437 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
 12438 % U+0153 LATIN SMALL LIGATURE OE; oe
 12439 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
 12440 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 12441 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
 12442 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 12443 \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.
 12444 % U+20AC EURO SIGN; *Euro, euro
 12445 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
 12446 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 12447 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
 12448 % U+00A2 CENT SIGN; cent
 12449 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
 12450 % U+00A3 POUND SIGN; sterling
 12451 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
 12452 % U+00A4 CURRENCY SIGN; currency
 12453 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
 12454 % U+00A5 YEN SIGN; yen
 12455 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
 12456 % U+00A6 BROKEN BAR; brokenbar
 12457 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
 12458 % U+00A7 SECTION SIGN; section
 12459 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
 12460 % U+00A8 DIAERESIS; dieresis
 12461 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
 12462 % U+00A9 COPYRIGHT SIGN; copyright
 12463 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
 12464 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 12465 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
 12466 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
 12467 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
 12468 % U+00AC NOT SIGN; logicalnot
 12469 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
 12470 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
 No glyph \255 in PDFDocEncoding.
 12471 % U+00AE REGISTERED SIGN; registered
 12472 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
 12473 % U+00AF MACRON; *macron, overscore
 12474 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
 12475 % U+00B0 DEGREE SIGN; degree
 12476 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
 12477 % U+00B1 PLUS-MINUS SIGN; plusminus
 12478 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
 12479 % U+00B2 SUPERSCRIPT TWO; twosuperior
 12480 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
 12481 % U+00B3 SUPERSCRIPT THREE; threesuperior
 12482 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
 12483 % U+00B4 ACUTE ACCENT; acute
 12484 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
 12485 % U+00B5 MICRO SIGN; mu, mu1
 12486 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5

12487 % U+00B6 PILCROW SIGN; paragraph
 12488 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
 12489 % U+00B7 MIDDLE DOT; middot, *periodcentered
 12490 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
 12491 % U+00B8 CEDILLA; cedilla
 12492 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
 12493 % U+00B9 SUPERSCRIPT ONE; onesuperior
 12494 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
 12495 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 12496 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
 12497 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
 12498 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
 12499 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
 12500 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
 12501 % U+00BD VULGAR FRACTION ONE HALF; onehalf
 12502 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
 12503 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
 12504 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
 12505 % U+00BF INVERTED QUESTION MARK; questiondown
 12506 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
 12507 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
 12508 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
 12509 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
 12510 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
 12511 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
 12512 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
 12513 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
 12514 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
 12515 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
 12516 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
 12517 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
 12518 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
 12519 % U+00C6 LATIN CAPITAL LETTER AE; AE
 12520 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
 12521 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
 12522 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
 12523 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
 12524 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
 12525 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
 12526 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
 12527 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
 12528 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
 12529 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
 12530 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
 12531 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
 12532 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
 12533 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
 12534 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
 12535 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
 12536 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
 12537 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
 12538 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
 12539 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
 12540 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
 12541 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
 12542 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
 12543 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1

12544 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
12545 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
12546 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
12547 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
12548 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
12549 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
12550 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
12551 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
12552 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
12553 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
12554 % U+00D7 MULTIPLICATION SIGN; multiply
12555 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
12556 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
12557 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
12558 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
12559 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
12560 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
12561 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
12562 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
12563 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
12564 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
12565 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
12566 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
12567 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
12568 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
12569 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
12570 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
12571 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
12572 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
12573 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
12574 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
12575 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
12576 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
12577 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
12578 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
12579 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
12580 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
12581 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
12582 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
12583 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
12584 % U+00E6 LATIN SMALL LETTER AE; ae
12585 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
12586 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
12587 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
12588 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
12589 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8
12590 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
12591 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9
12592 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
12593 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA
12594 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
12595 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
12596 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
12597 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
12598 \DeclareTextCompositeCommand{\^}{PD1}{i}{\354}% U+00EC
12599 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
12600 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED


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12601 \DeclareTextCompositeCommand{\'}{PD1}{\i}{\355}% U+00ED
12602 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
12603 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
12604 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
12605 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
12606 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
12607 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
12608 % U+00F0 LATIN SMALL LETTER ETH; eth
12609 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
12610 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
12611 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
12612 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
12613 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
12614 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
12615 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
12616 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
12617 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4
12618 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
12619 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
12620 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
12621 \DeclareTextCompositeCommand{"}{PD1}{o}{\366}% U+00F6
12622 % U+00F7 DIVISION SIGN; divide
12623 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
12624 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
12625 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
12626 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
12627 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
12628 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
12629 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
12630 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
12631 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
12632 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
12633 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC
12634 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
12635 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
12636 % U+00FE LATIN SMALL LETTER THORN; thorn
12637 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
12638 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
12639 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF
12640 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

```

Glyphs that consist of several characters.

```

12641 \DeclareTextCommand{\SS}{PD1}{SS}
12642 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

12643 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
12644 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
12645 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
12646 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
12647 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
12648 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
12649 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
12650 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

12651 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
12652 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
12653 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}

```

```

12654 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
12655 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
12656 \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;

```

12657 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
12658 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
12659 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
12660 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
12661 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
12662 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
12663 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
12664 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
12665 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
12666 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
12667 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
12668 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
12669 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
12670 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

```

12671 </pdlenc>

```

50.2 PU encoding

```

12672 <*puenc>
12673 \DeclareFontEncoding{PU}{-}{}

```

50.2.1 NFSS2 accents

```

12674 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecmb
12675 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
12676 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
12677 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
12678 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
12679 \DeclareTextCommand{\~}{PU}[1]{#1\83\002}% U+0302
12680 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
12681 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
12682 % U+0304 COMBINING MACRON; macroncmb
12683 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
12684 % U+0306 COMBINING BREVE; brevecmb
12685 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
12686 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
12687 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
12688 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
12689 % U+0308 COMBINING DIAERESIS; dieresiscmb
12690 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
12691 % U+030A COMBINING RING ABOVE; ringcmb
12692 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
12693 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
12694 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
12695 % U+030C COMBINING CARON; caroncmb
12696 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
12697 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
12698 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
12699 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
12700 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
12701 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
12702 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
12703 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323

```

```

12704 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
12705 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
12706 % U+0327 COMBINING CEDILLA; cedillacmb
12707 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
12708 % U+0328 COMBINING OGONEK; ogonekcmb
12709 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
12710 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
12711 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
12712 % U+20DD COMBINING ENCLOSING CIRCLE
12713 \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.

```

12714 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}
12715 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12716 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}
12717 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
12718 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
12719 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12720 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
12721 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
12722 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12723 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
12724 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
12725 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
12726 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
12727 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
12728 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
12729 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
12730 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
12731 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
12732 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

12733 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}
12734 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
12735 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}
12736 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
12737 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
12738 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
12739 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
12740 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
12741 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
12742 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
12743 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
12744 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
12745 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
12746 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
12747 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
12748 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
12749 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
12750 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
12751 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

12752 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
12753 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
12754 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
12755 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
12756 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}

```

```

12757 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
12758 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
12759 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
12760 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
12761 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
12762 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
12763 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
12764 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
12765 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
12766 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

12767 % U+0009 (CHARACTER TABULATION)
12768 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
12769 % U+000A (LINE FEED)
12770 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
12771 % U+000D (CARRIAGE RETURN)
12772 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

12773 % U+0022 QUOTATION MARK; quotedbl
12774 \DeclareTextCommand{\textquotedbl}{PU}{\string"%} \80\042 U+0022
12775 % U+0023 NUMBER SIGN; numbersign
12776 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
12777 % U+0024 DOLLAR SIGN; dollar
12778 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
12779 % U+0025 PERCENT SIGN; percent
12780 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
12781 % U+0026 AMPERSAND; ampersand
12782 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
12783 % U+0027 APOSTROPHE; quotesingle
12784 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
12785 % U+0028 LEFT PARENTHESIS; parenleft
12786 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
12787 % U+0029 RIGHT PARENTHESIS; parenright
12788 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
12789 % U+002A ASTERISK; asterisk
12790 \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

12791 % U+003C LESS-THAN SIGN; less
12792 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
\80\075: U+003D EQUALS SIGN; equal

12793 % U+003E GREATER-THAN SIGN; greater
12794 \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
 12795 % U+005C REVERSE SOLIDUS; backslash
 12796 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright
 12797 % U+005E CIRCUMFLEX ACCENT; asciicircum
 12798 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 12799 % U+005F LOW LINE; underscore
 12800 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 12801 % U+0060 GRAVE ACCENT; grave
 12802 \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
 12803 % U+0069 LATIN SMALL LETTER I; i
 12804 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % \80\151 U+0069
 12805 \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
 12806 % U+007B LEFT CURLY BRACKET; braceleft
 12807 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 12808 % U+007C VERTICAL LINE; *bar, verticalbar
 12809 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 12810 % U+007D RIGHT CURLY BRACKET; braceright
 12811 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 12812 % U+007E TILDE; asciitilde
 12813 \DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E

50.2.3 Latin-1 Supplement: U+0080 to U+00FF

\80\240: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace
 12814 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 12815 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 12816 % U+00A2 CENT SIGN; cent
 12817 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 12818 % U+00A3 POUND SIGN; sterling
 12819 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 12820 % U+00A4 CURRENCY SIGN; currency
 12821 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 12822 % U+00A5 YEN SIGN; yen
 12823 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
 12824 % U+00A6 BROKEN BAR; brokenbar
 12825 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
 12826 % U+00A7 SECTION SIGN; section
 12827 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 12828 % U+00A8 DIAERESIS; dieresis
 12829 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
 12830 % U+00A9 COPYRIGHT SIGN; copyright
 12831 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9

12832 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 12833 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 12834 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
 12835 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 12836 % U+00AC NOT SIGN; logicalnot
 12837 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 12838 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
 12839 % U+00AE REGISTERED SIGN; registered
 12840 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
 12841 % U+00AF MACRON; *macron, overscore
 12842 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
 12843 % U+00B0 DEGREE SIGN; degree
 12844 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
 12845 % U+00B1 PLUS-MINUS SIGN; plusminus
 12846 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
 12847 % U+00B2 SUPERSCRIPT TWO; twosuperior
 12848 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
 12849 % U+00B3 SUPERSCRIPT THREE; threesuperior
 12850 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
 12851 % U+00B4 ACUTE ACCENT; acute
 12852 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
 12853 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
 12854 % U+00B5 MICRO SIGN; mu, mu1
 12855 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
 12856 % U+00B6 PILCROW SIGN; paragraph
 12857 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
 12858 % U+00B7 MIDDLE DOT; middot, *periodcentered
 12859 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
 12860 % U+00B8 CEDILLA; cedilla
 12861 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
 12862 % U+00B9 SUPERSCRIPT ONE; onesuperior
 12863 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
 12864 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 12865 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
 12866 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
 12867 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
 12868 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
 12869 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
 12870 % U+00BD VULGAR FRACTION ONE HALF; onehalf
 12871 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
 12872 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
 12873 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
 12874 % U+00BF INVERTED QUESTION MARK; questiondown
 12875 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
 12876 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
 12877 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
 12878 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
 12879 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
 12880 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
 12881 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
 12882 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
 12883 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
 12884 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
 12885 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
 12886 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
 12887 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5

12888 % U+00C6 LATIN CAPITAL LETTER AE; AE
 12889 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
 12890 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
 12891 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
 12892 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
 12893 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
 12894 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
 12895 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
 12896 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
 12897 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
 12898 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
 12899 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
 12900 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
 12901 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
 12902 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
 12903 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
 12904 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
 12905 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
 12906 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
 12907 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
 12908 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
 12909 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
 12910 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
 12911 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
 12912 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
 12913 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
 12914 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
 12915 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
 12916 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
 12917 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
 12918 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
 12919 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
 12920 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
 12921 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
 12922 % U+00D7 MULTIPLICATION SIGN; multiply
 12923 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
 12924 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
 12925 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
 12926 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
 12927 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
 12928 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
 12929 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
 12930 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
 12931 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
 12932 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
 12933 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
 12934 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
 12935 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
 12936 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
 12937 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
 12938 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
 12939 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
 12940 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
 12941 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
 12942 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
 12943 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
 12944 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex

12945 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\342}% U+00E2
12946 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
12947 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
12948 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
12949 \DeclareTextCompositeCommand{"}{PU}{a}{\80\344}% U+00E4
12950 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
12951 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
12952 % U+00E6 LATIN SMALL LETTER AE; ae
12953 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
12954 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
12955 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
12956 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
12957 \DeclareTextCompositeCommand{'}{PU}{e}{\80\350}% U+00E8
12958 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
12959 \DeclareTextCompositeCommand{'}{PU}{e}{\80\351}% U+00E9
12960 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
12961 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
12962 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
12963 \DeclareTextCompositeCommand{"}{PU}{e}{\80\353}% U+00EB
12964 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
12965 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}% U+00EC
12966 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}% U+00EC
12967 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
12968 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}% U+00ED
12969 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}% U+00ED
12970 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
12971 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
12972 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
12973 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
12974 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
12975 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
12976 % U+00F0 LATIN SMALL LETTER ETH; eth
12977 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
12978 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
12979 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
12980 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
12981 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362}% U+00F2
12982 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
12983 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}% U+00F3
12984 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
12985 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4
12986 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
12987 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
12988 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
12989 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366}% U+00F6
12990 % U+00F7 DIVISION SIGN; divide
12991 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
12992 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
12993 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
12994 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
12995 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371}% U+00F9
12996 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
12997 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}% U+00FA
12998 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
12999 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
13000 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
13001 \DeclareTextCompositeCommand{"}{PU}{u}{\80\374}% U+00FC

13002 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 13003 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 13004 % U+00FE LATIN SMALL LETTER THORN; thorn
 13005 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 13006 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 13007 \DeclareTextCompositeCommand{"}{PU}{y}{\80\377}% U+00FF

50.2.4 Latin Extended-A: U+0080 to U+017F

13008 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 13009 \DeclareTextCompositeCommand{=}{PU}{A}{\81\000}% U+0100
 13010 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 13011 \DeclareTextCompositeCommand{=}{PU}{a}{\81\001}% U+0101
 13012 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 13013 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 13014 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 13015 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 13016 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 13017 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 13018 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
 13019 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
 13020 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
 13021 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
 13022 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
 13023 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
 13024 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
 13025 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
 13026 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
 13027 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
 13028 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
 13029 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
 13030 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
 13031 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
 13032 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
 13033 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
 13034 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
 13035 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
 13036 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
 13037 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
 13038 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
 13039 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
 13040 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
 13041 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
 13042 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
 13043 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
 13044 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
 13045 \DeclareTextCompositeCommand{=}{PU}{E}{\81\022}% U+0112
 13046 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
 13047 \DeclareTextCompositeCommand{=}{PU}{e}{\81\023}% U+0113
 13048 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
 13049 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
 13050 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
 13051 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
 13052 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
 13053 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
 13054 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
 13055 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117

13056 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
13057 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
13058 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
13059 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
13060 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
13061 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
13062 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
13063 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
13064 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
13065 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
13066 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
13067 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
13068 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
13069 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
13070 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
13071 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
13072 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
13073 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
13074 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
13075 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
13076 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent
13077 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
13078 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
13079 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
13080 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
13081 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
13082 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
13083 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
13084 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
13085 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
13086 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
13087 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127
13088 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
13089 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
13090 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
13091 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
13092 \DeclareTextCompositeCommand{\~}{PU}{\i}{\81\051}% U+0129
13093 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
13094 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
13095 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
13096 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
13097 \DeclareTextCompositeCommand{\=}{PU}{\i}{\81\053}% U+012B
13098 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
13099 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
13100 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
13101 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
13102 \DeclareTextCompositeCommand{\u}{PU}{\i}{\81\055}% U+012D
13103 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
13104 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
13105 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
13106 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
13107 \DeclareTextCompositeCommand{\k}{PU}{\i}{\81\057}% U+012F
13108 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
13109 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
13110 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
13111 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
13112 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ

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13113 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
13114 % U+0133 LATIN SMALL LIGATURE IJ; ij
13115 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
13116 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
13117 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
13118 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
13119 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
13120 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
13121 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
13122 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
13123 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
13124 \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`.

```

13125 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
13126 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
13127 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
13128 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
13129 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
13130 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
13131 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent
13132 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
13133 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
13134 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
13135 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
13136 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
13137 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
13138 \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`.

```

13139 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
13140 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
13141 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
13142 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
13143 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
13144 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
13145 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
13146 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
13147 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
13148 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
13149 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
13150 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
13151 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
13152 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
13153 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
13154 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
13155 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
13156 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
13157 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
13158 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
13159 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
13160 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
13161 % U+014A LATIN CAPITAL LETTER ENG; Eng
13162 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
13163 % U+014B LATIN SMALL LETTER ENG; eng

```

13164 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
13165 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
13166 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
13167 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
13168 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
13169 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
13170 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
13171 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
13172 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
13173 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
13174 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
13175 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
13176 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
13177 % U+0152 LATIN CAPITAL LIGATURE OE; OE
13178 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
13179 % U+0153 LATIN SMALL LIGATURE OE; oe
13180 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
13181 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
13182 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
13183 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
13184 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
13185 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
13186 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
13187 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
13188 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
13189 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
13190 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
13191 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
13192 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
13193 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
13194 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
13195 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
13196 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
13197 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
13198 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
13199 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
13200 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
13201 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
13202 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
13203 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
13204 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
13205 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
13206 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
13207 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
13208 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
13209 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent
13210 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
13211 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
13212 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
13213 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
13214 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
13215 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
13216 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
13217 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
13218 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
13219 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
13220 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167

13221 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
 13222 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
 13223 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
 13224 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
 13225 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
 13226 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
 13227 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
 13228 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
 13229 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
 13230 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
 13231 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
 13232 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
 13233 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
 13234 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
 13235 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
 13236 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
 13237 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut
 13238 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
 13239 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut
 13240 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
 13241 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
 13242 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
 13243 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
 13244 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
 13245 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
 13246 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
 13247 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
 13248 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
 13249 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
 13250 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
 13251 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 13252 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
 13253 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 13254 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
 13255 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 13256 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
 13257 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 13258 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
 13259 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 13260 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 13261 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 13262 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 13263 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 13264 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 13265 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 13266 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 13267 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 13268 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

50.2.5 Latin Extended-B: U+0180 to U+024F

13269 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 13270 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 13271 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 13272 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 13273 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
 13274 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 13275 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron

13276 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
13277 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
13278 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
13279 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
13280 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
13281 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
13282 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
13283 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
13284 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
13285 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
13286 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
13287 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
13288 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
13289 \DeclareTextCompositeCommand{\textGslash}{PU}{\81\344}% U+01E4
13290 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
13291 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
13292 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
13293 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
13294 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
13295 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
13296 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
13297 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
13298 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
13299 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
13300 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
13301 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
13302 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
13303 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
13304 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
13305 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
13306 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
13307 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
13308 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
13309 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
13310 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
13311 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
13312 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8
13313 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
13314 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9
13315 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
13316 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
13317 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
13318 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
13319 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslashacute, Ostrokeacut
13320 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
13321 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslashacute, ostrokeacute
13322 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
13323 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
13324 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
13325 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
13326 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
13327 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
13328 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
13329 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
13330 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
13331 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
13332 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208

13333 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
 13334 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 13335 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 13336 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
 13337 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
 13338 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
 13339 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
 13340 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
 13341 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
 13342 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
 13343 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
 13344 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
 13345 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
 13346 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
 13347 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
 13348 % U+021E LATIN CAPITAL LETTER H WITH CARON
 13349 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
 13350 % U+021F LATIN SMALL LETTER H WITH CARON
 13351 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
 13352 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 13353 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 13354 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 13355 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 13356 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 13357 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 13358 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 13359 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 13360 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 13361 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 13362 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 13363 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 13364 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 13365 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 13366 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 13367 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 13368 % U+0237 LATIN SMALL LETTER DOTLESS J
 13369 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

13370 % U+02C7 CARON; caron
 13371 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 13372 % U+02D8 BREVE; breve
 13373 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 13374 % U+02D9 DOT ABOVE; dotaccent
 13375 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 13376 % U+02DA RING ABOVE; ring
 13377 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 13378 % U+02DB OGONEK; ogonek
 13379 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 13380 % U+02DC SMALL TILDE; ilde, *tilde
 13381 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 13382 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 13383 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 13384 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 13385 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 13386 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 13387 % U+02F7 MODIFIER LETTER LOW TILDE

13388 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

50.2.7 Combining Diacritical Marks: U+0300 to U+036F

13389 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
13390 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
13391 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
13392 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
13393 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
13394 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
13395 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
13396 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
13397 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
13398 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

50.2.8 Greek and Coptic: U+0370 to U+03FF

13399 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
13400 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
13401 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
13402 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
13403 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos
13404 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
13405 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
13406 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
13407 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
13408 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
13409 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
13410 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
13411 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos
13412 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
13413 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos
13414 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
13415 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
13416 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
13417 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadieresis
13418 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390
13419 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
13420 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
13421 % U+0392 GREEK CAPITAL LETTER BETA; Beta
13422 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
13423 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
13424 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
13425 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
13426 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
13427 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
13428 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
13429 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
13430 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
13431 % U+0397 GREEK CAPITAL LETTER ETA; Eta
13432 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
13433 % U+0398 GREEK CAPITAL LETTER THETA; Theta
13434 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
13435 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
13436 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
13437 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
13438 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
13439 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
13440 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B

13441 % U+039C GREEK CAPITAL LETTER MU; Mu
13442 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
13443 % U+039D GREEK CAPITAL LETTER NU; Nu
13444 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
13445 % U+039E GREEK CAPITAL LETTER XI; Xi
13446 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
13447 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
13448 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
13449 % U+03A0 GREEK CAPITAL LETTER PI; Pi
13450 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
13451 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
13452 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
13453 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
13454 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
13455 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
13456 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
13457 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
13458 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
13459 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
13460 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
13461 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
13462 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
13463 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
13464 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
13465 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
13466 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
13467 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
13468 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
13469 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
13470 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilondieresis
13471 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
13472 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphatonos
13473 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC
13474 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon-tonos
13475 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
13476 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etatonos
13477 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
13478 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotatonos
13479 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
13480 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilondieresis-tonos
13481 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0
13482 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
13483 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
13484 % U+03B2 GREEK SMALL LETTER BETA; beta
13485 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
13486 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
13487 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
13488 % U+03B4 GREEK SMALL LETTER DELTA; delta
13489 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
13490 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
13491 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
13492 % U+03B6 GREEK SMALL LETTER ZETA; zeta
13493 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
13494 % U+03B7 GREEK SMALL LETTER ETA; eta
13495 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
13496 % U+03B8 GREEK SMALL LETTER THETA; theta
13497 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8

13498 % U+03B9 GREEK SMALL LETTER IOTA; iota
 13499 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
 13500 % U+03BA GREEK SMALL LETTER KAPPA; kappa
 13501 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
 13502 % U+03BB GREEK SMALL LETTER LAMDA; lambda
 13503 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
 13504 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
 13505 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
 13506 % U+03BD GREEK SMALL LETTER NU; nu
 13507 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
 13508 % U+03BE GREEK SMALL LETTER XI; xi
 13509 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
 13510 % U+03BF GREEK SMALL LETTER OMICRON; omicron
 13511 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
 13512 % U+03C0 GREEK SMALL LETTER PI; pi
 13513 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
 13514 % U+03C1 GREEK SMALL LETTER RHO; rho
 13515 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
 13516 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
 13517 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
 13518 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
 13519 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
 13520 % U+03C4 GREEK SMALL LETTER TAU; tau
 13521 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
 13522 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
 13523 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
 13524 % U+03C6 GREEK SMALL LETTER PHI; phi
 13525 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
 13526 % U+03C7 GREEK SMALL LETTER CHI; chi
 13527 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
 13528 % U+03C8 GREEK SMALL LETTER PSI; psi
 13529 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
 13530 % U+03C9 GREEK SMALL LETTER OMEGA; omega
 13531 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
 13532 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iodadieresis
 13533 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
 13534 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; upsilondieresis
 13535 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
 13536 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
 13537 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
 13538 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
 13539 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
 13540 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
 13541 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
 13542 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
 13543 % U+03DA GREEK LETTER STIGMA; Stigmagreek
 13544 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
 13545 % U+03DB GREEK SMALL LETTER STIGMA
 13546 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
 13547 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
 13548 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
 13549 % U+03DD GREEK SMALL LETTER DIGAMMA
 13550 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
 13551 % U+03DE GREEK LETTER KOPPA; Koppagreek
 13552 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
 13553 % U+03DF GREEK SMALL LETTER KOPPA
 13554 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF

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13555 % U+03E0 GREEK LETTER SAMPI; Sampigreek
13556 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
13557 % U+03E1 GREEK SMALL LETTER SAMPI
13558 \DeclareTextCommand{\textSampigreek}{PU}{\83\341}% U+03E1

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50.2.9 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vov@vov.vsu.ru) for the help with the Cyrillic glyph names.

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13559 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
13560 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
13561 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrillic, *afii10023
13562 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
13563 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???
13564 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
13565 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
13566 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
13567 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
13568 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrillic, *afii10053
13569 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
13570 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
13571 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
13572 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrrillic, *afii10055
13573 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
13574 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrrillic, *afii10056
13575 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
13576 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
13577 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
13578 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
13579 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
13580 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
13581 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
13582 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
13583 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
13584 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
13585 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
13586 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
13587 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
13588 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D
13589 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrrillic, *afii10062
13590 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
13591 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
13592 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrrillic, *afii10145
13593 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
13594 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrrillic, *afii10017
13595 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
13596 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrrillic, *afii10018
13597 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
13598 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrrillic, *afii10019
13599 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
13600 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrrillic, *afii10020
13601 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
13602 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrrillic, *afii10021
13603 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
13604 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrrillic, *afii10022
13605 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
13606 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrrillic, *afii10024
13607 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416

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13608 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
13609 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
13610 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
13611 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
13612 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
13613 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
13614 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
13615 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
13616 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
13617 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
13618 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
13619 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
13620 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
13621 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
13622 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
13623 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
13624 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
13625 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
13626 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
13627 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
13628 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
13629 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
13630 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
13631 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
13632 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
13633 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
13634 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
13635 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
13636 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
13637 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
13638 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
13639 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
13640 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
13641 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
13642 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
13643 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
13644 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
13645 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
13646 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
13647 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
13648 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
13649 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
13650 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
13651 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
13652 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
13653 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
13654 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
13655 % U+042E CYRILLIC CAPITAL LETTER YU; IUCyrillic, *afii10048
13656 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
13657 % U+042F CYRILLIC CAPITAL LETTER YA; IACyrillic, *afii10049
13658 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
13659 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
13660 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
13661 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
13662 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
13663 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
13664 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432

13665 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
13666 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
13667 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
13668 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
13669 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
13670 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
13671 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
13672 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
13673 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
13674 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
13675 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
13676 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
13677 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
13678 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
13679 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
13680 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
13681 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
13682 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
13683 \DeclareTextCommand{\cyr1}{PU}{\84\073}% U+043B
13684 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
13685 \DeclareTextCommand{\cyr1m}{PU}{\84\074}% U+043C
13686 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
13687 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
13688 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
13689 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
13690 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
13691 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
13692 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
13693 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
13694 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
13695 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441
13696 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
13697 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
13698 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
13699 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
13700 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
13701 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
13702 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
13703 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
13704 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
13705 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
13706 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
13707 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
13708 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
13709 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
13710 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
13711 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
13712 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
13713 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A
13714 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
13715 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
13716 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
13717 \DeclareTextCommand{\cyrsftsn}{PU}{\84\114}% U+044C
13718 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
13719 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D
13720 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
13721 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E

13722 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
13723 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F
13724 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
13725 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
13726 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
13727 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
13728 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
13729 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
13730 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
13731 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
13732 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
13733 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
13734 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
13735 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
13736 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
13737 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyrillic
13738 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
13739 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
13740 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457
13741 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457
13742 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
13743 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
13744 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
13745 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459
13746 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
13747 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
13748 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
13749 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
13750 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
13751 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
13752 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
13753 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
13754 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
13755 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
13756 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
13757 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
13758 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
13759 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
13760 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
13761 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
13762 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
13763 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
13764 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
13765 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
13766 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
13767 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
13768 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
13769 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
13770 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
13771 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
13772 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
13773 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
13774 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
13775 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitleiotifiedcyrillic
13776 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
13777 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleiotifiedcyrillic
13778 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469

13779 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
13780 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
13781 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
13782 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
13783 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotifiedcyrillic
13784 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
13785 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyrillic
13786 \DeclareTextCommand{\cyrriotbyus}{PU}{\84\155}% U+046D
13787 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
13788 \DeclareTextCommand{\CYRКСI}{PU}{\84\156}% U+046E
13789 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
13790 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
13791 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
13792 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
13793 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
13794 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
13795 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
13796 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
13797 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
13798 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
13799 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
13800 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
13801 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
13802 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
13803 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; Izhitsadblgravecyrillic
13804 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
13805 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; izhitsadblgravecyrillic
13806 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
13807 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
13808 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
13809 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
13810 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
13811 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic
13812 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
13813 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
13814 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
13815 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omeгатitlocyrillic
13816 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
13817 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic
13818 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
13819 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
13820 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
13821 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
13822 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
13823 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
13824 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
13825 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
13826 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
13827 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
13828 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
\84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb
\84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrillicmb
\84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrillicmb
\84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrillicmb

\84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 13829 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 13830 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 13831 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 13832 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 13833 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 13834 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 13835 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 13836 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 13837 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 13838 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 13839 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 13840 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 13841 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, *afii10050
 13842 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 13843 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, gheupturncyrillic
 13844 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 13845 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic
 13846 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 13847 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 13848 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 13849 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic
 13850 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 13851 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic
 13852 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 13853 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic
 13854 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 13855 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic
 13856 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 13857 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic
 13858 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 13859 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 13860 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic
 13861 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
 13862 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 13863 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic
 13864 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
 13865 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic
 13866 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
 13867 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kavertikalstrokecyrillic
 13868 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 13869 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kavertikalstrokecyrillic
 13870 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
 13871 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
 13872 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
 13873 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
 13874 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
 13875 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
 13876 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
 13877 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
 13878 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
 13879 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
 13880 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
 13881 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic
 13882 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3

13883 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
13884 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
13885 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
13886 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
13887 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
13888 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
13889 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
13890 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
13891 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
13892 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
13893 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
13894 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
13895 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
13896 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
13897 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
13898 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
13899 \DeclareTextCommand{\cyrstdsc}{PU}{\84\253}% U+04AB
13900 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
13901 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
13902 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
13903 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
13904 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD
13905 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
13906 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
13907 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
13908 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF
13909 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
13910 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
13911 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic
13912 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1
13913 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesendercyrillic
13914 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
13915 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
13916 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
13917 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
13918 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
13919 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
13920 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
13921 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic
13922 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
13923 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
13924 \DeclareTextCommand{\cyrchrds}{PU}{\84\267}% U+04B7
13925 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Cheverticalstrokecyrillic
13926 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
13927 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; cheverticalstrokecyrillic
13928 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
13929 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
13930 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
13931 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
13932 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
13933 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic
13934 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
13935 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
13936 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
13937 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic
13938 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
13939 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE

13940 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic
13941 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
13942 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
13943 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
13944 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
13945 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
13946 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
13947 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
13948 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
13949 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
13950 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
13951 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
13952 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
13953 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
13954 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
13955 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
13956 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
13957 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
13958 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
13959 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
13960 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
13961 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic
13962 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
13963 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic
13964 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
13965 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
13966 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
13967 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
13968 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
13969 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
13970 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
13971 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
13972 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
13973 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic
13974 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2
13975 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
13976 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3
13977 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
13978 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
13979 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
13980 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
13981 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevecyrillic
13982 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
13983 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevecyrillic
13984 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
13985 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
13986 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
13987 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
13988 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
13989 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadieresiscyrillic
13990 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA
13991 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadieresiscyrillic
13992 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB
13993 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresiscyrillic
13994 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
13995 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic

13996 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD
13997 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic
13998 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
13999 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic
14000 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
14001 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic
14002 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
14003 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic
14004 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
14005 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
14006 \DeclareTextCompositeCommand{=}{PU}{\CYRI}{\84\342}% U+04E2
14007 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
14008 \DeclareTextCompositeCommand{=}{PU}{\cyri}{\84\343}% U+04E3
14009 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
14010 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
14011 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
14012 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
14013 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic
14014 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
14015 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
14016 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
14017 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
14018 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
14019 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
14020 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
14021 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic
14022 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
14023 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic
14024 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
14025 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
14026 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
14027 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
14028 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
14029 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
14030 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE
14031 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
14032 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% U+04EF
14033 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
14034 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
14035 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
14036 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
14037 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic
14038 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
14039 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic
14040 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
14041 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic
14042 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4
14043 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic
14044 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
14045 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
14046 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
14047 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
14048 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
14049 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic
14050 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
14051 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic
14052 \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
 14053 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 14054 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 14055 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 14056 \DeclareTextCommand{\cyrrhkh}{PU}{\84\375}% U+04FD
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

50.2.10 Thai: U+0E00 to U+0E7F

14057 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 14058 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

14059 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 14060 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02
 14061 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 14062 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03
 14063 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
 14064 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
 14065 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
 14066 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
 14067 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
 14068 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
 14069 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
 14070 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
 14071 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
 14072 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
 14073 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
 14074 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
 14075 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
 14076 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
 14077 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
 14078 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
 14079 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
 14080 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E
 14081 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
 14082 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
 14083 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
 14084 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20
 14085 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
 14086 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21
 14087 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
 14088 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22
 14089 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
 14090 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23
 14091 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
 14092 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26
 14093 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
 14094 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27
 14095 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
 14096 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28
 14097 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
 14098 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
 14099 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
 14100 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30

14101 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
14102 \DeclareTextCompositeCommand{'}{PU}{k}{\9036\061}% U+1E31
14103 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
14104 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
14105 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
14106 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
14107 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
14108 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
14109 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
14110 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
14111 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
14112 \DeclareTextCompositeCommand{'}{PU}{M}{\9036\076}% U+1E3E
14113 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
14114 \DeclareTextCompositeCommand{'}{PU}{m}{\9036\077}% U+1E3F
14115 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
14116 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
14117 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
14118 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
14119 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
14120 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
14121 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
14122 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
14123 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
14124 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
14125 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
14126 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
14127 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
14128 \DeclareTextCompositeCommand{'}{PU}{P}{\9036\124}% U+1E54
14129 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
14130 \DeclareTextCompositeCommand{'}{PU}{p}{\9036\125}% U+1E55
14131 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
14132 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
14133 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
14134 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
14135 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
14136 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
14137 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
14138 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
14139 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
14140 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
14141 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
14142 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
14143 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
14144 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
14145 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
14146 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
14147 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
14148 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
14149 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
14150 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
14151 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
14152 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
14153 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
14154 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
14155 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
14156 \DeclareTextCompositeCommand{'}{PU}{W}{\9036\200}% U+1E80
14157 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave

14158 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\201}% U+1E81
14159 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
14160 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
14161 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
14162 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
14163 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
14164 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\204}% U+1E84
14165 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
14166 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\205}% U+1E85
14167 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
14168 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\206}% U+1E86
14169 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
14170 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\207}% U+1E87
14171 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
14172 \DeclareTextCompositeCommand{\'}{PU}{X}{\9036\212}% U+1E8A
14173 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
14174 \DeclareTextCompositeCommand{\'}{PU}{x}{\9036\213}% U+1E8B
14175 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
14176 \DeclareTextCompositeCommand{\'}{PU}{X}{\9036\214}% U+1E8C
14177 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
14178 \DeclareTextCompositeCommand{\'}{PU}{x}{\9036\215}% U+1E8D
14179 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
14180 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\216}% U+1E8E
14181 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
14182 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\217}% U+1E8F
14183 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
14184 \DeclareTextCompositeCommand{\'}{PU}{Z}{\9036\220}% U+1E90
14185 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
14186 \DeclareTextCompositeCommand{\'}{PU}{z}{\9036\221}% U+1E91
14187 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
14188 \DeclareTextCompositeCommand{\'}{PU}{Z}{\9036\224}% U+1E94
14189 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
14190 \DeclareTextCompositeCommand{\'}{PU}{z}{\9036\225}% U+1E95
14191 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
14192 \DeclareTextCompositeCommand{\'}{PU}{h}{\9036\226}% U+1E96
14193 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
14194 \DeclareTextCompositeCommand{\'}{PU}{t}{\9036\227}% U+1E97
14195 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
14196 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\230}% U+1E98
14197 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
14198 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\231}% U+1E99
14199 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent
14200 \DeclareTextCompositeCommand{\'}{PU}{\textlongs}{\9036\233}% U+1E9B
14201 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
14202 \DeclareTextCompositeCommand{\'}{PU}{E}{\9036\274}% U+1EBC
14203 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
14204 \DeclareTextCompositeCommand{\'}{PU}{e}{\9036\275}% U+1EBD
14205 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
14206 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2
14207 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
14208 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3
14209 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
14210 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\370}% U+1EF8
14211 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
14212 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\371}% U+1EF9

50.2.12 General Punctuation: U+2000 to U+206F

14213 % U+200C ZERO WIDTH NON-JOINER; *afii61664, zerowidthnonjoiner
 14214 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 14215 % U+2013 EN DASH; endash
 14216 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 14217 % U+2014 EM DASH; emdash
 14218 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 14219 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 14220 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 14221 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 14222 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 14223 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 14224 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 14225 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 14226 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 14227 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 14228 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 14229 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 14230 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 14231 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 14232 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 14233 % U+2020 DAGGER; dagger
 14234 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
 14235 % U+2021 DOUBLE DAGGER; daggerdbl
 14236 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 14237 % U+2022 BULLET; bullet
 14238 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
 14239 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14240 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 14241 % U+2030 PER MILLE SIGN; perthousand
 14242 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 14243 % U+2031 PER TEN THOUSAND SIGN
 14244 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 14245 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft
 14246 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
 14247 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright
 14248 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
 14249 % U+203B REFERENCE MARK; referencemark
 14250 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 14251 % U+203D INTERROBANG
 14252 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 14253 % U+2044 FRACTION SLASH; fraction
 14254 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 14255 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 14256 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 14257 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 14258 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 14259 % U+2052 COMMERCIAL MINUS SIGN
 14260 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

50.2.13 Superscripts and Subscripts: U+2070 to U+209F

14261 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 14262 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
 14263 % U+2074 SUPERSCRIPT FOUR; foursuperior
 14264 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
 14265 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 14266 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
 14267 % U+2076 SUPERSCRIPT SIX; sixsuperior

14268 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
 14269 % U+2077 SUPERScript SEVEN; sevensuperior
 14270 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
 14271 % U+2078 SUPERScript EIGHT; eightsuperior
 14272 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
 14273 % U+2079 SUPERScript NINE; ninesuperior
 14274 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
 14275 % U+207A SUPERScript PLUS SIGN; plussuperior
 14276 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
 14277 % U+207B SUPERScript MINUS
 14278 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
 14279 % U+207C SUPERScript EQUALS SIGN; equalsuperior
 14280 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}
 14281 % U+207D SUPERScript LEFT PARENTHESIS; parenleftsuperior
 14282 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
 14283 % U+207E SUPERScript RIGHT PARENTHESIS; parenrightsuperior
 14284 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
 14285 % U+207F SUPERScript LATIN SMALL LETTER N; nsuperior
 14286 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
 14287 % U+2080 SUBSCRIPT ZERO; zeroinferior
 14288 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
 14289 % U+2081 SUBSCRIPT ONE; oneinferior
 14290 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
 14291 % U+2082 SUBSCRIPT TWO; twoinferior
 14292 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
 14293 % U+2083 SUBSCRIPT THREE; threeinferior
 14294 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
 14295 % U+2084 SUBSCRIPT FOUR; fourinferior
 14296 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
 14297 % U+2085 SUBSCRIPT FIVE; fiveinferior
 14298 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
 14299 % U+2086 SUBSCRIPT SIX; sixinferior
 14300 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086
 14301 % U+2087 SUBSCRIPT SEVEN; seveninferior
 14302 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
 14303 % U+2088 SUBSCRIPT EIGHT; eightinferior
 14304 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
 14305 % U+2089 SUBSCRIPT NINE; nineinferior
 14306 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
 14307 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
 14308 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
 14309 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
 14310 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

50.2.14 Currency Symbols: U+20A0 to U+20CF

14311 % U+20A1 COLON SIGN; *colonmonetary, colonsign
 14312 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
 14313 % U+20A4 LIRA SIGN; afii08941, *lira
 14314 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 14315 % U+20A6 NAIRA SIGN
 14316 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 14317 % U+20A7 PESETA SIGN; peseta
 14318 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 14319 % U+20A9 WON SIGN; won
 14320 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 14321 % U+20AB DONG SIGN; dong
 14322 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB

14323 % U+20AC EURO SIGN; *Euro, euro
 14324 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 14325 % U+20B1 PESO SIGN
 14326 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 14327 % U+20B2 GUARANI SIGN
 14328 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

50.2.15 Letterlike Symbols: U+2100 to U+214F

14329 % U+2103 DEGREE CELSIUS; centigrade
 14330 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 14331 % U+2116 NUMERO SIGN; *afii61352, numero
 14332 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
 14333 % U+2117 SOUND RECORDING COPYRIGHT
 14334 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
 14335 % U+211E PRESCRIPTION TAKE; prescription
 14336 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
 14337 % U+2120 SERVICE MARK
 14338 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
 14339 % U+2122 TRADE MARK SIGN; trademark
 14340 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
 14341 % U+2126 OHM SIGN; Ohm, Omega
 14342 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
 14343 % U+2127 INVERTED OHM SIGN
 14344 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
 14345 % U+212B ANGSTROM SIGN; angstrom
 14346 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
 14347 % U+212E ESTIMATED SYMBOL; estimated
 14348 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
 14349 % U+2135 ALEF SYMBOL; aleph
 14350 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

14351 % U+2190 LEFTWARDS ARROW; arrowleft
 14352 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
 14353 % U+2191 UPWARDS ARROW; arrowup
 14354 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
 14355 % U+2192 RIGHTWARDS ARROW; arrowright
 14356 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
 14357 % U+2193 DOWNWARDS ARROW; arrowdown
 14358 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

50.2.17 Mathematical Operators: U+2200 to U+22FF

14359 % U+2212 MINUS SIGN; minus
 14360 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
 14361 % U+221A SQUARE ROOT; radical
 14362 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

50.2.18 Miscellaneous Technical: U+2300 to U+23FF

14363 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
 14364 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
 14365 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
 14366 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

50.2.19 Control Pictures: U+2400 to U+243F

14367 % U+2422 BLANK SYMBOL
 14368 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 14369 % U+2423 OPEN BOX; blank

14370 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

14371 % U+2460 CIRCLED DIGIT ONE; onecircle
14372 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
14373 % U+2461 CIRCLED DIGIT TWO; twocircle
14374 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
14375 % U+2462 CIRCLED DIGIT THREE; threecircle
14376 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
14377 % U+2463 CIRCLED DIGIT FOUR; fourcircle
14378 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
14379 % U+2464 CIRCLED DIGIT FIVE; fivecircle
14380 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
14381 % U+2465 CIRCLED DIGIT SIX; sixcircle
14382 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
14383 % U+2466 CIRCLED DIGIT SEVEN; sevencircle
14384 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
14385 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
14386 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
14387 % U+2468 CIRCLED DIGIT NINE; ninecircle
14388 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
14389 % U+2469 CIRCLED NUMBER TEN; tencircle
14390 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
14391 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
14392 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
14393 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
14394 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
14395 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
14396 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
14397 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
14398 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
14399 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
14400 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
14401 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
14402 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
14403 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
14404 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
14405 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
14406 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
14407 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
14408 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
14409 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
14410 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
14411 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
14412 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
14413 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
14414 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
14415 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
14416 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
14417 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
14418 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
14419 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
14420 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
14421 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
14422 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
14423 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
14424 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC

14425 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
 14426 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
 14427 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
 14428 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
 14429 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
 14430 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
 14431 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
 14432 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
 14433 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
 14434 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
 14435 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
 14436 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
 14437 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
 14438 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
 14439 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
 14440 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
 14441 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
 14442 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
 14443 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
 14444 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
 14445 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
 14446 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
 14447 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
 14448 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
 14449 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
 14450 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
 14451 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
 14452 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
 14453 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
 14454 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
 14455 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
 14456 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
 14457 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
 14458 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
 14459 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
 14460 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
 14461 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
 14462 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
 14463 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
 14464 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
 14465 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
 14466 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
 14467 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
 14468 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
 14469 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
 14470 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
 14471 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
 14472 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
 14473 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
 14474 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
 14475 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
 14476 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
 14477 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 14478 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 14479 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 14480 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
 14481 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle

14482 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 14483 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
 14484 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
 14485 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 14486 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 14487 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 14488 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 14489 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
 14490 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 14491 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 14492 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
 14493 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 14494 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 14495 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 14496 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 14497 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 14498 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 14499 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 14500 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 14501 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 14502 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 14503 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 14504 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 14505 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 14506 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 14507 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 14508 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 14509 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 14510 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
 14511 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 14512 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 14513 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 14514 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 14515 % U+24EA CIRCLED DIGIT ZERO
 14516 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

50.2.21 Box Drawing: U+2500 to U+257F

14517 % U+25E6 WHITE BULLET; *openbullet, whitebullet
 14518 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
 14519 % U+25EF LARGE CIRCLE; largecircle
 14520 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

14521 % U+266A EIGHTH NOTE; musicalnote
 14522 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
 14523 % U+26AD MARRIAGE SYMBOL
 14524 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
 14525 % U+26AE DIVORCE SYMBOL
 14526 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

14527 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
 14528 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
 14529 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
 14530 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

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14531 % U+FB01 LATIN SMALL LIGATURE FI; fi
14532 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
14533 % U+FB02 LATIN SMALL LIGATURE FL; fl
14534 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

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50.2.25 Miscellaneous

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14535 \DeclareTextCommand{\SS}{PU}{SS}

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50.2.26 Aliases

Aliases (german.sty)

```

14536 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
14537 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
14538 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
14539 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
14540 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
14541 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
14542 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
14543 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

14544 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
14545 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
14546 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
14547 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
14548 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
14549 </puenc>

```

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

14550 <*puvnc>

14551 \DeclareTextCommand{\abreve}{PU}{\81\003}
14552 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
14553 \DeclareTextCommand{\dj}{PU}{\81\021}
14554 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
14555 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
14556 \DeclareTextCommand{\ohorn}{PU}{\81\241}
14557 \DeclareTextCommand{\uhorn}{PU}{\81\260}
14558 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
14559 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
14560 \DeclareTextCommand{\DJ}{PU}{\81\020}
14561 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
14562 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
14563 \DeclareTextCommand{\OHORN}{PU}{\81\240}
14564 \DeclareTextCommand{\UHORN}{PU}{\81\257}

14565 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
14566 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
14567 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
14568 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
14569 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
14570 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
14571 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
14572 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
14573 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
14574 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}

```

14575 \DeclareTextCompositeCommand{'}{PU}{\acircumflex}{\9036\245}
14576 \DeclareTextCompositeCommand{d}{PU}{\acircumflex}{\9036\255}
14577 \DeclareTextCompositeCommand{'}{PU}{\acircumflex}{\9036\247}
14578 \DeclareTextCompositeCommand{h}{PU}{\acircumflex}{\9036\251}
14579 \DeclareTextCompositeCommand{~}{PU}{\acircumflex}{\9036\253}
14580 \DeclareTextCompositeCommand{'}{PU}{e}{\80\351}
14581 \DeclareTextCompositeCommand{d}{PU}{e}{\9036\271}
14582 \DeclareTextCompositeCommand{'}{PU}{e}{\80\350}
14583 \DeclareTextCompositeCommand{h}{PU}{e}{\9036\273}
14584 \DeclareTextCompositeCommand{~}{PU}{e}{\9036\275}
14585 \DeclareTextCompositeCommand{'}{PU}{\ecircumflex}{\9036\277}
14586 \DeclareTextCompositeCommand{d}{PU}{\ecircumflex}{\9036\307}
14587 \DeclareTextCompositeCommand{'}{PU}{\ecircumflex}{\9036\301}
14588 \DeclareTextCompositeCommand{h}{PU}{\ecircumflex}{\9036\303}
14589 \DeclareTextCompositeCommand{~}{PU}{\ecircumflex}{\9036\305}
14590 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}
14591 \DeclareTextCompositeCommand{d}{PU}{i}{\9036\313}
14592 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}
14593 \DeclareTextCompositeCommand{h}{PU}{i}{\9036\311}
14594 \DeclareTextCompositeCommand{~}{PU}{i}{\81\051}
14595 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}
14596 \DeclareTextCompositeCommand{d}{PU}{o}{\9036\315}
14597 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362}
14598 \DeclareTextCompositeCommand{h}{PU}{o}{\9036\317}
14599 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365}
14600 \DeclareTextCompositeCommand{'}{PU}{\ocircumflex}{\9036\321}
14601 \DeclareTextCompositeCommand{d}{PU}{\ocircumflex}{\9036\331}
14602 \DeclareTextCompositeCommand{'}{PU}{\ocircumflex}{\9036\323}
14603 \DeclareTextCompositeCommand{h}{PU}{\ocircumflex}{\9036\325}
14604 \DeclareTextCompositeCommand{~}{PU}{\ocircumflex}{\9036\327}
14605 \DeclareTextCompositeCommand{'}{PU}{\ohorn}{\9036\333}
14606 \DeclareTextCompositeCommand{d}{PU}{\ohorn}{\9036\343}
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14608 \DeclareTextCompositeCommand{h}{PU}{\ohorn}{\9036\337}
14609 \DeclareTextCompositeCommand{~}{PU}{\ohorn}{\9036\341}
14610 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}
14611 \DeclareTextCompositeCommand{d}{PU}{u}{\9036\345}
14612 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371}
14613 \DeclareTextCompositeCommand{h}{PU}{u}{\9036\347}
14614 \DeclareTextCompositeCommand{~}{PU}{u}{\81\151}
14615 \DeclareTextCompositeCommand{'}{PU}{\uhorn}{\9036\351}
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14626 \DeclareTextCompositeCommand{d}{PU}{A}{\9036\240}
14627 \DeclareTextCompositeCommand{'}{PU}{A}{\80\300}
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14631 \DeclareTextCompositeCommand{d}{PU}{\ABREVE}{\9036\266}

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14648 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
14649 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
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14651 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
14652 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
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14657 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
14658 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
14659 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
14660 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
14661 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
14662 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
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14666 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
14667 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
14668 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
14669 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
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14671 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
14672 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
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14682 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
14683 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
14684 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
14685 (/puvnenc)

50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```
14686 \DeclareTextCommand{*puarenc}
14687 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
14688 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA
14689 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA
14690 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA
14691 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HAMZA ABOVE
14692 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
14693 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
14694 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
14695 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
14696 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
14697 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
14698 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
14699 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
14700 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
14701 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
14702 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
14703 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
14704 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
14705 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
14706 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
14707 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
14708 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
14709 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
14710 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
14711 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
14712 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN
14713 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
14714 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
14715 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
14716 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
14717 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
14718 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
14719 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
14720 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
14721 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
14722 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA
14723 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH
14724 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
14725 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
14726 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
14727 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
14728 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
14729 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
14730 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA
14731 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN
Farsi
14732 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
14733 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
14734 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
14735 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii?????;FARSI LETTER KAF
14736 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
14737 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii?????;FARSI LETTER YEH
```



```
14738 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
14739 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ
14740 \puarenc
```

51 End of file hyccheck.tex

```
14741 \*check
14742 \typeout{}
14743 \begin{document}
14744 \end{document}
14745 \check
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