

# Hypertext marks in L<sup>A</sup>T<sub>E</sub>X

Sebastian Rahtz

Email: `sebastian.rahtz at oucs.ox.ac.uk`

Heiko Oberdiek

Email: `heiko.oberdiek at gmail.com`

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## 1 Documentation overview for hyperref

The documentation for package hyperref consists of several files:

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

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

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

**Options** This file provides a short option summary.

**Bookmark talk, slides** Slides for the talk “PDF information and navigation elements with hyperref, pdfTeX and thumbpdf” at EuroT<sub>E</sub>X 1999.

**Bookmark talk, paper** The paper version of the talk.

Source code documentation:

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

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

**nameref.dtx** “Section name references in L<sup>A</sup>T<sub>E</sub>X”

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### 3 File hyccheck.tex

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

```

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

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

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

```

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

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

```

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

`\HyC@checkPackage`

```

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

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

```

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

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

```

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

`\HyC@noValue`

```

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

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



```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

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

```

## 4 Package options and setup

### 4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```
231 \Hy@SetCatcodes
```

It needs the December 95 release of L<sup>A</sup>T<sub>E</sub>X, 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{ltxcmds}[2010/03/09]
233 \RequirePackage{keyval}[1997/11/10]
234 \RequirePackage{kvsetkeys}[2007/09/29]
235 \RequirePackage{pdfescape}[2007/11/11]
236 \RequirePackage{ifpdf}[2006/02/20]
237 \RequirePackage{ifvtex}
238 \RequirePackage{ifxetex}[2006/08/21]
239 \RequirePackage{hycolor}
240 \RequirePackage{letltxmacro}[2008/06/13]
241 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
242 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
243 \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<sup>A</sup>T<sub>E</sub>X processing.

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

```

244 \ifundefined{AfterBeginDocument}{%
245   \def\AfterBeginDocument{\AtBeginDocument}%
246 }{%

```

`\Hy@AtBeginDocument` For the case that package ‘hyperref’ is loaded using `\AtBeginDocument`, we have to wrap the calls of `\AtBeginDocument`/`\AfterBeginDocument` in `\AtEndOfPackage`. However, packages must be loaded in `\AtEndOfPackage` *before* package ‘kvoptions’ has to perform its option cleanup. Therefore we use a hook.

```

247 \def\Hy@AtBeginDocument{%
248   \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
249 }

```

`\Hy@AtEndOfPackage`

```
250 \def\Hy@AtEndOfPackage{%
```

```

251 \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
252 }

```

\Hy@AtBeginDocumentHook

```

253 \def\Hy@AtBeginDocumentHook{}

```

\Hy@AtEndOfPackageHook

```

254 \def\Hy@AtEndOfPackageHook{}

```

Install the hook, before package ‘kvoptions’ is loaded.

```

255 \AtEndOfPackage{%
256   \Hy@AtEndOfPackageHook
257   \let\Hy@AtEndOfPackageHook\@undefined
258   \AfterBeginDocument{%
259     \Hy@AtBeginDocumentHook}%
260   \let\Hy@AtBeginDocumentHook\@undefined
261   }%
262 }

```

### 4.3 Switches

```

263 \newif\ifHy@typexml
264 \newif\ifHy@activeanchor
265 \newif\ifHy@backref
266 \newif\ifHy@bookmarks
267 \newif\ifHy@bookmarksnumbered
268 \newif\ifHy@bookmarksopen
269 \newif\ifHy@breaklinks
270 \newif\ifHy@centerwindow
271 \newif\ifHy@CJKbookmarks
272 \newif\ifHy@colorlinks
273 \newif\ifHy@draft
274 \let\Hy@finaltrue\Hy@draftfalse
275 \let\Hy@finalfalse\Hy@drafttrue
276 \newif\ifHy@escapeform
277 \newif\ifHy@figures
278 \newif\ifHy@fitwindow
279 \newif\ifHy@frenchlinks
280 \newif\ifHy@hyperfootnotes
281 \newif\ifHy@hyperindex
282 \newif\ifHy@hypertextnames
283 \newif\ifHy@implicit
284 \newif\ifHy@linktocpage
285 \newif\ifHy@localanchorname
286 \newif\ifHy@menubar
287 \newif\ifHy@naturalnames
288 \newif\ifHy@nesting
289 \newif\ifHy@newwindowset
290 \newif\ifHy@newwindow
291 \newif\ifHy@ocgcolorlinks
292 \newif\ifHy@pageanchor
293 \newif\ifHy@pagelabels
294 \newif\ifHy@pdfpagehidden
295 \newif\ifHy@pdfstring
296 \newif\ifHy@plainpages
297 \newif\ifHy@psize
298 \newif\ifHy@raiselinks

```

```

299 \newif\ifHy@seminarslides
300 \newif\ifHy@setpagesize
301 \newif\ifHy@texht
302 \newif\ifHy@toolbar
303 \newif\ifHy@unicode
304 \newif\ifHy@usetitle
305 \newif\ifHy@verbose
306 \newif\ifHy>windowui
307 \newif\ifHy@displaydoctitle
308 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

309 \Hy@backreffalse
310 \Hy@bookmarksnumberedfalse
311 \Hy@bookmarksopenfalse
312 \Hy@bookmarkstrue
313 \Hy@breaklinksfalse
314 \Hy@centerwindowfalse
315 \Hy@CJKbookmarksfalse
316 \Hy@escapeformfalse
317 \Hy@figuresfalse
318 \Hy@fitwindowfalse
319 \Hy@hyperfootnotetrue
320 \Hy@hyperindextrue
321 \Hy@hypertextnamestrue
322 \Hy@implicittrue
323 \Hy@linktocpagefalse
324 \Hy@localanchornamefalse
325 \Hy@menubartrue
326 \Hy@naturalnamesfalse
327 \Hy@nestingfalse
328 \Hy@newwindowsetfalse
329 \Hy@newwindowfalse
330 \Hy@pageanchortrue
331 \Hy@pagelabelstrue
332 \Hy@pdfpagehiddenfalse
333 \Hy@pdfstringfalse
334 \Hy@plainpagesfalse
335 \Hy@raiselinksfalse
336 \Hy@setpagesizetrue
337 \Hy@texhtfalse
338 \Hy@toolbartrue
339 \Hy@typexmlfalse
340 \Hy@unicodefalse
341 \Hy@usetitlefalse
342 \Hy@verbosefalse
343 \Hy>windowuitrue
344 \Hy@displaydoctitlefalse
345 \Hy@pdfafalse

```

## 5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

348 \newdimen\@linkdim
349 \let\Hy@driver\@empty
350 \let\MaybeStopEarly\relax
351 \newcount\Hy@linkcounter
352 \newcount\Hy@pagecounter
353 \Hy@linkcounter0
354 \Hy@pagecounter0

```

## 5.1 Macros for recursions

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

```

355 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
356 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

357 \let\Hy@ReturnEnd\@empty
358 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
359 \long\def\Hy@ReturnAfterElseFiFiEnd#1\else#2\Hy@ReturnEnd{\fi\fi#1}

```

## 5.2 Babel's protection of shorthand characters

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

```

360 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
361 \def\Hy@safe@activetruefalse{\csname @safe@activetruefalse\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).

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

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

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

Example (TeX):

```

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

```

`\hypercalcbp`

```
362 \begingroup\expandafter\expandafter\expandafter\endgroup
363 \expandafter\ifx\csname dimexpr\endcsname\relax
364 \def\hypercalcbpdef#1#2{%
365   \begingroup
366     \toks@{%
367       \HyCal@scan#2\hypercalcbp\@nil
368     }\expandafter\endgroup
369     \expandafter\def\expandafter#1\expandafter{\the\toks@}%
370   }%
371 \def\HyCal@scan#1\hypercalcbp#2\@nil{%
372   \toks@\expandafter{\the\toks@ #1}%
373   \ifx\#2\%
374     \else
375       \Hy@ReturnAfterFi{%
376         \HyCal@do#2\@nil
377       }%
378     \fi
379   }%
380 \def\HyCal@do#1#2\@nil{%
381   \ifpackageloaded{calc}{}%
382   \Hy@Warning{%
383     For calculations \string\hypercalcbp\space needs\MessageBreak
384     package calc or e-TeX%
385   }%
386   }%
387   \setlength{\dimen@}{#1}%
388   \setlength{\dimen@}{0.99626401\dimen@}%
389   \edef\x{%
390     \toks@{%
391       \the\toks@
392       \strip@pt\dimen@
393     }%
394   }\x
395   \HyCal@scan#2\@nil
396   }%
397 \else
398 \def\hypercalcbp#1{%
399   \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
400   }%
401 \def\hypercalcbpdef{\def}%
402 \fi
```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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 ISO Latin1 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  $\text{\TeX}$ '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  $\text{\TeX}$  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  $\text{\TeX}$  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 be processed by  $\text{\TeX}$ , because the tokens have only catcodes 10 until 12.

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

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

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

```
404 \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  $\text{\TeX}$  escape character indeed prints as a normal backslash. Eventually this line can be removed, because this is standard  $\text{\LaTeX}$  behaviour.

```
405 \escapechar'\%
```

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

```
406 \edef\0{\string\0}%
407 \edef\1{\string\1}%
408 \edef\2{\string\2}%
409 \edef\3{\string\3}%
```

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

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

```
410 \ifHy@unicode
411 \edef\8{\string\8}%
412 \edef\9{\string\9}%
413 \fontencoding{PU}%
414 \HyPsd@UTFviii
415 \def\ifpdfstringunicode##1##2{##1}%
416 \else
417 \fontencoding{PD1}%
418 \def\ifpdfstringunicode##1##2{##2}%
419 \fi
420 \enc@update
```

**Internal encoding commands.**  $\backslash pdfstringdef$  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  $\backslash @inmathwarn$  will be disabled (see below).

```
421 \@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 ( $\backslash edef$ ), so that the assignments of  $\backslash @changed@cmd$  don't take place. To patch this behaviour I only found  $\backslash @inmathwarn$  as a usable hook. While an  $\backslash edef$  a warning message by  $\backslash @inmathwarn$  or  $\backslash TextSymbolUnavailable$  cannot be give out, so  $\backslash @inmathwarn$  should be disabled. And with the help of it the assignments in  $\backslash @changed@cmd$  can easily be caught (see below).

```
422 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
423 \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.

```
424 \let\{\textbraceleft
425 \let\}\textbraceright
426 \let\\textbackslash
427 \let\#\textnumbersign
428 \let\$\textdollar
```

```

429 \let%\textpercent
430 \let\&\textampersand
431 % \let\~\textasciitilde
432 \let\_ \textunderscore
433 \let\P\textparagraph
434 \let\ldots\textellipsis
435 \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.

```

436 \def\{\pdfstringdefWarn\}%
437 \def\newline{\pdfstringdefWarn\newline}%

```

**Logos.** Because the box shifting used in the T<sub>E</sub>X logo does not work while writing to a file, the standard T<sub>E</sub>X logos are redefined.

```

438 \def\TeX{\TeX}%
439 \def\LaTeX{\LaTeX}%
440 \def\LaTeXe{\LaTeX2e}%
441 \def\exTeX{e-\TeX}%
442 \def\SlitTeX{\SlitTeX}%
443 \def\MF{Metafont}%
444 \def\MP{Metapost}%

```

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

```

445 \let\fontencoding\@gobble
446 \let\fontfamily\@gobble
447 \let\fontseries\@gobble
448 \let\fontshape\@gobble
449 \let\fontsize\@gobbletwo
450 \let\selectfont\@empty
451 \let\usefont\@gobblefour
452 \let\emph\@firstofone
453 \let\textnormal\@firstofone
454 \let\textrm\@firstofone
455 \let\textsf\@firstofone
456 \let\texttt\@firstofone
457 \let\textbf\@firstofone
458 \let\textmd\@firstofone
459 \let\textit\@firstofone
460 \let\textsc\@firstofone
461 \let\textsl\@firstofone
462 \let\textup\@firstofone
463 \let\normalfont\@empty
464 \let\rmfamily\@empty
465 \let\sfamily\@empty

```

```

466 \let\ttfamily\@empty
467 \let\bfseries\@empty
468 \let\mdseries\@empty
469 \let\itshape\@empty
470 \let\scshape\@empty
471 \let\slshape\@empty
472 \let\upshape\@empty
473 \let\em\@empty
474 \let\rm\@empty
475 \let\Huge\@empty
476 \let\LARGE\@empty
477 \let\Large\@empty
478 \let\footnotesize\@empty
479 \let\huge\@empty
480 \let\large\@empty
481 \let\normalsize\@empty
482 \let\scriptsize\@empty
483 \let\small\@empty
484 \let\tiny\@empty
485 \let\mathversion\@gobble
486 \let\phantom\@gobble
487 \let\vphantom\@gobble
488 \let\hphantom\@gobble

```

#### Package color.

```

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

```

#### Upper- and lowercase.

```

490 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
491 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

492 \let\textlatin\@firstofone
493 \ltx@ifundefined{language@group}{\@firstofone}{\@secondofone}%
494 \csname HyPsd@babel@language@group\endcsname
495 }%
496 \HyPsd@GreekPatch
497 \HyPsd@SpanishPatch
498 \HyPsd@BabelPatch
499 \let\@safe@activetrue\relax
500 \let\@safe@activesfalse\relax

```

Disable \cyr, used in russianb.ldf.

```

501 \let\cyr\relax

```

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

```

502 \let\es@roman\@Roman

```

#### Package german.

```

503 \let\glqq\textglqq
504 \let\grqq\textgrqq
505 \let\glq\textglq
506 \let\grq\textgrq

```

```

507 \let\flqq\textflqq
508 \let\frqq\textfrqq
509 \let\flq\textflq
510 \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}

511 \let\if@mid@expandable\@firstoftwo

```

**AMS classes.**

```

512 \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.

```

513 \let\hspace\HyPsd@hspace

```

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

```

514 \let\label\@gobble
515 \let\index\@gobble
516 \let\glossary\@gobble
517 \let\href\@secondoftwo
518 \let\@mkboth\@gobbletwo

```

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

```

519 \let\ref\HyPsd@ref
520 \let\pageref\HyPsd@pageref
521 \let\nameref\HyPsd@nameref
522 \let\autoref\HyPsd@autoref

```

**Miscellaneous commands.**

```

523 \let\leavevmode\@empty
524 \let\mbox\@empty

```

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

```

525 \def\halign{\pdfstringdefWarn\halign\@gobble}%
526 \let\ignorespaces\HyPsd@ignorespaces
527 \let\Hy@SectionAnchorHref\@gobble

```

**Patch for cjk bookmarks.**

```

528 \HyPsd@CJKhook

```

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

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

```
529 \Hy@pdfstringtrue
530 \pdfstringdefPreHook
```

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

```
531 \HyPsd@LetUnexpandableSpace\space
532 \HyPsd@LetUnexpandableSpace\ %
533 \HyPsd@LetUnexpandableSpace~%
534 \HyPsd@LetUnexpandableSpace\nobreakspace
```

**Package xspace.**

```
535 \ltx@ifundefined{@xspace}{%
536   \let\xspace\HyPsd@ITALCORR
537 }{%
538   \let\xspace\HyPsd@XSPACE
539 }%
540 \let\/\HyPsd@ITALCORR
541 \let\bgroup\/%
542 \let\egroup\/%
```

**Redefinitions of miscellaneous commands.** Hyphenation does not make sense.

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

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

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

A mimicry of `\@ifnextchar` only with 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:

```
544 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
545 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
546 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
547 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

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

## 6.2.2 Expansion

There are several possibilities to expand tokens within  $\LaTeX$ :

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

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

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

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

```

549 \begingroup
550 \let\GenericError\@gobblefour
551 \let\GenericWarning\@gobbletwo
552 \let\GenericInfo\@gobbletwo

```

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

```

553 \ifx\nofrenchguillemets\@undefined
554 \else
555 \nofrenchguillemets
556 \fi

```

**Definition commands and expansion.** Redefining the defining commands (see sec. 6.5.12). The original meaning of `\xdef` is saved in `\Hy@temp`.

```

557 \let\Hy@temp\xdef
558 \let\def\HyPsd@DefCommand
559 \let\gdef\HyPsd@DefCommand
560 \let\edef\HyPsd@DefCommand
561 \let\xdef\HyPsd@DefCommand
562 \let\futurelet\HyPsd@LetCommand
563 \let\let\HyPsd@LetCommand
564 \Hy@temp#1{#2}%
565 \endgroup

```

### 6.2.3 Postprocessing

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

```
566 \ifx#1\@empty
567 \else
```

**Protecting spaces and removing grouping characters.** In order to check the tokens we must separate them. This will be done with T<sub>E</sub>X's argument parsing. With this method we must the following item takes into account, that makes makes things a little more complicate:

- T<sub>E</sub>X 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 T<sub>E</sub>X'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.
- T<sub>E</sub>X 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.

```
568 \HyPsd@ProtectSpaces#1%
569 \let\HyPsd@String\@empty
570 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
571 \global\let#1\HyPsd@String
```

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

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

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

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

```
572 \let\HyPsd@SPACEOPTI\relax
573 {%
574 \let\HyPsd@String\@empty
575 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
576 \global\let#1\HyPsd@String
577}%
578 \expandafter\HyPsd@RemoveMask\expandafter
579 \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.

```
580 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
581 \let\HyPsd@String\@empty
582 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
583 \global\let#1\HyPsd@String
```

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

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

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

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

```
585 \ifHy@unicode
586 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
587 \HyPsd@SPACEOPTI#1%
588 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
589 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
590 {\HyPsd@SPACEOPTI\80\273}#1%
591 \else
592 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
593 \expandafter\HyPsd@Subst\expandafter{%
594 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
595 \string\273}{\HyPsd@SPACEOPTI\273}#1%
596 \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.

```
597 \ifHy@unicode
598 \HyPsd@StringSubst{\)}{\80\051}#1%
599 \HyPsd@Subst){\80\051}#1%
600 \let\HyPsd@empty\relax
601 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
602 {\HyPsd@empty\80\051}#1%
603 \else
604 \HyPsd@StringSubst{\)}{\051}#1%
605 \HyPsd@Subst){\051}#1%
606 \let\HyPsd@empty\relax
```

```

607     \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
608     \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.

```

609     \expandafter\HyPsd@Subst\expandafter{\}\HyPsd@empty#1%
610     \ltx@ifundefined{@xspace}{%
611     }{%
612         \let\HyPsd@xspace\relax
613         \expandafter\HyPsd@Subst\expandafter
614         {\HyPsd@XSPACE}\HyPsd@xspace#1%
615         \let\HyPsd@xspace\HyPsd@doxspace
616     }%
617     \xdef#1{#1\HyPsd@empty}%

```

**Ligatures.** T<sub>E</sub>X forms ligatures in its stomach, but the PDF strings are treated only by T<sub>E</sub>X'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.

```

618     \HyPsd@Subst{---}\textemdash#1%
619     \HyPsd@Subst{--}\textendash#1%
620 %     \HyPsd@Subst{fi}\textfi#1%
621 %     \HyPsd@Subst{fl}\textfl#1%
622     \HyPsd@Subst{!'}\textexclamdown#1%
623     \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

624     \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 T<sub>E</sub>X memory and time.

```

625     \ifHy@unicode
626     \HyPsd@StringSubst{\textparenleft#1%
627     \HyPsd@Subst(\textparenleft#1%
628     \else

```

```

629 \HyPsd@StringSubst\({\050}#1%
630 \HyPsd@Subst({\050}#1%
631 \HyPsd@StringSubst{\050}{\string\{ }#1%
632 \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.

```

633 \ifHy@unicode
634 \edef\HyPsd@SPACEOPTI{\80\040}%
635 \else
636 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
637 \fi
638 \xdef#1{#1\@empty}%
639 \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.

```

640 \endgroup
641 \begingroup
642 \ifHy@unicode
643 \HyPsd@ConvertToUnicode#1%

```

**Try conversion back to PDFDocEncoding.**

```

644 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
645 \ltx@ifundefined{StringEncodingConvertTest}{%
646 }{%
647 \EdefUnescapeString\HyPsd@temp#1%
648 \ifxetex
649 \let\HyPsd@UnescapedString\HyPsd@temp
650 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
651 {utf16be}{ascii-print}{%
652 \EdefEscapeString\HyPsd@temp\HyPsd@temp
653 \global\let#1\HyPsd@temp
654 \Hy@unicodedefalse
655 }{%
656 \HyPsd@ToBigChars#1%
657 }%
658 \else
659 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
660 {utf16be}{pdfdoc}{%
661 \EdefEscapeString\HyPsd@temp\HyPsd@temp
662 \global\let#1\HyPsd@temp
663 \Hy@unicodedefalse
664 }{%}%
665 \fi
666 }%
667 \fi
668 \fi
669 \HyPsd@XeTeXBigCharsfalse

```

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

```
670 \pdfstringdefPostHook#1%
671 \endgroup
672 }
```

`\Hy@pdfstringdef`

```
673 \def\Hy@pdfstringdef#1#2{%
674 \pdfstringdef\Hy@gtemp{#2}%
675 \let#1\Hy@gtemp
676 }
```

## 6.3 Encodings

### 6.3.1 XeTeX

```
677 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
678 \catcode\z@=12 %
679 \ifxetex
680 \expandafter\@firstofone
681 \else
682 \let\HyPsd@XeTeXBigCharstrue\@empty
683 \let\HyPsd@XeTeXBigCharsfalse\@empty
684 \expandafter\@gobble
685 \fi
686 {%
687 \newif\ifHyPsd@XeTeXBigChars
688 \def\HyPsd@XeTeXBigCharsfalse{%
689 \global\let\ifHyPsd@XeTeXBigChars\iffalse
690 }%
691 \def\HyPsd@XeTeXBigCharstrue{%
692 \global\let\ifHyPsd@XeTeXBigChars\iftrue
693 }%
694 \def\HyPsd@ToBigChars#1{%
695 \ifHyPsd@XeTeXBigChars
696 \EdefEscapeHex\HyPsd@UnescapedString{%
697 \expandafter\@gobbletwo\HyPsd@UnescapedString
698 }%
699 \begingroup
700 \toks@{%
701 \escapechar=92\relax
702 \let\x\HyPsd@ToBigChar
703 \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
704 \relax\relax\relax\relax\relax\relax
705 \edef\x{%
706 \endgroup
707 \gdef\noexpand#1{\the\toks@}%
708 }%
709 \x
710 \fi
711 }%
712 \def\HyPsd@ToBigChar#1#2#3#4{%
713 \ifx\relax#1\relax
714 \let\x\relax
715 \else
716 \count@=#1#2#3#4\relax
717 \let\y\@empty
```

```

718 \lccode\z@=\count@
719 \ifnum\count@=40 % (
720 \let\y\@backslashchar
721 \else
722 \ifnum\count@=41 % )
723 \let\y\@backslashchar
724 \else
725 \ifnum\count@=92 % backslash
726 \let\y\@backslashchar
727 \else
728 \ifnum\count@=10 % newline
729 \edef\y###1{\string\n}%
730 \else
731 \ifnum\count@=13 % carriage return
732 \edef\y###1{\string\r}%
733 \fi
734 \fi
735 \fi
736 \fi
737 \fi
738 \lowercase{%
739 \toks@\expandafter{%
740 \the\expandafter\toks@
741 \y
742 ^^@%
743 }%
744 }%
745 \fi
746 \x
747 }%
748 }
749 \Hy@temp

```

### 6.3.2 Workaround for package linguex

```

750 \ifpackageloaded{linguex}{%
751 \let\HyLinguex@OrgB\b
752 \let\HyLinguex@OrgC\c
753 \let\HyLinguex@OrgD\d
754 \def\HyLinguex@Restore{%
755 \let\b\HyLinguex@OrgB
756 \let\c\HyLinguex@OrgC
757 \let\d\HyLinguex@OrgD
758 }%
759 \Hy@AtEndOfPackage{%
760 \pdfstringdefDisableCommands{%
761 \ltx@ifundefined{oldb}{\let\b\oldb}%
762 \ltx@ifundefined{oldc}{\let\c\oldc}%
763 \ltx@ifundefined{oldd}{\let\d\oldd}%
764 }%
765 }%
766 }{%
767 \let\HyLinguex@Restore\relax
768 }%

```

### 6.3.3 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with  $\text{\LaTeX 2}_{\epsilon}$ 's NFSS. Because the informational strings are not set by  $\text{\TeX}$ 's typesetting mechanism but for inter-

preting 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<sub>E</sub>X does not process it anyway. So use CM.

```

769 \ifundefined{T@PD1}{%
770   \input{pdlenc.def}%
771   \HyLinguex@Restore
772 }{}
773 \DeclareFontFamily{PD1}{pdf}{}
774 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
775 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

### 6.3.4 PU encoding

The PU encoding implements the Unicode encoding for use with L<sup>A</sup>T<sub>E</sub>X'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.

```

776 \def\HyPsd@InitUnicode{%
777   \ifundefined{T@PU}{%
778     \input{puenc.def}%
779     \HyLinguex@Restore
780   }{}%
781   \DeclareFontFamily{PU}{pdf}{}%
782   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
783   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
784   \let\HyPsd@InitUnicode\relax
785 }

```

## 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<sub>E</sub>X's stomach, the second contains the replacement for PDF strings.

```

786 \def\texorpdfstring{%
787   \ifHy@pdfstring
788     \expandafter\@secondoftwo
789   \else
790     \expandafter\@firstoftwo
791   \fi
792 }

```

### 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`.

```

793 \ifundefined{pdfstringdefPreHook}{%
794   \let\pdfstringdefPreHook\@empty
795 }{}

```

```

796 \@ifundefined{pdfstringdefPostHook}{%
797   \let\pdfstringdefPostHook\@gobble
798 }{}

```

`\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<sup>A</sup>T<sub>E</sub>X commands like `\@gobble` or `\@firstofone`.

```

799 \def\pdfstringdefDisableCommands{%
800   \begingroup
801   \makeatletter
802   \HyPsd@DisableCommands
803 }

```

`\HyPsd@DisableCommands`

```

804 \long\def\HyPsd@DisableCommands#1{%
805   \toks0=\expandafter{\pdfstringdefPreHook}%
806   \toks1={#1}%
807   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
808   \endgroup
809 }

```

`\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`.

```

810 \def\pdfstringdefWarn#1{%
811   \expandafter\noexpand\csname<>-string#1\endcsname
812 }

```

## 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.

```

813 \begingroup

```

```

814 \catcode0=12 %
815 \def\x{\endgroup
816 \def\HyPsd@ignorespaces{%
817 \romannumeral\expandafter'\expandafter^^@%
818 \romannumeral'^^@%
819 }%
820 }%
821 \x

```

### 6.5.2 Babel languages

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

```

\pdfstringdefDisableCommands{%
\languageshorthands{system}%
}

```

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

```

822 \def\HyPsd@BabelPatch{%
823 \let\HyOrg@languageshorthands\languageshorthands
824 \let\languageshorthands\HyPsd@LanguageShorthands
825 }
826 \RequirePackage{pdfcmds}[2009/04/10]
827 \begingroup\expandafter\expandafter\expandafter\endgroup
828 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
829 \let\HyPsd@langshort@system\@empty
830 \def\HyPsd@LanguageShorthands#1{%
831 \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
832 \HyPsd@langshort@system
833 \expandafter\@gobble
834 \else
835 \expandafter\@firstofone
836 \fi
837 {%
838 \HyOrg@languageshorthands{#1}%
839 }%
840 }%
841 \else
842 \def\HyPsd@LanguageShorthands#1{%
843 \ifnum\pdf@strcmp{#1}{system}=\z@
844 \expandafter\@gobble
845 \else
846 \expandafter\@firstofone
847 \fi
848 {%
849 \HyOrg@languageshorthands{#1}%
850 }%
851 }%
852 \fi
853 \def\Hy@temp{%
854 \@ifpackageloaded{babel}{%
855 \@ifpackagelater{babel}{2008/03/16}{%
856 \let\Hy@temp\@empty
857 }{%

```



```

858 \def\HyPsd@BabelPatch{%
859 \let\HyOrg@languageshorthands\languageshorthands
860 }%
861 }%
862 }{}%
863 }
864 \Hy@temp
865 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
866 \newif\ifHy@next

Nothing to do for english.
867 \ltx@ifundefined{danish@sh@@"@sel}{-}{%
868 \def\HyPsd@babel@danish{%
869 \declare@shorthand{danish}{-}{-}%
870 \declare@shorthand{danish}{-}{-}%
871 }%
872 }
873 \ltx@ifundefined{dutch@sh@@"@sel}{-}{%
874 \def\HyPsd@babel@dutch{%
875 \declare@shorthand{dutch}{-}{-}%
876 \declare@shorthand{dutch}{-}{-}%
877 }%
878 }
879 \ltx@ifundefined{finnish@sh@@"@sel}{-}{%
880 \def\HyPsd@babel@finnish{%
881 \declare@shorthand{finnish}{-}{-}%
882 }%
883 }
884 \ltx@ifundefined{french@sh@@"@sel}{-}{%
885 \def\HyPsd@babel@frenchb{%
886 \def\guill@spacing{ }%
887 }%
888 }
889 \ltx@ifundefined{german@sh@@"@sel}{-}{%
890 \def\HyPsd@babel@german{%
891 \declare@shorthand{german}{f}{f}%
892 \declare@shorthand{german}{-}{-}%
893 \declare@shorthand{german}{-}{-}%
894 }%
895 }
896 \ltx@ifundefined{macedonian@sh@@"@sel}{-}{%
897 \def\HyPsd@babel@macedonian{%
898 \declare@shorthand{macedonian}{-}{-}%
899 \declare@shorthand{macedonian}{-}{-}%
900 }%
901 }{}
902 \ltx@ifundefined{ngerman@sh@@"@sel}{-}{%
903 \def\HyPsd@babel@ngerman{%
904 \declare@shorthand{ngerman}{-}{-}%
905 \declare@shorthand{ngerman}{-}{-}%
906 }%
907 }
908 \ltx@ifundefined{portuges@sh@@"@sel}{-}{%
909 \def\HyPsd@babel@portuges{%
910 \declare@shorthand{portuges}{-}{-}%
911 }%
912 }

```

```

913 \ltx@ifundefined{russian@sh@"@sel}{-}{%
914   \def\HyPsd@babel@russian{%
915     \declare@shorthand{russian}{-}{-}%
916     \declare@shorthand{russian}{-}{-}%
917   }%
918 }
919 \ltx@ifundefined{slovene@sh@"@sel}{-}{%
920   \def\HyPsd@babel@slovene{%
921     \declare@shorthand{slovene}{-}{-}%
922   }%
923 }

```

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

```

924 \ltx@ifundefined{spanish@sh@>@sel}{-}{%
925   \def\HyPsd@babel@spanish{%
926     \declare@shorthand{spanish}{<<}{\guillemotleft}%
927     \declare@shorthand{spanish}{>>}{\guillemotright}%
928     \declare@shorthand{spanish}{=}{}-%
929     \declare@shorthand{spanish}{-}{-}%
930     \declare@shorthand{spanish}{!}{\textexclamdown}%
931     \declare@shorthand{spanish}{?}{\textquestiondown}%
932   }%
933 }
934 \ltx@ifundefined{swedish@sh@"@sel}{-}{%
935   \def\HyPsd@babel@swedish{%
936     \declare@shorthand{swedish}{-}{-}%
937     \declare@shorthand{swedish}{-}{-}%
938   }%
939 }
940 \ltx@ifundefined{ukrainian@sh@"@sel}{-}{%
941   \def\HyPsd@babel@ukrainian{%
942     \declare@shorthand{ukrainian}{-}{-}%
943     \declare@shorthand{ukrainian}{-}{-}%
944   }%
945 }
946 \ltx@ifundefined{usorbian@sh@"@sel}{-}{%
947   \def\HyPsd@babel@usorbian{%
948     \declare@shorthand{usorbian}{f}{f}%
949     \declare@shorthand{usorbian}{-}{-}%
950   }%
951 }
952 \ltx@ifundefined{greek@sh@\string~@sel}{-}{%
953   \let\HyPsd@GreekPatch\@empty
954 }{%
955   \def\HyPsd@GreekPatch{%
956     \let\greeknumeral\HyPsd@greeknumeral
957     \let\Greeknatural\HyPsd@greeknumeral
958   }%
959 }
960 \def\HyPsd@greeknumeral#1{%
961   \HyPsd@GreekNum\@firstoftwo{#1}%
962 }
963 \def\HyPsd@Greeknumeral#1{%
964   \HyPsd@GreekNum\@secondoftwo{#1}%
965 }
966 \def\HyPsd@GreekNum#1#2{%
967   \ifHy@unicode
968     \ifnum#2<\@ne

```

```

969 \@arabic{#2}%
970 \else
971 \ifnum#2<1000000 %
972 \HyPsd@@GreekNum#1{#2}%
973 \else
974 \@arabic{#2}%
975 \fi
976 \fi
977 \else
978 \@arabic{#2}%
979 \fi
980 }
981 \def\HyPsd@@GreekNum#1#2{%
982 \ifnum#2<\@m
983 \ifnum#2<10 %
984 \expandafter\HyPsd@GreekNumI
985 \expandafter\@gobble\expandafter#1\number#2%
986 \else
987 \ifnum#2<100 %
988 \expandafter\HyPsd@GreekNumII
989 \expandafter\@gobble\expandafter#1\number#2%
990 \else
991 \expandafter\HyPsd@GreekNumIII
992 \expandafter\@gobble\expandafter#1\number#2%
993 \fi
994 \fi
995 \ifnum#2>\z@
996 \textnumeralsigngreek
997 \fi
998 \else
999 \ifnum#2<\@M
1000 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1001 \else
1002 \ifnum#2<100000 %
1003 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1004 \else
1005 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1006 \fi
1007 \fi
1008 \fi
1009 }
1010 \def\HyPsd@GreekNumI#1#2#3{%
1011 #1{%
1012 \ifnum#3>\z@
1013 \textnumeralsignlowergreek
1014 \fi
1015 }%
1016 \expandafter#2%
1017 \ifcase#3 %
1018 {}{}%
1019 \or\textalpha\textAlpha
1020 \or\textbeta\textBeta
1021 \or\textgamma\textGamma
1022 \or\textdelta\textDelta
1023 \or\textepsilon\textEpsilon
1024 \or\textstigmagreek\textStigmagreek
1025 \or\textzeta\textZeta

```

```

1026 \or\texteta\textEta
1027 \or\texttheta\textTheta
1028 \else
1029   {}{}%
1030 \fi
1031 }
1032 \def\HyPsd@GreekNumII#1#2#3#4{%
1033   #1{%
1034     \ifnum#3>\z@
1035       \textnumeralsignlowergreek
1036     \fi
1037   }%
1038   \expandafter#2%
1039   \ifcase#3 %
1040     {}{}%
1041   \or\textiota\textIota
1042   \or\textkappa\textKappa
1043   \or\textlambda\textLambda
1044   \or\textmu\textMu
1045   \or\textnu\textNu
1046   \or\textxi\textXi
1047   \or\textomicron\textOmicron
1048   \or\textpi\textPi
1049   \or\textkoppagreek\textKoppagreek
1050   \else
1051     {}{}%
1052   \fi
1053   \HyPsd@GreekNumI#1#2#4%
1054 }
1055 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1056   #1{%
1057     \ifnum#3>\z@
1058       \textnumeralsignlowergreek
1059     \fi
1060   }%
1061   \expandafter#2%
1062   \ifcase#3 %
1063     {}{}%
1064   \or\textrho\textRho
1065   \or\textsigma\textSigma
1066   \or\texttau\textTau
1067   \or\textupsilon\textUpsilon
1068   \or\textphi\textPhi
1069   \or\textchi\textChi
1070   \or\textpsi\textPsi
1071   \or\textomega\textOmega
1072   \or\textsampigreek\textSampigreek
1073   \else
1074     {}{}%
1075   \fi
1076   \HyPsd@GreekNumII#1#2#4#5%
1077 }
1078 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1079   \HyPsd@GreekNumI\@firstofone#1#2%
1080   \HyPsd@@GreekNum#1{#3#4#5}%
1081 }
1082 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%

```

```

1083 \HyPsd@GreekNumII\@firstofone#1#2#3%
1084 \HyPsd@@GreekNum#1{#4#5#6}%
1085 }
1086 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1087 \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1088 \HyPsd@@GreekNum#1{#5#6#7}%
1089 }

1090 \def\HyPsd@SpanishPatch{%
1091 \begingroup\expandafter\expandafter\expandafter\endgroup
1092 \expandafter\ifx\csname es@save@dot\endcsname\relax
1093 \else
1094 \let\.\es@save@dot
1095 \fi
1096 }

```

### 6.5.3 CJK patch

```

1097 \RequirePackage{intcalc}[2007/09/27]

```

\HyPsd@CJKhook

```

1098 \def\HyPsd@CJKhook{%
1099 \ltx@ifpackageloaded{CJK}{%
1100 \let\CJK@kern\relax
1101 \let\CJKkern\relax
1102 \let\CJK@CJK\relax
1103 \ifHy@CJKbookmarks
1104 \HyPsd@CJKhook@bookmarks
1105 \fi
1106 \HyPsd@CJKhook@unicode
1107 }{}%
1108 }

```

### 6.5.4 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 ( $\geq 0x40$ ).

```

1109 \begingroup
1110 \catcode"7F=\active
1111 \toks@{%
1112 \let\CJK@ignorespaces\empty
1113 \def\CJK@char#1{\@gobbletwo}%
1114 \let\CJK@charx\@gobblefour
1115 \let\CJK@punctchar\@gobblefour
1116 \def\CJK@punctcharx#1{\@gobblefour}%
1117 \catcode"7F=\active
1118 \def^^7f#1^^7f#2^^7f{%
1119 \string #1\HyPsd@DecimalToOctal{#2}%
1120 }%
1121 % ... ?

```

```

1122 \ifHy@unicode
1123 \def\Hy@cjkpu{\80}%
1124 \else
1125 \let\Hy@cjkpu\@empty
1126 \fi
1127 \HyPsd@CJKActiveChars
1128 }%
1129 \count@=127 %
1130 \@whilenum\count@<255 \do{%
1131 \advance\count@ by 1 %
1132 \lccode'\~=\count@
1133 \lowercase{%
1134 \toks@\expandafter{\the\toks@ ~}%
1135 }%
1136 }%
1137 \toks@\expandafter{\the\toks@ !}%
1138 \xdef\HyPsd@CJKhook@bookmarks{%
1139 \the\toks@
1140 }%
1141 \endgroup

```

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

```

1142 \def\HyPsd@CJKActiveChars#1{%
1143 \ifx#1!%
1144 \let\HyPsd@CJKActiveChars\relax
1145 \else
1146 \edef#1{\noexpand\Hy@cjkpu\string#1}%
1147 \fi
1148 \HyPsd@CJKActiveChars
1149 }

```

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

```

1150 \def\HyPsd@DecimalToOctal#1{%
1151 \ifcase #1 %
1152 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1153 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1154 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1155 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1156 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1157 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1158 \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1159 \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1160 \or @\or A\or B\or C\or D\or E\or F\or G%
1161 \or H\or I\or J\or K\or L\or M\or N\or O%
1162 \or P\or Q\or R\or S\or T\or U\or V\or W%
1163 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1164 \or \140\or a\or b\or c\or d\or e\or f\or g%
1165 \or h\or i\or j\or k\or l\or m\or n\or o%
1166 \or p\or q\or r\or s\or t\or u\or v\or w%
1167 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1168 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1169 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1170 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1171 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1172 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1173 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%

```

```

1174 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1175 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1176 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1177 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1178 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1179 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1180 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1181 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1182 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1183 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1184 \fi
1185 }

```

### 6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1186 \def\HyPsd@CJKhook@unicode{%
1187 \let\Unicode\HyPsd@CJK@Unicode
1188 \let\CJKnumber\HyPsd@CJKnumber
1189 \let\CJKdigits\HyPsd@CJKdigits
1190 }

```

\HyPsd@CJK@Unicode

```

1191 \def\HyPsd@CJK@Unicode#1#2{%
1192 \ifnum#1<256 %
1193 \HyPsd@DecimalToOctalFirst{#1}%
1194 \HyPsd@DecimalToOctalSecond{#2}%
1195 \else
1196 \933%
1197 \expandafter\expandafter\expandafter\HyPsd@HighA
1198 \intcalcDiv{#1}{4}!%
1199 \933%
1200 \ifcase\intcalcMod{#1}{4} %
1201 4\or 5\or 6\or 7%
1202 \fi
1203 \HyPsd@DecimalToOctalSecond{#2}%
1204 \fi
1205 }

1206 \def\HyPsd@HighA#1!{%
1207 \expandafter\expandafter\expandafter\HyPsd@HighB
1208 \IntCalcDiv{#1}{64}!!%
1209 \expandafter\expandafter\expandafter\HyPsd@HighD
1210 \IntCalcMod{#1}{64}!!%
1211 }

1212 \def\HyPsd@HighB#1!{%
1213 \expandafter\expandafter\expandafter\HyPsd@HighC
1214 \IntCalcDec{#1}!!%
1215 }

1216 \def\HyPsd@HighC#1!{%
1217 \IntCalcDiv{#1}{4}!%
1218 \@backslashchar
1219 \IntCalcMod{#1}{4}!%
1220 }

1221 \def\HyPsd@HighD#1!{%
1222 \ifcase\IntCalcDiv{#1}{8}! %
1223 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%

```

```

1224 \fi
1225 \ifcase\IntCalcMod#1!8! %
1226 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1227 \fi
1228 }
1229 \def\HyPsd@DecimalToOctalFirst#1{%
1230 \9%
1231 \ifcase#1 %
1232 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1233 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1234 \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1235 \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1236 \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1237 \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1238 \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1239 \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1240 \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1241 \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1242 \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1243 \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1244 \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1245 \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1246 \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1247 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1248 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1249 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1250 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1251 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1252 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1253 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1254 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1255 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1256 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1257 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1258 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1259 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1260 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1261 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1262 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1263 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1264 \fi
1265 }
1266 \def\HyPsd@DecimalToOctalSecond#1{%
1267 \ifcase #1 %
1268 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1269 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1270 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1271 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1272 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1273 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1274 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1275 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1276 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1277 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1278 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1279 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1280 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%

```



```

1281 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1282 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1283 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1284 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1285 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1286 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1287 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1288 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1289 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1290 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1291 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1292 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1293 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1294 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1295 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1296 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1297 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1298 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1299 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1300 \fi
1301 }

1302 \def\HyPsd@CJkNumber#1{%
1303 \ifnum#1<\z@
1304 \CJk@minus
1305 \expandafter\HyPsd@@CJkNumber\expandafter{\number-\number#1}%
1306 \else
1307 \expandafter\HyPsd@@CJkNumber\expandafter{\number#1}%
1308 \fi
1309 }

1310 \def\HyPsd@@CJkNumber#1{%
1311 \ifcase#1 %
1312 \CJk@zero\or\CJk@one\or\CJk@two\or\CJk@three\or\CJk@four\or
1313 \CJk@five\or\CJk@six\or\CJk@seven\or\CJk@eight\or\CJk@nine\or
1314 \CJk@ten\or\CJk@ten\CJk@one\or\CJk@ten\CJk@two\or
1315 \CJk@ten\CJk@three\or\CJk@ten\CJk@four\or\CJk@ten\CJk@five\or
1316 \CJk@ten\CJk@six\or\CJk@ten\CJk@seven\or\CJk@ten\CJk@eight\or
1317 \CJk@ten\CJk@nine
1318 \else
1319 \ifnum#1<10000 %
1320 \HyPsd@CJkNumberFour#1!\@empty{20}%
1321 \@empty
1322 \else
1323 \ifnum#1<100000000 %
1324 \expandafter\expandafter\expandafter\HyPsd@CJkNumberFour
1325 \IntCalcDiv#1!10000!%
1326 !{}{20}%
1327 \CJk@tenthousand
1328 \expandafter\expandafter\expandafter\HyPsd@CJkNumberFour
1329 \IntCalcMod#1!10000!%
1330 !\CJk@zero{10}%
1331 \@empty
1332 \else
1333 \expandafter\HyPsd@CJkNumberLarge
1334 \number\IntCalcDiv#1!100000000!\expandafter!%
1335 \number\IntCalcMod#1!100000000!!%
1336 \fi
1337 \fi

```

```

1338 \fi
1339 }
1340 \def\HyPsd@CJKnumberLarge#1!#2!{%
1341 \HyPsd@CJKnumberFour#1!#{20}%
1342 \CJK@hundredmillion
1343 \ifnum#2=\z@
1344 \else
1345 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1346 \IntCalcDiv#2!10000!%
1347 !\CJK@zero{10}%
1348 \CJK@tenthousand
1349 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1350 \IntCalcMod#2!10000!%
1351 !\CJK@zero{10}%
1352 \@empty
1353 \fi
1354 }
1355 \def\HyPsd@CJKnumberFour#1!#2#3{%
1356 \ifnum#1=\z@
1357 \expandafter\@gobble
1358 \else
1359 \ifnum#1<1000 %
1360 #2%
1361 \HyPsd@CJKnumberThree#1!#{3}%
1362 \else
1363 \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1364 \CJK@thousand
1365 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1366 \IntCalcMod#1!1000!%
1367 !\CJK@zero{10}%
1368 \fi
1369 \fi
1370 }
1371 \def\HyPsd@CJKnumberThree#1!#2#3{%
1372 \ifnum#1=\z@
1373 \else
1374 \ifnum#1<100 %
1375 #2%
1376 \HyPsd@CJKnumberTwo#1!#{3}%
1377 \else
1378 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1379 \CJK@hundred
1380 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1381 \IntCalcMod#1!100!%
1382 !\CJK@zero{10}%
1383 \fi
1384 \fi
1385 }
1386 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1387 \ifnum#1=\z@
1388 \else
1389 \ifnum#1<#3 %
1390 #2%
1391 \HyPsd@@CJKnumber{#1}%
1392 \else
1393 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1394 \CJK@ten

```

```

1395 \ifnum\IntCalcMod#1!10!=\z@
1396 \else
1397 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1398 \fi
1399 \fi
1400 \fi
1401 }

1402 \def\HyPsd@CJKdigits#1{%
1403 \ifx*#1\relax
1404 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1405 \else
1406 \HyPsd@@CJKdigits\CJK@null{#1}%
1407 \fi
1408 }

1409 \def\HyPsd@@CJKdigits#1#2{%
1410 \ifx\#2\%
1411 \else
1412 \HyPsd@@@CJKdigits#1#2\@nil
1413 \fi
1414 }%
1415 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1416 \HyPsd@CJKdigit#1{#2}%
1417 \ifx\#3\%
1418 \expandafter\@gobble
1419 \else
1420 \expandafter\@firstofone
1421 \fi
1422 }%
1423 \HyPsd@@@CJKdigits#1#3\@nil
1424 }%
1425 }

1426 \def\HyPsd@CJKdigit#1#2{%
1427 \ifcase#2 %
1428 #1\or
1429 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1430 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1431 \fi
1432 }

```

### 6.5.6 \@inmathwarn-Patch

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

To understand the patch easier, the original code of `\@current@cmd` and `\@changed@cmd` follows ( $\text{\LaTeX}$  2<sub>ε</sub> 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}

1433 \def\HyPsd@inmathwarn#1#2{%
1434 \ifx#2\expandafter
1435 \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1436 \HyPsd@GLYPHERR
1437 \expandafter\@gobble\string#1%
1438 >%
1439 \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1440 \else
1441 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1442 \fi
1443 \else
1444 \expandafter#2%
1445 \fi
1446 }
1447 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1448 \def\HyPsd@EndWithElse#1\else\else}

\HyPsd@add@accent

1449 \def\HyPsd@add@accent#1#2{%
1450 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1451 #2%
1452 }%

```

### 6.5.7 Unexpandable spaces

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

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

These properties are used in `\HyPsd@CheckCatcodes`.

```

1453 \def\HyPsd@LetUnexpandableSpace#1{%
1454   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1455 }

```

\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.

```

1456 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

### 6.5.8 Marker for commands

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

```

1457 \edef\HyPsd@XSPACE{\string#\string X}
1458 \edef\HyPsd@ITALCORR{\string#\string I}
1459 \edef\HyPsd@GLYPHERR{\string#\string G}

```

### 6.5.9 \hspace fix

\HyPsd@hspace

```

1460 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}

```

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

```

1461 \def\HyPsd@@hspace#1*#2\END{%
1462   \ifx\#2\%
1463     \HyPsd@hspacetest{#1}%
1464   \else
1465     \expandafter\HyPsd@hspacetest
1466   \fi
1467 }

```

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

```

1468 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}

```

### 6.5.10 Fix for AMS classes

```

1469 \ltx@ifundefined{tocsection}{%
1470   \let\HyPsd@AMSclassfix\relax
1471 }{%
1472   \def\HyPsd@AMSclassfix{%
1473     \let\tocpart\HyPsd@tocsection
1474     \let\tocchapter\HyPsd@tocsection
1475     \let\tocappendix\HyPsd@tocsection
1476     \let\tocsection\HyPsd@tocsection
1477     \let\tocsubsection\HyPsd@tocsection
1478     \let\tocsubsubsection\HyPsd@tocsection
1479     \let\tocparagraph\HyPsd@tocsection
1480   }%
1481   \def\HyPsd@tocsection#1#2#3{%
1482     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1483     #3%
1484   }%

```

1485 }

### 6.5.11 Reference commands

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

```
1486 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1487 \def\HyPsd@@ref#1*#2\END{%
1488   \ifx\#2\%
1489     \HyPsd@@@ref{#1}%
1490   \else
1491     \expandafter\HyPsd@@@ref
1492   \fi
1493 }%
```

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

```
1494 \def\HyPsd@@@ref#1{%
1495   \expandafter\ifx\csname r@#1\endcsname\relax
1496     ??%
1497   \else
1498     \expandafter\expandafter\expandafter
1499     \@car\csname r@#1\endcsname\@nil
1500   \fi
1501 }
```

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

```
1502 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```
1503 \def\HyPsd@@pageref#1*#2\END{%
1504   \ifx\#2\%
1505     \HyPsd@@@pageref{#1}%
1506   \else
1507     \expandafter\HyPsd@@@pageref
1508   \fi
1509 }
```

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

```
1510 \def\HyPsd@@@pageref#1{%
1511   \expandafter\ifx\csname r@#1\endcsname\relax
1512     ??%
1513   \else
1514     \expandafter\expandafter\expandafter\expandafter
1515     \expandafter\expandafter\expandafter\@car
1516     \expandafter\expandafter\expandafter\@gobble
1517     \csname r@#1\endcsname{}\@nil
1518   \fi
1519 }
```

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

```
1520 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```

1521 \def\HyPsd@@nameref#1*#2\END{%
1522   \ifx\#2\%
1523     \HyPsd@@nameref{#1}%
1524   \else
1525     \expandafter\HyPsd@@nameref
1526   \fi
1527 }
```

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

```

1528 \def\HyPsd@@@nameref#1{%
1529   \expandafter\ifx\csname r@#1\endcsname\relax
1530     ??%
1531   \else
1532     \expandafter\expandafter\expandafter\expandafter
1533     \expandafter\expandafter\expandafter\@car
1534     \expandafter\expandafter\expandafter\@gobbletwo
1535     \csname r@#1\endcsname\}\}\@nil
1536   \fi
1537 }
```

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

```

1538 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*END}
```

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

```

1539 \def\HyPsd@@autoref#1*#2\END{%
1540   \ifx\#2\%
1541     \HyPsd@@autoref{#1}%
1542   \else
1543     \expandafter\HyPsd@@autoref
1544   \fi
1545 }
```

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

```

1546 \def\HyPsd@@@autoref#1{%
1547   \expandafter\ifx\csname r@#1\endcsname\relax
1548     ??%
1549   \else
1550     \expandafter\expandafter\expandafter\HyPsd@autorefname
1551     \csname r@#1\endcsname\}\}\}\@nil
1552     \expandafter\expandafter\expandafter
1553     \@car\csname r@#1\endcsname\@nil
1554   \fi
1555 }
```

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

```

1556 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1557   \ifx\#4\%
1558     \else
1559     \HyPsd@@autorefname#4.\@nil
1560   \fi
1561 }
```

`\HyPsd@@autorefname`

```

1562 \def\HyPsd@@autorefname#1.#2\@nil{%
1563   \ltx@ifundefined{#1autorefname}{%
1564     \ltx@ifundefined{#1name}{%
1565       }{%
1566         \csname#1name\endcsname\space
1567       }%
1568     }{%
1569       \csname#1autorefname\endcsname\space
1570     }%
1571   }

```

### 6.5.12 Redefining the defining commands

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

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

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

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

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

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand
1572 \begingroup
1573   \def\x#1#2{%
1574     \endgroup
1575     \let#1\def
1576     \def\HyPsd@DefCommand##1##2##{%
1577       #1%
1578       \expandafter\noexpand
1579         \csname\expandafter\@gobble\string##1\@empty\endcsname
1580       \@gobble
1581     }%
1582     \let#2\let
1583     \def\HyPsd@@LetCommand##1{%
1584       \expandafter\ifx\csname##1\expandafter\endcsname
1585         \csname iftrue\endcsname

```



```

1586 \pdfstringdefWarn\let
1587 \expandafter\@gobble
1588 \else
1589 \expandafter\ifx\csname##1\expandafter\endcsname
1590 \csname iffalse\endcsname
1591 \pdfstringdefWarn\let
1592 \expandafter\expandafter\expandafter\@gobble
1593 \else
1594 #2%
1595 \expandafter\noexpand
1596 \csname##1\expandafter\expandafter\expandafter\endcsname
1597 \fi
1598 \fi
1599 }%
1600 }%
1601 \expandafter\x\csname <def>-command\expandafter\endcsname
1602 \csname <let>-command\endcsname
1603 \def\HyPsd@LetCommand#1{%
1604 \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1605 \expandafter\expandafter\expandafter{%
1606 \expandafter\@gobble\string#1\@empty
1607 }%
1608 }

```

### 6.5.13 \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).

```

1609 \def\HyPsd@ifnextchar#1{%
1610 \pdfstringdefWarn#1%
1611 \expandafter\@gobbletwo\@gobble
1612 }

```

### 6.5.14 \@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`.

```

1613 \def\HyPsd@protected@testopt#1{%
1614 \pdfstringdefWarn#1%
1615 \@gobbletwo
1616 }

```

## 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:

```
1617 \def\HyPsd@Warning#1{%
1618   \begingroup
1619   \def\space{ }%
1620   \Hy@Warning{#1}%
1621   \endgroup
1622 }
```

### 6.6.2 Protecting spaces

```
1623 \RequirePackage{etexcmds}[2007/09/09]
1624 \ifetex@unexpanded
1625   \expandafter\@secondoftwo
1626 \else
1627   \expandafter\@firstoftwo
1628 \fi
1629 {%
```

`\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`.

```
1630 \def\HyPsd@ProtectSpaces#1{%
1631   \iftrue
1632     \expandafter\HyPsd@@@ProtectSpacesFi
1633     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1634   \fi
1635   }%
```

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

```
1636 \def\HyPsd@@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1637   \fi
1638   \ifx\scrollmode#2\scrollmode
1639     \HyPsd@RemoveMask#1\HyPsd@End#3%
1640   \else
1641     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1642     \expandafter\HyPsd@@@ProtectSpacesFi#3\HyPsd@End#3%
1643   \fi
1644   }%
```

### 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.

```
1645 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1646   \toks@{\expandafter{#1}%
1647   \xdef#2{\the\toks@}%
1648   }%
1649   }{%
1650   \let\HyPsd@fi\fi
1651   \def\HyPsd@ProtectSpaces#1{%
```

```

1652 \xdef#1{%
1653   \iftrue
1654     \expandafter\HyPsd@@ProtectSpacesFi
1655     \expandafter|\expandafter\@empty#1| %
1656     \HyPsd@fi
1657   }%
1658   \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1659 }%
1660 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1661   \fi
1662   \etex@unexpanded{#1}%
1663   \ifx\scrollmode#2\scrollmode
1664   \else
1665     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1666     \HyPsd@fi
1667   }%
1668 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1669   \xdef#2{\etex@unexpanded\expandafter{#1}}%
1670 }%
1671 }

```

### 6.6.3 Remove grouping braces

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

```

1672 \def\HyPsd@RemoveBraces#1{%
1673   \ifx\scrollmode#1\scrollmode
1674   \else
1675     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1676   \fi
1677 }

```

`\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`.

```

1678 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1679   \fi
1680   \def\Hy@temp@A{#1#2}%
1681   \def\Hy@temp@B{#3}%
1682   \ifx\Hy@temp@A\Hy@temp@B
1683     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1684       \HyPsd@String#1%
1685     }%
1686   \ifx\scrollmode#2\scrollmode
1687   \else
1688     \Hy@ReturnAfterFiFiEnd{%
1689       \HyPsd@RemoveBraces{#2}%
1690     }%
1691   \fi
1692 \else
1693   \def\Hy@temp@A{#1}%

```

```

1694 \HyPsd@AppendItalcorr\HyPsd@String
1695 \ifx\Hy@temp@A\@empty
1696 \Hy@ReturnAfterElseFiFiEnd{%
1697 \HyPsd@RemoveBraces{#2}%
1698 }%
1699 \else
1700 \HyPsd@ProtectSpaces\Hy@temp@A
1701 \HyPsd@AppendItalcorr\Hy@temp@A
1702 \Hy@ReturnAfterFiFiEnd{%
1703 \expandafter\HyPsd@RemoveBraces\expandafter
1704 {\Hy@temp@A#2}%
1705 }%
1706 \fi
1707 \fi
1708 \Hy@ReturnEnd
1709 }

```

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

```

1710 \def\HyPsd@AppendItalcorr#1{%
1711 \expandafter\HyPsd@@AppendItalcorr\expandafter{\/}#1%
1712 }
1713 \def\HyPsd@@AppendItalcorr#1#2{%
1714 \expandafter\def\expandafter#2\expandafter{#2#1}%
1715 }

```

#### 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).

```

1716 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1717 \global\let\HyPsd@Rest\relax
1718 \ifcat\relax\noexpand#1\relax
1719 \ifx#1\protect
1720 \else
1721 \ifx#1\penalty
1722 \setbox\z@=\hbox{%
1723 \afterassignment\HyPsd@AfterCountRemove
1724 \count@=#2\HyPsd@End
1725 }%
1726 \else
1727 \ifx#1\kern
1728 \setbox\z@=\hbox{%
1729 \afterassignment\HyPsd@AfterDimenRemove
1730 \dimen@=#2\HyPsd@End
1731 }%
1732 \else

```

```

1733     \ifx#1\hskip
1734     \setbox\z@=\hbox{%
1735       \afterassignment\HyPsd@AfterSkipRemove
1736       \skip@=#2\HyPsd@End
1737     }%
1738   \else
1739     \HyPsd@CatcodeWarning{#1}%
1740   \fi
1741 \fi
1742 \fi
1743 \fi
1744 \else
1745   \ifcat#1A% letter
1746     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1747       \HyPsd@String#1%
1748     }%
1749   \else
1750     \ifcat#1 % SPACE
1751       \expandafter\def\expandafter\HyPsd@String\expandafter{%
1752         \HyPsd@String\HyPsd@SPACEOPTI
1753       }%
1754     \else
1755       \ifcat$#1%
1756         \HyPsd@CatcodeWarning{math shift}%
1757       \else
1758         \ifcat&#1%
1759           \HyPsd@CatcodeWarning{alignment tab}%
1760         \else
1761           \ifcat^#1%
1762             \HyPsd@CatcodeWarning{superscript}%
1763           \else
1764             \ifcat_#1%
1765               \HyPsd@CatcodeWarning{subscript}%
1766             \else
1767               \expandafter\def\expandafter\HyPsd@String\expandafter{%
1768                 \HyPsd@String#1%
1769               }%
1770             \fi
1771           \fi
1772         \fi
1773       \fi
1774     \fi
1775   \fi
1776 \fi
1777 \ifx\HyPsd@Rest\relax
1778   \ifx\scrollmode#2\scrollmode
1779     \else
1780       \Hy@ReturnAfterFiFiEnd{%
1781         \HyPsd@CheckCatcodes#2\HyPsd@End
1782       }%
1783     \fi
1784   \else
1785     \ifx\HyPsd@Rest\@empty
1786     \else
1787       \Hy@ReturnAfterFiFiEnd{%
1788         \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1789       }%

```

```

1790 \fi
1791 \fi
1792 \Hy@ReturnEnd
1793 }

```

### Remove counts, dimens, skips.

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

```

1794 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1795 \gdef\HyPsd@Rest{#1}%
1796 }

```

`\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.

```

1797 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1798 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>\fi>1ex %
1799 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1800 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1801 \else
1802 \ifdim\dimen@=\z@
1803 \else
1804 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1805 \fi
1806 \gdef\HyPsd@Rest{#1}%
1807 \fi
1808 }

```

`\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).

```

1809 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1810 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>\fi>1ex %
1811 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1812 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1813 \else
1814 \ifdim\skip@=\z@
1815 \else
1816 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1817 \fi
1818 \gdef\HyPsd@Rest{#1}%
1819 \fi
1820 }

```

### Catcode warnings.

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

```

1821 \def\HyPsd@CatcodeWarning#1{%
1822 \HyPsd@Warning{%
1823 Token not allowed in a PDF string (%
1824 \ifHy@unicode
1825 Unicode%
1826 \else
1827 PDFDocEncoding%
1828 \fi
1829 ):%

```

```

1830 \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
1831 }%
1832 }
1833 \begingroup
1834 \catcode'\|=0 %
1835 \catcode'\|=12 %
1836 |gdef|HyPsd@RemoveCmdPrefix#1{%
1837 |expandafter|HyPsd@@RemoveCmdPrefix
1838 |string#1|@empty\<>-|@empty|@empty
1839 }%
1840 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1841 |endgroup

```

\HyPsd@RemoveSpaceWarning

```

1842 \def\HyPsd@RemoveSpaceWarning#1{%
1843 \HyPsd@Warning{%
1844 Token not allowed in a PDF string (%
1845 \ifHy@unicode
1846 Unicode%
1847 \else
1848 PDFDocEncoding%
1849 \fi
1850 }:%
1851 \MessageBreak #1\MessageBreak
1852 removed%
1853 }%
1854 }

```

\HyPsd@ReplaceSpaceWarning

```

1855 \def\HyPsd@ReplaceSpaceWarning#1{%
1856 \HyPsd@Warning{%
1857 Token not allowed in a PDF string (%
1858 \ifHy@unicode
1859 Unicode%
1860 \else
1861 PDFDocEncoding%
1862 \fi
1863 }:%
1864 \MessageBreak #1\MessageBreak
1865 replaced by space%
1866 }%
1867 }

```

### 6.6.5 Check for wrong glyphs

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

```

1868 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1869 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1870 \HyPsd@String#1%
1871 }%
1872 \ifx\|#2\| %
1873 \else
1874 \Hy@ReturnAfterFi{%
1875 \HyPsd@GlyphProcessWarning#2\@empty
1876 }%
1877 \fi

```

```

1878 }
1879 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1880 \HyPsd@@GlyphProcessWarning#1++>%
1881 \HyPsd@GlyphProcess#2\@empty
1882 }
1883 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1884 \ifx\#2\%
1885 \HyPsd@Warning{%
1886 Glyph not defined in %
1887 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1888 removing '@backslashchar#1'%
1889 }%
1890 \else
1891 \HyPsd@Warning{%
1892 Composite letter '@backslashchar#1+#2'\MessageBreak
1893 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1894 \MessageBreak
1895 removing '@backslashchar#1'%
1896 }%
1897 \fi
1898 }

```

### 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`.

```

1899 \def\HyPsd@spaceopti#1{ % first space
1900 \ifx\HyPsd@spaceopti#1%
1901 \040%
1902 \else
1903 #1%
1904 \fi
1905 }%

```

### 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.

1906 \def\HyPsd@Subst#1#2#3{%
1907 \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1908 \fi
1909 ##1%
1910 \ifx\scrollmode##2\scrollmode
1911 \else
1912 #2%
1913 \HyPsd@@ReplaceFi##2\END
1914 \fi
1915 }%
1916 \xdef#3{%
1917 \iftrue
1918 \expandafter\HyPsd@@ReplaceFi#3#1\END

```



```

1919 \fi
1920 }%
1921 }

```

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

```

1922 \def\HyPsd@StringSubst#1{%
1923 \expandafter\HyPsd@Subst\expandafter{\string#1}%
1924 }

```

### 6.6.7 Support for package `xspace`

`\HyPsd@doxspace` `\xspace` does not work, because it uses a `\futurelet` that cannot be executed in T<sub>E</sub>X'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.

```

1925 \def\HyPsd@doxspace#1{%
1926 \ifx#1\relax\else
1927 \ifx#1.\else
1928 \ifx#1:\else
1929 \ifx#1,\else
1930 \ifx#1;\else
1931 \ifx#1!\else
1932 \ifx#1?\else
1933 \ifx#1/\else
1934 \ifx#1-\else
1935 \ifx#1'\else
1936 \HyPsd@SPACEOPTI
1937 \fi
1938 \fi
1939 \fi
1940 \fi
1941 \fi
1942 \fi
1943 \fi
1944 \fi
1945 \fi
1946 \fi
1947 #1%
1948 }%

```

### 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.

```

1949 \begingroup
1950 \catcode'\|=0 %
1951 \catcode'\|=12 %

```

`\HyPsd@ConvertToUnicode`

```

1952 |gdef|HyPsd@ConvertToUnicode#1{%
1953 |xdef#1{%
1954 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1955 }%
1956 |ifx#1|@empty
1957 |else

```

```

1958 |xdef#1{%
1959 \376\377%
1960 #1%
1961 }%
1962 |fi
1963 }%

```

\HyPsd@DoConvert

```

1964 |gdef|HyPsd@DoConvert#1{%
1965 |ifx#1|@empty
1966 |else
1967 |Hy@ReturnAfterFi{%
1968 |ifx#1\%%
1969 \%%
1970 |expandafter|HyPsd@DoEscape
1971 |else
1972 |HyPsd@Char{#1}%
1973 |expandafter|HyPsd@DoConvert
1974 |fi
1975 }%
1976 |fi
1977 }%

```

\HyPsd@DoEscape

```

1978 |gdef|HyPsd@DoEscape#1{%
1979 |ifx#19%
1980 |expandafter|HyPsd@GetTwoBytes
1981 |else
1982 |Hy@ReturnAfterFi{%
1983 |ifx#18%
1984 00%
1985 |expandafter|HyPsd@GetTwoBytes
1986 |else
1987 #1%
1988 |expandafter|HyPsd@GetOneByte
1989 |fi
1990 }%
1991 |fi
1992 }%

```

\HyPsd@GetTwoBytes

```

1993 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1994 #1\#2#3#4%
1995 |HyPsd@DoConvert
1996 }%

```

\HyPsd@GetOneByte

```

1997 |gdef|HyPsd@GetOneByte#1#2{%
1998 #1#2%
1999 |HyPsd@DoConvert
2000 }%
2001 |endgroup

```

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

```

2002 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2003 \xdef#4{#4#1#2}%

```

```

2004 \HyPsd@@ConvertToUnicode#3\END#4%
2005 }

```

\HyPsd@Char

```

2006 \begingroup
2007 \catcode0=9 %
2008 \catcode'\^=7 %
2009 \catcode'\^^=12 %
2010 \def\x{^^^0000}%
2011 \expandafter\endgroup
2012 \ifx\x\@empty
2013 \def\HyPsd@Char#1{%
2014 \ifnum'#1<128 %
2015 \@backslashchar 000#1%
2016 \else
2017 \ifnum'#1<65536 %
2018 \expandafter\HyPsd@CharTwoByte\number'#1!%
2019 \else
2020 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2021 \intcalcSub{'#1}{65536}!%
2022 \fi
2023 \fi
2024 }%
2025 \def\HyPsd@CharTwoByte#1!{%
2026 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2027 \IntCalcDiv#1!256!!%
2028 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2029 \IntCalcMod#1!256!!%
2030 }%
2031 \def\HyPsd@CharOctByte#1!{%
2032 \@backslashchar
2033 \IntCalcDiv#1!64!%
2034 \intcalcDiv{\IntCalcMod#1!64!}{8}%
2035 \IntCalcMod#1!8!%
2036 }%
2037 \def\HyPsd@CharSurrogate#1!{%
2038 \@backslashchar 33%
2039 \IntCalcDiv#1!262144!%
2040 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2041 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2042 \@backslashchar 33%
2043 \expandafter\expandafter\expandafter\IntCalcAdd
2044 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2045 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2046 \IntCalcMod#1!256!!%
2047 }%
2048 \else
2049 \def\HyPsd@Char#1{%
2050 \@backslashchar 000#1%
2051 }%
2052 \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 e<sub>T</sub> 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`

```

2053 \begingroup\expandafter\expandafter\expandafter\endgroup
2054 \expandafter\ifx\csname numexpr\endcsname\relax
2055   \let\HyPsd@UTFviii\relax
2056 \else
2057   \begingroup
2058     \lccode'\~='^f4\relax
2059   \lowercase{\endgroup
2060     \def\HyPsd@UTFviii{%
2061       \let\UTFviii@two@octets\HyPsd@UTFviii@two
2062       \let\UTFviii@three@octets\HyPsd@UTFviii@three
2063       \let\UTFviii@four@octets\HyPsd@UTFviii@four
2064       \ifx~\HyPsd@UTFviii@ccxliv@undef
2065         \let~\HyPsd@UTFviii@ccxliv@def
2066       \fi
2067       \let\unichar\HyPsd@unichar
2068     }%
2069   }%
2070   \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2071   \edef\HyPsd@UTFviii@ccxliv@def{%
2072     \noexpand\UTFviii@four@octets\string ^f4%
2073   }%

```

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.

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

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

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

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

$$(5)$$

```

2074 \def\HyPsd@UTFviii@two#1#2{%
2075   \expandafter\HyPsd@UTFviii@@two
2076   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2077   \number'#1\expandafter| %
2078   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2079   \number'#2 \@nil
2080 }%
2081 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2082   \expandafter\8%
2083   \number\numexpr #1-48\expandafter\relax
2084   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2085   \number\numexpr #3-8*%
2086   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2087   \number\numexpr #4-8*#3\relax
2088 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

2089 \def\HyPsd@UTFviii@three#1#2#3{%
2090 \expandafter\HyPsd@UTFviii@@three
2091 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2092 \number'#1\expandafter| %
2093 \number\ifnum\dimexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2094 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2095 \number'#2\expandafter| %
2096 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2097 \number'#3 \@nil
2098 }%
2099 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2100 \expandafter\9%
2101 \number\dimexpr #1-56\expandafter\relax
2102 \number\dimexpr 2*(#2-4*#1)+#3\expandafter\relax
2103 \number\dimexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2104 \csname\number\dimexpr #5-4*#4\relax\expandafter\endcsname
2105 \number\dimexpr #6-16\expandafter\relax
2106 \number\dimexpr #7-8*#6\relax
2107 }%

```

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

```

```

2108 \def\HyPsd@UTFviii@four#1#2{%
2109 \expandafter\HyPsd@@UTFviii@four\number
2110 \dimexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2111 \expandafter|\number
2112 \dimexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2113 }%
2114 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2115 \933\number\dimexpr.25\dimexpr'#1sp\relax\relax
2116 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr'#1sp\endcsname
2117 \ifodd#2 %
2118 \number\dimexpr(#2-1)/2\relax
2119 \else
2120 \number\dimexpr#2/2\relax
2121 \fi
2122 \number\dimexpr\ifodd#2 4+\fi
2123 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2124 \933%

```

```

2125 \expandafter\HyPsd@@@UTFviii@four\number
2126 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2127 }%
2128 \def\HyPsd@@@UTFviii@four#1|#2{%
2129 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2130 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2131 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2132 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2133 }%

```

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

```

2134 \def\HyPsd@unichar#1{%
2135 \ifHy@unicode
2136 \ifnum#1>"10FFFF %
2137 \HyPsd@UnicodeReplacementCharacter % illegal
2138 \else
2139 \ifnum#1>"FFFF %

```

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

```

2140 \expandafter\HyPsd@unichar\expandafter{%
2141 \number\numexpr 55296+%
2142 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2143 \relax\relax\relax
2144 }%

```

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

```

2145 \expandafter\HyPsd@unichar\expandafter{%
2146 \number\numexpr#1-9216%
2147 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2148 \relax\relax\relax
2149 }%
2150 \else
2151 \ifnum#1>"7FF %
2152 \9%
2153 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2154 \number
2155 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2156 }%
2157 \else
2158 \8%
2159 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2160 \fi
2161 \expandafter\HyPsd@unichar@second@byte\expandafter{%
2162 \number
2163 \numexpr#1-256*\number
2164 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2165 }%
2166 \fi
2167 \fi
2168 \else
2169 .% unsupported (Unicode -> PDF Doc Encoding)
2170 \fi
2171 }%
2172 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2173 \def\HyPsd@unichar@first@byte#1{%
2174 \number\dimexpr.015625\dimexpr#1sp\relax\relax
2175 \expandafter\HyPsd@unichar@octtwo\expandafter{%

```

```

2176 \number
2177 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2178 \relax\relax\relax
2179 }%
2180 }%
2181 \def\HyPsd@unichar@second@byte#1{%
2182 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2183 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2184 \number
2185 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2186 \relax\relax\relax
2187 }%
2188 }%
2189 \def\HyPsd@unichar@octtwo#1{%
2190 \number\dimexpr.125\dimexpr#1sp\relax\relax
2191 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2192 \relax\relax\relax
2193 }%
2194 \fi

```

## 7 Support of other packages

### 7.1 Class memoir

```

2195 \@ifclassloaded{memoir}{%
2196 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}}%
2197 }{}

```

### 7.2 Package subfigure

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

```

2198 \@ifpackageloaded{subfigure}{%
2199 \ltx@ifundefined{sub@label}{%
2200 \Hy@hypertexnamesfalse
2201 }{%
2202 \renewcommand*{\sub@label}[1]{%
2203 \@bsphack
2204 \subfig@oldlabel{#1}%
2205 \if@filesw
2206 \begingroup
2207 \edef\@currentlabstr{%
2208 \expandafter\strip@prefix\meaning\@currentlabelname
2209 }%
2210 \protected@write\@auxout{}{%
2211 \string\newlabel{sub@#1}{%
2212 {\@nameuse{\@thesub\@captype}}%
2213 {\thepage}%
2214 }%
2215 \expandafter\strip@period\@currentlabstr
2216 \relax.\relax\@@@%
2217 }%
2218 {\@currentHref}%
2219 }}%
2220 }%
2221 }%
2222 \endgroup
2223 \fi

```

```

2224 \esphack
2225 }%
2226 \@ifpackagelater{subfigure}{2002/03/26}{}%
2227 \providecommand*\toclevel@subfigure{1}%
2228 \providecommand*\toclevel@subtable{1}%
2229 }%
2230 }%
2231 }{}

```

### 7.3 Package xr and xr-hyper

The beta version of xr that supports \XR@addURL is called xr-hyper. Therefore we test for the macro itself and not for the package name:

```

2232 \ltx@ifundefined{XR@addURL}{%
2233 }{}

```

If reading external aux files check whether they have a non zero fourth field in \newlabel and if so, add the URL as the fifth field.

```

2234 \def\XR@addURL#1{\XR@dURL#1{}{}{}\\}%
2235 \def\XR@dURL#1#2#3#4#5\{%
2236   {#1}{#2}%
2237   \if!#4!%
2238   \else
2239     {#3}{#4}{\XR@URL}%
2240   \fi
2241 }%
2242 }

2243 \def\Hy@true{true}
2244 \def\Hy@false{false}

```

Providing dummy definitions.

```

2245 \let\literals@out\@gobble
2246 \newcommand\pdfbookmark[3]{}
2247 \def\Acrobatmenu#1#2{\leavevmode#2}
2248 \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

```

2249 \let\HyperRaiseLinkHook\@empty
2250 \def\HyperRaiseLinkDefault{\baselineskip}

```

\HyperRaiseLinkHook allows the user to reassign \HyperRaiseLinkLength.

```

2251 \def\Hy@raisedlink#1{%
2252   \ifvmode

```



```

2253   #1%
2254   \else
2255     \penalty\@M
2256     \smash{%
2257       \begingroup
2258         \let\HyperRaiseLinkLength\@tempdima
2259         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2260         \HyperRaiseLinkHook
2261       \expandafter\endgroup
2262       \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
2263     }%
2264   \fi
2265 }

```

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

```

2266 \def\Hy@SaveLastskip{%
2267   \let\Hy@RestoreLastskip\relax
2268   \ifvmode
2269     \ifdim\lastskip=\z@
2270       \let\Hy@RestoreLastskip\nobreak
2271     \else
2272       \begingroup
2273         \skip@=-\lastskip
2274         \edef\x{%
2275           \endgroup
2276           \def\noexpand\Hy@RestoreLastskip{%
2277             \noexpand\ifvmode
2278               \noexpand\nobreak
2279               \vskip\the\skip@
2280               \vskip\the\lastskip\relax
2281             \noexpand\fi
2282           }%
2283         }%
2284       \x
2285     \fi
2286   \else
2287     \ifhmode
2288       \ifdim\lastskip=\z@
2289         \let\Hy@RestoreLastskip\nobreak
2290       \else
2291         \begingroup
2292           \skip@=-\lastskip
2293           \edef\x{%
2294             \endgroup
2295             \def\noexpand\Hy@RestoreLastskip{%
2296               \noexpand\ifhmode
2297                 \noexpand\nobreak
2298                 \hskip\the\skip@
2299                 \hskip\the\lastskip\relax
2300             \noexpand\fi
2301           }%
2302         }%
2303       \x
2304     \fi
2305   \fi
2306 \fi
2307 }%

```

## 9 Options

### 9.1 Help macros

\Hy@boolkey

```
2308 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
2309 \def\Hy@@boolkey[#1]#2#3{%
2310   \edef\Hy@tempa{#3}%
2311   \lowercase\expandafter{%
2312     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2313   }%
2314   \ifx\Hy@tempa\@empty
2315     \let\Hy@tempa\Hy@true
2316   \fi
2317   \ifx\Hy@tempa\Hy@true
2318     \else
2319     \ifx\Hy@tempa\Hy@false
2320     \else
2321       \let\Hy@tempa\relax
2322     \fi
2323   \fi
2324   \ifx\Hy@tempa\relax
2325     \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
2326   \else
2327     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2328     \csname Hy@#2\Hy@tempa\endcsname
2329   \fi
2330 }
```

\Hy@WarnOptionValue

```
2331 \def\Hy@WarnOptionValue#1#2#3{%
2332   \Hy@Warning{%
2333     Unexpected value ‘#1’\MessageBreak
2334     of option ‘#2’ instead of\MessageBreak
2335     #3%
2336   }%
2337 }
```

\Hy@DisableOption

```
2338 \def\Hy@DisableOption#1{%
2339   \@ifundefined{KV@Hyp@#1@default}{%
2340     \define@key{Hyp}{#1}%
2341   }{%
2342     \define@key{Hyp}{#1}[]%
2343   }%
2344   {\Hy@WarnOptionDisabled{#1}}%
2345 }
```

\Hy@WarnOptionDisabled

```
2346 \def\Hy@WarnOptionDisabled#1{%
2347   \Hy@Warning{%
2348     Option ‘#1’ has already been used,\MessageBreak
2349     setting the option has no effect%
2350   }%
2351 }
```

`\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`.

```

2352 \def\Hy@CheckOptionValue#1#2#3{%
2353   \begingroup
2354   \edef\x{#1}%
2355   \@onelevel@sanitize\x
2356   \let\y=y%
2357   \def\do##1##2{%
2358     \def\z{##1}%
2359     \@onelevel@sanitize\z
2360     \ifx\x\z
2361       \let\y=n%
2362       \let\do\@gobbletwo
2363     \fi
2364   }%
2365   #3%
2366   \ifx\y y%
2367     \def\do##1##2{%
2368       * '##1'%
2369       \ifx\##2\\\else\space(##2)\fi
2370       \MessageBreak
2371     }%
2372     \Hy@Warning{%
2373       Values of option '#2':\MessageBreak
2374       #3%
2375       * An empty value disables the option.\MessageBreak
2376       Unknown value '\x'%
2377     }%
2378   \fi
2379 \endgroup
2380 }
```

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

```

2381 \def\Hy@DefNameKey#1{%
2382   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2383 }
```

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

```

2384 \def\Hy@@DefNameKey#1#2#3{%
2385   \define@key{Hyp}{#2}{%
2386     \edef#1{##1}%
2387     \ifx#1\@empty
2388       \else
2389         \Hy@CheckOptionValue{##1}{#2}{#3}%
2390       \fi
2391     }%
2392   \let#1\@empty
2393 }
```

`\Hy@UseNameKey`

```

2394 \def\Hy@UseNameKey#1#2{%
2395   \ifx#2\@empty
```

```

2396 \else
2397   /#1/#2%
2398 \fi
2399 }

```

## 9.2 Defining the options

```

2400 \define@key{Hyp}{implicit}[true]{%
2401   \Hy@boolkey{implicit}{#1}%
2402 }
2403 \define@key{Hyp}{draft}[true]{%
2404   \Hy@boolkey{draft}{#1}%
2405 }
2406 \define@key{Hyp}{final}[true]{%
2407   \Hy@boolkey{final}{#1}%
2408 }
2409 \let\KV@Hyp@nolinks\KV@Hyp@draft
2410 \def\Hy@ObsoletePaperOption#1{%
2411   \Hy@WarningNoLine{%
2412     Option ‘#1’ is no longer used%
2413   }%
2414   \define@key{Hyp}{#1}[true]{}%
2415 }
2416 \def\Hy@temp#1{%
2417   \define@key{Hyp}{#1}[true]{%
2418     \Hy@ObsoletePaperOption{#1}%
2419   }%
2420 }
2421 \Hy@temp{a4paper}
2422 \Hy@temp{a5paper}
2423 \Hy@temp{b5paper}
2424 \Hy@temp{letterpaper}
2425 \Hy@temp{legalpaper}
2426 \Hy@temp{executivepaper}
2427 \define@key{Hyp}{setpagesize}[true]{%
2428   \Hy@boolkey{setpagesize}{#1}%
2429 }
2430 \define@key{Hyp}{debug}[true]{%
2431   \Hy@boolkey{debug}{verbose}{#1}%
2432 }
2433 \define@key{Hyp}{linktopage}[true]{%
2434   \Hy@boolkey{linktopage}{#1}%
2435   \ifHy@linktopage
2436     \let\Hy@linktoc\Hy@linktoc@page
2437   \else
2438     \let\Hy@linktoc\Hy@linktoc@section
2439   \fi
2440 }
2441 \chardef\Hy@linktoc@none=0 %
2442 \chardef\Hy@linktoc@section=1 %
2443 \chardef\Hy@linktoc@page=2 %
2444 \chardef\Hy@linktoc@all=3 %
2445 \ifHy@linktopage
2446   \let\Hy@linktoc\Hy@linktoc@page
2447 \else
2448   \let\Hy@linktoc\Hy@linktoc@section
2449 \fi

```

```

2450 \define@key{Hyp}{linktoc}{%
2451   \@ifundefined{Hy@linktoc@#1}{%
2452     \Hy@Warning{%
2453       Unexpected value ‘#1’ of\MessageBreak
2454       option ‘linktoc’ instead of ‘none’,\MessageBreak
2455       ‘section’, ‘page’ or ‘all’%
2456     }%
2457   }{%
2458     \expandafter\let\expandafter\Hy@linktoc
2459     \csname Hy@linktoc@#1\endcsname
2460   }%
2461 }
2462 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2463 \let\XR@ext\relax
2464 \define@key{Hyp}{verbose}[true]{%
2465   \Hy@boolkey{verbose}{#1}%
2466 }
2467 \define@key{Hyp}{typexml}[true]{%
2468   \Hy@boolkey{typexml}{#1}%
2469 }

```

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.

```

2470 \define@key{Hyp}{raiselinks}[true]{%
2471   \Hy@boolkey{raiselinks}{#1}%
2472 }

```

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

```

2473 \def\Hy@setbreaklinks#1{%
2474   \csname breaklinks#1\endcsname
2475 }
2476 \def\Hy@breaklinks@unsupported{%
2477   \ifx\Hy@setbreaklinks\@gobble
2478     \ifHy@breaklinks
2479       \Hy@WarningNoLine{%
2480         You have enabled option ‘breaklinks’.\MessageBreak
2481         But driver ‘\Hy@driver.def’ does not support this.\MessageBreak
2482         Expect trouble with the link areas of broken links%
2483       }%
2484     \fi
2485   \fi
2486 }
2487 \define@key{Hyp}{breaklinks}[true]{%
2488   \Hy@boolkey{breaklinks}{#1}%
2489   \let\Hy@setbreaklinks\@gobble
2490 }
2491 \define@key{Hyp}{localanchorname}[true]{%
2492   \Hy@boolkey{localanchorname}{#1}%
2493 }

```

Determines whether an automatic anchor is put on each page

```

2494 \define@key{Hyp}{pageanchor}[true]{%
2495   \Hy@boolkey{pageanchor}{#1}%
2496 }

```

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.

```

2497 \define@key{Hyp}{plainpages}[true]{%
2498   \Hy@boolkey{plainpages}{#1}%
2499 }

```

Are the names for anchors made as per the HyperTeX system, or do they simply use what L<sup>A</sup>T<sub>E</sub>X provides?

```

2500 \define@key{Hyp}{naturalnames}[true]{%
2501   \Hy@boolkey{naturalnames}{#1}%
2502 }

```

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

```

2503 \define@key{Hyp}{hypertexnames}[true]{%
2504   \Hy@boolkey{hypertexnames}{#1}%
2505 }

```

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

```

2506 \define@key{Hyp}{nesting}[true]{%
2507   \Hy@boolkey{nesting}{#1}%
2508 }

```

```

2509 \define@key{Hyp}{unicode}[true]{%
2510   \Hy@boolkey{unicode}{#1}%
2511   \ifHy@unicode
2512     \def\HyPsd@pdfencoding{unicode}%
2513     \HyPsd@LoadUnicode
2514   \else
2515     \def\HyPsd@pdfencoding{pdfdoc}%
2516   \fi
2517 }
2518 \def\HyPsd@LoadUnicode{%
2519   \ifundefined{T@PU}{%
2520     \input{puenc.def}%
2521     \HyLinguex@Restore
2522   }{}%
2523   \DeclareFontFamily{PU}{pdf}{}%
2524   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
2525   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2526   \global\let\HyPsd@LoadUnicode\relax
2527 }
2528 \Hy@AtBeginDocument{%
2529   \ifx\HyPsd@LoadUnicode\relax
2530   \else
2531     \def\HyPsd@LoadUnicode{%
2532       \PackageError{hyperref}{%
2533         Unicode support for bookmarks is not available.\MessageBreak
2534         Activate unicode support by using one of the options\MessageBreak
2535         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2536         in the preamble%
2537       }\@ehc
2538       \global\let\HyPsd@LoadUnicode\relax
2539       \global\Hy@unicodedefalse
2540       \global\let\Hy@unicodetrue\Hy@unicodedefalse
2541     }%
2542   \fi
2543 }
2544 \define@key{Hyp}{pdfencoding}{%
2545   \edef\HyPsd@temp{#1}%
2546   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2547     \let\HyPsd@pdfencoding\HyPsd@temp

```

```

2548 \Hy@unicodedefalse
2549 \else
2550 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2551 \z@
2552 \else
2553 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2554 \z@
2555 \else
2556 \@ne
2557 \fi
2558 \fi
2559 \let\HyPsd@pdfencoding\HyPsd@temp
2560 \hypersetup{unicode}%
2561 \ifHy@unicode
2562 \def\HyPsd@pdfencoding{#1}%
2563 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2564 \HyPsd@LoadStringEnc
2565 \fi
2566 \else
2567 \Hy@Warning{Cannot switch to unicode bookmarks}%
2568 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2569 \fi
2570 \else
2571 \@onelevel@sanitize\HyPsd@temp
2572 \Hy@Warning{%
2573 Values of option 'pdfencoding':\MessageBreak
2574 'pdfdoc', 'unicode', 'auto'.\MessageBreak
2575 Ignoring unknown value '\HyPsd@temp'%
2576 }%
2577 \fi
2578 \fi
2579 }
2580 \def\HyPsd@pdfencoding@auto{auto}
2581 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2582 \def\HyPsd@pdfencoding@unicode{unicode}
2583 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2584 \def\HyPsd@LoadStringEnc{%
2585 \RequirePackage{stringenc}[2009/12/15]%
2586 \let\HyPsd@LoadStringEnc\relax
2587 }
2588 \Hy@AtBeginDocument{%
2589 \@ifpackageloaded{stringenc}{%
2590 \let\HyPsd@LoadStringEnc\relax
2591 }{%
2592 \def\HyPsd@LoadStringEnc{%
2593 \Hy@WarningNoLine{%
2594 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2595 in the preamble or load the package there%
2596 }%
2597 }%
2598 }%
2599 }

2600 \newif\ifHy@setpdfversion
2601 \define@key{Hyp}{pdfversion}{%
2602 \@ifundefined{Hy@pdfversion@#1}{%
2603 \PackageWarning{hyperref}{%
2604 Unsupported PDF version '#1'.\MessageBreak

```

```

2605     Valid values: 1.2 until 1.9%
2606   }%
2607 }{%
2608   \Hy@setpdfversiontrue
2609   \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2610 }%
2611 }
2612 \@namedef{Hy@pdfversion@1.2}{2}%
2613 \@namedef{Hy@pdfversion@1.3}{3}%
2614 \@namedef{Hy@pdfversion@1.4}{4}%
2615 \@namedef{Hy@pdfversion@1.5}{5}%
2616 \@namedef{Hy@pdfversion@1.6}{6}%
2617 \@namedef{Hy@pdfversion@1.7}{7}%
2618 \@namedef{Hy@pdfversion@1.8}{8}%
2619 \@namedef{Hy@pdfversion@1.9}{9}%
2620 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

2621 \define@key{Hyp}{hyperref}[true]{}
2622 \define@key{Hyp}{tex4ht}[true]{%
2623   \Hy@texhttrue
2624   \setkeys{Hyp}{colorlinks=true}%
2625   \def\BeforeTeXIVht{\usepackage{color}}%
2626   \def\Hy@driver{htex4ht}%
2627   \def\MaybeStopEarly{%
2628     \typeout{Hyperref stopped early}%
2629     \Hy@AtBeginDocument{%
2630       \PDF@FinishDoc
2631       \gdef\PDF@FinishDoc{}}%
2632   }%
2633   \endinput
2634 }%
2635 }
2636 \define@key{Hyp}{pdftex}[true]{%
2637   \def\Hy@driver{hpdftex}%
2638 }
2639 \define@key{Hyp}{nativepdf}[true]{%
2640   \def\Hy@driver{hdvips}%
2641 }
2642 \define@key{Hyp}{dvipdfm}[true]{%
2643   \def\Hy@driver{hdvipdfm}%
2644 }
2645 \define@key{Hyp}{dvipdfmx}[true]{%
2646   \def\Hy@driver{hdvipdfm}%
2647 }
2648 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2649   \expandafter\ifx\csname if#1\expandafter\endcsname
2650     \csname iftrue\endcsname
2651     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2652   \else
2653     \chardef\SpecialDvipdfmxOutlineOpen\z@
2654   \fi
2655 }
2656 \define@key{Hyp}{xetex}[true]{%
2657   \def\Hy@driver{hxetex}%
2658 }

```



```

2659 \define@key{Hyp}{pdfmark}[true]{%
2660   \def\Hy@driver{hdvips}%
2661 }
2662 \define@key{Hyp}{dvips}[true]{%
2663   \def\Hy@driver{hdvips}%
2664 }
2665 \define@key{Hyp}{hypertex}[true]{%
2666   \def\Hy@driver{hypertex}%
2667 }
2668 \let\Hy@MaybeStopNow\relax
2669 \define@key{Hyp}{vtex}[true]{%
2670   \begingroup\expandafter\expandafter\expandafter\endgroup
2671   \expandafter\ifx\csname OpMode\endcsname\relax
2672     \@latex@error{Non-VTeX processor}{}%
2673     \global\let\Hy@MaybeStopNow\endinput
2674     \endinput
2675   \else
2676     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2677       \def\Hy@driver{hvtex}%
2678     \else
2679       \ifnum\OpMode=10\relax
2680         \def\Hy@driver{hvtexhtm}%
2681         \def\MaybeStopEarly{%
2682           \typeout{Hyperref stopped early}%
2683           \Hy@AtBeginDocument{%
2684             \PDF@FinishDoc
2685             \gdef\PDF@FinishDoc{}}%
2686         }%
2687         \endinput
2688       }%
2689     \else
2690       \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2691       \global\let\Hy@MaybeStopNow\endinput
2692       \endinput
2693     \fi
2694   \fi
2695 \fi
2696 }
2697 \define@key{Hyp}{vtexpdfmark}[true]{%
2698   \begingroup\expandafter\expandafter\expandafter\endgroup
2699   \expandafter\ifx\csname OpMode\endcsname\relax
2700     \@latex@error{Non-VTeX processor}{}%
2701     \let\Hy@MaybeStopNow\endinput
2702     \endinput
2703   \else
2704     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2705       \def\Hy@driver{hvtexmrk}%
2706     \else
2707       \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2708       \let\Hy@MaybeStopNow\endinput
2709       \endinput
2710     \fi
2711   \fi
2712 }
2713 \define@key{Hyp}{dviwindo}[true]{%
2714   \def\Hy@driver{hdviwind}%
2715   \setkeys{Hyp}{colorlinks}%

```

```

2716 \ifpdf
2717 \else
2718 \ifxetex
2719 \else
2720 \PassOptionsToPackage{dviwindo}{color}%
2721 \fi
2722 \fi
2723 }
2724 \define@key{Hyp}{dvipsone}[true]{%
2725 \def\Hy@driver{hdvipson}%
2726 }
2727 \define@key{Hyp}{textures}[true]{%
2728 \def\Hy@driver{htexture}%
2729 }
2730 \define@key{Hyp}{latex2html}[true]{%
2731 \Hy@AtBeginDocument{\@@@latextohtmlX}%
2732 }

```

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

```

2733 \define@key{Hyp}{ps2pdf}[true]{%
2734 \def\Hy@driver{hdvips}%
2735 \providecommand*\@pdfborder{0 0 1}%
2736 }

```

## 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.

```

2737 \define@key{Hyp}{hyperfigures}[true]{%
2738 \Hy@boolkey[hyperfigures]{figures}{#1}%
2739 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2740 \define@key{Hyp}{hyperfootnotes}[true]{%
2741 \Hy@boolkey{hyperfootnotes}{#1}%
2742 }

```

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

```

2743 \def\back@none{none}
2744 \def\back@section{section}
2745 \def\back@page{page}
2746 \def\back@slide{slide}
2747 \define@key{Hyp}{backref}[section]{%
2748 \lowercase{\def\Hy@tempa{#1}}%
2749 \ifx\Hy@tempa\@empty
2750 \let\Hy@tempa\back@section
2751 \fi
2752 \ifx\Hy@tempa\Hy@false
2753 \let\Hy@tempa\back@none
2754 \fi
2755 \ifx\Hy@tempa\back@slide
2756 \let\Hy@tempa\back@section
2757 \fi
2758 \ifx\Hy@tempa\back@page
2759 \PassOptionsToPackage{hyperpageref}{backref}%
2760 \Hy@backreftrue
2761 \else
2762 \ifx\Hy@tempa\back@section

```

```

2763 \PassOptionsToPackage{hyperref}{backref}%
2764 \Hy@backreftrue
2765 \else
2766 \ifx\Hy@tempa\back@none
2767 \Hy@backreffalse
2768 \else
2769 \Hy@WarnOptionValue{#1}{backref}{%
2770 'section', 'slide', 'page', 'none',\MessageBreak
2771 or 'false'}%
2772 \fi
2773 \fi
2774 \fi
2775 }
2776 \define@key{Hyp}{pagebackref}[true]{%
2777 \edef\Hy@tempa{#1}%
2778 \lowercase\expandafter{%
2779 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2780 }%
2781 \ifx\Hy@tempa\@empty
2782 \let\Hy@tempa\Hy@true
2783 \fi
2784 \ifx\Hy@tempa\Hy@true
2785 \PassOptionsToPackage{hyperpageref}{backref}%
2786 \Hy@backreftrue
2787 \else
2788 \ifx\Hy@tempa\Hy@false
2789 \Hy@backreffalse
2790 \else
2791 \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
2792 \fi
2793 \fi
2794 }

```

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

```

2795 \define@key{Hyp}{hyperindex}[true]{%
2796 \Hy@boolkey{hyperindex}{#1}%
2797 }

```

Configuration of encap char.

```

2798 \define@key{Hyp}{encap}[|]{%
2799 \def\HyInd@EncapChar{#1}%
2800 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

2801 \def\HyLang@afrikaans{%
2802 \def\equationautorefname{Vergelyking}%
2803 \def\footnoteautorefname{Voetnota}%
2804 \def\itemautorefname{Item}%
2805 \def\figureautorefname{Figuur}%
2806 \def\tableautorefname{Tabel}%
2807 \def\partautorefname{Deel}%
2808 \def\appendixautorefname{Bylae}%
2809 \def\chapterautorefname{Hoofstuk}%
2810 \def\sectionautorefname{Afdeling}%

```

```

2811 \def\subsectionautorefname{Subafdeling}%
2812 \def\subsubsectionautorefname{Subsubafdeling}%
2813 \def\paragraphautorefname{Paragraaf}%
2814 \def\subparagraphautorefname{Subparagraaf}%
2815 \def\FancyVerbLineautorefname{Lyn}%
2816 \def\theoremautorefname{Teorema}%
2817 \def\pageautorefname{Bladsy}%
2818 }
2819 \def\HyLang@english{%
2820 \def\equationautorefname{Equation}%
2821 \def\footnoteautorefname{footnote}%
2822 \def\itemautorefname{item}%
2823 \def\figureautorefname{Figure}%
2824 \def\tableautorefname{Table}%
2825 \def\partautorefname{Part}%
2826 \def\appendixautorefname{Appendix}%
2827 \def\chapterautorefname{chapter}%
2828 \def\sectionautorefname{section}%
2829 \def\subsectionautorefname{subsection}%
2830 \def\subsubsectionautorefname{subsubsection}%
2831 \def\paragraphautorefname{paragraph}%
2832 \def\subparagraphautorefname{subparagraph}%
2833 \def\FancyVerbLineautorefname{line}%
2834 \def\theoremautorefname{Theorem}%
2835 \def\pageautorefname{page}%
2836 }
2837 \def\HyLang@french{%
2838 \def\equationautorefname{'Equation}%
2839 \def\footnoteautorefname{note}%
2840 \def\itemautorefname{item}%
2841 \def\figureautorefname{Figure}%
2842 \def\tableautorefname{Tableau}%
2843 \def\partautorefname{Partie}%
2844 \def\appendixautorefname{Appendice}%
2845 \def\chapterautorefname{chapitre}%
2846 \def\sectionautorefname{section}%
2847 \def\subsectionautorefname{sous-section}%
2848 \def\subsubsectionautorefname{sous-sous-section}%
2849 \def\paragraphautorefname{paragraphe}%
2850 \def\subparagraphautorefname{sous-paragraphe}%
2851 \def\FancyVerbLineautorefname{ligne}%
2852 \def\theoremautorefname{Th'eor'eme}%
2853 \def\pageautorefname{page}%
2854 }
2855 \def\HyLang@german{%
2856 \def\equationautorefname{Gleichung}%
2857 \def\footnoteautorefname{Fu'ss note}%
2858 \def\itemautorefname{Punkt}%
2859 \def\figureautorefname{Abbildung}%
2860 \def\tableautorefname{Tabelle}%
2861 \def\partautorefname{Teil}%
2862 \def\appendixautorefname{Anhang}%
2863 \def\chapterautorefname{Kapitel}%
2864 \def\sectionautorefname{Abschnitt}%
2865 \def\subsectionautorefname{Unterabschnitt}%
2866 \def\subsubsectionautorefname{Unterunterabschnitt}%
2867 \def\paragraphautorefname{Absatz}%

```

```

2868 \def\subparagraphautorefname{Unterabsatz}%
2869 \def\FancyVerbLineautorefname{Zeile}%
2870 \def\theoremautorefname{Theorem}%
2871 \def\pageautorefname{Seite}%
2872 }
2873 \def\HyLang@italian{%
2874 \def\equationautorefname{Equazione}%
2875 \def\footnoteautorefname{nota}%
2876 \def\itemautorefname{punto}%
2877 \def\figureautorefname{Figura}%
2878 \def\tableautorefname{Tabella}%
2879 \def\partautorefname{Parte}%
2880 \def\appendixautorefname{Appendice}%
2881 \def\chapterautorefname{Capitolo}%
2882 \def\sectionautorefname{sezione}%
2883 \def\subsectionautorefname{sottosezione}%
2884 \def\subsubsectionautorefname{sottosottosezione}%
2885 \def\paragraphautorefname{paragrafo}%
2886 \def\subparagraphautorefname{sottoparagrafo}%
2887 \def\FancyVerbLineautorefname{linea}%
2888 \def\theoremautorefname{Teorema}%
2889 \def\pageautorefname{Pag.\@}%
2890 }
2891 \def\HyLang@magyar{%
2892 \def\equationautorefname{Egyenlet}%
2893 \def\footnoteautorefname{[\'abjegyzet}%
2894 \def\itemautorefname{Elem}%
2895 \def\figureautorefname{'Abra}%
2896 \def\tableautorefname{T\'abl\'azat}%
2897 \def\partautorefname{R\'esz}%
2898 \def\appendixautorefname{F\'uggel\'ek}%
2899 \def\chapterautorefname{fejezet}%
2900 \def\sectionautorefname{szakasz}%
2901 \def\subsectionautorefname{alszakasz}%
2902 \def\subsubsectionautorefname{alalszakasz}%
2903 \def\paragraphautorefname{bekezd\'es}%
2904 \def\subparagraphautorefname{albekezd\'es}%
2905 \def\FancyVerbLineautorefname{sor}%
2906 \def\theoremautorefname{T\'etel}%
2907 \def\pageautorefname{oldal}%
2908 }
2909 \def\HyLang@portuges{%
2910 \def\equationautorefname{Equa\c c\~ao}%
2911 \def\footnoteautorefname{Nota de rodap\'e}%
2912 \def\itemautorefname{Item}%
2913 \def\figureautorefname{Figura}%
2914 \def\tableautorefname{Tabela}%
2915 \def\partautorefname{Parte}%
2916 \def\appendixautorefname{Ap\^endice}%
2917 \def\chapterautorefname{Cap\'itulo}%
2918 \def\sectionautorefname{Se\c c\~ao}%
2919 \def\subsectionautorefname{Subse\c c\~ao}%
2920 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2921 \def\paragraphautorefname{par\'agrafo}%
2922 \def\subparagraphautorefname{subpar\'agrafo}%
2923 \def\FancyVerbLineautorefname{linha}%
2924 \def\theoremautorefname{Teorema}%

```

2925 \def\pageautorefname{P\'agina}%  
 2926 }

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.

2927 \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?

2928 \def\equationautorefname{\cyr\cyrv\cyrry\cyrr.}%

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

2929 % \def\equationautorefname{%

2930 % \cyr\cyrv\cyrry\cyrr\cyra\cyrrh\cyre\cyrn\cyri\cyre

2931 % }%

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

2932 \def\footnoteautorefname{%

2933 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%

2934 }%

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}”

2935 % \def\footnoteautorefname{%

2936 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %

2937 % \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre

2938 % }%

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

2939 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%

2940 % \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.

2941 \def\itemautorefname{\cyr\cyrp.}%

2942 % \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.

2943 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%

2944 \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.

2945 \def\partautorefname{\cyr\cyrch.}%

2946 \def\chapterautorefname{\cyr\cyrg\cyrl.}%

2947 \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.

```
2948 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrI.}%
2949 % \def\appendixautorefname{%
2950 % \cyr\cyrp\cyrr\cyri\cyrI\cyro\cyrzh\cyre\cyrn\cyri\cyre
2951 % }%
```

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.

```
2952 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2953 \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.

```
2954 \def\paragraphautorefname{\cyr\cyrp.}%
2955 \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.

```
2956 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2957 % \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.

```
2958 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
2959 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
2960 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
2961 % \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 ...

```
2962 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2963 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
2964 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2965 \def\pageautorefname{\cyr\cyrs.}%
2966 }
```

```
2967 \def\HyLang@spanish{%
2968 \def\equationautorefname{Ecuaci'on}%
2969 \def\footnoteautorefname{Nota a pie de p'agina}%
2970 \def\itemautorefname{Elemento}%
2971 \def\figureautorefname{Figura}%
2972 \def\tableautorefname{Tabla}%
2973 \def\partautorefname{Parte}%
```

```

2974 \def\appendixautorefname{Ap\'endice}%
2975 \def\chapterautorefname{Cap\'itulo}%
2976 \def\sectionautorefname{Secci\'on}%
2977 \def\subsectionautorefname{Subsecci\'on}%
2978 \def\subsubsectionautorefname{Subsubsecci\'on}%
2979 \def\paragraphautorefname{P\'arrafo}%
2980 \def\subparagraphautorefname{Subp\'arrafo}%
2981 \def\FancyVerbLineautorefname{L\'inea}%
2982 \def\theoremautorefname{Teorema}%
2983 \def\pageautorefname{P\'agina}%
2984 }
2985 \def\HyLang@vietnamese{%
2986 \def\equationautorefname{Ph\uhorn{}}\ohorn{}ng tr\'inh}%
2987 \def\footnoteautorefname{Ch\'u th\'ich}%
2988 \def\itemautorefname{m\du{c}}%
2989 \def\figureautorefname{H\'inh}%
2990 \def\tableautorefname{B\h{a}ng}%
2991 \def\partautorefname{Ph\'acircumflex{}n}%
2992 \def\appendixautorefname{Ph\du{l}\du{c}}%
2993 \def\chapterautorefname{ch\uhorn{}}\ohorn{}ng}%
2994 \def\sectionautorefname{m\du{c}}%
2995 \def\subsectionautorefname{m\du{c}}%
2996 \def\subsubsectionautorefname{m\du{c}}%
2997 \def\paragraphautorefname{\dj{}}o\da{n}%
2998 \def\subparagraphautorefname{\dj{}}o\da{n}%
2999 \def\FancyVerbLineautorefname{d\'ong}%
3000 \def\theoremautorefname{DJ{}}\di{nh l\'y}%
3001 \def\pageautorefname{Trang}%
3002 }

```

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

```

3003 \def\HyLang@addto#1#2{%
3004   #2%
3005   \@temptokena{#2}%
3006   \ifx#1\relax
3007     \let#1\@empty
3008   \fi
3009   \ifx#1\@undefined
3010     \edef#1{\the\@temptokena}%
3011   \else
3012     \toks@\expandafter{#1}%
3013     \edef#1{\the\toks@\the\@temptokena}%
3014   \fi
3015   \@temptokena{}\toks@\@temptokena
3016 }
3017 \def\HyLang@DeclareLang#1#2#3{%
3018   \begingroup
3019   \edef\x##1##2{%
3020     \noexpand\ifx##2\relax
3021       \errmessage{No definitions for language #2' found!}%
3022     \noexpand\fi
3023   \endgroup
3024   \noexpand\define@key{Hyp}{#1}[]{%
3025     \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3026     #3%
3027   }%

```



```

3028 }%
3029 \expandafter\x\csname extras#1\expandafter\endcsname
3030 \csname HyLang@#2\endcsname
3031 }
3032 \HyLang@DeclareLang{english}{english}{}
3033 \HyLang@DeclareLang{UKenglish}{english}{}
3034 \HyLang@DeclareLang{british}{english}{}
3035 \HyLang@DeclareLang{USenglish}{english}{}
3036 \HyLang@DeclareLang{american}{english}{}
3037 \HyLang@DeclareLang{german}{german}{}
3038 \HyLang@DeclareLang{austrian}{german}{}
3039 \HyLang@DeclareLang{ngerman}{german}{}
3040 \HyLang@DeclareLang{naustrian}{german}{}
3041 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3042 \HyLang@DeclareLang{brazil}{portuges}{}
3043 \HyLang@DeclareLang{brazilian}{portuges}{}
3044 \HyLang@DeclareLang{portuguese}{portuges}{}
3045 \HyLang@DeclareLang{spanish}{spanish}{}
3046 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3047 \HyLang@DeclareLang{french}{french}{}
3048 \HyLang@DeclareLang{frenchb}{french}{}
3049 \HyLang@DeclareLang{français}{french}{}
3050 \HyLang@DeclareLang{acadian}{french}{}
3051 \HyLang@DeclareLang{canadien}{french}{}
3052 \HyLang@DeclareLang{italian}{italian}{}
3053 \HyLang@DeclareLang{magyar}{magyar}{}
3054 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3055 \define@key{Hyp}{vietnamese}[]{}%
3056 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3057 \Hy@AtEndOfPackage{%
3058 \ifundefined{T@PU}{}{}%
3059 \input{puvnenc.def}%
3060 }%
3061 }%
3062 }
3063 \define@key{Hyp}{vietnam}[]{}%
3064 \HyLang@addto\extravietnam\HyLang@vietnamese
3065 \Hy@AtEndOfPackage{%
3066 \ifundefined{T@PU}{}{}%
3067 \input{puvnc.def}%
3068 }%
3069 }%
3070 }

```

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

```

3071 \define@key{Hyp}{arabic}[]{}%
3072 \Hy@AtEndOfPackage{%
3073 \ifundefined{T@PU}{}{}%
3074 \input{puarenc.def}%
3075 }%
3076 }%
3077 }

```

## 13 Options to change appearance of links

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

```
3078 \define@key{Hyp}{colorlinks}[true]{%
3079   \Hy@boolkey{colorlinks}{#1}%
3080 }
3081 \define@key{Hyp}{ocgcolorlinks}[true]{%
3082   \Hy@boolkey{ocgcolorlinks}{#1}%
3083 }
3084 \Hy@AtBeginDocument{%
3085   \begingroup
3086     \ifundefined{OBJ@OCG@view}{%
3087       \ifHy@ocgcolorlinks
3088         \Hy@Warning{%
3089           Driver does not support 'ocgcolorlinks',\MessageBreak
3090           using 'colorlinks' instead%
3091         }%
3092       \fi
3093     }{}%
3094   \endgroup
3095 }
3096 \define@key{Hyp}{frenchlinks}[true]{%
3097   \Hy@boolkey{frenchlinks}{#1}%
3098 }
```

## 14 Bookmarking

```
3099 \begingroup\expandafter\expandafter\expandafter\endgroup
3100 \expandafter\ifx\csname chapter\endcsname\relax
3101   \def\toclevel@part{0}%
3102 \else
3103   \def\toclevel@part{-1}%
3104 \fi
3105 \def\toclevel@chapter{0}
3106 \def\toclevel@section{1}
3107 \def\toclevel@subsection{2}
3108 \def\toclevel@subsubsection{3}
3109 \def\toclevel@paragraph{4}
3110 \def\toclevel@subparagraph{5}
3111 \def\toclevel@figure{0}
3112 \def\toclevel@table{0}
3113 \ifpackageloaded{listings}{%
3114   \providecommand*\theHlstlisting{\thelstlisting}%
3115   \providecommand*\toclevel@lstlisting{0}%
3116 }{}
3117 \ifpackageloaded{listing}{%
3118   \providecommand*\theHlisting{\thelisting}%
3119   \providecommand*\toclevel@listing{0}%
3120 }{}
3121 \define@key{Hyp}{bookmarks}[true]{%
3122   \Hy@boolkey{bookmarks}{#1}%
3123 }
3124 \define@key{Hyp}{bookmarksopen}[true]{%
3125   \Hy@boolkey{bookmarksopen}{#1}%
3126 }
```

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.

```

3127 \let\Hy@bookmarksdepth\c@tocdepth
3128 \define@key{Hyp}{bookmarksdepth}[]{%
3129   \begingroup
3130     \edef\x{#1}%
3131     \ifx\x\empty
3132       \global\let\Hy@bookmarksdepth\c@tocdepth
3133     \else
3134       \ifundefined{toclevel@\x}{%
3135         \@onelevel@sanitize\x
3136         \edef\y{\expandafter\@car\x\@nil}%
3137         \ifcase 0\expandafter\ifx\y-1\fi
3138           \expandafter\ifnum\expandafter'\y>47 %
3139             \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
3140           \Hy@Warning{Unknown document division name (\x)}%
3141         \else
3142           \setbox\z@=\hbox{%
3143             \count@=\x
3144             \xdef\Hy@bookmarksdepth{\the\count@}%
3145           }%
3146         \fi
3147       }{%
3148         \setbox\z@=\hbox{%
3149           \count@=\csname toclevel@\x\endcsname
3150           \xdef\Hy@bookmarksdepth{\the\count@}%
3151         }%
3152       }%
3153     \fi
3154   \endgroup
3155 }
```

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

```

3156 \define@key{Hyp}{bookmarksopenlevel}{%
3157   \def\@bookmarksopenlevel{#1}%
3158 }
3159 \def\@bookmarksopenlevel{\maxdimen}
3160 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3161 \define@key{Hyp}{bookmarkstype}{%
3162   \def\Hy@bookmarkstype{#1}%
3163 }
3164 \def\Hy@bookmarkstype{toc}
```

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

```

3165 \define@key{Hyp}{bookmarksnumbered}[true]{%
3166   \Hy@boolkey{bookmarksnumbered}{#1}%
3167 }
```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3168 \define@key{Hyp}{CJKbookmarks}[true]{%
3169   \Hy@boolkey{CJKbookmarks}{#1}%
3170 }

3171 \def\Hy@temp#1{%
3172   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3173 }
3174 \def\Hy@@temp#1#2#3{%
3175   \define@key{Hyp}{#2color}{%
3176     \HyColor@HyperrefColor{##1}#1%
3177   }%
3178   \def#1{#3}%
3179 }
3180 \Hy@temp{link}{red}
3181 \Hy@temp{anchor}{black}
3182 \Hy@temp{cite}{green}
3183 \Hy@temp{file}{cyan}
3184 \Hy@temp{url}{magenta}
3185 \Hy@temp{menu}{red}
3186 \Hy@temp{run}{\@filecolor}
3187 \define@key{Hyp}{pagecolor}{%
3188   \Hy@WarningPageColor
3189 }
3190 \def\Hy@WarningPageColor{%
3191   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
3192   \global\let\Hy@WarningPageColor\relax
3193 }

3194 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3195 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3196 \let\@baseurl\@empty
3197 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3198 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3199 \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.

```

3200 \let\@pdfpagetransition\relax
3201 \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.

```

3202 \let\@pdfpageduration\relax
3203 \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.

```

3204 \newif\ifHy@useHidKey
3205 \Hy@useHidKeyfalse
3206 \define@key{Hyp}{pdfpagehidden}[true]{%

```

```

3207 \Hy@boolkey{pdfpagehidden}{#1}%
3208 \ifHy@pdfpagehidden
3209   \global\Hy@useHidKeytrue
3210 \fi
3211 }

```

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).

```

3212 \def\Hy@ColorList{cite,file,link,menu,run,url}
3213 \@for\Hy@temp:=\Hy@ColorList\do{%
3214   \edef\Hy@temp{%
3215     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3216       \noexpand\HyColor@HyperrefBorderColor
3217         {##1}%
3218       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3219       {hyperref}%
3220       {\Hy@temp bordercolor}%
3221     }%
3222   }%
3223   \Hy@temp
3224 }
3225 \define@key{Hyp}{pagebordercolor}{%
3226   \Hy@WarningPageBorderColor
3227 }
3228 \def\Hy@WarningPageBorderColor{%
3229   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3230   \global\let\Hy@WarningPageBorderColor\relax
3231 }
3232 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3233 \Hy@DefNameKey{pdfhighlight}{%
3234   \do{/I}{Invert}%
3235   \do{/N}{None}%
3236   \do{/O}{Outline}%
3237   \do{/P}{Push}%
3238 }
3239 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
3240 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
3241 \def\Hy@setpdfborder{%
3242   \ifx\@pdfborder\@empty
3243     \else
3244       /Border[\@pdfborder]%
3245     \fi
3246     \ifx\@pdfborderstyle\@empty
3247       \else
3248         /BS<<\@pdfborderstyle>>%
3249       \fi
3250 }
3251 \Hy@DefNameKey{pdfpagemode}{%
3252   \do{UseNone}{}%
3253   \do{UseOutlines}{}%
3254   \do{UseThumbs}{}%
3255   \do{FullScreen}{}%

```

```

3256 \do{UseOC}{PDF 1.5}%
3257 \do{UseAttachments}{PDF 1.6}%
3258 }
3259 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3260 \do{UseNone}{}%
3261 \do{UseOutlines}{}%
3262 \do{UseThumbs}{}%
3263 \do{FullScreen}{}%
3264 \do{UseOC}{PDF 1.5}%
3265 \do{UseAttachments}{PDF 1.6}%
3266 }
3267 \Hy@DefNameKey{pdfdirection}{%
3268 \do{L2R}{Left to right}%
3269 \do{R2L}{Right to left}%
3270 }
3271 \Hy@DefNameKey{pdfviewarea}{%
3272 \do{MediaBox}{}%
3273 \do{CropBox}{}%
3274 \do{BleedBox}{}%
3275 \do{TrimBox}{}%
3276 \do{ArtBox}{}%
3277 }
3278 \Hy@DefNameKey{pdfviewclip}{%
3279 \do{MediaBox}{}%
3280 \do{CropBox}{}%
3281 \do{BleedBox}{}%
3282 \do{TrimBox}{}%
3283 \do{ArtBox}{}%
3284 }
3285 \Hy@DefNameKey{pdfprintarea}{%
3286 \do{MediaBox}{}%
3287 \do{CropBox}{}%
3288 \do{BleedBox}{}%
3289 \do{TrimBox}{}%
3290 \do{ArtBox}{}%
3291 }
3292 \Hy@DefNameKey{pdfprintclip}{%
3293 \do{MediaBox}{}%
3294 \do{CropBox}{}%
3295 \do{BleedBox}{}%
3296 \do{TrimBox}{}%
3297 \do{ArtBox}{}%
3298 }
3299 \Hy@DefNameKey{pdfprintscaling}{%
3300 \do{AppDefault}{}%
3301 \do{None}{}%
3302 }
3303 \Hy@DefNameKey{pdfduplex}{%
3304 \do{Simplex}{}%
3305 \do{DuplexFlipShortEdge}{}%
3306 \do{DuplexFlipLongEdge}{}%
3307 }
3308 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3309 \do{true}{}%
3310 \do{false}{}%
3311 }
3312 \define@key{Hyp}{pdfprintpagerange}{%

```

```

3313 \def\@pdfprintpagerange{#1}%
3314 }
3315 \Hy@DefNameKey{pdfnumcopies}{%
3316 \do{2}{two copies}%
3317 \do{3}{three copies}%
3318 \do{4}{four copies}%
3319 \do{5}{five copies}%
3320 }

3321 \define@key{Hyp}{pdfusetitle}[true]{%
3322 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3323 }
3324 \def\HyXeTeX@CheckUnicode{%
3325 \ifxetex
3326 \ifHy@unicode
3327 \else
3328 \Hy@WarningNoLine{%
3329 XeTeX driver only supports unicode.\MessageBreak
3330 Enabling option 'unicode'%
3331 }%
3332 \setkeys{Hyp}{unicode}%
3333 \fi
3334 \else
3335 \let\HyXeTeX@CheckUnicode\relax
3336 \fi
3337 }
3338 \def\HyPsd@PrerenderUnicode#1{%
3339 \begingroup
3340 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3341 \else
3342 \sbox0{%
3343 \let\GenericInfo\@gobbletwo
3344 \let\GenericWarning\@gobbletwo
3345 \let\GenericError\@gobblefour
3346 \PrerenderUnicode{#1}%
3347 }%
3348 \fi
3349 \endgroup
3350 }
3351 \define@key{Hyp}{pdftitle}{%
3352 \HyXeTeX@CheckUnicode
3353 \HyPsd@XeTeXBigCharstrue
3354 \HyPsd@PrerenderUnicode{#1}%
3355 \pdfstringdef\@pdftitle{#1}%
3356 }
3357 \define@key{Hyp}{pdfauthor}{%
3358 \HyXeTeX@CheckUnicode
3359 \HyPsd@XeTeXBigCharstrue
3360 \HyPsd@PrerenderUnicode{#1}%
3361 \pdfstringdef\@pdfauthor{#1}%
3362 }
3363 \define@key{Hyp}{pdfproducer}{%
3364 \HyXeTeX@CheckUnicode
3365 \HyPsd@XeTeXBigCharstrue
3366 \HyPsd@PrerenderUnicode{#1}%
3367 \pdfstringdef\@pdfproducer{#1}%
3368 }
3369 \define@key{Hyp}{pdfcreator}{%

```

```

3370 \HyXeTeX@CheckUnicode
3371 \HyPsd@XeTeXBigCharstrue
3372 \HyPsd@PrerenderUnicode{#1}%
3373 \pdfstringdef\@pdfcreator{#1}%
3374 }
3375 \define@key{Hyp}{pdfcreationdate}{%
3376 \begingroup
3377 \Hy@unicodetrue
3378 \pdfstringdef\@pdfcreationdate{#1}%
3379 \endgroup
3380 }
3381 \define@key{Hyp}{pdfmoddate}{%
3382 \begingroup
3383 \Hy@unicodetrue
3384 \pdfstringdef\@pdfmoddate{#1}%
3385 \endgroup
3386 }
3387 \define@key{Hyp}{pdfsubject}{%
3388 \HyXeTeX@CheckUnicode
3389 \HyPsd@XeTeXBigCharstrue
3390 \HyPsd@PrerenderUnicode{#1}%
3391 \pdfstringdef\@pdfsubject{#1}%
3392 }
3393 \define@key{Hyp}{pdfkeywords}{%
3394 \HyXeTeX@CheckUnicode
3395 \HyPsd@XeTeXBigCharstrue
3396 \HyPsd@PrerenderUnicode{#1}%
3397 \pdfstringdef\@pdfkeywords{#1}%
3398 }
3399 \define@key{Hyp}{pdftrapped}{%
3400 \lowercase{\edef\Hy@temp{#1}}%
3401 \ifx\Hy@temp\HyInfo@trapped@true
3402 \def\@pdftrapped{True}%
3403 \else
3404 \ifx\Hy@temp\HyInfo@trapped@false
3405 \def\@pdftrapped{False}%
3406 \else
3407 \ifx\Hy@temp\HyInfo@trapped@unknown
3408 \def\@pdftrapped{Unknown}%
3409 \else
3410 \ifx\Hy@temp\@empty
3411 \else
3412 \Hy@Warning{%
3413     Unsupported value '#1'\MessageBreak
3414     for option 'pdftrapped'%
3415 }%
3416 \fi
3417 \def\@pdftrapped{}%
3418 \fi
3419 \fi
3420 \fi
3421 }
3422 \def\HyInfo@trapped@true{true}
3423 \def\HyInfo@trapped@false{false}
3424 \def\HyInfo@trapped@unknown{unknown}
3425 \def\HyInfo@TrappedUnsupported{%
3426 \ifx\@pdftrapped\@empty

```



```

3427 \else
3428   \Hy@WarningNoLine{'pdfttrapped' is not supported by this driver}%
3429   \gdef\HyInfo@TrappedUnsupported{}%
3430 \fi
3431 }
3432 \define@key{Hyp}{pdffinfo}{%
3433   \kvsetkeys{pdffinfo}{#1}%
3434 }
3435 \def\Hy@temp#1{%
3436   \lowercase{\Hy@temp@A{#1}}{#1}%
3437 }
3438 \def\Hy@temp@A#1#2{%
3439   \define@key{pdffinfo}{#2}{%
3440     \hypersetup{pdf#1={##1}}}%
3441   }%
3442 }
3443 \Hy@temp{Title}
3444 \Hy@temp{Author}
3445 \Hy@temp{Keywords}
3446 \Hy@temp{Subject}
3447 \Hy@temp{Creator}
3448 \Hy@temp{Producer}
3449 \Hy@temp{CreationDate}
3450 \Hy@temp{ModDate}
3451 \Hy@temp{Trapped}
3452 \newif\ifHyInfo@AddonUnsupported
3453 \kv@set@family@handler{pdffinfo}{%
3454   \HyInfo@AddonHandler{#1}{#2}%
3455 }
3456 \let\HyInfo@do\relax
3457 \def\HyInfo@AddonHandler#1#2{%
3458   \ifx\kv@value\relax
3459     \Hy@Warning{%
3460       Option 'pdffinfo': ignoring key '\kv@key' without value%
3461     }%
3462   \else
3463     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3464     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3465     \expandafter\ifx\csname KV@pdffinfo@\HyInfo@Key\endcsname\relax
3466       \ifHyInfo@AddonUnsupported
3467         \Hy@Warning{%
3468           This driver does not support additional\MessageBreak
3469           information entries, therefore\MessageBreak
3470           '\kv@key' is ignored%
3471         }%
3472       \else
3473         \define@key{pdffinfo}{\HyInfo@Key}{%
3474           \HyXeTeX@CheckUnicode
3475           \HyPsd@XeTeXBigCharstrue
3476           \HyPsd@PrerenderUnicode{##1}%
3477           \pdfstringdef\HyInfo@Value{##1}%
3478           \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
3479             \HyInfo@Value
3480         }%
3481       \edef\HyInfo@AddonList{%
3482         \HyInfo@AddonList
3483         \HyInfo@do{\HyInfo@Key}%

```

```

3484     }%
3485     \kv@parse@normalized{%
3486     \HyInfo@Key={#2}%
3487     }{%
3488     \kv@processor@default{pdfinfo}%
3489     }%
3490     \fi
3491   \else
3492     \kv@parse@normalized{%
3493     \HyInfo@Key={#2}%
3494     }{%
3495     \kv@processor@default{pdfinfo}%
3496     }%
3497     \fi
3498   \fi
3499 }
3500 \def\HyInfo@GenerateAddons{%
3501   \ifHyInfo@AddonUnsupported
3502     \def\HyInfo@Addons{}%
3503   \else
3504     \begingroup
3505     \toks@{}%
3506     \def\HyInfo@do##1{%
3507       \EdefEscapeName\HyInfo@Key{##1}%
3508       \edef\x{%
3509         \toks@{%
3510           \the\toks@
3511           /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3512         }%
3513       }%
3514       \x
3515     }%
3516     \HyInfo@AddonList
3517     \edef\x{\endgroup
3518       \def\noexpand\HyInfo@Addons{\the\toks@}%
3519     }%
3520     \x
3521   \fi
3522 }
3523 \def\HyInfo@AddonList{}
3524 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3525 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3526 \let\setpdfinkmargin\@gobble
3527 \def\calculate@pdfview#1 #2\{\%
3528   \def\@pdfview{#1}%
3529   \ifx\#2\%
3530     \def\@pdfviewparams{-32768}%
3531   \else
3532     \def\@pdfviewparams{#2}%
3533   \fi
3534 }
3535 \begingroup\expandafter\expandafter\expandafter\endgroup
3536 \expandafter\ifx\csname numexpr\endcsname\relax
3537   \def\Hy@number#1{%
3538     \expandafter\@firstofone\expandafter{\number#1}%
3539   }%
3540 \else

```

```

3541 \def\Hy@number#1{%
3542 \the\numexpr#1\relax
3543 }%
3544 \fi
3545 \define@key{Hyp}{pdfstartpage}{%
3546 \ifx\#1\%
3547 \def\@pdfstartpage{}%
3548 \else
3549 \edef\@pdfstartpage{\Hy@number{#1}}%
3550 \fi
3551 }%
3552 \define@key{Hyp}{pdfstartview}{%
3553 \ifx\#1\%
3554 \def\@pdfstartview{}%
3555 \else
3556 \hypercalcbpdef\@pdfstartview{ /#1 }%
3557 \fi
3558 }
3559 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3560 \define@key{Hyp}{pdftoolbar}[true]{%
3561 \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3562 }
3563 \define@key{Hyp}{pdfmenubar}[true]{%
3564 \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3565 }
3566 \define@key{Hyp}{pdfwindowui}[true]{%
3567 \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3568 }
3569 \define@key{Hyp}{pdffitwindow}[true]{%
3570 \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3571 }
3572 \define@key{Hyp}{pdfcenterwindow}[true]{%
3573 \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3574 }
3575 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3576 \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3577 }
3578 \define@key{Hyp}{pdfa}[true]{%
3579 \Hy@boolkey{pdfa}{#1}%
3580 }
3581 \define@key{Hyp}{pdfnewwindow}[true]{%
3582 \def\Hy@temp{#1}%
3583 \ifx\Hy@temp\@empty
3584 \Hy@newwindowsetfalse
3585 \else
3586 \Hy@newwindowsettrue
3587 \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3588 \fi
3589 }
3590 \def\Hy@SetNewWindow{%
3591 \ifHy@newwindowset
3592 /NewWindow %
3593 \ifHy@newwindow true\else false\fi
3594 \fi
3595 }
3596 \Hy@DefNameKey{pdfpagelayout}{%
3597 \do{SinglePage}{}%

```

```

3598 \do{OneColumn}{}%
3599 \do{TwoColumnLeft}{}%
3600 \do{TwoColumnRight}{}%
3601 \do{TwoPageLeft}{PDF 1.5}%
3602 \do{TwoPageRight}{PDF 1.5}%
3603 }
3604 \define@key{Hyp}{pdflang}{%
3605   \def\@pdflang{#1}%
3606 }
3607 \define@key{Hyp}{pdfpagelabels}[true]{%
3608   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
3609 }
3610 \define@key{Hyp}{pdfescapeform}[true]{%
3611   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
3612 }

```

Default values:

```

3613 \def\@linkbordercolor{1 0 0}
3614 \def\@urlbordercolor{0 1 1}
3615 \def\@menubordercolor{1 0 0}
3616 \def\@filebordercolor{0 .5 .5}
3617 \def\@runbordercolor{0 .7 .7}
3618 \def\@citebordercolor{0 1 0}
3619 \def\@pdfhighlight{/I}
3620 \def\@pdftitle{}
3621 \def\@pdfauthor{}
3622 \let\@pdfproducer\relax
3623 \def\@pdfcreator{LaTeX with hyperref package}
3624 \def\@pdfcreationdate{}
3625 \def\@pdfmoddate{}
3626 \def\@pdfsubject{}
3627 \def\@pdfkeywords{}
3628 \def\@pdftrapped{}
3629 \def\@pdfpagescrop{}
3630 \def\@pdfstartview{/Fit }
3631 \def\@pdfstartpage{1}
3632 \def\@pdfprintpagerange{}
3633 \def\@pdflang{}
3634 \let\PDF@SetupDoc\@empty
3635 \let\PDF@FinishDoc\@empty
3636 \let\phantomsection\@empty
3637 \let\special@paper\@empty
3638 \def\HyperDestNameFilter#1{#1}
3639 \Hy@AtBeginDocument{%
3640   \begingroup
3641     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
3642     \dimen@=\x\relax
3643     \ifdim\dimen@>\z@
3644       \else
3645         \dimen@=11in\relax
3646         \Hy@WarningNoLine{%
3647           Height of page (\expandafter\string\x) %
3648           is invalid (\the\x),\MessageBreak
3649           using 11in%
3650         }%
3651       \fi
3652       \dimen@=0.99626401\dimen@
3653       \xdef\Hy@pageheight{\strip@pt\dimen@}%

```

```

3654 \endgroup
3655 }
3656 \def\HyInd@EncapChar{\|}
3657 \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.

```

3658 \let\hyper@normalise\ExecuteOptions
3659 \let\ExecuteOptions\hypersetup
3660 \Hy@RestoreCatcodes
3661 \InputIfFileExists{hyperref.cfg}{\{}}{}
3662 \Hy@SetCatcodes
3663 \let\ExecuteOptions\hyper@normalise
3664 \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`.

```

3665 \RequirePackage{kvoptions}[2009/07/21]
3666 \SetupKeyvalOptions{family=Hyp}
3667 \DeclareLocalOptions{%
3668   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
3669 }

```

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

```

3670 \ifpackageloaded{tex4ht}{%
3671   \ifpackagewith{hyperref}{tex4ht}{\{}}{}%
3672   \PassOptionsToPackage{tex4ht}{hyperref}%
3673 }%
3674 {}{}
3675 \let\ReadBookmarks\relax
3676 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

3677 \Hy@AtBeginDocument{%
3678   \ifHy@draft
3679     \let\hyper@@anchor\@gobble
3680     \gdef\hyper@link#1#2#3{#3}%
3681     \let\hyper@anchorstart\@gobble
3682     \let\hyper@anchorend\@empty
3683     \let\hyper@linkstart\@gobbletwo
3684     \let\hyper@linkend\@empty
3685     \def\hyper@linkurl#1#2{#1}%
3686     \def\hyper@linkfile#1#2#3{#1}%
3687     \def\hyper@link@{#1}#2#3{}%
3688     \def\Acrobatmenu#1#2{\leavevmode#2}%
3689     \let\PDF@SetupDoc\@empty
3690     \let\PDF@FinishDoc\@empty
3691     \let\@fifthoffive\@secondoftwo
3692     \let\@secondoffive\@secondoftwo
3693     \let\ReadBookmarks\relax
3694     \let\WriteBookmarks\relax
3695     \Hy@WarningNoLine{ draft mode on}%
3696   \fi
3697   \Hy@DisableOption{draft}%

```

```

3698 \Hy@DisableOption{nolinks}%
3699 \Hy@DisableOption{final}%
3700 }

```

## 15.1 PDF/A

```

3701 \Hy@DisableOption{pdfa}
3702 \ifHy@pdfa
3703   \setkeys{Hyp}{pdfversion=1.4}%
3704   \def\Hy@Acrobatmenu#1#2{%
3705     \leavevmode
3706     \begingroup
3707       \edef\x{#1}%
3708       \@onelevel@sanitize\x
3709       \ifx\x\Hy@NextPage
3710         \let\y=Y%
3711       \else
3712         \ifx\x\Hy@PrevPage
3713           \let\y=Y%
3714         \else
3715           \ifx\x\Hy@FirstPage
3716             \let\y=Y%
3717           \else
3718             \ifx\x\Hy@LastPage
3719               \let\y=Y%
3720             \else
3721               \let\y=N%
3722             \fi
3723           \fi
3724         \fi
3725       \fi
3726     \expandafter\endgroup
3727     \ifx\y Y%
3728     \else
3729       \PackageError{hyperref}{%
3730         PDF/A: Named action ‘#1’ is not permitted%
3731       }\@ehc
3732     {#2}%
3733     \expandafter\@gobble
3734   \fi
3735 }%
3736 \def\Hy@temp#1{%
3737   \expandafter\def\csname Hy@#1\endcsname{#1}%
3738   \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3739 }%
3740 \Hy@temp{NextPage}%
3741 \Hy@temp{PrevPage}%
3742 \Hy@temp{FirstPage}%
3743 \Hy@temp{LastPage}%
3744 \else
3745   \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3746 \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.

```

3747 \Hy@nextfalse
3748 \ltx@ifundefined{spanish@sh@}{\Hy@nexttrue}
3749 \ltx@ifundefined{galician@sh@}{\Hy@nexttrue}
3750 \ltx@ifundefined{estonian@sh@}{\Hy@nexttrue}
3751 \ifHy@next
3752   \let\texttilde\~%
3753 \fi

3754 \ifHy@figures
3755   \Hy@Info{Hyper figures ON}%
3756 \else
3757   \Hy@Info{Hyper figures OFF}%
3758 \fi

3759 \ifHy@nesting
3760   \Hy@Info{Link nesting ON}%
3761 \else
3762   \Hy@Info{Link nesting OFF}%
3763 \fi

3764 \ifHy@hyperindex
3765   \Hy@Info{Hyper index ON}%
3766 \else
3767   \Hy@Info{Hyper index OFF}%
3768 \fi

3769 \ifHy@plainpages
3770   \Hy@Info{Plain pages ON}%
3771 \else
3772   \Hy@Info{Plain pages OFF}%
3773 \fi

3774 \ifHy@backref
3775   \Hy@Info{Backreferencing ON}%
3776 \else
3777   \Hy@Info{Backreferencing OFF}%
3778 \fi

3779 \ifHy@typexml
3780   \Hy@AtEndOfPackage{%
3781     \RequirePackage{color}%
3782     \RequirePackage{nameref}%
3783   }%
3784 \fi

3785 \Hy@DisableOption{typexml}
3786 \ifHy@implicit
3787   \typeout{Implicit mode ON; LaTeX internals redefined}%
3788 \else
3789   \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3790   \def\MaybeStopEarly{%
3791     \typeout{Hyperref stopped early}%
3792     \Hy@AtBeginDocument{%
3793       \PDF@FinishDoc
3794       \gdef\PDF@FinishDoc{}%
3795     }%
3796   \endinput
3797   }%
3798   \Hy@AtBeginDocument{%
3799     \let\autoref\ref
3800     \let\autopageref\pageref
3801     \ifx\@pdfpagemode\@empty
3802       \gdef\@pdfpagemode{UseNone}%
3803     \fi

```

```

3804 \global\Hy@backreffalse
3805 }%
3806 \Hy@AtEndOfPackage{%
3807 \global\let\ReadBookmarks\relax
3808 \global\let\WriteBookmarks\relax
3809 }%
3810 \fi
3811 \Hy@DisableOption{implicit}

```

### 15.2.1 Driver loading

```

3812 \Hy@AtEndOfPackage{%
3813 \@ifpackageloaded{tex4ht}{%
3814 \def\Hy@driver{htex4ht}%
3815 \Hy@texhttrue
3816 }{}%

```

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.

```

3817 \ifx\Hy@driver\@empty
3818 \else
3819 \def\Hy@temp{hpdftex}%
3820 \ifpdf
3821 \ifx\Hy@driver\Hy@temp
3822 \else
3823 \Hy@WarningNoLine{%
3824 Wrong driver ‘\Hy@driver.def’;\MessageBreak
3825 pdfTeX is running in PDF mode.\MessageBreak
3826 Forcing driver ‘\Hy@temp.def’%
3827 }%
3828 \let\Hy@driver\Hy@temp
3829 \fi
3830 \else
3831 \ifx\Hy@driver\Hy@temp
3832 \Hy@WarningNoLine{%
3833 Wrong driver ‘\Hy@driver.def’;\MessageBreak
3834 pdfTeX is not running in PDF mode.\MessageBreak
3835 Using default driver%
3836 }%
3837 \let\Hy@driver\@empty
3838 \fi
3839 \fi
3840 \fi
3841 \ifx\Hy@driver\@empty
3842 \else
3843 \def\Hy@temp{hxtex}%
3844 \ifxetex
3845 \ifx\Hy@driver\Hy@temp
3846 \else
3847 \Hy@WarningNoLine{%
3848 Wrong driver ‘\Hy@driver.def’;\MessageBreak
3849 XeTeX is running.\MessageBreak
3850 Forcing driver ‘\Hy@temp.def’ for XeTeX%
3851 }%
3852 \let\Hy@driver\Hy@temp
3853 \fi
3854 \fi
3855 \fi

```



```

3856 \ifx\Hy@driver\@empty
3857 \else
3858 \def\Hy@temp{hvtexhtm}%
3859 \ifvtexhtml
3860 \ifx\Hy@driver\Hy@temp
3861 \else
3862 \Hy@WarningNoLine{%
3863   Wrong driver '\Hy@driver.def';\MessageBreak
3864   VTeX is running in HTML mode.\MessageBreak
3865   Forcing driver '\Hy@temp.def'%
3866 }%
3867 \let\Hy@driver\Hy@temp
3868 \fi
3869 \else
3870 \ifx\Hy@driver\Hy@temp
3871 \Hy@WarningNoLine{%
3872   Wrong driver '\Hy@driver.def';\MessageBreak
3873   VTeX is not running in HTML mode.\MessageBreak
3874   Using default driver%
3875 }%
3876 \let\Hy@driver\@empty
3877 \fi
3878 \fi
3879 \fi

```

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

```

3880 \ifx\Hy@driver\@empty
3881 \providecommand*{\Hy@defaultdriver}{hypertex}%
3882 \ifpdf
3883 \def\Hy@driver{hpdftex}%
3884 \else
3885 \ifxetex
3886 \def\Hy@driver{hxetex}%
3887 \else
3888 \ifvtexhtml
3889 \def\Hy@driver{hvtexhtm}%
3890 \def\MaybeStopEarly{%
3891   \typeout{Hyperref stopped early}%
3892   \Hy@AtBeginDocument{%
3893     \PDF@FinishDoc
3894     \gdef\PDF@FinishDoc{}}%
3895 }%
3896 \endinput
3897 }%
3898 \else
3899 \ifvtexpdf
3900 \def\Hy@driver{hvtex}%
3901 \else
3902 \ifvtexps
3903 \def\Hy@driver{hvtex}%
3904 \else
3905 \let\Hy@driver\Hy@defaultdriver
3906 \fi
3907 \fi
3908 \fi
3909 \fi
3910 \fi
3911 \ifx\Hy@driver\Hy@defaultdriver

```

```

3912 \def\Hy@temp{hdvwind}%
3913 \ifx\Hy@temp\Hy@driver
3914 \setkeys{Hyp}{colorlinks}%
3915 \PassOptionsToPackage{dviwindo}{color}%
3916 \fi
3917 \fi
3918 \typeout{* hyperref using default driver \Hy@driver\ltx@space*}%
3919 \else
3920 \typeout{* hyperref using driver \Hy@driver\ltx@space*}%
3921 \fi
3922 \input{\Hy@driver.def}%
3923 \let\@unprocessedoptions\relax
3924 \Hy@RestoreCatcodes
3925 }

```

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

```

3926 \newif\ifHy@DvipdfmxOutlineOpen
3927 \ifxetex
3928 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
3929 \else
3930 \Hy@DvipdfmxOutlineOpentrue
3931 \fi
3932 \fi
3933 \begingroup\expandafter\expandafter\expandafter\endgroup
3934 \expandafter\ifx\cname SpecialDvipdfmxOutlineOpen\endcname\relax
3935 \else
3936 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3937 \Hy@DvipdfmxOutlineOpentrue
3938 \fi
3939 \fi
3940 \Hy@DisableOption{tex4ht}
3941 \Hy@DisableOption{pdftex}
3942 \Hy@DisableOption{nativepdf}
3943 \Hy@DisableOption{dvipdfm}
3944 \Hy@DisableOption{dvipdfmx}
3945 \Hy@DisableOption{dvipdfmx-outline-open}
3946 \Hy@DisableOption{pdfmark}
3947 \Hy@DisableOption{dvips}
3948 \Hy@DisableOption{hypertex}
3949 \Hy@DisableOption{vtex}
3950 \Hy@DisableOption{vtexpdfmark}
3951 \Hy@DisableOption{dviwindo}
3952 \Hy@DisableOption{dvipsone}
3953 \Hy@DisableOption{textures}
3954 \Hy@DisableOption{latex2html}
3955 \Hy@DisableOption{ps2pdf}
3956 \Hy@DisableOption{xetex}
3957 \Hy@AtEndOfPackage{%
3958 \Hy@DisableOption{pdfversion}%
3959 }

```

### 15.2.2 Bookmarks

```

3960 \def\WriteBookmarks{0}
3961 \def\@bookmarkopenstatus#1{%
3962 \ifHy@bookmarksopen

```

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

```

3963 \ifnum#1<\expandafter\@firstofone\expandafter
3964     {\number\@bookmarksopenlevel} % explicit space
3965 \else
3966     -%
3967 \fi
3968 \else
3969     -%
3970 \fi
3971 }
3972 \ifHy@bookmarks
3973 \Hy@Info{Bookmarks ON}%
3974 \ifx\@pdfpagemode\@empty
3975 \def\@pdfpagemode{UseOutlines}%
3976 \fi
3977 \else
3978 \def\@bookmarkopenstatus#1{%
3979 \Hy@Info{Bookmarks OFF}%
3980 \Hy@AtEndOfPackage{%
3981 \global\let\ReadBookmarks\relax
3982 \global\let\WriteBookmarks\relax
3983 }%
3984 \ifx\@pdfpagemode\@empty
3985 \def\@pdfpagemode{UseNone}%
3986 \fi
3987 \fi
3988 \Hy@DisableOption{bookmarks}

```

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

```

3989 \def\Hy@CatcodeWrapper#1{%
3990 \def\Hy@endWrap{%
3991 \def\TMP@EnsureCode##1##2{%
3992 \edef\Hy@endWrap{%
3993 \Hy@endWrap
3994 \catcode##1\the\catcode##1\relax
3995 }%
3996 \catcode##1##2\relax
3997 }%
3998 \TMP@EnsureCode{10}{12}% ^^J
3999 \TMP@EnsureCode{33}{12}% !
4000 \TMP@EnsureCode{34}{12}% "
4001 \TMP@EnsureCode{36}{3}% $ (math)
4002 \TMP@EnsureCode{38}{4}% & (alignment)
4003 \TMP@EnsureCode{39}{12}% '
4004 \TMP@EnsureCode{40}{12}% (
4005 \TMP@EnsureCode{41}{12}% )
4006 \TMP@EnsureCode{42}{12}% *
4007 \TMP@EnsureCode{43}{12}% +
4008 \TMP@EnsureCode{44}{12}% ,
4009 \TMP@EnsureCode{45}{12}% -
4010 \TMP@EnsureCode{46}{12}% .
4011 \TMP@EnsureCode{47}{12}% /
4012 \TMP@EnsureCode{58}{12}% :
4013 \TMP@EnsureCode{59}{12}% ;
4014 \TMP@EnsureCode{60}{12}% <
4015 \TMP@EnsureCode{61}{12}% =
4016 \TMP@EnsureCode{62}{12}% >

```

```

4017 \TMP@EnsureCode{63}{12}% ?
4018 \TMP@EnsureCode{91}{12}% [
4019 \TMP@EnsureCode{93}{12}% ]
4020 \TMP@EnsureCode{94}{7}% ^ (superscript)
4021 \TMP@EnsureCode{95}{8}% _ (subscript)
4022 \TMP@EnsureCode{96}{12}% '
4023 \TMP@EnsureCode{124}{12}% |
4024 \TMP@EnsureCode{126}{13}% ~ (active)
4025 #1\relax
4026 \Hy@endWrap
4027 }

```

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

```

4028 \Hy@AtBeginDocument{%
4029   \ifHy@ocgcolorlinks
4030     \setkeys{Hyp}{colorlinks}%
4031     \ifHy@pdfa
4032       \Hy@Warning{%
4033         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4034         using 'colorlinks' instead of 'ocgcolorlinks'%
4035       }%
4036       \Hy@ocgcolorlinksfalse
4037     \fi
4038   \fi
4039   \ifHy@ocgcolorlinks
4040   \else
4041     \Hy@DisableOption{ocgcolorlinks}%
4042   \fi
4043   \ifHy@colorlinks
4044     \def\@pdfborder{0 0 0}%
4045     \let\@pdfborderstyle\@empty
4046     \ifHy@typexml
4047     \else
4048       \Hy@CatcodeWrapper{%
4049         \RequirePackage{color}%
4050       }%
4051     \fi
4052     \def\Hy@colorlink#1{%
4053       \begingroup
4054       \HyColor@UseColor#1%
4055     }%
4056     \def\Hy@endcolorlink{\endgroup}%
4057     \Hy@Info{Link coloring ON}%
4058   \else
4059     \ifHy@frenchlinks
4060       \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4061       \def\Hy@endcolorlink{\endgroup}%
4062       \Hy@Info{French linking ON}%
4063     \else

```

for grouping consistency:

```

4064     \def\Hy@colorlink#1{\begingroup}%
4065     \def\Hy@endcolorlink{\endgroup}%
4066     \Hy@Info{Link coloring OFF}%
4067   \fi
4068 \fi
4069 \Hy@DisableOption{colorlinks}%
4070 \Hy@DisableOption{frenchlinks}%

```

```

4071 \ifHy@texht
4072 \long\def\@firstoffive#1#2#3#4#5{#1}%
4073 \long\def\@secondoffive#1#2#3#4#5{#2}%
4074 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4075 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4076 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4077 \providecommand*\@safe@activestruet{}%
4078 \providecommand*\@safe@activesfalse{}%
4079 \def\T@ref#1{%
4080   \Hy@safe@activestruet
4081   \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4082   \Hy@safe@activesfalse
4083 }%
4084 \def\T@pageref#1{%
4085   \Hy@safe@activestruet
4086   \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4087   \Hy@safe@activesfalse
4088 }%
4089 \else
4090 \ifHy@typexml
4091 \else
4092   \Hy@CatcodeWrapper{%
4093     \RequirePackage{nameref}%
4094   }%
4095 \fi
4096 \fi
4097 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
4098 \DeclareRobustCommand\pageref{%
4099   \@ifstar\@pagerefstar\T@pageref
4100 }%
4101 }
4102 \Hy@AtBeginDocument{%
4103 \ifHy@texht
4104 \else
4105   \Hy@CatcodeWrapper{%
4106     \ReadBookmarks
4107   }%
4108 \fi
4109 }
4110 \ifHy@backref
4111 \RequirePackage{backref}%
4112 \else
4113 \let\Hy@backout\@gobble
4114 \fi
4115 \Hy@DisableOption{backref}
4116 \Hy@DisableOption{pagebackref}
4117 \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`.

```

4118 \begingroup
4119 \endlinechar=-1 %
4120 \catcode'\^^A=14 %
4121 \catcode'\^^M\active
4122 \catcode'\%\active
4123 \catcode'\#\active
4124 \catcode'\_\active
4125 \catcode'\$\active
4126 \catcode'\&\active
4127 \gdef\hyper@normalise{^^A
4128 \begingroup
4129 \catcode'\^^M\active
4130 \def^^M{ }^^A
4131 \catcode'\%\active
4132 \let%\@percentchar
4133 \let%\@percentchar
4134 \catcode'\#\active
4135 \def#{\hyper@hash}^^A
4136 \def\#{\hyper@hash}^^A
4137 \@makeother\&^^A
4138 \edef&{\string&}^^A
4139 \edef&{\string&}^^A
4140 \edef\textunderscore{\string_}^^A
4141 \let_\textunderscore
4142 \catcode'\_\active
4143 \let_\textunderscore
4144 \let~\hyper@tilde
4145 \let~\hyper@tilde
4146 \let\textasciitilde\hyper@tilde
4147 \let\\ \@backslashchar
4148 \edef$\{\string$\}^^A
4149 \Hy@safe@activestrue
4150 \hyper@n@rmalise
4151 }^^A
4152 \catcode'\#=6 ^^A
4153 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4154 \gdef\hyper@n@rmalise#1#2{^^A
4155 \def\Hy@tempa{#2}^^A
4156 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4157 \Hy@ReturnAfterElseFi{^^A
4158 \hyper@@normalise{#1}^^A
4159 }^^A
4160 \else
4161 \Hy@ReturnAfterFi{^^A
4162 \hyper@@normalise{#1}{#2}^^A
4163 }^^A
4164 \fi
4165 }^^A
4166 \gdef\hyper@@normalise#1#2{^^A
4167 \edef\Hy@tempa{^^A
4168 \endgroup
4169 \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
4170 }^^A
4171 \Hy@tempa
4172 }^^A
4173 \gdef\Hy@RemovePercentCr#1%\^^M#2\@nil{^^A
4174 #1^^A

```

```

4175 \ifx\limits#2\limits
4176 \else
4177 \Hy@ReturnAfterFi{^^A
4178 \Hy@RemovePercentCr #2\@nil
4179 }^^A
4180 \fi
4181 }^^A
4182 \endgroup
4183 \providecommand*\hyper@chars{%
4184 \let\#\hyper@hash
4185 \let\%\@percentchar
4186 \Hy@safe@activetrue
4187 }

4188 \def\hyperlink#1#2{%
4189 \hyper@@link\{#1\}{#2}%
4190 }

4191 \def\Hy@VerboseLinkStart#1#2{%
4192 \ifHy@verbose
4193 \begingroup
4194 \Hy@safe@activetrue
4195 \xdef\Hy@VerboseGlobalTemp{(#1 '#2')%
4196 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4197 \xdef\Hy@VerboseGlobalTemp{%
4198 \Hy@VerboseGlobalTemp, %
4199 line \the\inputlineno
4200 }%
4201 \endgroup
4202 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4203 \@onelevel@sanitize\Hy@VerboseLinkInfo
4204 \fi
4205 }

4206 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4207 \def\Hy@VerboseLinkStop{%
4208 \ifHy@verbose
4209 \begingroup
4210 \edef\x{\endgroup
4211 \write\m@ne{%
4212 Package 'hyperref' Info: %
4213 End of reference \Hy@VerboseLinkInfo.%
4214 }%
4215 }%
4216 \x
4217 \fi
4218 }

4219 \def\Hy@VerboseAnchor#1{%
4220 \ifHy@verbose
4221 \begingroup
4222 \Hy@safe@activetrue
4223 \Hy@Info{Anchor '\Hy@DestNameFilter{#1}'}%
4224 \endgroup
4225 \fi
4226 }

4227 \def\Hy@AllowHyphens{%
4228 \relax
4229 \ifhmode
4230 \penalty\@M

```

```

4231 \hskip\z@skip
4232 \fi
4233 }

4234 \DeclareRobustCommand*\href{%
4235 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4236 }
4237 \def\Hy@href#{%
4238 \hyper@normalise\href@
4239 }
4240 \begingroup
4241 \catcode'\$=6 %
4242 \catcode'\#=12 %
4243 \gdef\href$1{\expandafter\href@split$1##\}%
4244 \gdef\href@split$1#$2##$3\{\%
4245 \hyper@@link{$1}{$2}%
4246 }%
4247 \endgroup

```

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

```

4248 \RequirePackage{url}
4249 \let\HyOrg@url\url
4250 \def\Hurl{\begingroup \Url}
4251 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4252 \def\nolinkurl@#1{\Hurl{#1}}
4253 \DeclareRobustCommand*\url{\hyper@normalise\url@}
4254 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4255 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4256 \providecommand\hyper@image[2]{#2}

4257 \def\hypertarget#1#2{%
4258 \ifHy@nesting
4259 \hyper@@anchor{#1}{#2}%
4260 \else
4261 \hyper@@anchor{#1}{\relax}#2%
4262 \fi
4263 }

```

\hyperref is more complicated, as it includes the concept of a category of link, used to make the name. This is not really used in this package. \hyperdef sets up an anchor in the same way. They each have three parameters of category, linkname, and marked text, and \hyperref also has a first parameter of URL. If there is an optional first parameter to \hyperdef, it is the name of a L<sup>A</sup>T<sub>E</sub>X label which can be used in a short form of \hyperref later, to avoid remembering the name and category.

```

4264 \DeclareRobustCommand*\hyperref{%
4265 \@ifnextchar{\Hy@babelnormalise\label@hyperref}\hyperref
4266 }
4267 \def\Hy@babelnormalise#1[#2]{%
4268 \begingroup
4269 \Hy@safe@activetrue
4270 \edef\Hy@tempa{%
4271 \endgroup
4272 \noexpand#1[#2]}%
4273 }%
4274 \Hy@tempa
4275 }
4276 \def\@hyperref{\hyper@normalise\@hyperref}
4277 \def\@hyperref#1#2#3{%

```



```

4278 \edef\ref@one{\ifx\\#2\\else#2.\fi#3}%
4279 \expandafter\tryhyper@link\ref@one\\{#1}%
4280 }
4281 \def\tryhyper@link#1\\#2{%
4282 \hyper@@link{#2}{#1}%
4283 }

4284 \def\hyperdef{\@ifnextchar[{\label@hyperdef}{\@hyperdef}}
4285 \def\@hyperdef#1#2#3{%, category, name, text
4286 \ifx\\#1\\%
4287 \def\Hy@AnchorName{#2}%
4288 \else
4289 \def\Hy@AnchorName{#1.#2}%
4290 \fi
4291 \ifHy@nesting
4292 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4293 \else
4294 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4295 \fi
4296 }

```

We also have a need to give a L<sup>A</sup>T<sub>E</sub>X *label* to a hyper reference, to ease the pain of referring to it later.

```

4297 \def\label@hyperref[#1]{%
4298 \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4299 }%
4300 \def\label@@hyperref#1#2#3{%
4301 \ifx#1\relax
4302 \protect\G@refundefinedtrue
4303 \@latex@warning{%
4304 Hyper reference ‘#2’ on page \thepage \space undefined%
4305 }%
4306 \hyper@@link{}{??}{#3}%
4307 \else
4308 \hyper@@link{\expandafter\@fifthoffive#1}%
4309 {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4310 \fi
4311 }
4312 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4313 % anchor text
4314 \@bsphack
4315 \ifx\\#2\\%
4316 \def\Hy@AnchorName{#3}%
4317 \else
4318 \def\Hy@AnchorName{#2.#3}%
4319 \fi
4320 \if@filesw
4321 \protected@write\@auxout{}{%
4322 \string\newlabel{#1}{\{ }\{ }\{\Hy@AnchorName\}\}%
4323 }%
4324 \fi
4325 \@esphack
4326 \ifHy@nesting
4327 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
4328 \else
4329 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
4330 \fi
4331 }

```

## 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.

```
4332 \def\hyper@@link{\let\Hy@reserved@a\relax
4333 \ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
4334 }
4335 \def\hyper@link@[#1]#2#3#4{%
4336 \begingroup
4337 \protected@edef\Hy@tempa{#2}%
4338 \Hy@safe@activetrue
4339 \edef\x{#3}%
4340 \ifx\Hy@tempa\@empty
4341 \toks0{\hyper@link{#1}}%
4342 \else
4343 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
4344 \fi
4345 \toks2{%
4346 \Hy@safe@activesfalse
4347 #4%
4348 }%
4349 \edef\Hy@tempa{\the\toks2}%
4350 \edef\x{\endgroup
4351 \ifx\Hy@tempa\@empty
4352 \noexpand\Hy@Warning{Suppressing empty link}%
4353 \else
4354 \the\toks0 {\x}{\the\toks2}}%
4355 \fi
4356 }%
4357 \x
4358 }
```

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.

```
4359 \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.

```
4360 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
4361 }
```

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

```

4362 \def\@pdftempwordfile{file}%
4363 \def\@pdftempwordrun{run}%
4364 \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:

```

4365 \ifx\\\#6\\\%
4366 \expandafter\@hyper@linkfile file:#7\\\{#3}\{#2}%
4367 \else
4368 \ifx\\\#4\\\%
4369 \expandafter\@hyper@linkfile file:#7\\\{#3}\{#2}%
4370 \else

```

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

```

4371 \def\@pdftempa{#4}%
4372 \ifx\@pdftempa\@pdftempwordfile
4373 \expandafter\@hyper@linkfile#7\\\{#3}\{#2}%
4374 \else

```

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

```

4375 \ifx\@pdftempa\@pdftempwordrun
4376 \ifHy@pdfa
4377 \PackageError{hyperref}{%
4378 PDF/A: Launch action is prohibited%
4379 }\@ehc
4380 \begingroup
4381 \leavevmode
4382 #2%
4383 \endgroup
4384 \else
4385 \expandafter\@hyper@launch#7\\\{#3}\{#2}%
4386 \fi
4387 \else

```

otherwise its a URL

```

4388 \hyper@linkurl{#3}\{#7\ifx\\\#2\\\else\hyper@hash#2\fi}%
4389 \fi
4390 \fi
4391 \fi
4392 \fi
4393 }

```

By default, turn run: into file:

```

4394 \def\@hyper@launch run:#1\\\#2#3{% filename, anchor text, linkname
4395 \hyper@linkurl{#2}\{#1%
4396 \Hy@linkfileprefix
4397 #1%
4398 \ifx\\\#3\\\%
4399 \else
4400 \hyper@hash
4401 #3%
4402 \fi
4403 }%
4404 }

```

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

```

4405 \def\@hyper@linkfile file:#1\#2#3{%
4406   %file url,link string, name
4407   \filename@parse{#1}%
4408   \ifx\filename@ext\relax
4409     \edef\filename@ext{\XR@ext}%
4410   \fi
4411   \def\use@file{\filename@area\filename@base.\filename@ext}%
4412   \Hy@ifStringEndsWith\filename@ext\XR@ext{%
4413     \hyper@linkfile{#2}\use@file{#3}%
4414   }{%
4415     \ifx\@baseurl\@empty
4416       \hyper@linkurl{#2}%
4417       \Hy@linkfileprefix\use@file\ifx\\#3\\\else\hyper@hash#3\fi
4418     }%
4419   \else
4420     \hyper@linkurl{#2}\use@file\ifx\\#3\\\else\hyper@hash#3\fi}%
4421   \fi
4422 }%
4423 }

4424 \def\Hy@ifStringEndsWith#1#2{%
4425   \begingroup
4426   \edef\x{#1}%
4427   \@onelevel@sanitize\x
4428   \edef\x{.x$}%
4429   \edef\y{#2}%
4430   \@onelevel@sanitize\y
4431   \edef\y{.y$}%
4432   \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
4433     \endgroup
4434     \ifx\relax##2\relax
4435       \expandafter\ltx@secondoftwo
4436     \else
4437       \expandafter\ltx@firstoftwo
4438     \fi
4439   }%
4440   \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
4441 }

```

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.

```

4442 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
4443 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
4444   \ifx\\#1\\%
4445     #2\Hy@Warning{Ignoring empty anchor}%
4446   \else
4447     \def\anchor@spot{#2#3}%
4448     \let\put@me@back\@empty
4449     \ifx\relax#2\relax
4450     \else
4451       \ifHy@nesting
4452       \else
4453         \ifcat a\noexpand#2\relax

```

```

4454 \else
4455 \ifcat 0\noexpand#2 \relax
4456 \else
4457 % \typeout{Anchor start is not alphanumeric %
4458 % on input line\the\inputlineno%
4459 % }%
4460 \let\anchor@spot\@empty
4461 \def\put@me@back{##2##3}%
4462 \fi
4463 \fi
4464 \fi
4465 \fi
4466 \ifHy@activeanchor
4467 \anchor@spot
4468 \else
4469 \hyper@anchor{##1}%
4470 \fi
4471 \expandafter\put@me@back
4472 \fi
4473 \let\anchor@spot\@empty
4474 }

```

## 18 Compatibility with the *L<sup>A</sup>T<sub>E</sub>X2html* 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.

```

4475 \let\htmladdimg\hyperimage
4476 \def\htmladdnormallink#1#2{\href{#2}{#1}}
4477 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
4478 \def\htmlref#1#2{% anchor text, label
4479 \label@hyperref[{#2}]{#1}%
4480 }

```

This is really too much. The *L<sup>A</sup>T<sub>E</sub>X2html* 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.

```

4481 \def\@latextohtmlX{%
4482 \let\hhyperref\hyperref
4483 \def\hyperref##1##2##3##4{% anchor text for HTML
4484 % text to print before label in print
4485 % label
4486 % post-label text in print
4487 ##2\ref{##4}##3%
4488 }%
4489 }

```

## 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.

```
4490 \RequirePackage{bitset}
```

Each flag has an 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

```
4491 \def\HyField@NewFlag#1#2{%
4492   \lowercase{\HyField@NewOption{#2}}}%
4493   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4494 }
```

`\HyField@NewFlagOnly`

```
4495 \def\HyField@NewFlagOnly#1#2{%
4496   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4497 }
```

`\HyField@NewOption` #1: option name

```
4498 \def\HyField@NewOption#1{%
4499   \expandafter\newif\csname ifFld@#1\endcsname
4500   \define@key{Field}{#1}[true]{%
4501     \lowercase{\Field@boolkey{##1}}{#1}%
4502   }%
4503 }
```

`\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

```
4504 \def\HyField@NewBitsetFlag#1#2#3#4{%
4505   \begingroup
4506     \count@=#4\relax
4507     \advance\count@\m@ne
4508     \def\x##1{%
4509       \endgroup
4510       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
4511       \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
4512         \expandafter\edef\csname HyField@#3@##1\endcsname{%
4513           (\number#4) #2%
4514         }%
4515       \else
4516         \expandafter\edef\csname HyField@#3@##1\endcsname{%
4517           \csname HyField@#3@##1\endcsname
4518           /#2%
4519         }%
4520     \fi
```

```

4521 }%
4522 \expandafter\x\expandafter{\the\count@}%
4523 }

```

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

```

4524 \def\HyField@UseFlag#1#2{%
4525 \lowercase{\HyField@@UseFlag{#2}}{#1}%
4526 }

```

\HyField@@UseFlag

```

4527 \def\HyField@@UseFlag#1#2{%
4528 \bitsetSetValue{HyField@#2}{%
4529 \csname HyField@#2@#1\endcsname
4530 }{%
4531 \csname ifFld@#1\endcsname 1\else 0\fi
4532 }%
4533 }

```

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

```

4534 \def\HyField@SetFlag#1#2{%
4535 \lowercase{\HyField@@SetFlag{#2}}{#1}%
4536 }

```

\HyField@@SetFlag

```

4537 \def\HyField@@SetFlag#1#2{%
4538 \bitsetSetValue{HyField@#2}{%
4539 \csname HyField@#2@#1\endcsname
4540 }{1}%
4541 }

```

\HyField@PrintFlags

```

4542 \def\HyField@PrintFlags#1#2{%
4543 \ifHy@verbose
4544 \begingroup
4545 \let\Hy@temp\@empty
4546 \let\MessageBreak\relax
4547 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
4548 \bitsetGetSetBitList{HyField@#1}\do{%
4549 \edef\Hy@temp{%
4550 \Hy@temp
4551 \csname HyField@#1@x\endcsname\MessageBreak
4552 }%
4553 }%
4554 \edef\x{\endgroup
4555 \noexpand\Hy@Info{%
4556 Field flags: %
4557 \expandafter\ifx\@car#1\@nil S\else/\fi
4558 #1 %
4559 \bitsetGetDec{HyField@#1} %
4560 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
4561 \Hy@temp
4562 for #2%
4563 }%
4564 }\x
4565 \fi
4566 }

```

### 19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```
4567 \HyField@NewFlag{Ff}{ReadOnly}{1}  
4568 \HyField@NewFlag{Ff}{Required}{2}  
4569 \HyField@NewFlag{Ff}{NoExport}{3}
```

“Table 8.75 Field flags specific to button fields”

```
4570 \HyField@NewFlag{Ff}{NoToggleToOff}{15}  
4571 \HyField@NewFlag{Ff}{Radio}{16}  
4572 \HyField@NewFlag{Ff}{Pushbutton}{17}  
4573 \HyField@NewFlag{Ff}{RadiosInUnison}{26}
```

“Table 8.77 Field flags specific to text fields”

```
4574 \HyField@NewFlag{Ff}{Multiline}{13}  
4575 \HyField@NewFlag{Ff}{Password}{14}  
4576 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4  
4577 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4  
4578 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4  
4579 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4  
4580 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5
```

“Table 8.79 field flags specific to choice fields”

```
4581 \HyField@NewFlag{Ff}{Combo}{18}  
4582 \HyField@NewFlag{Ff}{Edit}{19}  
4583 \HyField@NewFlag{Ff}{Sort}{20}  
4584 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4  
4585 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4  
4586 \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.

```
4587 \newif\ifFld@popdown  
4588 \define@key{Field}{popdown}[true]{%  
4589   \lowercase{\Field@boolkey{#1}}{popdown}%  
4590 }
```

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.

```
4591 \HyField@NewFlag{F}{Invisible}{1}  
4592 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2  
4593 \HyField@NewFlag{F}{Print}{3}% PDF 1.2  
4594 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2  
4595 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3  
4596 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3  
4597 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4  
4598 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5  
4599 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7  
  
4600 \ifHy@pdfa  
4601   \def\HyField@PDFAFflagWarning#1#2{%  
4602     \Hy@Warning{%  
4603       PDF/A: Annotation flag ‘#1’ must\MessageBreak  
4604       be set to ‘#2’%  
4605     }%
```



```

4606 }%
4607 \Fld@invisiblefalse
4608 \def\Fld@invisibletrue{%
4609   \HyField@PDFAFflagWarning{invisible}{false}%
4610 }%
4611 \Fld@hiddenfalse
4612 \def\Fld@hiddenttrue{%
4613   \HyField@PDFAFflagWarning{hidden}{false}%
4614 }%
4615 \Fld@printrtrue
4616 \def\Fld@printfalse{%
4617   \HyField@PDFAFflagWarning{print}{true}%
4618 }%
4619 \Fld@nozoomtrue
4620 \def\Fld@nozoomfalse{%
4621   \HyField@PDFAFflagWarning{nozoom}{true}%
4622 }%
4623 \Fld@norotatetrue
4624 \def\Fld@norotatefalse{%
4625   \HyField@PDFAFflagWarning{norotate}{true}%
4626 }%
4627 \Fld@noviewfalse
4628 \def\Fld@noviewtrue{%
4629   \HyField@PDFAFflagWarning{noview}{false}%
4630 }%
4631 \fi

```

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

```

4632 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
4633 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
4634 \HyField@NewFlag{Submit}{GetMethod}{4}
4635 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
4636 \HyField@NewFlagOnly{Submit}{XFDF}{6}
4637 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
4638 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
4639 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
4640 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
4641 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
4642 \HyField@NewFlag{Submit}{ExclFKey}{12}
4643 \HyField@NewFlag{Submit}{EmbedForm}{14}

4644 \define@key{Field}{export}{%
4645   \lowercase{\def\Hy@temp{#1}}%
4646   \@ifundefined{Fld@export@\Hy@temp}{%
4647     \@onelevel@sanitize\Hy@temp
4648     \PackageError{hyperref}{%
4649       Unknown export format '\Hy@temp'.\MessageBreak
4650       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
4651     }\@ehc
4652   }{%
4653     \let\Fld@export\Hy@temp
4654   }%
4655 }
4656 \def\Fld@export{fdf}
4657 \@namedef{Fld@export@fdf}{0}%
4658 \@namedef{Fld@export@html}{1}%
4659 \@namedef{Fld@export@xfdf}{2}%
4660 \@namedef{Fld@export@pdf}{3}%

```

### 19.1.2 Set submit flags

\HyField@FlagsSubmit

```
4661 \def\HyField@FlagsSubmit{%
4662   \bitsetReset{HyField@Submit}%
4663   \ifcase\@nameuse{Fld@export@\Fld@export} %
4664     % FDF
4665     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4666     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4667     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
4668     \HyField@UseFlag{Submit}{IncludeAnnotations}%
4669     \HyField@UseFlag{Submit}{CanonicalFormat}%
4670     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
4671     \HyField@UseFlag{Submit}{ExclFKey}%
4672     \HyField@UseFlag{Submit}{EmbedForm}%
4673   \or % HTML
4674     \HyField@SetFlag{Submit}{ExportFormat}%
4675     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4676     \HyField@UseFlag{Submit}{GetMethod}%
4677     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4678     \HyField@UseFlag{Submit}{CanonicalFormat}%
4679   \or % XFDF
4680     \HyField@SetFlag{Submit}{XFDF}%
4681     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4682     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4683     \HyField@UseFlag{Submit}{CanonicalFormat}%
4684   \or % PDF
4685     \HyField@SetFlag{Submit}{SubmitPDF}%
4686     \HyField@UseFlag{Submit}{GetMethod}%
4687   \fi
4688   \HyField@PrintFlags{Submit}{submit button field}%
4689   \bitsetIsEmpty{HyField@Submit}{%
4690     \def\Fld@submitflags{%
4691     }{%
4692     \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
4693   }%
4694 }
```

### 19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```
4695 \def\HyField@FlagsAnnot#1{%
4696   \bitsetReset{HyField@F}%
4697   \HyField@UseFlag{F}{Invisible}%
4698   \HyField@UseFlag{F}{Hidden}%
4699   \HyField@UseFlag{F}{Print}%
4700   \HyField@UseFlag{F}{NoZoom}%
4701   \HyField@UseFlag{F}{NoRotate}%
4702   \HyField@UseFlag{F}{NoView}%
4703   \HyField@UseFlag{F}{Locked}%
4704   \HyField@UseFlag{F}{ToggleNoView}%
4705   \HyField@UseFlag{F}{LockedContents}%
4706   \HyField@PrintFlags{F}{#1}%
4707   \bitsetIsEmpty{HyField@F}{%
4708     \def\Fld@annotflags{%
4709     }{%
4710     \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%

```

```

4711 }%
4712 }

```

#### 19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

4713 \def\HyField@FlagsPushButton{%
4714 \HyField@FlagsAnnot{push button field}%
4715 \bitsetReset{HyField@Ff}%
4716 \HyField@UseFlag{Ff}{ReadOnly}%
4717 \HyField@UseFlag{Ff}{Required}%
4718 \HyField@UseFlag{Ff}{NoExport}%
4719 \HyField@SetFlag{Ff}{Pushbutton}%
4720 \HyField@PrintFlags{Ff}{push button field}%
4721 \bitsetIsEmpty{HyField@Ff}{%
4722 \def\Fld@flags{%
4723 }{%
4724 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4725 }%
4726 }

```

#### 19.1.5 Check box field

\HyField@FlagsCheckBox

```

4727 \def\HyField@FlagsCheckBox{%
4728 \HyField@FlagsAnnot{check box field}%
4729 \bitsetReset{HyField@Ff}%
4730 \HyField@UseFlag{Ff}{ReadOnly}%
4731 \HyField@UseFlag{Ff}{Required}%
4732 \HyField@UseFlag{Ff}{NoExport}%
4733 \HyField@PrintFlags{Ff}{check box field}%
4734 \bitsetIsEmpty{HyField@Ff}{%
4735 \def\Fld@flags{%
4736 }{%
4737 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4738 }%
4739 }

```

#### 19.1.6 Radio button field

\HyField@FlagsRadioButton

```

4740 \def\HyField@FlagsRadioButton{%
4741 \HyField@FlagsAnnot{radio button field}%
4742 \bitsetReset{HyField@Ff}%
4743 \HyField@UseFlag{Ff}{ReadOnly}%
4744 \HyField@UseFlag{Ff}{Required}%
4745 \HyField@UseFlag{Ff}{NoExport}%
4746 \HyField@UseFlag{Ff}{NoToggleToOff}%
4747 \HyField@SetFlag{Ff}{Radio}%
4748 \HyField@UseFlag{Ff}{RadiosInUnison}%
4749 \HyField@PrintFlags{Ff}{radio button field}%
4750 \bitsetIsEmpty{HyField@Ff}{%
4751 \def\Fld@flags{%
4752 }{%
4753 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4754 }%

```

4755 }

### 19.1.7 Text fields

\HyField@FlagsText

```
4756 \def\HyField@FlagsText{%
4757   \HyField@FlagsAnnot{text field}%
4758   \bitsetReset{HyField@Ff}%
4759   \HyField@UseFlag{Ff}{ReadOnly}%
4760   \HyField@UseFlag{Ff}{Required}%
4761   \HyField@UseFlag{Ff}{NoExport}%
4762   \HyField@UseFlag{Ff}{Multiline}%
4763   \HyField@UseFlag{Ff}{Password}%
4764   \HyField@UseFlag{Ff}{FileSelect}%
4765   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4766   \HyField@UseFlag{Ff}{DoNotScroll}%
4767   \ifFld@comb
4768     \ifcase0\ifFld@multiline
4769       \else\ifFld@password
4770       \else\ifFld@fileselect
4771       \else 1\fi\fi\fi\relax
4772     \PackageError{hyperref}{%
4773       Field option ‘comb’ cannot used together with\MessageBreak
4774       ‘multiline’, ‘password’, or ‘fileselect’%
4775     }\@ehc
4776   \else
4777     \HyField@UseFlag{Ff}{Comb}%
4778   \fi
4779 \fi
4780 \HyField@UseFlag{Ff}{RichText}%
4781 \HyField@PrintFlags{Ff}{text field}%
4782 \bitsetIsEmpty{HyField@Ff}{%
4783   \def\Fld@flags{%
4784   }{%
4785   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4786 }%
4787 }
```

### 19.1.8 Choice fields

\HyField@FlagsChoice

```
4788 \def\HyField@FlagsChoice{%
4789   \HyField@FlagsAnnot{choice field}%
4790   \bitsetReset{HyField@Ff}%
4791   \HyField@UseFlag{Ff}{ReadOnly}%
4792   \HyField@UseFlag{Ff}{Required}%
4793   \HyField@UseFlag{Ff}{NoExport}%
4794   \HyField@UseFlag{Ff}{Combo}%
4795   \ifFld@combo
4796     \HyField@UseFlag{Ff}{Edit}%
4797   \fi
4798   \HyField@UseFlag{Ff}{Sort}%
4799   \HyField@UseFlag{Ff}{MultiSelect}%
4800   \ifFld@combo
4801     \ifFld@edit
4802       \HyField@UseFlag{Ff}{DoNotSpellCheck}%

```

```

4803 \fi
4804 \fi
4805 \HyField@UseFlag{Ff}{CommitOnSelChange}%
4806 \HyField@PrintFlags{Ff}{choice field}%
4807 \bitsetIsEmpty{HyField@Ff}{%
4808 \def\Fld@flags{%
4809 }{%
4810 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4811 }%
4812 }

```

## 19.2 Choice field

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

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

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

```

4813 \def\HyField@PDFChoices#1{%
4814 \begingroup
4815 \gdef\Fld@choices{%
4816 \def\HyTmp@optlist{%
4817 \let\HyTmp@optitem\relax
4818 \count@=0 %
4819 \kv@parse{#1}{%
4820 \Hy@pdfstringdef\kv@key\kv@key
4821 \ifx\kv@value\relax
4822 \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4823 \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4824 \else
4825 \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4826 \fi
4827 \else
4828 \Hy@pdfstringdef\kv@value\kv@value
4829 \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
4830 \fi
4831 \edef\HyTmp@optlist{%
4832 \HyTmp@optlist
4833 \HyTmp@optitem{\the\count@}{\kv@key}0%
4834 }%
4835 \advance\count@ by 1 %
4836 \@gobbletwo
4837 }%
4838 \xdef\Fld@choices{/Opt[\Fld@choices]}%
4839 \ifFld@multiselect
4840 \HyField@@PDFChoices{DV}\Fld@default
4841 \HyField@@PDFChoices{V}\Fld@value
4842 \else
4843 \ifx\Fld@default\relax
4844 \else
4845 \pdfstringdef\Hy@gtemp\Fld@default
4846 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4847 \fi
4848 \ifx\Fld@value\relax
4849 \else
4850 \pdfstringdef\Hy@gtemp\Fld@value
4851 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4852 \fi
4853 \fi

```

```

4854 \endgroup
4855 }

```

\HyField@@PDFChoices

```

4856 \def\HyField@@PDFChoices#1#2{%
4857   \ifx#2\relax
4858   \else
4859     \count@=0 %
4860     \def\HyTmp@optitem##1##2##3{%
4861       \def\HyTmp@key{##2}%
4862       \ifx\HyTmp@key\Hy@gtemp
4863         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4864           \HyTmp@optlist
4865           \HyTmp@optitem{##1}{##2}1%
4866         }%
4867         \let\HyTmp@found=Y%
4868       \else
4869         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4870           \HyTmp@optlist
4871           \HyTmp@optitem{##1}{##2}##3%
4872         }%
4873       \fi
4874     }%
4875     \expandafter\comma@parse\expandafter{#2}{%
4876       \pdfstringdef\Hy@gtemp\comma@entry
4877       \let\HyTmp@found=N %
4878       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4879       \HyTmp@optlist
4880       \ifx\HyTmp@found Y%
4881         \advance\count@ by 1 %
4882       \else
4883         \@onelevel@sanitize\comma@entry
4884         \PackageWarning{hyperref}{%
4885           \string\ChoiceBox: Ignoring value '\comma@entry',%
4886           \MessageBreak
4887           it cannot be found in the choices%
4888         }%
4889       \fi
4890       \@gobble
4891     }%
4892     \def\HyTmp@optitem##1##2##3{%
4893       \ifnum##3=1 %
4894         (##2)%
4895       \fi
4896     }%
4897     \ifcase\count@
4898     \or
4899       \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4900     \else
4901       \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4902       \ifx#1V%
4903         \def\HyTmp@optitem##1##2##3{%
4904           \ifnum##3=1 %
4905             \@firstofone{ ##1}%
4906           \fi
4907         }%
4908       \edef\HyTmp@optlist{\HyTmp@optlist}%

```

```

4909     \xdef\Fld@choices{%
4910         \Fld@choices
4911         /I[\expandafter\@firstofone\HyTmp@Optlist]%
4912     }%
4913     \fi
4914     \fi
4915     \fi
4916 }

```

## 19.3 Forms

\HyField@SetKeys

```

4917 \def\HyField@SetKeys{%
4918     \setkeys{Field}%
4919 }

4920 \newif\ifFld@checked
4921 \newif\ifFld@disabled
4922 \Fld@checkedfalse
4923 \Fld@disabledfalse
4924 \newcount\Fld@menulength
4925 \newdimen\Fld@Width
4926 \newdimen\Fld@charsize
4927 \Fld@charsize=10\p@
4928 \def\Fld@maxlen{0}
4929 \def\Fld@align{0}
4930 \def\Fld@color{0 0 0 rg}
4931 \def\Fld@bcolor{1 1 1}
4932 \def\Fld@bordercolor{1 0 0}
4933 \def\Fld@bordersep{1\p@}
4934 \def\Fld@borderwidth{1}
4935 \def\Fld@borderstyle{S}
4936 \def\Fld@cbsymbol{4}
4937 \def\Fld@radiosymbol{H}
4938 \def\Fld@rotation{0}
4939 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4940 \def\endForm{\@endForm}
4941 \newif\ifForm@html
4942 \Form@htmlfalse
4943 \def\Form@boolkey#1#2{%
4944     \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4945 }
4946 \define@key{Form}{action}{%
4947     \hyper@normalise\Hy@DefFormAction{#1}%
4948 }
4949 \def\Hy@DefFormAction{\def\Form@action}
4950 \def\enc@html{html}
4951 \define@key{Form}{encoding}{%
4952     \def\Hy@tempa{#1}%
4953     \ifx\Hy@tempa\enc@html
4954         \Form@htmltrue
4955     \def\Fld@export{html}%
4956     \else
4957         \Hy@Warning{%
4958             Form ‘encoding’ key with \MessageBreak
4959             unknown value ‘#1’%
4960         }%

```

```

4961 \Form@htmlfalse
4962 \fi
4963 }
4964 \define@key{Form}{method}{%
4965 \lowercase{\def\Hy@temp{#1}}%
4966 \@ifundefined{Form@method@\Hy@temp}{%
4967 \onelevel@sanitize\Hy@temp
4968 \PackageError{hyperref}{%
4969 Unknown method '\Hy@temp'.\MessageBreak
4970 Known values are 'post' and 'get'%
4971 }\@ehc
4972 }{%
4973 \let\Form@method\Hy@temp
4974 \ifcase\@nameuse{Form@method@\Hy@temp} %
4975 \Fld@getmethodfalse
4976 \else
4977 \Fld@getmethodtrue
4978 \fi
4979 }%
4980 }
4981 \def\Form@method{}
4982 \@namedef{Form@method@post}{0}
4983 \@namedef{Form@method@get}{1}
4984 \def\Fld@boolkey#1#2{%
4985 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4986 }
4987 \newtoks\Fld@toks
4988 \Fld@toks={ }%
4989 \def\Fld@addtoks#1#2{%
4990 \edef\@processme{\Fld@toks{\the\Fld@toks\space #1="#2"}}%
4991 \@processme
4992 }
4993 \def\Fld@checkequals#1=#2=#3\{\{%
4994 \def\@currDisplay{#1}%
4995 \ifx\#2\%
4996 \def\@currValue{#1}%
4997 \else
4998 \def\@currValue{#2}%
4999 \fi
5000 }
5001 \define@key{Field}{loc}{%
5002 \def\Fld@loc{#1}%
5003 }
5004 \define@key{Field}{checked}[true]{%
5005 \lowercase{\Field@boolkey{#1}}{checked}%
5006 }
5007 \define@key{Field}{disabled}[true]{%
5008 \lowercase{\Field@boolkey{#1}}{disabled}%
5009 }
5010 \define@key{Field}{accesskey}{%
5011 \Field@addtoks{accesskey}{#1}%
5012 }
5013 \define@key{Field}{tabkey}{%
5014 \Field@addtoks{tabkey}{#1}%
5015 }
5016 \define@key{Field}{name}{%
5017 \def\Fld@name{#1}%

```



```

5018 }
5019 \define@key{Field}{width}{%
5020   \def\Fld@width{#1}%
5021   \Field@Width#1\setbox0=\hbox{m}%
5022 }
5023 \define@key{Field}{maxlen}{%
5024   \def\Fld@maxlen{#1}%
5025 }
5026 \define@key{Field}{menulength}{%
5027   \Fld@menulength=#1\relax
5028 }
5029 \define@key{Field}{height}{%
5030   \def\Fld@height{#1}%
5031 }
5032 \define@key{Field}{charsize}{%
5033   \Fld@charsize#1%
5034 }
5035 \define@key{Field}{borderwidth}{%
5036   \def\Fld@borderwidth{#1}%
5037 }
5038 \define@key{Field}{borderstyle}{%
5039   \def\Fld@borderstyle{#1}%
5040 }
5041 \define@key{Field}{bordersep}{%
5042   \def\Fld@bordersep{#1}%
5043 }
5044 \define@key{Field}{default}{%
5045   \def\Fld@default{#1}%
5046 }
5047 \define@key{Field}{align}{%
5048   \def\Fld@align{#1}%
5049 }
5050 \define@key{Field}{value}{%
5051   \def\Fld@value{#1}%
5052 }
5053 \define@key{Field}{checkboxsymbol}{%
5054   \Fld@DingDef\Fld@cbsymbol{#1}%
5055 }
5056 \define@key{Field}{radiosymbol}{%
5057   \Fld@DingDef\Fld@radiosymbol{#1}%
5058 }
5059 \def\Fld@DingDef#1#2{%
5060   \def\Fld@temp{}%
5061   \Fld@@@DingDef#2\ding{}\@nil
5062   \let#1\Fld@temp
5063 }
5064 \def\Fld@@@DingDef#1\ding#2#3\@nil{%
5065   \expandafter\def\expandafter\Fld@temp\expandafter{%
5066     \Fld@temp
5067     #1%
5068   }%
5069   \ifx\\#3\\%
5070     \expandafter\@gobble
5071   \else
5072     \begingroup
5073       \lccode'0=#2\relax
5074       \lowercase{\endgroup

```

```

5075 \expandafter\def\expandafter\Fld@temp\expandafter{%
5076 \Fld@temp
5077 0%
5078 }%
5079 }%
5080 \expandafter\@firstofone
5081 \fi
5082 {%
5083 \Fld@@DingDef#3\@nil
5084 }%
5085 }

5086 \define@key{Field}{rotation}{%
5087 \def\Fld@rotation{#1}%
5088 }

5089 \define@key{Field}{backgroundcolor}{%
5090 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5091 }
5092 \define@key{Field}{bordercolor}{%
5093 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5094 }
5095 \define@key{Field}{color}{%
5096 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5097 }

5098 \def\Fld@onclick@code{}
5099 \def\Fld@format@code{}
5100 \def\Fld@validate@code{}
5101 \def\Fld@calculate@code{}
5102 \def\Fld@keystroke@code{}
5103 \def\Fld@onfocus@code{}
5104 \def\Fld@onblur@code{}
5105 \def\Fld@onmousedown@code{}
5106 \def\Fld@onmouseup@code{}
5107 \def\Fld@onenter@code{}
5108 \def\Fld@onexit@code{}
5109 \def\Hy@temp#1{%
5110 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
5111 }
5112 \def\Hy@@temp#1#2{%
5113 \ifHy@pdfa
5114 \define@key{Field}{#2}{%
5115 \PackageError{hyperref}{%
5116 PDF/A: Additional action ‘#2’ is prohibited%
5117 }\@ehc
5118 }%
5119 \else
5120 \define@key{Field}{#2}{%
5121 \def#1{##1}%
5122 }%
5123 \fi
5124 }
5125 \Hy@temp{keystroke}
5126 \Hy@temp{format}
5127 \Hy@temp{validate}
5128 \Hy@temp{calculate}
5129 \Hy@temp{onfocus}
5130 \Hy@temp{onblur}

```

```

5131 \Hy@temp{onenter}
5132 \Hy@temp{onexit}
5133 \def\Hy@temp#1{%
5134   \define@key{Field}{#1}{%
5135     \Field@addtoks{#1}{##1}%
5136   }%
5137 }
5138 \Hy@temp{onselect}
5139 \Hy@temp{onchange}
5140 \Hy@temp{ondblclick}
5141 \Hy@temp{onmousedown}
5142 \Hy@temp{onmouseup}
5143 \Hy@temp{onmouseover}
5144 \Hy@temp{onmousemove}
5145 \Hy@temp{onmouseout}
5146 \Hy@temp{onkeypress}
5147 \Hy@temp{onkeydown}
5148 \Hy@temp{onkeyup}
5149 \ifHy@pdfa
5150   \define@key{Field}{onclick}{%
5151     \PackageError{hyperref}{%
5152       PDF/A: Action 'onclick' is prohibited%
5153     }\@ehc
5154   }%
5155 \else
5156   \define@key{Field}{onclick}{%
5157     \def\Fld@onclick@code{#1}%
5158     \Field@addtoks{onclick}{#1}%
5159   }%
5160 \fi

5161 \DeclareRobustCommand\TextField{%
5162   \@ifnextchar[{\@TextField}{\@TextField[]}%
5163 }
5164 \DeclareRobustCommand\ChoiceMenu{%
5165   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
5166 }
5167 \DeclareRobustCommand\CheckBox{%
5168   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
5169 }
5170 \DeclareRobustCommand\PushButton{%
5171   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
5172 }
5173 \DeclareRobustCommand\Gauge{%
5174   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
5175 }
5176 \DeclareRobustCommand\Submit{%
5177   \@ifnextchar[{\@Submit}{\@Submit[]}%
5178 }
5179 \DeclareRobustCommand\Reset{%
5180   \@ifnextchar[{\@Reset}{\@Reset[]}%
5181 }
5182 \def\LayoutTextField#1#2{% label, field
5183   #1 #2%
5184 }
5185 \def\LayoutChoiceField#1#2{% label, field
5186   #1 #2%
5187 }

```

```

5188 \def\LayoutCheckField#1#2{% label, field
5189   #1 #2%
5190 }
5191 \def\LayoutPushButtonField#1{% button
5192   #1%
5193 }
5194 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5195 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5196 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5197 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5198 \def\MakeButtonField#1{%
5199   \sbox0{%
5200     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
5201   }%
5202   \@tempdima\ht0 %
5203   \advance\@tempdima by \Fld@borderwidth bp %
5204   \advance\@tempdima by \Fld@borderwidth bp %
5205   \ht0\@tempdima
5206   \@tempdima\dp0 %
5207   \advance\@tempdima by \Fld@borderwidth bp %
5208   \advance\@tempdima by \Fld@borderwidth bp %
5209   \dp0\@tempdima
5210   \box0\relax
5211 }
5212 \def\DefaultHeightofSubmit{14pt}
5213 \def\DefaultWidthofSubmit{2cm}
5214 \def\DefaultHeightofReset{14pt}
5215 \def\DefaultWidthofReset{2cm}
5216 \def\DefaultHeightofCheckBox{\baselineskip}
5217 \def\DefaultWidthofCheckBox{\baselineskip}
5218 \def\DefaultHeightofChoiceMenu{\baselineskip}
5219 \def\DefaultWidthofChoiceMenu{\baselineskip}
5220 \def\DefaultHeightofText{\baselineskip}
5221 \def\DefaultHeightofTextMultiline{4\baselineskip}
5222 \def\DefaultWidthofText{3cm}
5223 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
5224 \def\DefaultOptionsofReset{print,name=Reset,noexport}
5225 \def\DefaultOptionsofPushButton{print}
5226 \def\DefaultOptionsofCheckBox{print}
5227 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

5228 \def\DefaultOptionsofListBox{print}
5229 \def\DefaultOptionsofComboBox{print,edit,sort}
5230 \def\DefaultOptionsofPopdownBox{print}
5231 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 20 Setup

```

5232 \ifHy@figures
5233   \Hy@Info{Hyper figures ON}%
5234 \else
5235   \Hy@Info{Hyper figures OFF}%
5236 \fi
5237 \ifHy@nesting
5238   \Hy@Info{Link nesting ON}%
5239 \else

```

```

5240 \Hy@Info{Link nesting OFF}%
5241 \fi
5242 \ifHy@hyperindex
5243 \Hy@Info{Hyper index ON}%
5244 \else
5245 \Hy@Info{Hyper index OFF}%
5246 \fi
5247 \ifHy@backref
5248 \Hy@Info{backreferencing ON}%
5249 \else
5250 \Hy@Info{backreferencing OFF}%
5251 \fi
5252 \ifHy@colorlinks
5253 \Hy@Info{Link coloring ON}%
5254 \else
5255 \Hy@Info{Link coloring OFF}%
5256 \fi
5257 \ifHy@ocgcolorlinks
5258 \Hy@Info{Link coloring with OCG ON}%
5259 \else
5260 \Hy@Info{Link coloring with OCG OFF}%
5261 \fi
5262 \ifHy@pdfa
5263 \Hy@Info{PDF/A mode ON}%
5264 \else
5265 \Hy@Info{PDF/A mode OFF}%
5266 \fi

```

## 21 Low-level utility macros

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

```

5267 \edef\hyper@hash{\string#}
5268 \edef\hyper@tilde{\string~}
5269 \edef\hyper@quote{\string"}
5270 \let\@currentHref\@empty
5271 \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.

```

5272 \Hy@AtBeginDocument{%
5273 \Hy@pdfstringtrue
5274 \PDF@SetupDoc
5275 \let\PDF@SetupDoc\@empty
5276 \Hy@DisableOption{pdfpagescrop}%
5277 \Hy@DisableOption{pdfpagemode}%
5278 \Hy@DisableOption{pdfnonfullscreenpagemode}%
5279 \Hy@DisableOption{pdfdirection}%
5280 \Hy@DisableOption{pdfviewarea}%
5281 \Hy@DisableOption{pdfviewclip}%
5282 \Hy@DisableOption{pdfprintarea}%
5283 \Hy@DisableOption{pdfprintclip}%
5284 \Hy@DisableOption{pdfprintscaling}%
5285 \Hy@DisableOption{pdfduplex}%
5286 \Hy@DisableOption{pdfpicktraybypdfsize}%
5287 \Hy@DisableOption{pdfprintpagerange}%
5288 \Hy@DisableOption{pdfnumcopies}%
5289 \Hy@DisableOption{pdfstartview}%

```

```

5290 \Hy@DisableOption{pdfstartpage}%
5291 \Hy@DisableOption{pdftoolbar}%
5292 \Hy@DisableOption{pdfmenubar}%
5293 \Hy@DisableOption{pdfwindowui}%
5294 \Hy@DisableOption{pdfwindow}%
5295 \Hy@DisableOption{pdfcenterwindow}%
5296 \Hy@DisableOption{pdfdisplaydoctitle}%
5297 \Hy@DisableOption{pdfpagelayout}%
5298 \Hy@DisableOption{pdflang}%
5299 \Hy@DisableOption{baseurl}%
5300 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
5301 \Hy@pdfstringfalse
5302 }

```

Ignore star from referencing macros:

```

5303 \LetLtxMacro\NoHy@OrgRef\ref
5304 \DeclareRobustCommand*{\ref}{\ref}%
5305 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
5306 }
5307 \LetLtxMacro\NoHy@OrgPageRef\pageref
5308 \DeclareRobustCommand*{\pageref}{\pageref}%
5309 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5310 }

```

## 22 Localized nullifying of package

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

```

5311 \def\NoHyper{%
5312 \def\hyper@link@{##1}##2##3##4{##4}%
5313 \def\hyper@@anchor##1{}%
5314 \global\let\hyper@livelink\hyper@link
5315 \gdef\hyper@link##1##2##3{##3}%
5316 \def\hyper@anchor##1{}%
5317 \def\hyper@anchorstart##1{}%
5318 \let\hyper@anchorend\@empty
5319 \def\hyper@linkstart##1##2{}%
5320 \let\hyper@linkend\@empty
5321 \def\hyper@linkurl##1##2{##1}%
5322 \def\hyper@linkfile##1##2##3{##1}%
5323 \def\hyper@link@{##1}##2##3{}%
5324 \let\Hy@backout\@gobble
5325 }
5326 \def\stop@hyper{%
5327 \def\hyper@link@{##1}##2##3##4{##4}%
5328 \let\Hy@backout\@gobble
5329 \def\hyper@@anchor##1{}%
5330 \def\hyper@link##1##2##3{##3}%
5331 \def\hyper@anchor##1{}%
5332 \def\hyper@anchorstart##1{}%
5333 \let\hyper@anchorend\@empty
5334 \def\hyper@linkstart##1##2{}%
5335 \let\hyper@linkend\@empty
5336 \def\hyper@linkurl##1##2{##1}%

```

```

5337 \def\hyper@linkfile##1##2##3{##1}%
5338 \def\hyper@link@{##1}##2##3{%
5339 }
5340 \def\endNoHyper{%
5341 \global\let\hyper@link\hyper@livelink
5342 }
5343 \endpackage

```

## 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:

```

5344 \*nohyperref
5345 \RequirePackage{letltxmacro}[2008/06/13]
5346 \let\hyper@anchor\@gobble
5347 \def\hyper@link#1##2##3{##3}%
5348 \let\hyper@anchorstart\@gobble
5349 \let\hyper@anchorend\@empty
5350 \let\hyper@linkstart\@gobbletwo
5351 \let\hyper@linkend\@empty
5352 \def\hyper@linkurl#1##2{##1}%
5353 \def\hyper@linkfile#1##2##3{##1}%
5354 \def\hyper@link@{##1}##2##3{%
5355 \let\PDF@SetupDoc\@empty
5356 \let\PDF@FinishDoc\@empty
5357 \def\nohyperpage#1{##1}

```

Some top-level commands:

```

5358 \def\Acrobatmenu#1##2{\leavevmode#2}
5359 \let\pdfstringdefDisableCommands\@gobbletwo
5360 \let\texorpdfstring\@firstoftwo
5361 \let\pdfbookmark\@undefined
5362 \newcommand\pdfbookmark[3]{}{}
5363 \let\phantomsection\@empty
5364 \let\hypersetup\@gobble
5365 \let\hyperbaseurl\@gobble
5366 \let\href\@gobble
5367 \let\hyperdef\@gobbletwo
5368 \let\hyperlink\@gobble
5369 \let\hypertarget\@gobble
5370 \def\hyperref{%
5371 \ifnextchar\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
5372 }
5373 \long\def\@gobbleopt[#1]{}
5374 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

5375 \LetLtxMacro\NoHy@OrgRef\ref
5376 \DeclareRobustCommand*\ref{%
5377 \ifstar\NoHy@OrgRef\NoHy@OrgRef
5378 }
5379 \LetLtxMacro\NoHy@OrgPageRef\pageref

```

```

5380 \DeclareRobustCommand*\pageref}{%
5381   \ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5382 }
5383 \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}`

```

5384 \*package
5385 \Hy@AtBeginDocument{%

```

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.

```

5386 \if@filesw
5387   \ifHy@typexml
5388     \immediate\closeout\@mainaux
5389     \immediate\openout\@mainaux\jobname.aux\relax
5390     \immediate\write\@auxout{<relaxxml>\relax}%
5391   \fi
5392   \immediate\write\@auxout{%
5393     \string\providecommand\string\HyperFirstAtBeginDocument{%
5394       \string\AtBeginDocument}^^J%
5395     \string\HyperFirstAtBeginDocument{%
5396       \string\ifx\string\hyper@anchor\string\@undefined^^J%
5397       \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
5398       \string\gdef\string\contentsline%
5399         \string#1\string#2\string#3\string#4{%
5400         \string\oldcontentsline%
5401         {\string#1}{\string#2}{\string#3}}^^J%
5402       \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
5403       \string\gdef\string\newlabel\string#1\string#2{%
5404         \string\newlabelxx{\string#1}\string#2}^^J%
5405       \string\gdef\string\newlabelxx%
5406         \string#1\string#2\string#3\string#4\string#5\string#6{%
5407         \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.

```

5408     \string\AtEndDocument{%
5409       \string\ifx\string\hyper@anchor\string\@undefined^^J%
5410       \string\let\string\contentsline\string\oldcontentsline^^J%
5411       \string\let\string\newlabel\string\oldnewlabel^^J%
5412       \string\fi%
5413     }^^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.

```

5414     \string\fi%
5415   }^^J%
5416   \string\global\string\let\string\hyper@last\relax^^J%
5417   \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
5418 }%
5419 \fi
5420 \def\HyperFirstAtBeginDocument#1{#1}%

```



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.

```

5421 \ifx\hyper@last\@undefined
5422 \def\@starttoc#1{%
5423 \begingroup
5424 \makeatletter
5425 \IfFileExists{\jobname.#1}{%
5426 \Hy@WarningNoLine{%
5427 old #1 file detected, not used; run LaTeX again%
5428 }%
5429 }{}%
5430 \if@filesw
5431 \expandafter\newwrite\csname tf@#1\endcsname
5432 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
5433 \fi
5434 \@nobreakfalse
5435 \endgroup
5436 }%
5437 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
5438 \fi
5439 }

```

## 25 Title strings

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

```

5440 \ifHy@usetitle
5441 \let\HyOrg@title\title
5442 \let\HyOrg@author\author
5443 \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
5444 \def\Hy@scanopttitle[#1]{%
5445 \gdef\Hy@title{#1}%
5446 \HyOrg@title{#1}%
5447 }%
5448 \def\Hy@scantitle#1{%
5449 \gdef\Hy@title{#1}%
5450 \HyOrg@title{#1}%
5451 }%
5452 \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
5453 \def\Hy@scanoptauthor[#1]{%
5454 \gdef\Hy@author{#1}%
5455 \HyOrg@author{#1}%
5456 }%
5457 \def\Hy@scanauthor#1{%
5458 \gdef\Hy@author{#1}%
5459 \HyOrg@author{#1}%
5460 }%

```

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.

```

5461 \begingroup
5462 \def\process@me#1\@nil#2{%
5463 \expandafter\let\expandafter\x\csname @#2\endcsname

```

```

5464 \edef\y{\expandafter\strip@prefix\meaning\x}%
5465 \def\c##1##2\@nil{%
5466 \ifx\\##1\\%
5467 \else
5468 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
5469 \expandafter{x}%
5470 \fi
5471 }%
5472 \expandafter\c\y\relax#1\@nil
5473 }%
5474 \expandafter\process@me\string\@latex@\@nil{title}%
5475 \expandafter\process@me\string\@latex@\@nil{author}%
5476 \endgroup
5477 \fi
5478 \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.

```

5479 \def\Hy@UseMaketitleString#1{%
5480 \ltx@ifundefined{Hy@#1}{}{%
5481 \begingroup
5482 \let\Hy@saved@hook\pdfstringdefPreHook
5483 \pdfstringdefDisableCommands{%
5484 \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
5485 \let\newline\\%
5486 }%
5487 \expandafter\ifx\csname @pdf#1\endcsname\@empty
5488 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
5489 \csname Hy@#1\endcsname\@empty
5490 }%
5491 \fi
5492 \global\let\pdfstringdefPreHook\Hy@saved@hook
5493 \endgroup
5494 }%
5495 }
5496 \def\Hy@newline@title#1{ #1}
5497 \def\Hy@newline@author#1{, #1}
5498 \def\Hy@UseMaketitleInfos{%
5499 \Hy@UseMaketitleString{title}%
5500 \Hy@UseMaketitleString{author}%
5501 }

```

## 26 Page numbers

This stuff is done by Heiko Oberdiek.

## 27 Every page

```

5502 \RequirePackage{atbegshi}[2007/09/09]
5503 \def\Hy@EveryPageHook{}
5504 \def\Hy@EveryPageBoxHook{}
5505 \def\Hy@FirstPageHook{}
5506 \AtBeginShipout{%
5507   \Hy@EveryPageHook
5508   \ifx\Hy@EveryPageBoxHook\@empty
5509   \else
5510     \setbox\AtBeginShipoutBox=\vbox{%
5511       \offinterlineskip
5512       \Hy@EveryPageBoxHook
5513       \box\AtBeginShipoutBox
5514     }%
5515   \fi
5516 }
5517 \AtBeginShipoutFirst{%
5518   \Hy@FirstPageHook
5519 }
5520 \g@addto@macro\Hy@FirstPageHook{%
5521   \PDF@FinishDoc
5522   \gdef\PDF@FinishDoc{}}%
5523 }

```

## 27.1 PDF /PageLabels

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

```

5524 \ifHy@pagelabels
5525   \begingroup\expandafter\expandafter\expandafter\endgroup
5526   \expandafter\ifx\csname thepage\endcsname\relax
5527     \Hy@pagelabelsfalse
5528     \Hy@WarningNoLine{%
5529       Option 'pdfpagelabels' is turned off\MessageBreak
5530       because \string\thepage\space is undefined%
5531     }%
5532     \csname fi\endcsname
5533     \csname iffalse\expandafter\endcsname
5534   \fi

```

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

```

5535 \def\thispdfpagelabel#1{%
5536   \gdef\HyPL@thisLabel{#1}%
5537 }%
5538 \global\let\HyPL@thisLabel\relax

```

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

```

5539 \def\HyPL@Labels{}%

```

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

```

5540 \newcount\Hy@abspage
5541 \Hy@abspage=0 %

```

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

```

5542 \def\HyPL@LastType{init}%
5543 \def\HyPL@LastNumber{0}%
5544 \def\HyPL@LastPrefix{}%

```

Definitions for the PDF names of the L<sup>A</sup>T<sub>E</sub>X pendants.

```
5545 \def\HyPL@arabic{D}%
5546 \def\HyPL@Roman{R}%
5547 \def\HyPL@roman{r}%
5548 \def\HyPL@Alph{A}%
5549 \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.

```
5550 \def\HyPL@EveryPage{%
5551   \begingroup
5552   \ifx\HyPL@thisLabel\relax
5553     \let\HyPL@page\thepage
5554   \else
5555     \let\HyPL@page\HyPL@thisLabel
5556   \global\let\HyPL@thisLabel\relax
5557   \fi
5558   \let\HyPL@Type\relax
5559   \ifnum\the\c@page>0 %
5560     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
5561   \fi
5562   \let\Hy@temp Y%
5563   \ifx\HyPL@Type\HyPL@LastType
5564   \else
5565     \let\Hy@temp N%
5566   \fi
5567   \ifx\HyPL@Type\relax
5568     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
5569   \else
5570     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
5571   \fi
5572   \ifx\HyPL@Prefix\HyPL@LastPrefix
5573   \else
5574     \let\Hy@temp N%
5575   \fi
5576   \if Y\Hy@temp
5577     \advance\c@page by -1 %
5578     \ifnum\HyPL@LastNumber=\the\c@page\relax
5579     \else
5580       \let\Hy@temp N%
5581     \fi
5582     \Hy@StepCount\c@page
5583   \fi
5584   \if N\Hy@temp
5585     \ifx\HyPL@Type\relax
5586       \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
5587     \else
5588       \HyPL@StorePageLabel{%
5589         \ifx\HyPL@Prefix\@empty
5590         \else
5591           /P(\HyPL@Prefix)%
5592         \fi
5593         /S/\csname HyPL\HyPL@Type\endcsname
5594         \ifnum\the\c@page=1 %
5595         \else
5596           \space/St \the\c@page
5597         \fi
```

```

5598     }%
5599     \fi
5600     \fi
5601     \xdef\HyPL@LastNumber{\the\c@page}%
5602     \global\let\HyPL@LastType\HyPL@Type
5603     \global\let\HyPL@LastPrefix\HyPL@Prefix
5604     \endgroup
5605     \Hy@GlobalStepCount\Hy@abspage
5606 }%

```

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

```

5607 \def\HyPL@CheckThePage#1\@nil{%
5608   \HyPL@@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
5609 }%

```

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

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

```

5610 \def\HyPL@@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
5611   \def\Hy@tempa{#4}%
5612   \def\Hy@tempb{\csname\endcsname\c@page}%
5613   \ifx\Hy@tempa\Hy@tempb
5614     \expandafter\ifx\csname HyPL#3\endcsname\relax
5615     \else
5616       \def\HyPL@Type{#3}%
5617       \def\HyPL@Prefix{#2}%
5618       \fi
5619     \else
5620       \begingroup
5621         \let\Hy@next\endgroup
5622         \let\HyPL@found\@undefined
5623         \def\arabic{\HyPL@Format{arabic}}%
5624         \def\Roman{\HyPL@Format{Roman}}%
5625         \def\roman{\HyPL@Format{roman}}%
5626         \def\Alph{\HyPL@Format{Alph}}%
5627         \def\alph{\HyPL@Format{alph}}%
5628         \protected@edef\Hy@temp{#1}%
5629         \ifx\HyPL@found\relax
5630           \toks@{\expandafter{\Hy@temp}}%
5631           \edef\Hy@next{\endgroup
5632             \noexpand\HyPL@@@CheckThePage\the\toks@
5633             \noexpand\HyPL@found\relax\noexpand\@nil
5634           }%
5635           \fi
5636         \Hy@next
5637       \fi
5638 }%

```

`\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`.

```

5639 \def\HyPL@Format#1#2{%
5640   \ifx\HyPL@found\@undefined
5641     \expandafter\ifx\csname c@#2\endcsname\c@page

```

```

5642     \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
5643     \else
5644     \expandafter\noexpand\csname#1\endcsname{#2}%
5645     \fi
5646     \else
5647     \expandafter\noexpand\csname#1\endcsname{#2}%
5648     \fi
5649 }%

```

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

```

5650 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
5651   \def\Hy@tempa{#3}%
5652   \def\Hy@tempb{\HyPL@found\relax}%
5653   \ifx\Hy@tempa\Hy@tempb
5654     \def\HyPL@Type{@#2}%
5655     \def\HyPL@Prefix{#1}%
5656   \fi
5657 }%

```

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

```

5658 \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`.

```

5659 \def\HyPL@Useless{0<</S/D>>}%
5660 \@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.

```

5661 \def\HyPL@SetPageLabels{%
5662   \@onelevel@sanitize\HyPL@Labels
5663   \ifx\HyPL@Labels\@empty
5664   \else
5665     \ifx\HyPL@Labels\HyPL@Useless
5666     \else
5667       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
5668     \fi
5669   \fi
5670 }%

```

```

5671 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
5672 \fi

```

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

```

5673 \Hy@DisableOption{pdfpagelabels}
5674 </package>

```

### 27.1.1 pdfTeX and VTeX

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

`\Hy@PutCatalog`

```

5675 <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.

```

5676 < *vtex>
5677 \providecommand*{\XR@ext}{pdf}
5678 \edef\Hy@VTeXversion{%
5679   \ifx\VTeXversion\@undefined
5680     \z@
5681   \else
5682     \ifx\VTeXversion\relax
5683       \z@
5684     \else
5685       \VTeXversion
5686     \fi
5687   \fi
5688 }
5689 \begingroup
5690   \ifnum\Hy@VTeXversion<660 %
5691     \gdef\Hy@PutCatalog#1{%
5692       \Hy@WarningNoLine{%
5693         VTeX 6.59g or above required for pdfpagelabels%
5694       }%
5695     }%
5696   \else
5697     \gdef\Hy@PutCatalog#1{%
5698       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
5699     }%
5700     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
5701       \ifx\#2\%
5702         \else
5703           \immediate\special{!pdfpagelabels #2}%
5704         \fi
5705       }%
5706     \fi
5707 \endgroup
5708 < /vtex>

5709 < *pdfTeX | vtex>

```

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

```

5710 \ifHy@pagelabels
5711   \def\HyPL@StorePageLabel#1{%
5712     \toks@\expandafter{\HyPL@Labels}%
5713     \xdef\HyPL@Labels{%
5714       \the\toks@
5715       \the\Hy@abspage<<#1>>%
5716     }%
5717   }%

```

Package atveryend is used to get behind the final \clearpage and to avoid a \clearpage in \AtEndDocument. Then the PDF catalog entry for \PageLabels is set.

```

5718 \RequirePackage{atveryend}[2009/12/07]%
5719 \AtVeryEndDocument{%
5720   \HyPL@SetPageLabels
5721 }%

```

```

5722 \fi
5723 </pdfTEX | vTeX>

```

### 27.1.2 xetex

```

5724 <*xetex>
5725 \HyPsd@LoadUnicode
5726 \Hy@unicodetrue
5727 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
5728 \else
5729 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
5730 \fi
5731 \HyPsd@LoadStringEncoding
5732 \define@key{Hyp}{unicode}[true]{%
5733 \Hy@boolkey{unicode}{#1}%
5734 \ifHy@unicode
5735 \else
5736 \Hy@Warning{%
5737 XeTeX driver only supports 'unicode=true'.\MessageBreak
5738 Ignoring option setting 'unicode=false'%
5739 }%
5740 \Hy@unicodetrue
5741 \fi
5742 }
5743 \define@key{Hyp}{pdfencoding}{%
5744 \edef\HyPsd@temp{#1}%
5745 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
5746 \let\HyPsd@pdfencoding\HyPsd@temp
5747 \else
5748 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
5749 \let\HyPsd@pdfencoding\HyPsd@temp
5750 \else
5751 \Hy@Warning{%
5752 XeTeX driver only supports\MessageBreak
5753 'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
5754 setting 'pdfencoding=\HyPsd@temp'%
5755 }%
5756 \fi
5757 \fi
5758 }
5759 \let\HyXeTeX@CheckUnicode\relax
5760 </xetex>

```

### 27.1.3 pdfmarkbase, dvipdfm, xetex

```

5761 <*pdfmarkbase>
5762 \begingroup
5763 \@ifundefined{headerps@out}{%}{%
5764 \toks@{\expandafter{\Hy@FirstPageHook}%
5765 \xdef\Hy@FirstPageHook{%
5766 \noexpand\headerps@out{%
5767 systemdict /pdfmark known%
5768 {%
5769 userdict /?pdfmark systemdict /exec get put%
5770 }{%
5771 userdict /?pdfmark systemdict /pop get put %
5772 userdict /pdfmark systemdict /cleartomark get put%
5773 }%

```



```

5774     ifelse%
5775     }%
5776     \the\toks@
5777     }%
5778     }%
5779 \endgroup
5780 \pdfmarkbase>

```

\Hy@PutCatalog

```

5781 \dvipdfm | xetex\def\Hy@PutCatalog#1{\pdfmark{docview << #1 >>}}
5782 \pdfmarkbase>
5783 \def\Hy@PutCatalog#1{%
5784   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
5785 }
5786 \pdfmarkbase>

5787 \pdfmarkbase | dvipdfm | xetex>
5788 \ifHy@pagelabels

```

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

```

5789 \def\HyPL@StorePageLabel#1{%
5790   \if@filesw
5791     \begingroup
5792     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
5793     \immediate\write\@mainaux{%
5794       \string\HyPL@Entry{\Hy@tempa}%
5795     }%
5796     \endgroup
5797   \fi
5798 }%

```

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.

```

5799 \Hy@AtBeginDocument{%
5800   \if@filesw
5801     \immediate\write\@mainaux{%
5802       \string\providecommand\string*\string\HyPL@Entry[1]{}%
5803     }%
5804   \fi
5805   \ifx\HyPL@Labels\@empty
5806     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
5807   \else
5808     \HyPL@SetPageLabels
5809   \fi
5810   \let\HyPL@Entry\@gobble
5811 }%

```

\HyPL@Entry

```

5812 \def\HyPL@Entry#1{%
5813   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
5814     \HyPL@Labels
5815     #1%
5816   }%
5817 }%

5818 \fi
5819 \pdfmarkbase | dvipdfm | xetex>

```

```

5820 \<package>
5821 \MaybeStopEarly

```

## 28 Automated L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X 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

```

5822 \def\Hy@CounterExists#1{%
5823   \begingroup\expandafter\expandafter\expandafter\endgroup
5824   \expandafter\ifx\csname c@#1\endcsname\relax
5825     \expandafter\@gobble
5826   \else
5827     \begingroup\expandafter\expandafter\expandafter\endgroup
5828     \expandafter\ifx\csname the#1\endcsname\relax
5829       \expandafter\expandafter\expandafter\@gobble
5830     \else
5831       \expandafter\expandafter\expandafter\@firstofone
5832     \fi
5833   \fi
5834 }
5835 \Hy@CounterExists{section}{%
5836   \newcommand\theHequation{\theHsection.\arabic{equation}}}%
5837 }
5838 \Hy@CounterExists{part}{%
5839   \newcommand\theHpart{\arabic{part}}}%
5840 }
5841 \ltx@ifundefined{thechapter}{%
5842   \newcommand\theHsection   {\arabic{section}}}%
5843   \newcommand\theHfigure    {\arabic{figure}}}%
5844   \newcommand\theHtable     {\arabic{table}}}%
5845 }{%
5846   \newcommand\theHchapter   {\arabic{chapter}}}%
5847   \newcommand\theHfigure    {\theHchapter.\arabic{figure}}}%
5848   \newcommand\theHtable     {\theHchapter.\arabic{table}}}%
5849   \newcommand\theHsection   {\theHchapter.\arabic{section}}}%
5850 }
5851 \newcommand\theHsubsection  {\theHsection.\arabic{subsection}}
5852 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5853 \newcommand\theHparagraph   {\theHsubsubsection.\arabic{paragraph}}
5854 \newcommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}

```

```

5855 \newcommand\theHtheorem    {\theHsection.\arabic{theorem}}
5856 \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.

```

5857 \let\H@item\item
5858 \newcounter{Item}
5859 \def\theHItem{\arabic{Item}}
5860 \def\item{%
5861   \@hyper@itemfalse
5862   \if@nmbrlist\@hyper@itemtrue\fi
5863   \H@item
5864 }

5865 \newcommand\theHenumi    {\theHItem}
5866 \newcommand\theHenumii   {\theHItem}
5867 \newcommand\theHenumiii  {\theHItem}
5868 \newcommand\theHenumiv   {\theHItem}
5869 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5870 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5871 \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.

```

5872 \let\H@refstepcounter\refstepcounter
5873 \edef\name@of@eq{equation}%
5874 \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.

```

5875 \newif\if@hyper@item
5876 \newif\if@skiphyperref
5877 \@hyper@itemfalse
5878 \@skiphyperreffalse
5879 \def\refstepcounter#1{%
5880   \ifHy@pdfstring
5881   \else
5882     \H@refstepcounter{#1}%
5883     \edef\This@name{#1}%
5884     \ifx\This@name\name@of@slide
5885     \else
5886       \if@skiphyperref
5887       \else
5888         \if@hyper@item
5889           \stepcounter{Item}%
5890           \hyper@refstepcounter{Item}%
5891           \@hyper@itemfalse
5892         \else
5893           \hyper@refstepcounter{#1}%
5894         \fi
5895       \fi
5896     \fi
5897   \fi
5898 }

```

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

```
5899 \ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

```
5900 \def\hyper@refstepcounter#1{%
5901   \edef\This@name{#1}%
5902   \ifx\This@name\name@of@eq
5903     \ifundefined{theHequation}{%
5904       \make@stripped@name{\theequation}%
5905       \let\theHequation\newname
5906     }{}%
5907   \fi
5908   \ifundefined{theH#1}{%
5909     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5910   }{}%
5911   \hyper@makecurrent{#1}%
5912   \ifmeasuring@
5913   \else
5914     \Hy@raisedlink{%
5915       \hyper@anchorstart{\@currentHref}\hyper@anchorend
5916     }%
5917   \fi
5918 }
```

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`.

```
5919 \begingroup\expandafter\expandafter\expandafter\endgroup
5920 \expandafter\ifx\csname chapter\endcsname\relax
5921   \def\Hy@chapterstring{section}%
5922 \else
5923   \def\Hy@chapterstring{chapter}%
5924 \fi
5925 \def\Hy@appendixstring{appendix}
5926 \def\Hy@chapapp{\Hy@chapterstring}
5927 \let\HyOrg@appendix\appendix
5928 \def\appendix{%
5929   \ltx@ifundefined{chapter}%
5930   {\gdef\theHsection{\Alph{section}}}%
5931   {\gdef\theHchapter{\Alph{chapter}}}%
5932   \xdef\Hy@chapapp{\Hy@appendixstring}%
5933   \HyOrg@appendix
5934 }
```

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

```
5935 \def\hyper@makecurrent#1{%
5936   \begingroup
5937   \edef\Hy@param{#1}%
5938   \ifx\Hy@param\Hy@chapterstring
5939     \let\Hy@param\Hy@chapapp
5940   \fi
```

```

5941 \ifHy@hypertextnames
5942 \let\@number\@firstofone
5943 \@ifundefined{latin@Alph}{-}{%
5944 \ifx\@Alph\greek@Alph
5945 \def\@Alph{Alph\@arabic}%
5946 \fi
5947 }%
5948 \ifx\@Alph\@Alph@bul
5949 \def\@Alph{Alph\@arabic}%
5950 \fi
5951 \ifx\@alph\@alph@bul
5952 \def\@alph{alph\@arabic}%
5953 \fi
5954 \ifHy@naturalnames
5955 \let\textlatin\@firstofone
5956 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
5957 \else
5958 \xdef\HyperGlobalCurrentHref{%
5959 \csname
5960 the%
5961 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
5962 #1%
5963 \endcsname
5964 }%
5965 \fi
5966 \xdef\HyperGlobalCurrentHref{%
5967 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
5968 }%
5969 \else
5970 \Hy@GlobalStepCount\Hy@linkcounter
5971 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
5972 \fi
5973 \endgroup
5974 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
5975 \ifHy@localanchorname
5976 \let\@currentHref\HyperLocalCurrentHref
5977 \else
5978 \global\let\@currentHref\HyperGlobalCurrentHref
5979 \fi
5980 }

```

\Hy@MakeCurrentHref

```

5981 \def\Hy@MakeCurrentHref#1{%
5982 \edef\HyperLocalCurrentHref{#1}%
5983 \@onelevel@sanitize\HyperLocalCurrentHref
5984 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
5985 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
5986 \ifHy@localanchorname
5987 \let\@currentHref\HyperLocalCurrentHref
5988 \else
5989 \global\let\@currentHref\HyperGlobalCurrentHref
5990 \fi
5991 }

```

\Hy@MakeCurrentHrefAuto

```

5992 \def\Hy@MakeCurrentHrefAuto#1{%
5993 \Hy@GlobalStepCount\Hy@linkcounter

```

```

5994 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
5995 }

```

\@currentHlabel \@currentHlabel is only defined for compatibility with package ‘hydvips’.

```

5996 \def\@currentHlabel{\@currentHref}

5997 \ifpackageloaded{fancyvrb}{%
5998   \ifpackagelater{fancyvrb}{1998/05/20}{-}{%
5999     \def\FV@StepLineNo{%
6000       \FV@SetLineNo
6001       \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
6002       \FV@StepLineNo
6003     }%
6004   }%
6005 }{}

```

## 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

```

6006 \Hy@AtBeginDocument{%
6007   \ifclassloaded{revtex4}{%
6008     \@namedef{ver@lastpage.sty}{1994/06/25}%
6009   }{}%
6010   \ifpackageloaded{lastpage}{%
6011     \ifHy@pageanchor
6012     \else
6013       \Hy@WarningNoLine{%
6014         The \string\pageref{LastPage} link doesn't work\MessageBreak
6015         with disabled option 'pageanchor'%
6016       }%
6017     \fi
6018     \def\lastpage@putlabel{%
6019       \addtocounter{page}{-1}%
6020       \if@filesw
6021         \begingroup
6022           \let\@number\@firstofone
6023           \ifHy@pageanchor
6024             \ifHy@hypertexnames
6025               \ifHy@plainpages
6026                 \def\Hy@temp{\arabic{page}}%
6027               \else
6028                 \Hy@unicodefalse
6029                 \pdfstringdef\Hy@temp{\thepage}%
6030             \fi
6031           \else
6032             \def\Hy@temp{\the\Hy@pagecounter}%
6033           \fi
6034         \fi

```

```

6035 \immediate\write\@auxout{%
6036 \string\newlabel
6037 {LastPage}{\thepage}{\thepage}{\thepage}{\thepage}{\thepage}%
6038 \ifHy@pageanchor page.\Hy@temp\fi}{\thepage}%
6039 }%
6040 \endgroup
6041 \fi
6042 \addtocounter{page}{1}%
6043 }%
6044 \@ifclassloaded{revtex4}{%
6045 \begingroup
6046 \toks@{\expandafter{\lastpage@putlabel}}%
6047 \edef\x{\endgroup
6048 \def\noexpand\lastpage@putlabel{%
6049 \noexpand\stepcounter{page}%
6050 \the\toks@
6051 \noexpand\addtocounter{page}\noexpand\m@ne
6052 }%
6053 }%
6054 \x
6055 }{}%
6056 }{}%
6057 }
6058 \end{package}
6059 \check
6060 \checkpackage{lastpage}[1994/06/25]
6061 \checkcommand\def\lastpage@putlabel{%
6062 \addtocounter{page}{-1}%
6063 \immediate\write\@auxout{%
6064 \string\newlabel{LastPage}{\thepage}{\thepage}{\thepage}{\thepage}{\thepage}%
6065 }%
6066 \addtocounter{page}{1}%
6067 }
6068 \end{check}
6069 \end{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.

```

6070 \def\hypergetref#1{\getrefbykeydefault{#1}{\thepage}}
6071 \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:

```

6072 \@ifpackageloaded{titlesec}{%
6073 \def\ttl@Hy@steplink#1{%
6074 \Hy@MakeCurrentHrefAuto{#1*}%
6075 \edef\ttl@Hy@saveanchor{%
6076 \noexpand\Hy@raisedlink{%
6077 \noexpand\hyper@anchorstart{\@currentHref}%

```

```

6078 \noexpand\hyper@anchorend
6079 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
6080 \noexpand\ttl@Hy@PatchSaveWrite
6081 }%
6082 }%
6083 }%
6084 \def\ttl@Hy@PatchSaveWrite{%
6085 \begingroup
6086 \toks@{\expandafter{\ttl@savewrite}}%
6087 \edef\x{\endgroup
6088 \def\noexpand\ttl@savewrite{%
6089 \let\noexpand\@currentHref
6090 \noexpand\ttl@Hy@SavedCurrentHref
6091 \the\toks@
6092 }%
6093 }%
6094 \x
6095 }%
6096 \def\ttl@Hy@refstepcounter#1{%
6097 \let\ttl@b\Hy@raisedlink
6098 \def\Hy@raisedlink##1{%
6099 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
6100 }%
6101 \refstepcounter{#1}%
6102 \let\Hy@raisedlink\ttl@b
6103 }%
6104 }{}

Package titletoc support:
6105 \@ifpackageloaded{titletoc}{%
6106 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
6107 }{}

```

## 32 Package varioref support

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

```

6108 \def\Hy@varioref@undefined{???}{??}{-}{-}
6109 \@ifpackageloaded{varioref}{%
6110 \def\vref@pagenum#1#2{%
6111 \@ifundefined{r@#2}{%
6112 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
6113 }{}%
6114 \edef#1{\getpagerefnumber{#2}}%
6115 }%
6116 }{}

```

## 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

```

6117 \@ifpackageloaded{longtable}{%

```



```

6118 \begingroup
6119 \def\y{\LT@array}%
6120 \ifundefined{scr@LT@array}{\def\y{\scr@LT@array}}%
6121 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
6122 \expandafter\endgroup
6123 \expandafter\def\y[#1]##2{%
6124 \H@refstepcounter{#1}%
6125 \hyper@makecurrent{table}%
6126 \let\Hy@LT@currentHref\@currentHref
6127 #2\@sharp###4%
6128 }%
6129 }%
6130 \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

6131 \begingroup
6132 \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
6133 \endgroup
6134 \def\LT@start{%
6135 #1%
6136 \let\@currentHref\Hy@LT@currentHref
6137 \Hy@raisedlink{%
6138 \hyper@anchorstart{\@currentHref}\hyper@anchorend
6139 }%
6140 \ifvoid\LT@firsthead\copy
6141 #2%
6142 }%
6143 }%
6144 \expandafter\x\LT@start\@nil
6145 }{}

```

## 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.

```

6146 \let\new@refstepcounter\refstepcounter
6147 \let\H@equation\equation
6148 \let\H@endequation\endequation
6149 \ifpackageloaded{amsmath}{%
6150 \long\def\Hy@temp{%
6151 \incr@eqnum
6152 \mathdisplay@push
6153 \st@rredfalse \global\@eqnswtrue
6154 \mathdisplay{equation}%
6155 }%
6156 \ifx\Hy@temp\equation
6157 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
6158 \csname iftrue\endcsname
6159 \else
6160 \long\def\equation{%
6161 \mathdisplay@push
6162 \st@rredfalse \global\@eqnswtrue
6163 \mathdisplay{equation}%

```

```

6164     \incr@eqnum
6165   }%
6166   \fi
6167 \fi
6168 }{%
6169 \def\equation{%
6170   \let\refstepcounter\H@refstepcounter
6171   \H@equation
6172   \@ifundefined{theHequation}{%
6173     \make@stripped@name{\theequation}%
6174     \let\theHequation\newname
6175   }{%
6176     \hyper@makecurrent{equation}%
6177     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
6178     \let\refstepcounter\new@refstepcounter
6179   }%
6180 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
6181 }

```

My goodness, why can't L<sup>A</sup>T<sub>E</sub>X 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.

```

6182 \newif\if@eqnstar
6183 \@eqnstarfalse
6184 \let\H@eqnarray\eqnarray
6185 \let\H@endeqnarray\endeqnarray
6186 \def\eqnarray{%
6187   \let\Hy@reserved@a\relax
6188   \def\@currentHref{}%
6189   \H@eqnarray
6190   \if@eqnstar
6191   \else
6192     \ifx\\\@currentHref\\%
6193     \else
6194       \@ifundefined{theHequation}{%
6195         \make@stripped@name{\theequation}%
6196         \let\theHequation\newname
6197       }{%
6198         \hyper@makecurrent{equation}%
6199         \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6200       \fi
6201     \fi
6202   }
6203 \def\endeqnarray{%
6204   \H@endeqnarray
6205 }

```

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.

```

6206 \@namedef{eqnarray*}{%
6207   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
6208 }
6209 \@namedef{endeqnarray*}{%
6210   \nonumber\endeqnarray\@eqnstarfalse
6211 }

```

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

```

6212 \ltx@ifundefined{subeqnarray}{%}{%
6213   \let\H@subeqnarray\subeqnarray
6214   \let\H@endsubeqnarray\endsubeqnarray
6215   \def\subeqnarray{%
6216     \let\Hy@reserved@a\relax
6217     \H@subeqnarray
6218     \@ifundefined{theHequation}{%
6219       \make@stripped@name{\theequation}%
6220       \let\theHequation\newname
6221     }{}%
6222     \hyper@makecurrent{equation}%
6223     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6224   }%
6225   \def\endsubeqnarray{%
6226     \H@endsubeqnarray
6227   }%
6228   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
6229 }

```

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

```

6230 \def\make@stripped@name#1{%
6231   \begingroup
6232   \escapechar\m@ne
6233   \global\let\newname\@empty
6234   \protected@edef\Hy@tempa{#1}%
6235   \edef\@tempb{%
6236     \noexpand\@tfor\noexpand\Hy@tempa:=%
6237     \expandafter\strip@prefix\meaning\Hy@tempa
6238   }%
6239   \@tempb\do{%
6240     \if{\Hy@tempa\else
6241       \if{\Hy@tempa\else
6242         \xdef\newname{\newname\Hy@tempa}%
6243       \fi
6244     \fi
6245   }%
6246   \endgroup
6247 }

```

Support for amsmath's subequations:

```

6248 \begingroup\expandafter\expandafter\expandafter\endgroup
6249 \expandafter\ifx\cename subequations\endcename\relax
6250 \else
6251   \let\HyOrg@subequations\subequations
6252   \def\subequations{%
6253     \stepcounter{equation}%
6254     \protected@edef\theHparentequation{%
6255       \@ifundefined{theHequation}\theequation\theHequation
6256     }%
6257     \addtocounter{equation}{-1}%
6258     \HyOrg@subequations
6259     \def\theHequation{\theHparentequation\alph{equation}}%
6260     \ignorespaces
6261   }%
6262 \fi

```

Support for package amsthm (Daniel Müllner):

```

6263 \ifpackageloaded{amsthm}{%
6264   \def\@thm#1#2#3{%
6265     \ifhmode
6266       \unskip\unskip\par
6267     \fi
6268     \normalfont
6269     \trivlist
6270     \let\thmheadnl\relax
6271     \let\thm@swap\@gobble
6272     \thm@notefont{\fontseries\mddefault\upshape}%
6273     \thm@headpunct{.}% add period after heading
6274     \thm@headsep 5\p@ plus\p@ minus\p@\relax
6275     \thm@space@setup
6276     #1% style overrides
6277     \@topsep \thm@preskip           % used by thm head
6278     \@topsepadd \thm@postskip      % used by \@endparenv
6279     \def\dth@counter{#2}%
6280     \ifx\@empty\dth@counter
6281       \def\@tempa{%
6282         \@oparg{\@begintheorem{#3}{}}[]%
6283       }%
6284     \else
6285       \H@refstepcounter{#2}%
6286       \hyper@makecurrent{#2}%
6287       \def\@tempa{%
6288         \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
6289       }%
6290     \fi
6291     \@tempa
6292   }%
6293   \dth@everypar={%
6294     \@minipagefalse
6295     \global\@newlistfalse
6296     \@noparitemfalse
6297     \if@inlabel
6298       \global\@inlabelfalse
6299     \begingroup
6300     \setbox\z@\lastbox
6301     \ifvoid\z@
6302       \kern-\itemindent
6303     \fi
6304     \endgroup
6305     \ifx\@empty\dth@counter
6306     \else
6307       \Hy@raisedlink{%
6308         \hyper@anchorstart{\@currentHref}\hyper@anchorend
6309       }%
6310     \fi
6311     \unhbox\@labels
6312   \fi
6313   \if@nobreak
6314     \@nobreakfalse \clubpenalty\@M
6315   \else
6316     \clubpenalty\@clubpenalty \everypar{}%
6317   \fi
6318 }%
```

6319 }{}

## 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.

```
6320 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
6321 \ifHy@hyperfootnotes
6322   \newcounter{Hfootnote}%
6323   \let\H@@footnotetext\@footnotetext
6324   \let\H@@footnotemark\@footnotemark
6325   \def\@xfootnotenext[#1]{%
6326     \begingroup
6327       \csname c@\@mpfn\endcsname #1\relax
6328       \unrestored@protected@xdef\@thefnmark{\thempfn}%
6329     \endgroup
6330     \ifx\@footnotetext\@mpfootnotetext
6331       \expandafter\H@@mpfootnotetext
6332     \else
6333       \expandafter\H@@footnotetext
6334     \fi
6335   }%
6336   \def\@xfootnotemark[#1]{%
6337     \begingroup
6338       \c@footnote #1\relax
6339       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6340     \endgroup
6341     \H@@footnotemark
6342   }%
6343   \let\H@@mpfootnotetext\@mpfootnotetext
6344   \long\def\@mpfootnotetext#1{%
6345     \H@@mpfootnotetext{%
6346       \ifHy@nesting
6347         \expandafter\hyper@@anchor\expandafter{%
6348           \Hy@footnote@currentHref
6349         }{#1}%
6350       \else
6351         \Hy@raisedlink{%
6352           \expandafter\hyper@@anchor\expandafter{%
6353             \Hy@footnote@currentHref
6354           }\relax}%
6355         }#1%
6356       \fi
6357     }%
6358   }%
6359   \long\def\@footnotetext#1{%
6360     \H@@footnotetext{%
6361       \ifHy@nesting
6362         \expandafter\hyper@@anchor\expandafter{%
6363           \Hy@footnote@currentHref
6364         }{#1}%
6365       \else
6366         \Hy@raisedlink{%
```

```

6367     \expandafter\hyper@@anchor\expandafter{%
6368       \Hy@footnote@currentHref
6369     }{\relax}%
6370   }%
6371   \let\@currentHref\Hy@footnote@currentHref
6372   \let\@currentlabelname\@empty
6373   #1%
6374   \fi
6375 }%
6376 }%

```

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.

```

6377 \def\@footnotemark{%
6378   \leavevmode
6379   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
6380   \stepcounter{Hfootnote}%
6381   \global\let\Hy@saved@currentHref\@currentHref
6382   \hyper@makecurrent{Hfootnote}%
6383   \global\let\Hy@footnote@currentHref\@currentHref
6384   \global\let\@currentHref\Hy@saved@currentHref
6385   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
6386   \@makefnmark
6387   \hyper@linkend
6388   \ifhmode\spacefactor\x@sf\fi
6389   \relax
6390 }%

```

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

```

6391 \ifpackageloaded{longtable}{%
6392   \CheckCommand*\LT@p@ftntext}[1]{%
6393     \edef\@tempa{%
6394       \the\LT@p@ftn
6395       \noexpand\footnotetext[\the\c@footnote]%
6396     }%
6397     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
6398   }%
6399   \long\def\LT@p@ftntext#1{%
6400     \edef\@tempa{%
6401       \the\LT@p@ftn
6402       \begingroup
6403         \noexpand\c@footnote=\the\c@footnote\relax
6404         \noexpand\protected@xdef
6405           \noexpand\@thefnmark{\noexpand\thempfn}%
6406         \noexpand\protected@xdef\noexpand\@thefnmark{%
6407           \noexpand\thempfn
6408         }%
6409         \expandafter\noexpand\expandafter\Hy@LT@footnotetext
6410         \expandafter{%
6411           \Hy@footnote@currentHref
6412         }%
6413       }%
6414     \global\LT@p@ftn\expandafter{%

```

```

6415     \@tempa{#1}%
6416     \endgroup
6417   }%
6418 }%
6419 \long\def\Hy@LT@footnotetext#1#2{%
6420   \H@@@footnotetext{%
6421     \ifHy@nesting
6422       \hyper@@anchor{#1}{#2}%
6423     \else
6424       \Hy@raisedlink{%
6425         \hyper@@anchor{#1}{\relax}%
6426       }%
6427       \def\@currentHref{#1}%
6428       \let\@currentlabelname\@empty
6429       #2%
6430     \fi
6431   }%
6432 }%
6433 }{}%

```

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

```

6434 \ifpackageloaded{fancyvrb}{%
6435   \def\V@@@footnotetext{%
6436     \insert\footins\bgroup
6437     \csname reset@font\endcsname
6438     \footnotesize
6439     \interlinepenalty\interfootnotelinepenalty
6440     \splittopskip\footnotesep
6441     \splitmaxdepth\dp\strutbox
6442     \floatingpenalty \@MM
6443     \hsize\columnwidth
6444     \@parboxrestore
6445     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
6446     \makefnmark{}%
6447     \rule{\z@}{\footnotesep}%
6448     \bgroup
6449     \aftergroup\V@@@footnotetext
6450     \Hy@raisedlink{%
6451       \expandafter\hyper@@anchor\expandafter{%
6452         \Hy@footnote@currentHref
6453       }\relax}%
6454     }%
6455     \let\@currentHref\Hy@footnote@currentHref
6456     \let\@currentlabelname\@empty
6457     \ignorespaces
6458   }%
6459 }{}%

```

KOMA-Script defines `\footref` that uses both `\ref` and `\@footnotemark` resulting in two links, one of them wrong.

```

6460 \def\Hy@temp#1{%
6461   \begingroup
6462     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
6463   \endgroup
6464   \@footnotemark
6465 }%
6466 \ifx\Hy@temp\footref
6467   \def\footref#1{%

```

```

6468 \begingroup
6469 \unrestored@protected@xdef\@thefnmark{\ref{#1}}}%
6470 \endgroup
6471 \H@@footnotemark
6472 }%
6473 \fi

```

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.

```

6474 \let\HyOrg@maketitle\maketitle
6475 \def\maketitle{%
6476 \let\Hy@saved@footnotemark\@footnotemark
6477 \let\Hy@saved@footnotetext\@footnotetext
6478 \let\@footnotemark\H@@footnotemark
6479 \let\@footnotetext\H@@footnotetext
6480 \@ifnextchar[\Hy@maketitle@optarg{% ]
6481 \HyOrg@maketitle
6482 \Hy@maketitle@end
6483 }%
6484 }%
6485 \def\Hy@maketitle@optarg[#1]{%
6486 \HyOrg@maketitle[{#1}]%
6487 \Hy@maketitle@end
6488 }%
6489 \def\Hy@maketitle@end{%
6490 \ifx\@footnotemark\H@@footnotemark
6491 \let\@footnotemark\Hy@saved@footnotemark
6492 \fi
6493 \ifx\@footnotetext\H@@footnotetext
6494 \let\@footnotetext\Hy@saved@footnotetext
6495 \fi
6496 }%

```

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

```

6497 \def\realfootnote{%
6498 \@ifnextchar[\@xfootnote{%
6499 \stepcounter{\@mpfn}%
6500 \protected@xdef\@thefnmark{\thempfn}%
6501 \H@@footnotemark\H@@footnotetext
6502 }%
6503 }%
6504 \fi
6505 \Hy@DisableOption{hyperfootnotes}
6506 \end{package}
6507 \ifcheck
6508 \checklatex
6509 \checkcommand\def\@xfootnotenext[#1]{%
6510 \begingroup
6511 \csname c@\@mpfn\endcsname #1\relax
6512 \unrestored@protected@xdef\@thefnmark{\thempfn}%
6513 \endgroup
6514 \@footnotetext
6515 }
6516 \checkcommand\def\@xfootnotemark[#1]{%
6517 \begingroup
6518 \c@footnote #1\relax

```



```

6519 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6520 \endgroup
6521 \@footnotemark
6522 }
6523 \checkcommand\def\@footnotemark{%
6524 \leavevmode
6525 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
6526 \@makefnmark
6527 \ifhmode\spacefactor\@x@sf\fi
6528 \relax
6529 }
6530 </check>
6531 <*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.

```

6532 \def\caption{%
6533 \ifx\@captype\@undefined
6534 \latex@error{\noexpand\caption outside float}\@ehd
6535 \expandafter\@gobble
6536 \else
6537 \H@refstepcounter\@captype
6538 \let\Hy@tempa\@caption
6539 \ifundefined{float@caption}{%
6540 }{%
6541 \expandafter\ifx\csname @float@c@\@captype\endcsname
6542 \float@caption
6543 \let\Hy@tempa\Hy@float@caption
6544 \fi
6545 }%
6546 \expandafter\@firstofone
6547 \fi
6548 {\@dblarg{\Hy@tempa\@captype}}%
6549 }
6550 \long\def\@caption#1[#2]#3{%
6551 \expandafter\ifx\csname if@capstart\expandafter\endcsname
6552 \csname iftrue\endcsname
6553 \global\let\@currentHref\hc@currentHref
6554 \else
6555 \hyper@makecurrent{\@captype}%
6556 \fi
6557 \@ifundefined{NR@gettitle}{%
6558 \def\@currentlabelname{#2}%
6559 }{%
6560 \NR@gettitle{#2}%
6561 }%
6562 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
6563 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6564 }%
6565 \begingroup
6566 \@parboxrestore
6567 \if@minipage
6568 \setminipage
6569 \fi

```

```

6570 \normalsize
6571 \expandafter\ifx\csname if@capstart\expandafter\endcsname
6572 \csname iftrue\endcsname
6573 \global\@capstartfalse
6574 \makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
6575 \else
6576 \makecaption{\csname fnum@#1\endcsname}{%
6577 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

6578 \ifHy@nesting
6579 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
6580 \else
6581 \Hy@raisedlink{%
6582 \expandafter\hyper@@anchor\expandafter{%
6583 \@currentHref
6584 }{\relax}%
6585 }%
6586 #3%
6587 \fi
6588 }%
6589 \fi
6590 \par
6591 \endgroup
6592 }

```

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.

```

6593 \let\Hy@float@caption\@caption
6594 \@ifpackageloaded{float}{%
6595 \def\Hy@float@caption{%
6596 \ifx\Hy@float@currentHref\@undefined
6597 \hyper@makecurrent{\@cuptype}%
6598 \global\let\Hy@float@currentHref\@currentHref
6599 \else
6600 \let\@currentHref\Hy@float@currentHref
6601 \fi
6602 \float@caption
6603 }%
6604 \let\HyOrg@float@makebox\float@makebox
6605 \renewcommand{\float@makebox}[1]{%
6606 \HyOrg@float@makebox{%
6607 #1\relax
6608 \ifx\Hy@float@currentHref\@undefined
6609 \else
6610 \expandafter\hyper@@anchor\expandafter{%
6611 \Hy@float@currentHref
6612 }{\relax}%
6613 \global\let\Hy@float@currentHref\@undefined
6614 \fi
6615 }%
6616 }%
6617 }{}
6618 \</package>
6619 \<*check>
6620 \checklatex[1999/06/01 - 2000/06/01]
6621 \checkcommand\def\caption{%
6622 \ifx\@cuptype\@undefined

```

```

6623 \latex@error{\noexpand\caption outside float}\@ehd
6624 \expandafter\@gobble
6625 \else
6626 \refstepcounter\@capttype
6627 \expandafter\@firstofone
6628 \fi
6629 {\@dblarg{\@caption\@capttype}}%
6630 }
6631 \checkcommand\long\def\@caption#1[#2]#3{%
6632 \par
6633 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
6634 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6635 }%
6636 \begingroup
6637 \@parboxrestore
6638 \if@minipage
6639 \setminipage
6640 \fi
6641 \normalsize
6642 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
6643 \endgroup
6644 }
6645 \end{check}
6646 \end{package}

```

## 37 Bibliographic references

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

However, let's make an attempt to get *natbib* right, because that's a powerful, important package. Patrick Daly ([daly@linmpi.mpg.de](mailto:daly@linmpi.mpg.de)) has provided hooks for us, so all we need to do is activate them.

```

6647 \def\hyper@natlinkstart#1{%
6648 \Hy@backout{#1}%
6649 \hyper@linkstart{cite}{cite.#1}%
6650 \def\hyper@nat@current{#1}%
6651 }
6652 \def\hyper@natlinkend{%
6653 \hyper@linkend
6654 }
6655 \def\hyper@natlinkbreak#1#2{%
6656 \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
6657 }
6658 \def\hyper@natanchorstart#1{%
6659 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
6660 }
6661 \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.

```

6662 \ltx@ifundefined{NAT@parse}{%

```

```

6663 \providecommand*\@extra@binfo{}%
6664 \providecommand*\@extra@b@citeb{}%
6665 \def\bibcite#1#2{%
6666   \@newl@bel{b}{#1\@extra@binfo}{%
6667     \hyper@link[cite]{#1\@extra@b@citeb}{#2}%
6668   }%
6669 }%
6670 \gdef\@extra@binfo{}%

```

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

```

6671 \let\Hy@bibcite\bibcite
6672 \begingroup
6673   \@ifundefined{bbl@cite@choice}{%
6674     \g@addto@macro\bbl@cite@choice{%
6675       \let\bibcite\Hy@bibcite
6676     }%
6677   }%
6678 \endgroup

```

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

```

6679 \providecommand*\@BIBLABEL{\@biblabel}%
6680 \def\@lbibitem[#1]#2{%
6681   \@skiphyperrtrue
6682   \H@item{%
6683     \ifx\Hy@raisedlink\empty
6684       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
6685       \@BIBLABEL{#1}%
6686       \hyper@anchorend
6687     \else
6688       \Hy@raisedlink{%
6689         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
6690       }%
6691       \@BIBLABEL{#1}%
6692     \fi
6693     \hfill
6694   }%
6695   \@skiphyperrfalse
6696   \if@filesw
6697     \begingroup
6698       \let\protect\noexpand
6699       \immediate\write\@auxout{%
6700         \string\bibcite{#2}{#1}%
6701       }%
6702     \endgroup
6703   \fi
6704   \ignorespaces
6705 }%

```

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

```

6706 \def\@bibitem#1{%
6707   \@skiphyperrtrue\H@item\@skiphyperrfalse
6708   \Hy@raisedlink{%
6709     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
6710   }%
6711   \if@filesw
6712     \begingroup
6713     \let\protect\noexpand

```

```

6714      \immediate\write\@auxout{%
6715      \string\bibcite{#1}{\the\value{\@listctr}}}%
6716      }%
6717      \endgroup
6718      \fi
6719      \ignorespaces
6720      }%
6721      }{}

6722 </package>
6723 <*check>
6724 \checklatex
6725 \checkcommand\def\@bibitem[#1]#2{%
6726 \item[\@biblabel{#1}\hfill]%
6727 \if@filesw
6728 {%
6729 \let\protect\noexpand
6730 \immediate\write\@auxout{%
6731 \string\bibcite{#2}{#1}%
6732 }%
6733 }%
6734 \fi
6735 \ignorespaces
6736 }
6737 \checkcommand\def\@bibitem#1{%
6738 \item
6739 \if@filesw
6740 \immediate\write\@auxout{%
6741 \string\bibcite{#1}{\the\value{\@listctr}}}%
6742 }%
6743 \fi
6744 \ignorespaces
6745 }
6746 </check>
6747 <*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.

```

6748 \ifclassloaded{revtex}{%
6749 \Hy@Info{*** compatibility with revtex **** }%
6750 \def\revtex@checking#1#2{%
6751 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
6752 \expandafter\def\csname b@#1\endcsname{#2}%
6753 \@SetMaxRnhefLabel{#1}%
6754 \expandafter\let\csname b@#1\endcsname\T@temp
6755 }%

```

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

```

6756 \@ifundefined{CITE}{\def\CITE{\@cite}}{}%
6757 \providecommand*\@extra@b@citeb{}%
6758 \def\CITEX[#1]#2{%
6759 \let\@citea\@empty
6760 \leavevmode
6761 \unskip
6762 $\sim$%
6763 \scriptstyle

```

```

6764 \@@CITE{%
6765 \@@for\@citeb:=#2\do{%
6766 \@citea
6767 \def\@citea{,\penalty\@m\ }%
6768 \edef\@citeb{\expandafter\@firstofone\@citeb}%
6769 \if@filesw
6770 \immediate\write\@auxout{\string\citation{\@citeb}}%
6771 \fi
6772 \ifundefined{b@\@citeb\extra@b@citeb}{%
6773 \mbox{\reset@font\bfseries ?}%
6774 \G@refundefinedtrue
6775 \@latex@warning{%
6776 Citation '\@citeb' on page \thepage \space undefined%
6777 }%
6778 }{%
6779 {\csname b@\@citeb\extra@b@citeb\endcsname}%
6780 }%
6781 }%
6782 }{#1}%
6783 }$%
6784 }%

```

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.

```

6785 \def\@citex[#1]#2{%
6786 \let\@citea\@empty
6787 \@cite{%
6788 \@@for\@citeb:=#2\do{%
6789 \@citea
6790 \def\@citea{,\penalty\@m\ }%
6791 \edef\@citeb{\expandafter\@firstofone\@citeb}%
6792 \if@filesw
6793 \immediate\write\@auxout{\string\citation{\@citeb}}%
6794 \fi
6795 \ifundefined{b@\@citeb\extra@b@citeb}{%
6796 \mbox{\reset@font\bfseries ?}%
6797 \G@refundefinedtrue
6798 \@latex@warning{%
6799 Citation '\@citeb' on page \thepage \space undefined%
6800 }%
6801 }{%
6802 \hbox{\csname b@\@citeb\extra@b@citeb\endcsname}%
6803 }%
6804 }%
6805 }{#1}%
6806 }%
6807 }{}

```

### 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.

```

6808 \ifpackageloaded{harvard}{%

```

```

6809 \Hy@AtBeginDocument{%
6810 \Hy@Info{*** compatibility with harvard **** }%
6811 \Hy@raiselinksfalse
6812 \def\harvardcite#1#2#3#4{%
6813 \global\@namedef{HAR@fn@#1}{\hyper@@link[cite]{}{cite.#1}{#2}}%
6814 \global\@namedef{HAR@an@#1}{\hyper@@link[cite]{}{cite.#1}{#3}}%
6815 \global\@namedef{HAR@yr@#1}{\hyper@@link[cite]{}{cite.#1}{#4}}%
6816 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
6817 }%
6818 \def\HAR@citetoaux#1{%
6819 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
6820 \ifHy@backref
6821 \ifx\@empty\@currentlabel
6822 \else
6823 \@bsphack
6824 \if@filesw
6825 \protected@write\@auxout{}{%
6826 \string\@writefile{brf}{%
6827 \string\backcite{#1}{%
6828 {\thepage}{\@currentlabel}{\@currentHref}}%
6829 }%
6830 }%
6831 }%
6832 \fi
6833 \@esphack
6834 \fi
6835 \fi
6836 }%
6837 \def\harvarditem{%
6838 \ifnextchar[{\@harvarditem}{\@harvarditem[\null]}}%
6839 }%
6840 \def\@harvarditem[#1]#2#3#4#5\par{%
6841 \item[]%
6842 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
6843 \if@filesw
6844 \begingroup
6845 \def\protect##1{\string ##1\space}%
6846 \ifthenelse{\equal{#1}{\null}}{%
6847 {\def\next{{#4}{#2}{#3}}}%
6848 {\def\next{{#4}{#2}{#1}{#3}}}%
6849 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
6850 \endgroup
6851 \fi
6852 \protect\hspace*{-\labelwidth}%
6853 \protect\hspace*{-\labelsep}%
6854 \ignorespaces
6855 #5%
6856 \ifHy@backref
6857 \newblock
6858 \backref{\csname br@#4\endcsname}%
6859 \fi
6860 \par
6861 }%

```

`\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`:

```

6862 \long\def\HAR@checkcitations#1#2#3#4{%
6863   \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
6864   \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
6865     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
6866     \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
6867       \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
6868       \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
6869         \else
6870           \@tempswatrue
6871         \fi
6872       \else
6873         \@tempswatrue
6874       \fi
6875     \else
6876       \@tempswatrue
6877     \fi
6878   }%
6879 }%

6880 }{}

```

## 37.2 Package chicago

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

```

6881 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

6882 \def\citeN{%
6883   \def\@citesep{~1000}%
6884   \def\@cite##1##2{##1}%
6885   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
6886   \@citedata@opt
6887 }%

```

`\shortciteN`

```

6888 \def\shortciteN{%
6889   \def\@citesep{~1000}%
6890   \def\@cite##1##2{##2}%
6891   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
6892   \@citedata@opt
6893 }%

```

`\@citedata@opt`

```

6894 \def\@citedata@opt{%
6895   \let\@cite@opt\@empty
6896   \@ifnextchar [{%
6897     \@tempswatrue
6898     \@citedatax@opt
6899   }{%
6900     \@tempswafalse
6901     \@citedatax[]%
6902   }%
6903 }%

```

`\@citedatax@opt`

```

6904 \def\@citedatax@opt[#1]{%

```



```

6905 \def\@cite@opt{, #1}%
6906 \@citedatax[{#1}]%
6907 }%

6908 }{}

```

## 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.

```

6909 \def\Hy@EveryPageAnchor{%
6910 \Hy@DistillerDestFix
6911 \ifHy@pageanchor
6912 \ifHy@hypertextnames
6913 \ifHy@plainpages
6914 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
6915 \else
6916 \begingroup
6917 \let\@number\@firstofone
6918 \Hy@unicodfalse
6919 \pdfstringdef\@the@H@page{\thepage}%
6920 \endgroup
6921 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
6922 \fi
6923 \else
6924 \Hy@GlobalStepCount\Hy@pagecounter
6925 \def\Hy@TempPageAnchor{%
6926 \hyper@@anchor{page.\the\Hy@pagecounter}}%
6927 }%
6928 \fi
6929 \vbox to 0pt{%
6930 \kern\voffset
6931 \kern\topmargin
6932 \kern-1bp\relax
6933 \hbox to 0pt{%
6934 \kern\hoffset
6935 \kern\ifodd\value{page}%
6936 \oddsidemargin
6937 \else
6938 \evensidemargin
6939 \fi
6940 \kern-1bp\relax
6941 \Hy@TempPageAnchor
6942 \hss
6943 }%
6944 \vss
6945 }%
6946 \fi
6947 }
6948 \g@addto@macro\Hy@EveryPageBoxHook{%
6949 \Hy@EveryPageAnchor
6950 }

```

## 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.

```
6951 \def\addcontentsline#1#2#3{% toc extension, type, tag
6952   \begingroup
6953   \let\label\@gobble
6954   \ifx\@currentHref\@empty
6955     \Hy@Warning{%
6956       No destination for bookmark of \string\addcontentsline,%
6957       \MessageBreak destination is added%
6958     }%
6959   \phantomsection
6960 \fi
6961 \expandafter\ifx\csname toplevel@#2\endcsname\relax
6962   \begingroup
6963   \def\Hy@tempa{#1}%
6964   \ifx\Hy@tempa\Hy@bookmarkstype
6965     \Hy@WarningNoLine{%
6966       bookmark level for unknown #2 defaults to 0%
6967     }%
6968   \else
6969     \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6970   \fi
6971 \endgroup
6972 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
6973 \fi
6974 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
6975 \Hy@writebookmark{\csname the#2\endcsname}%
6976   {#3}%
6977   {\@currentHref}%
6978   {\Hy@toplevel}%
6979   {#1}%
6980 \ifHy@verbose
6981   \begingroup
6982     \def\Hy@tempa{#3}%
6983     \@onelevel@sanitize\Hy@tempa
6984     \let\temp@online\on@line
6985     \let\on@line\@empty
6986     \Hy@Info{%
6987       bookmark\temp@online:\MessageBreak
6988       thecounter {\csname the#2\endcsname}\MessageBreak
6989       text {\Hy@tempa}\MessageBreak
6990       reference {\@currentHref}\MessageBreak
6991       toplevel {\Hy@toplevel}\MessageBreak
6992       type {#1}%
6993     }%
6994   \endgroup
6995 \fi
6996 \addtocontents{#1}{%
6997   \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6998   }%
6999 \endgroup
7000 }
7001 \def\contentsline#1#2#3#4{%
7002   \ifx\\#4\\%
```

```

7003 \csname l@#1\endcsname{#2}{#3}%
7004 \else
7005 \ifcase\Hy@linktoc % none
7006 \csname l@#1\endcsname{#2}{#3}%
7007 \or % section
7008 \csname l@#1\endcsname{%
7009 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7010 }{#3}%
7011 \or % page
7012 \csname l@#1\endcsname{#2}{#3}%
7013 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7014 }%
7015 \else % all
7016 \csname l@#1\endcsname{%
7017 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7018 }{%
7019 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7020 }%
7021 \fi
7022 \fi
7023 }

7024 </package>
7025 <*check>
7026 \checklatex
7027 \checkcommand\def\addcontentsline#1#2#3{%
7028 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
7029 }
7030 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7031 </check>
7032 <*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.

```

7033 \let\H@definecounter\@definecounter
7034 \def\@definecounter#1{%
7035 \H@definecounter{#1}%
7036 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7037 }

```

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.

```

7038 \let\H@newctr\@newctr
7039 \def\@newctr#1[#2]{%
7040 \H@newctr#1[#2]%
7041 \expandafter\def\csname theH#1\endcsname{%
7042 \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
7043 }%
7044 }

```

## 41 AMS $\text{\LaTeX}$ compatibility

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

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

Version 6.77p uses a patch by Ross Moore.

```

7045 \ifpackageloaded{amsmath}{%
7046   \def\Hy@make@anchor{%
7047     \Hy@MakeCurrentHrefAuto{AMS}%
7048     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7049   }%
7050   \def\Hy@make@df@tag@@#1{%
7051     \gdef\df@tag{%
7052       \maketag@@@{\Hy@make@anchor#1}%
7053       \def\@currentlabel{#1}%
7054     }%
7055   }%
7056   \def\Hy@make@df@tag@@@#1{%
7057     \gdef\df@tag{%
7058       \tagform@{\Hy@make@anchor#1}%
7059       \toks@{\xp{\p@equation{#1}}}%
7060       \edef\@currentlabel{the\toks@}%
7061     }%
7062   }%
7063   \let\HyOrg@make@df@tag@@\make@df@tag@@
7064   \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
7065   \let\make@df@tag@@\Hy@make@df@tag@@
7066   \let\make@df@tag@@@\Hy@make@df@tag@@@
7067 }{}

```

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

```

7068 \ifpackagewith{hyperref}{pdfTeX}{%
7069   \let\H@seteqlabel\@seteqlabel
7070   \def\@seteqlabel#1{%
7071     \H@seteqlabel{#1}%
7072     \xdef\@currentHref{AMS.the\Hy@linkcounter}%
7073     \Hy@raisedlink{%
7074       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7075     }%
7076   }%
7077 }{}

```

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.

```

7078 \let\HyOrg@addtoreset\@addtoreset

```

```

7079 \def\@addtoreset#1#2{%
7080   \HyOrg@addtoreset{#1}{#2}%
7081   \expandafter\xdef\csname theH#1\endcsname{%
7082     \expandafter\noexpand
7083       \csname the\@ifundefined{theH#2}{H#2\endcsname
7084       .\noexpand\the\noexpand\value{#1}%
7085   }%
7086 }

```

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

```

7087 </package>
7088 <*check>
7089 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
7090 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
7091   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7092     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7093       \@addtoreset{#2}{#3}%
7094       \@xp\xdef\csname the#2\endcsname{%
7095         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7096       }%
7097     }%
7098   }%
7099 }%
7100 </check>
7101 <*package>
7102 \@ifpackageloaded{amsmath}{%
7103   \@ifpackagelater{amsmath}{1999/12/14}{%
7104     \renewcommand*{\numberwithin}[3][\arabic]{%
7105       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7106         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7107           \HyOrg@addtoreset{#2}{#3}%
7108           \@xp\xdef\csname the#2\endcsname{%
7109             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7110           }%
7111           \@xp\xdef\csname theH#2\endcsname{%
7112             \@xp\@nx
7113             \csname the\@ifundefined{theH#3}{H#3\endcsname
7114             .\@nx#1{#2}%
7115           }%
7116         }%
7117       }%
7118     }%
7119   }{%
7120     \Hy@WarningNoLine{%
7121       \string\numberwithin\space of package ‘amsmath’ %
7122       only fixed\MessageBreak
7123       for version 2000/06/06 v2.12 or newer%
7124     }%
7125   }%
7126 }{}

```

## 42 Included figures

Simply intercept the low level graphics package macro.

```

7127 \ifHy@figures

```

```

7128 \let\Hy@Gin@setfile\Gin@setfile
7129 \def\Gin@setfile#1#2#3{%
7130   \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
7131 }%
7132 \fi
7133 \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 emboldening 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.

```

7134 \ifHy@hyperindex
7135   \def\HyInd@ParenLeft{(%
7136   \def\HyInd@ParenRight{)%
7137   \def\hyperindexformat#1#2{%
7138     \let\HyOrg@hyperpage\hyperpage
7139     \let\hyperpage\@firstofone
7140     #1{\HyOrg@hyperpage{#2}}%
7141     \let\hyperpage\HyOrg@hyperpage
7142   }%
7143   \Hy@nextfalse
7144   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
7145   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
7146   \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
7147   \begingroup
7148     \lccode'\|=\expandafter\HyInd@EncapChar\relax
7149     \lccode'\|/\|=\relax
7150   \lowercase{\endgroup
7151     \ifHy@next
7152       \let\HyInd@org@wrindex\@wrindex
7153       \def\@wrindex#1#2{\HyInd@@wrindex{#1}{#2}||\}%
7154       \def\HyInd@@wrindex#1#2|#3|#4\|{\%
7155         \ifx\|#3\|
7156           \HyInd@org@wrindex{#1}{#2|hyperpage}%
7157         \else
7158           \HyInd@@@wrindex{#1}{#2}{#3}\|
7159         \fi
7160       }%
7161       \def\HyInd@@@wrindex#1#2#3#4\|{\%
7162         \def\Hy@temp@A{#3}%
7163         \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7164           \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7165         \relax
7166         \HyInd@org@wrindex{#1}{%
7167           #2|hyperindexformat{/#3#4}%
7168         }%
7169       \else
7170         \ifx\|#4\|

```

```

7171         \ifx\Hy@temp@A\HyInd@ParenRight
7172         \HyInd@org@wrindex{#1}{#2|#3}%
7173     \else
7174         \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
7175     \fi
7176 \else
7177     \HyInd@org@wrindex{#1}{%
7178         #2|#3hyperindexformat{/#4}%
7179     }%
7180 \fi
7181 \fi
7182 }%
7183 \else
7184     \def\@wrindex#1{\@@wrindex#1||\}%
7185     \def\@@wrindex#1|#2|#3\{\{%
7186         \if@filesw
7187             \ifx\|#2\%
7188                 \protected@write\@indexfile{}\{%
7189                     \string\indexentry{#1|hyperpage}{\thepage}%
7190                 }%
7191             \else
7192                 \HyInd@@@wrindex{#1}#2\%
7193             \fi
7194         \fi
7195     \endgroup
7196     \@esphack
7197 }%
7198 \def\HyInd@@@wrindex#1#2#3\{\{%
7199     \def\Hy@temp@A{#2}%
7200     \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7201         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7202         \relax
7203     \protected@write\@indexfile{}\{%
7204         \string\indexentry{%
7205             #1|hyperindexformat{/#2#3}%
7206         }{\thepage}%
7207     }%
7208 \else
7209     \ifx\|#3\%
7210         \ifx\Hy@temp@A\HyInd@ParenRight
7211             \protected@write\@indexfile{}\{%
7212                 \string\indexentry{#1|#2}{\thepage}%
7213             }%
7214         \else
7215             \protected@write\@indexfile{}\{%
7216                 \string\indexentry{#1|#2hyperpage}{\thepage}%
7217             }%
7218         \fi
7219     \else
7220         \protected@write\@indexfile{}\{%
7221             \string\indexentry{%
7222                 #1|#2hyperindexformat{/#3}%
7223             }{\thepage}%
7224         }%
7225     \fi
7226 \fi
7227 }%

```

```

7228 \fi
7229 }%
7230 \fi
7231 \Hy@DisableOption{hyperindex}
7232 \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.

```

7233 \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.

```

7234 \def\hyperpage#1{%
7235 \HyInd@hyperpage#1\nohyperpage{}\@nil
7236 }
7237 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
7238 \HyInd@@hyperpage{#1}%
7239 #2%
7240 \def\Hy@temp{#3}%
7241 \ifx\Hy@temp\@empty
7242 \else
7243 \Hy@ReturnAfterFi{%
7244 \HyInd@hyperpage#3\@nil
7245 }%
7246 \fi
7247 }
7248 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
7249 \def\@hyperpage#1--#2--#3\\\{%
7250 \ifx\#2\\\%
7251 \@commahyperpage{#1}%
7252 \else
7253 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
7254 \fi
7255 }
7256 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
7257 \def\@commahyperpage#1, #2,#3\\\{%
7258 \ifx\#2\\\%
7259 \HyInd@pagelink{#1}%
7260 \else
7261 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
7262 \fi
7263 }

```

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

```

7264 \def\HyInd@pagelink#1{%
7265 \begingroup
7266 \toks@={}%
7267 \HyInd@removespaces#1 \@nil
7268 \endgroup
7269 }
7270 \def\HyInd@removespaces#1 #2\@nil{%
7271 \toks@=\expandafter{\the\toks@#1}%
7272 \ifx\#2\\\%
7273 \edef\x{\the\toks@}%
7274 \ifx\x\@empty
7275 \else

```



```

7276 \hyperlink{page.\the\toks@}{\the\toks@}%
7277 \fi
7278 \else
7279 \Hy@ReturnAfterFi{%
7280 \HyInd@removespaces#2\@nil
7281 }%
7282 \fi
7283 }

```

## 44 Compatibility with foiltex

```

7284 \@ifclassloaded{foils}{%
7285 \providecommand*\ext@table{lot}%
7286 \providecommand*\ext@figure{lof}%
7287 }{}

```

## 45 Compatibility with seminar slide package

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

```

7288 \@ifclassloaded{seminar}{%
7289 \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
7290 }{%
7291 \Hy@seminarslidesfalse
7292 }
7293 \@ifpackageloaded{slidesec}{%
7294 \newcommand\theHslidesection {\arabic{slidesection}}}%
7295 \newcommand\theHslidesubsection{%
7296 \theHslidesection.\arabic{slidesubsection}}%
7297 }%
7298 \def\slide@heading[#1]#2{%
7299 \H@refstepcounter{slidesection}%
7300 \@addtoreset{slidesubsection}{slidesection}%
7301 \addtocontents{los}{%
7302 \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}}%
7303 {\@SCTR}{slideheading.\theslidesection}}%
7304 }%
7305 \def\Hy@tempa{#2}%
7306 \ifx\Hy@tempa\@empty
7307 \else
7308 {%
7309 \edef\@currentlabel{%
7310 \csname p@slidesection\endcsname\theslidesection
7311 }%
7312 \makeslideheading{#2}%
7313 }%
7314 \fi
7315 \gdef\theslideheading{#1}%
7316 \gdef\theslidesubheading{}%
7317 \ifHy@bookmarksnumbered
7318 \def\Hy@slidetitle{\theslidesection\space #1}%
7319 \else
7320 \def\Hy@slidetitle{#1}%
7321 \fi
7322 \ifHy@hypertexnames
7323 \ifHy@naturalnames

```

```

7324     \hyper@@anchor{slideheading.\theslidesection}{\relax}%
7325     \Hy@writebookmark
7326         {\theslidesection}%
7327         {\Hy@slidetitle}%
7328         {slideheading.\theslidesection}%
7329         {1}%
7330         {toc}%
7331     \else
7332     \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
7333     \Hy@writebookmark
7334         {\theslidesection}%
7335         {\Hy@slidetitle}%
7336         {slideheading.\theHslidesection}%
7337         {1}%
7338         {toc}%
7339     \fi
7340 \else
7341     \Hy@GlobalStepCount\Hy@linkcounter
7342     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7343     \Hy@writebookmark
7344         {\theslidesection}%
7345         {\Hy@slidetitle}%
7346         {slideheading.\the\Hy@linkcounter}%
7347         {1}%
7348         {toc}%
7349     \fi
7350 }%
7351 \def\slide@subheading[#1]#2{%
7352     \H@refstepcounter{slidesubsection}%
7353     \addtocontents{los}{%
7354         \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
7355         {\@SCTR}{slideheading.\theslidesubsection}%
7356     }%
7357     \def\Hy@tempa{#2}%
7358     \ifx\Hy@tempa\@empty
7359     \else
7360     {%
7361         \edef\@currentlabel{%
7362             \csname p@slidesubsection\endcsname\theslidesubsection
7363         }%
7364         \makeslidesubheading{#2}%
7365     }%
7366     \fi
7367     \gdef\theslidesubheading{#1}%
7368     \ifHy@bookmarksnumbered
7369         \def\Hy@slidetitle{\theslidesubsection\space #1}%
7370     \else
7371         \def\Hy@slidetitle{#1}%
7372     \fi
7373     \ifHy@hypertextnames
7374     \ifHy@naturalnames
7375         \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
7376         \Hy@writebookmark
7377             {\theslidesubsection}%
7378             {\Hy@slidetitle}%
7379             {slideheading.\theslidesubsection}%
7380             {2}%

```

```

7381         {toc}%
7382     \else
7383     \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
7384     \Hy@writebookmark
7385     {\theslidesubsection}%
7386     {\Hy@slidetitle}%
7387     {slideheading.\theHslidesubsection}%
7388     {2}%
7389     {toc}%
7390 \fi
7391 \else
7392 \Hy@GlobalStepCount\Hy@linkcounter
7393 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7394 \Hy@writebookmark
7395 {\theslidesubsection}%
7396 {\Hy@slidetitle}%
7397 {slideheading.\the\Hy@linkcounter}%
7398 {1}%
7399 {toc}%
7400 \fi
7401 }%
7402 \providecommand*{\listslidenam}{List of Slides}%
7403 \def\listofslides{%
7404     \section*{%
7405         \listslidenam
7406         \@mkboth{%
7407             \expandafter\MakeUppercase\listslidenam
7408         }{%
7409             \expandafter\MakeUppercase\listslidenam
7410         }%
7411     }%
7412     \def\l@slide##1##2##3##4{%
7413         \slide@undottedcline{%
7414             \slidenumberline{##3}{\hyperlink{##4}{##2}}%
7415         }{%
7416         }%
7417         \let\l@subslide\l@slide
7418         \@startlos
7419     }%
7420     \def\slide@contents{%
7421         \def\l@slide##1##2##3##4{%
7422             \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
7423         }%
7424         \let\l@subslide\@gobblefour
7425         \@startlos
7426     }%
7427     \def\Slide@contents{%
7428         \def\l@slide##1##2##3##4{%
7429             \ifcase\lslide@flag
7430                 \message{##1 ** \the\c@slidesection}%
7431                 \ifnum##1>\c@slidesection
7432                     \def\lslide@flag{1}%
7433                 {%
7434                     \large
7435                     \slide@ccline{%
7436                         \slidenumberline{$\rightarrow$bullet}%
7437                         {\hyperlink{##4}{##2}}%

```

```

7438     }{##3}%
7439   }%
7440   \else
7441     {%
7442       \large
7443       \slide@cline{%
7444         \slidenumberline{$\surd\;\bullet$}%
7445         {\hyperlink{##4}{##2}}%
7446       }{##3}%
7447     }%
7448   \fi
7449   \or
7450   \def\lslide@flag{2}%
7451   {%
7452     \large
7453     \slide@cline{%
7454       \slidenumberline{$\bullet$}%
7455       {\hyperlink{##4}{##2}}%
7456     }{##3}%
7457   }%
7458   \or
7459   {%
7460     \large
7461     \slide@cline{%
7462       \slidenumberline{$\bullet$}%
7463       {\hyperlink{##4}{##2}}%
7464     }{##3}%
7465   }%
7466   \fi
7467 }%
7468 \def\l@subslide##1##2##3##4{%
7469   \ifnum\lslide@flag=1 %
7470     \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
7471   \fi
7472 }%
7473 \def\lslide@flag{0}%
7474 \@startlos
7475 }%
7476 }{}

```

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.)

```

7477 \ifHy@texht
7478   \expandafter\endinput
7479 \fi
7480 \let\real@setref\@setref
7481 \def\@setref#1#2#3{% csname, extract group, refname
7482   \ifx#1\relax
7483     \protect\G@refundefinedtrue
7484     \nfss@text{\reset@font\bfseries ??}%
7485     \@latex@warning{%
7486       Reference ‘#3’ on page \thepage \space undefined%
7487     }%
7488   \else
7489     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
7490   \fi
7491 }

```

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

```

7492 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
7493   \begingroup
7494   \toks0={\hyper@@link{#5}{#4}}%
7495   \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
7496   \edef\x{\endgroup
7497     \the\toks0 {\the\toks1 }%
7498   }%
7499   \x
7500 }
7501 \def\@pagesetref#1#2#3{% csname, extract macro, ref
7502   \ifx#1\relax
7503     \protect\G@refundefinedtrue
7504     \nfss@text{\reset@font\bfseries ??}%
7505     \@latex@warning{%
7506       Reference '#3' on page \thepage \space undefined%
7507     }%
7508   \else
7509     \protect\hyper@@link
7510     {\expandafter\@fifthoffive#1}%
7511     {page.\expandafter\@secondoffive#1}%
7512     {\expandafter\@secondoffive#1}%
7513   \fi
7514 }
7515 \</package>
7516 \<*check>
7517 \checklatex
7518 \checkcommand\def\@setref#1#2#3{%
7519   \ifx#1\relax
7520     \protect\G@refundefinedtrue
7521     \nfss@text{\reset@font\bfseries ??}%
7522     \@latex@warning{%
7523       Reference '#3' on page \thepage\space undefined%
7524     }%
7525   \else
7526     \expandafter#2#1\null
7527   \fi
7528 }
7529 \</check>
7530 \<*package>

```

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

```

7531 \def\HyRef@StarSetRef#1{%
7532   \begingroup
7533   \Hy@safe@activetrue
7534   \edef\x{#1}%
7535   \@onelevel@sanitize\x
7536   \edef\x{\endgroup
7537     \noexpand\HyRef@@StarSetRef
7538     \expandafter\noexpand\csname r@\x\endcsname{\x}%
7539   }%
7540   \x
7541 }
7542 \def\HyRef@@StarSetRef#1#2#3{%
7543   \ifx#1\@undefined

```

```

7544 \let#1\relax
7545 \fi
7546 \real@setref#1#3{#2}%
7547 }
7548 \def\@refstar#1{%
7549 \HyRef@StarSetRef{#1}\@firstoffive
7550 }
7551 \def\@pagerefstar#1{%
7552 \HyRef@StarSetRef{#1}\@secondoffive
7553 }
7554 \Hy@AtBeginDocument{%
7555 \ifpackageloaded{varioref}{%
7556 \def\@Refstar#1{%
7557 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
7558 }%
7559 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
7560 \MakeUppercase#1%
7561 }%
7562 \DeclareRobustCommand*\@Ref*{%
7563 \ifstar\@Refstar\HyRef@Ref
7564 }%
7565 \def\HyRef@Ref#1{%
7566 \hyperref[{#1}]{\Ref*{#1}}%
7567 }%
7568 \def\@Vr@f#1{%
7569 \leavevmode\unskip\vref@space
7570 \hyperref[{#1}]{%
7571 \Ref*{#1}%
7572 \let\vref@space\nobreakspace
7573 \@vpageref\unskip]{#1}%
7574 }%
7575 }%
7576 \def\@vr@f#1{%
7577 \leavevmode\unskip\vref@space
7578 \begingroup
7579 \let\T@pageref\@pagerefstar
7580 \hyperref[{#1}]{%
7581 \ref*{#1}%
7582 \vpageref\unskip]{#1}%
7583 }%
7584 \endgroup
7585 }%
7586 }{}%
7587 }
7588 \DeclareRobustCommand*\@autopageref{%
7589 \ifstar{%
7590 \HyRef@autopagerefname\pageref*%
7591 }\HyRef@autopageref
7592 }
7593 \def\HyRef@autopageref#1{%
7594 \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
7595 }
7596 \def\HyRef@autopagerefname{%
7597 \ltx@ifundefined{pageautorefname}{%
7598 \ltx@ifundefined{pagename}{%
7599 \Hy@Warning{No autoref name for ‘page’}%
7600 }{%

```

```

7601 \pagename\nobreakspace
7602 }%
7603 }{%
7604 \pageautorefname\nobreakspace
7605 }%
7606 }
7607 \DeclareRobustCommand*{\autoref}{%
7608 \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
7609 }
7610 \def\HyRef@autoref#1#2{%
7611 \begingroup
7612 \Hy@safe@activetrue
7613 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
7614 \endgroup
7615 }
7616 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
7617 \HyRef@ShowKeysRef{#2}%
7618 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
7619 \edef\HyRef@thisref{%
7620 \expandafter\@fourthoffive#1\@empty\@empty\@empty
7621 }%
7622 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
7623 \Hy@safe@activetrue
7624 #3{%
7625 \expandafter\@fifthoffive#1\@empty\@empty\@empty
7626 }{%
7627 \expandafter\@fourthoffive#1\@empty\@empty\@empty
7628 }{%
7629 \HyRef@currentHtag
7630 \expandafter\@firstoffive#1\@empty\@empty\@empty
7631 \null
7632 }%
7633 \else
7634 \protect\G@refundefinedtrue
7635 \nfss@text{\reset@font\bfseries ??}%
7636 \@latex@warning{%
7637 Reference '#2' on page \thepage\space undefined%
7638 }%
7639 \fi
7640 }
7641 \def\HyRef@testreftype#1.#2\{\%
7642 \ltx@ifundefined{#1autorefname}{%
7643 \ltx@ifundefined{#1name}{%
7644 \HyRef@StripStar#1\*\@nil{#1}%
7645 \ltx@ifundefined{\HyRef@name autorefname}{%
7646 \ltx@ifundefined{\HyRef@name name}{%
7647 \def\HyRef@currentHtag{}%
7648 \Hy@Warning{No autoref name for '#1'}%
7649 }{%
7650 \edef\HyRef@currentHtag{%
7651 \expandafter\noexpand\csname\HyRef@name name\endcsname
7652 \noexpand~%
7653 }%
7654 }%
7655 }{%
7656 \edef\HyRef@currentHtag{%
7657 \expandafter\noexpand

```

```

7658     \csname\HyRef@name autorefname\endcsname
7659     \noexpand~%
7660   }%
7661 }%
7662 }{%
7663   \edef\HyRef@currentHtag{%
7664     \expandafter\noexpand\csname#1name\endcsname
7665     \noexpand~%
7666   }%
7667 }%
7668 }{%
7669   \edef\HyRef@currentHtag{%
7670     \expandafter\noexpand\csname#1autorefname\endcsname
7671     \noexpand~%
7672   }%
7673 }%
7674 }
7675 \def\HyRef@StripStar#1*\#2\@nil#3{%
7676   \def\HyRef@name{#2}%
7677   \ifx\HyRef@name\HyRef@CaseStar
7678     \def\HyRef@name{#1}%
7679   \else
7680     \def\HyRef@name{#3}%
7681   \fi
7682 }
7683 \def\HyRef@CaseStar{*\\}
7684 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

7685 \let\HyRef@ShowKeysRef\@gobble
7686 \def\HyRef@ShowKeysInit{%
7687   \begingroup\expandafter\expandafter\expandafter\endgroup
7688   \expandafter\ifx\csname SK@@label\endcsname\relax
7689   \else
7690     \ifx\SK@ref\@empty
7691     \else
7692       \def\HyRef@ShowKeysRef{%
7693         \SK@\SK@@ref
7694       }%
7695     \fi
7696   \fi
7697 }
7698 \@ifpackageloaded{showkeys}{%
7699   \HyRef@ShowKeysInit
7700 }{%
7701   \Hy@AtBeginDocument{%
7702     \@ifpackageloaded{showkeys}{%
7703       \HyRef@ShowKeysInit
7704     }{}%
7705   }%
7706 }

```

Defaults for the names that \autoref uses.

```

7707 \providecommand*\AMSautorefname{\equationautorefname}
7708 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
7709 \providecommand*\Itemautorefname{\itemautorefname}

```



```

7710 \providecommand*\itemautorefname{item}
7711 \providecommand*\equationautorefname{Equation}
7712 \providecommand*\footnoteautorefname{footnote}
7713 \providecommand*\itemautorefname{item}
7714 \providecommand*\figureautorefname{Figure}
7715 \providecommand*\tableautorefname{Table}
7716 \providecommand*\partautorefname{Part}
7717 \providecommand*\appendixautorefname{Appendix}
7718 \providecommand*\chapterautorefname{chapter}
7719 \providecommand*\sectionautorefname{section}
7720 \providecommand*\subsectionautorefname{subsection}
7721 \providecommand*\subsubsectionautorefname{subsubsection}
7722 \providecommand*\paragraphautorefname{paragraph}
7723 \providecommand*\subparagraphautorefname{subparagraph}
7724 \providecommand*\FancyVerbLineautorefname{line}
7725 \providecommand*\theoremautorefname{Theorem}
7726 \providecommand*\pageautorefname{page}
7727 </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<sub>T</sub><sub>E</sub>X offers `\pdfescapestring`.

```

7728 <*pdfTEX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
7729 \RequirePackage{pdfTEXcmds}[2009/04/10]
7730 \begingroup\expandafter\expandafter\expandafter\endgroup
7731 \expandafter\ifx\csname pdfTEescapestring\endcsname\relax
7732 \begingroup
7733 \catcode'\=0 %
7734 \@makeother\%
7735 |@firstofone{|endgroup
7736 |def|Hy@pstringdef#1#2{%
7737 |begingroup
7738 |edef~{|string~}%
7739 |xdef|Hy@gtemp{#2}%
7740 |endgroup
7741 |let#1|Hy@gtemp
7742 |@onelevel@sanitize#1%
7743 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
7744 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
7745 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
7746 }%
7747 |def|Hy@ExchangeBackslash#1\#2|@nil{%
7748 #1%
7749 |ifx|\#2|\%%
7750 |else
7751 \\\%
7752 |Hy@ReturnAfterFi{%
7753 |Hy@ExchangeBackslash#2|@nil

```

```

7754     }%
7755     |fi
7756   }%
7757 }%
7758 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
7759   #1%
7760   \ifx\#2\%
7761     \else
7762       \@backslashchar(%
7763       \Hy@ReturnAfterFi{%
7764       \Hy@ExchangeLeftParenthesis#2\@nil
7765       }%
7766     \fi
7767   }%
7768 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
7769   #1%
7770   \ifx\#2\%
7771     \else
7772       \@backslashchar)%
7773       \Hy@ReturnAfterFi{%
7774       \Hy@ExchangeRightParenthesis#2\@nil
7775       }%
7776     \fi
7777   }%
7778 \else
7779 \def\Hy@pstringdef#1#2{%
7780   \begingroup
7781   \edef~{\string~}%
7782   \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
7783   \endgroup
7784   \let#1\Hy@gtemp
7785 }%
7786 \fi
7787 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 46.2 pdfTeX

```

7788 <*pdfTeX>
7789 \providecommand*{\XR@ext}{pdf}
7790 \Hy@setbreaklinks{true}

```

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

Set PDF version if requested by option `pdfversion`.

- pdfT<sub>E</sub>X 1.10a, 2003-01-16: `\pdfoptionpdfminorversion`
- pdfT<sub>E</sub>X 1.30, 2005-08-081: `\pdfminorversion`

```

7791 \let\Hy@pdfminorversion\relax
7792 \begingroup\expandafter\expandafter\expandafter\endgroup
7793 \expandafter\ifx\csname pdfminorversion\endcsname\relax
7794   \begingroup\expandafter\expandafter\expandafter\endgroup
7795   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
7796     \else
7797     \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
7798   \fi
7799 \else

```

```

7800 \def\Hy@pdfminorversion{\pdfminorversion}%
7801 \fi
7802 \@ifundefined{Hy@pdfminorversion}{%
7803   \PackageInfo{hyperref}{%
7804     PDF version is not set, because pdfTeX is too old (<1.10a)%
7805   }%
7806 }{%
7807   \ifHy@ocgcolorlinks
7808     \ifnum\Hy@pdfminorversion<5 %
7809       \setkeys{Hyp}{pdfversion=1.5}%
7810     \fi
7811   \fi
7812   \ifHy@setpdfversion
7813     \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
7814     \else
7815       \Hy@pdfminorversion=\Hy@pdfversion\relax
7816     \fi
7817     \PackageInfo{hyperref}{%
7818       \expandafter\string\Hy@pdfminorversion
7819       :=\number\Hy@pdfversion\space
7820     }%
7821   \fi
7822   \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
7823 }
7824 \Hy@DisableOption{pdfversion}%
7825 \ifHy@ocgcolorlinks
7826 \immediate\pdfobj{%
7827   <<%
7828     /Type/OCG%
7829     /Name(View)%
7830     /Usage<<%
7831       /Print<<%
7832         /PrintState/OFF%
7833       >>%
7834     /View<<%
7835       /ViewState/ON%
7836     >>%
7837   >>%
7838 }%
7839 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
7840 \immediate\pdfobj{%
7841   <<%
7842     /Type/OCG%
7843     /Name(Print)%
7844     /Usage<<%
7845       /Print<<%
7846         /PrintState/ON%
7847       >>%
7848     /View<<%
7849       /ViewState/OFF%
7850     >>%
7851   >>%
7852 }%
7853 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
7854 \immediate\pdfobj{%

```

```

7857 [%
7858   \OBJ@OCG@view\space\OBJ@OCG@print
7859   ]%
7860 }%
7861 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
7862 \pdfcatalog{%
7863   /OCProperties<<%
7864     /OCGs \OBJ@OCGs
7865     /D<<%
7866       /OFF[\OBJ@OCG@print]%
7867       /AS[%
7868         <<%
7869           /Event/View%
7870           /OCGs \OBJ@OCGs
7871           /Category[/View]%
7872         >>%
7873         <<%
7874           /Event/Print%
7875           /OCGs \OBJ@OCGs
7876           /Category[/Print]%
7877         >>%
7878         <<%
7879           /Event/Export%
7880           /OCGs \OBJ@OCGs
7881           /Category[/Print]%
7882         >>%
7883       ]%
7884     >>%
7885   >>%
7886 }%
7887 \begingroup
7888 \edef\x{\endgroup
7889   \pdfpageresources{%
7890     /Properties<<%
7891       /OCView \OBJ@OCG@view
7892       /OCPrint \OBJ@OCG@print
7893     >>%
7894   }%
7895 }%
7896 \x
7897 \Hy@AtBeginDocument{%
7898   \def\Hy@colorlink#1{%
7899     \begingroup
7900     \ifHy@ocgcolorlinks
7901       \def\Hy@ocgcolor{#1}%
7902       \setbox0=\color@hbox
7903     \else
7904       \HyColor@UseColor#1%
7905     \fi
7906   }%
7907   \def\Hy@endcolorlink{%
7908     \ifHy@ocgcolorlinks
7909       \color@endbox
7910     \mbox{%
7911       \pdfliteral page{/OC/OCPrint BDC}%
7912       \rlap{\copy0}%
7913       \pdfliteral page{EMC/OC/OCView BDC}%

```

```

7914      \begingroup
7915      \expandafter\HyColor@UseColor\Hy@ocgcolor
7916      \box0 %
7917      \endgroup
7918      \pdfliteral page{EMC}%
7919    }%
7920  \fi
7921 \endgroup
7922 }%
7923 }%
7924 \else
7925   \Hy@DisableOption{ocgcolorlinks}%
7926 \fi

```

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

```

7927 \def\setpdfinkmargin#1{\pdfinkmargin#1}
7928 \ifx\pdfstartlink\@undefined% less than version 14
7929   \let\pdfstartlink\pdfannotlink
7930   \let\pdfinkmargin\@tempdima
7931   \let\pdfxform\pdfform
7932   \let\pdfastxform\pdfastform
7933   \let\pdfrefxform\pdfrefform
7934 \else
7935   \pdfinkmargin1pt %
7936 \fi

```

First set up the default linking

```

7937 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

7938 \def\new@pdfink#1{%
7939   \Hy@SaveLastskip
7940   \Hy@VerboseAnchor{#1}%
7941   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7942   \Hy@DestName\Hy@pstringDest\@pdfview
7943   \Hy@RestoreLastskip
7944 }
7945 \let\pdf@endanchor\@empty

```

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

```

7946 \def\Hy@DestName#1#2{%
7947   \pdfdest name{#1}#2\relax
7948 }

```

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.

```

7949 \providecommand*\@pdfborder{0 0 1}
7950 \providecommand*\@pdfborderstyle{}
7951 \def\Hy@undefinedname{UNDEFINED}
7952 \def\find@pdfink#1#2{%
7953   \leavevmode
7954   \protected@edef\Hy@testname{#2}%
7955   \ifx\Hy@testname\@empty
7956     \Hy@Warning{%
7957       Empty destination name,\MessageBreak

```

```

7958     using '\Hy@undefinedname'%
7959   }%
7960   \let\Hy@testname\Hy@undefinedname
7961 \else
7962   \Hy@pstringdef\Hy@testname{%
7963     \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7964   }%
7965 \fi
7966 \Hy@StartlinkName{%
7967   \ifHy@pdfa /F 4\fi
7968   \Hy@setpdfborder
7969   \ifx\@pdfhighlight\@empty
7970   \else
7971     /H\@pdfhighlight
7972   \fi
7973   \ifx\CurrentBorderColor\relax
7974   \else
7975     /C[\CurrentBorderColor]%
7976   \fi
7977 } \Hy@testname
7978 \expandafter\Hy@colorlink\csname @#1color\endcsname
7979 }
7980 \def\Hy@StartlinkName#1#2{%
7981   \pdfstartlink attr{#1}goto name{#2}\relax
7982 }
7983 \def\close@pdfink{%
7984   \Hy@endcolorlink
7985   \Hy@VerboseLinkStop
7986   \pdfendlink
7987 }
7988 \def\hyper@anchor#1{%
7989   \new@pdfink{#1}\anchor@spot\pdf@endanchor
7990 }
7991 \def\hyper@anchorstart#1{%
7992   \new@pdfink{#1}%
7993   \Hy@activeanchortrue
7994 }
7995 \def\hyper@anchorend{%
7996   \pdf@endanchor
7997   \Hy@activeanchorfalse
7998 }
7999 \def\hyper@linkstart#1#2{%
8000   \Hy@VerboseLinkStart{#1}{#2}%
8001   \ltx@ifundefined{@#1bordercolor}{%
8002     \let\CurrentBorderColor\relax
8003   }{%
8004     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8005   }%
8006   \find@pdfink{#1}{#2}%
8007 }
8008 \def\hyper@linkend{\close@pdfink}
8009 \def\hyper@link#1#2#3{%
8010   \Hy@VerboseLinkStart{#1}{#2}%
8011   \ltx@ifundefined{@#1bordercolor}{%
8012     \let\CurrentBorderColor\relax
8013   }{%
8014     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%

```

```

8015 }%
8016 \find@pdfink{#1}{#2}#3%
8017 \close@pdfink
8018 }
8019 \let\CurrentBorderColor\@linkbordercolor
8020 \def\hyper@linkurl#1#2{%
8021 \begingroup
8022 \Hy@pstringdef\Hy@pstringURI{#2}%
8023 \hyper@chars
8024 \leavevmode
8025 \pdfstartlink
8026 attr{%
8027 \Hy@setpdfborder
8028 \ifx\@pdfhighlight\@empty
8029 \else
8030 /H\@pdfhighlight
8031 \fi
8032 \ifx\@urlbordercolor\relax
8033 \else
8034 /C[\@urlbordercolor]%
8035 \fi
8036 }%
8037 user{%
8038 /Subtype/Link%
8039 \ifHy@pdfa /F 4\fi
8040 /A<<%
8041 /Type/Action%
8042 /S/URI%
8043 /URI(\Hy@pstringURI)%
8044 >>%
8045 }%
8046 \relax
8047 \Hy@colorlink\@urlcolor#1%
8048 \close@pdfink
8049 \endgroup
8050 }
8051 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
8052 \begingroup
8053 \Hy@pstringdef\Hy@pstringF{#2}%
8054 \Hy@pstringdef\Hy@pstringD{#3}%
8055 \leavevmode
8056 \pdfstartlink
8057 attr{%
8058 \Hy@setpdfborder
8059 \ifx\@pdfhighlight\@empty
8060 \else
8061 /H\@pdfhighlight
8062 \fi
8063 \ifx\@filebordercolor\relax
8064 \else
8065 /C[\@filebordercolor]%
8066 \fi
8067 }%
8068 user {%
8069 /Subtype/Link%
8070 \ifHy@pdfa /F 4\fi
8071 /A<<%

```

```

8072      /F(\Hy@pstringF)%
8073      /S/GoToR%
8074      \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}

```

```

8075      \ifx\#3\%
8076      /D[0 \@pdfstartview]%
8077      \else
8078      /D(\Hy@pstringD)%
8079      \fi
8080      >>%
8081      }%
8082      \relax
8083      \Hy@colorlink\@filecolor#1%
8084      \close@pdfink
8085      \endgroup
8086      }
8087      \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
8088      \begingroup
8089      \Hy@pstringdef\Hy@pstringF{#1}%
8090      \Hy@pstringdef\Hy@pstringP{#3}%
8091      \leavevmode
8092      \pdfstartlink
8093      attr{%
8094      \Hy@setpdfborder
8095      \ifx\@pdfhighlight\@empty
8096      \else
8097      /H\@pdfhighlight
8098      \fi
8099      \ifx\@runbordercolor\relax
8100      \else
8101      /C[\@runbordercolor]%
8102      \fi
8103      }%
8104      user {%
8105      /Subtype/Link%
8106      \ifHy@pdfa /F 4\fi
8107      /A<<%
8108      /F(\Hy@pstringF)%
8109      /S/Launch%
8110      \Hy@SetNewWindow
8111      \ifx\#3\%
8112      \else
8113      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8114      \fi
8115      >>%
8116      }%
8117      \relax

```



```

8118 \Hy@colorlink\@runcolor#2%
8119 \close@pdflink
8120 \endgroup
8121 }

```

\@pdfproducer

```

8122 \ifx\@pdfproducer\relax
8123 \begingroup\expandafter\expandafter\expandafter\endgroup
8124 \expandafter\ifx\csname luatexversion\endcsname\relax
8125 \def\@pdfproducer{pdfTeX}%
8126 \ifx\eTeXversion\@undefined
8127 \else
8128 \ifx\eTeXversion\relax
8129 \else
8130 \ifnum\eTeXversion>0 %
8131 \def\@pdfproducer{pdfTeX}%
8132 \fi
8133 \fi
8134 \fi
8135 \ifx\pdfTeXversion\@undefined
8136 \else
8137 \ifnum\pdfTeXversion<100 %
8138 \edef\@pdfproducer{%
8139 \@pdfproducer
8140 \the\pdfTeXversion.\pdfTeXrevision
8141 }%
8142 \else
8143 \ifnum\pdfTeXversion<130 %
8144 \edef\@pdfproducer{%
8145 \@pdfproducer-%
8146 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8147 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
8148 \pdfTeXrevision
8149 }%
8150 \else
8151 \ifnum\pdfTeXversion<140 %
8152 \else
8153 \def\@pdfproducer{pdfTeX}%
8154 \fi
8155 \edef\@pdfproducer{%
8156 \@pdfproducer-%
8157 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8158 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
8159 \pdfTeXrevision
8160 }%
8161 \fi
8162 \fi
8163 \fi
8164 \else
8165 \begingroup
8166 \count@=\luatexversion
8167 \divide\count@ by 100 %
8168 \edef\x{\the\count@}%
8169 \count@=-\x\relax
8170 \multiply\count@ by 100 %
8171 \advance\count@ by \luatexversion
8172 \edef\x{\endgroup

```

```

8173     \def\noexpand\@pdfproducer{%
8174         LuaTeX-\x.\the\count@.\luatexrevision
8175     }%
8176 }%
8177 \x
8178 \fi
8179 \fi

```

\PDF@SetupDox

```

8180 \def\PDF@SetupDoc{%
8181     \ifx\@pdfpagescrop\@empty
8182     \else
8183     \edef\process@me{%
8184         \pdfpagesattr={%
8185             /CropBox[\@pdfpagescrop]%
8186             \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
8187             \else
8188                 ~J\the\pdfpagesattr
8189             \fi
8190         }%
8191     }%
8192     \process@me
8193 \fi
8194 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8195 \pdfcatalog{%
8196     /PageMode/\@pdfpagemode
8197     \ifx\@baseurl\@empty
8198     \else
8199         /URI<</Base(\Hy@pstringB)>>%
8200     \fi
8201 }%
8202 \ifx\@pdfstartpage\@empty
8203 \else
8204     \ifx\@pdfstartview\@empty
8205     \else
8206         openaction goto page\@pdfstartpage{\@pdfstartview}%
8207     \fi
8208 \fi
8209 \edef\Hy@temp{%
8210     \ifHy@toolbar\else /HideToolbar true\fi
8211     \ifHy@menubar\else /HideMenubar true\fi
8212     \ifHy>windowui\else /HideWindowUI true\fi
8213     \ifHy@fitwindow /FitWindow true\fi
8214     \ifHy@centerwindow /CenterWindow true\fi
8215     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8216     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8217     \Hy@UseNameKey{Direction}\@pdfdirection
8218     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8219     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8220     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8221     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8222     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8223     \Hy@UseNameKey{Duplex}\@pdfduplex
8224     \ifx\@pdfpicktraybypdfsize\@empty
8225     \else
8226         /PickTrayByPDFSize \@pdfpicktraybypdfsize
8227     \fi

```

```

8228 \ifx\@pdfprintpagerange\@empty
8229 \else
8230 /PrintPageRange[\@pdfprintpagerange]%
8231 \fi
8232 \ifx\@pdfnumcopies\@empty
8233 \else
8234 /NumCopies \@pdfnumcopies
8235 \fi
8236 }%
8237 \pdfcatalog{%
8238 \ifx\Hy@temp\@empty
8239 \else
8240 /ViewerPreferences<<\Hy@temp>>%
8241 \fi
8242 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8243 \ifx\@pdflang\@empty
8244 \else
8245 /Lang(\@pdflang)%
8246 \fi
8247 }%
8248 }

```

\PDF@FinishDoc

```

8249 \def\PDF@FinishDoc{%
8250 \Hy@UseMaketitleInfos
8251 \HyInfo@GenerateAddons
8252 \pdfinfo{%
8253 /Author(\@pdfauthor)%
8254 /Title(\@pdftitle)%
8255 /Subject(\@pdfsubject)%
8256 /Creator(\@pdfcreator)%
8257 \ifx\@pdfcreationdate\@empty
8258 \else
8259 /CreationDate(\@pdfcreationdate)%
8260 \fi
8261 \ifx\@pdfmoddate\@empty
8262 \else
8263 /ModDate(\@pdfmoddate)%
8264 \fi
8265 \ifx\@pdfproducer\relax
8266 \else
8267 /Producer(\@pdfproducer)%
8268 \fi
8269 /Keywords(\@pdfkeywords)%
8270 \ifx\@pdftrapped\@empty
8271 \else
8272 /Trapped/\@pdftrapped
8273 \fi
8274 \HyInfo@Addons
8275 }%
8276 \Hy@DisableOption{pdfauthor}%
8277 \Hy@DisableOption{pdftitle}%
8278 \Hy@DisableOption{pdfsubject}%
8279 \Hy@DisableOption{pdfcreator}%
8280 \Hy@DisableOption{pdfcreationdate}%
8281 \Hy@DisableOption{pdfmoddate}%
8282 \Hy@DisableOption{pdfproducer}%

```

```

8283 \Hy@DisableOption{pdfkeywords}%
8284 \Hy@DisableOption{pdftrapped}%
8285 \Hy@DisableOption{pdfinfo}%
8286 }

```

`\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`.

```

8287 \def\hyper@pagetransition{%
8288 \ifx\@pdfpagetransition\relax
8289 \else
8290 \expandafter\Hy@RemoveTransPageAttr
8291 \the\pdfpageattr^^J/Trans{>>\END
8292 \ifx\@pdfpagetransition\@empty
8293 \else
8294 \edef\@processme{%
8295 \global\pdfpageattr{%
8296 \the\pdfpageattr
8297 ^^J/Trans << /S /\@pdfpagetransition\space >>%
8298 }%
8299 }%
8300 \@processme
8301 \fi
8302 \fi
8303 }

```

`\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.

```

8304 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
8305 \ifx\\#2\\%
8306 \global\pdfpageattr{#1}%
8307 \else
8308 \Hy@RemoveTransPageAttr#1#4\END
8309 \fi
8310 }

```

`\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`.

```

8311 \def\hyper@pageduration{%
8312 \ifx\@pdfpageduration\relax
8313 \else
8314 \expandafter
8315 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{ } \END
8316 \ifx\@pdfpageduration\@empty
8317 \else
8318 \edef\@processme{%
8319 \global\pdfpageattr{%
8320 \the\pdfpageattr
8321 ^^J/Dur \@pdfpageduration\space
8322 }%
8323 }%
8324 \@processme
8325 \fi
8326 \fi

```

8327 }

`\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.

```
8328 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
8329   \ifx\#2\%
8330     \global\pdfpageattr{#1}%
8331   \else
8332     \Hy@RemoveDurPageAttr#1#4\END
8333   \fi
8334 }
```

`\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).

```
8335 \def\hyper@pagehidden{%
8336   \ifHy@useHidKey
8337     \expandafter
8338     \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
8339   \ifHy@pdfpagehidden
8340     \edef\@processme{%
8341       \global\pdfpageattr{%
8342         \the\pdfpageattr
8343         ^^J/Hid true % SPACE
8344       }%
8345     }%
8346     \@processme
8347   \fi
8348 \fi
8349 }
```

`\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.

```
8350 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
8351   \ifx\#2\%
8352     \global\pdfpageattr{#1}%
8353   \else
8354     \Hy@RemoveHidPageAttr#1#4\END
8355   \fi
8356 }
```

```
8357 \g@addto@macro\Hy@EveryPageHook{%
8358   \hyper@pagetransition
8359   \hyper@pageduration
8360   \hyper@pagehidden
8361 }
```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```
8362 </pdfTeX>
8363 <*pdfTeX | xetex>
8364 \Hy@AtBeginDocument{%
8365   \ifHy@setpagesize
```

```

8366 \expandafter\@firstofone
8367 \else
8368 \expandafter\@gobble
8369 \fi
8370 {%
8371 \@ifclassloaded{seminar}{%
8372 <*pdftex>
8373 \setlength{\pdfhorigin}{1truein}%
8374 \setlength{\pdfvorigin}{1truein}%
8375 </pdftex>
8376 \ifportrait
8377 \ifdim\paperwidth=\z@
8378 \else
8379 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
8380 \fi
8381 \ifdim\paperheight=\z@
8382 \else
8383 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
8384 \fi
8385 \else
8386 \ifdim\paperheight=\z@
8387 \else
8388 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
8389 \fi
8390 \ifdim\paperwidth=\z@
8391 \else
8392 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
8393 \fi
8394 \fi
8395 }{%
8396 \ltx@ifundefined{stockwidth}{%
8397 \ifdim\paperwidth>\z@
8398 \setlength{\pdfpagewidth}{\paperwidth}%
8399 \fi
8400 \ifdim\paperheight>\z@
8401 \setlength{\pdfpageheight}{\paperheight}%
8402 \fi
8403 }{%
8404 \ifdim\stockwidth>\z@
8405 \setlength{\pdfpagewidth}{\stockwidth}%
8406 \fi
8407 \ifdim\stockheight>\z@
8408 \setlength{\pdfpageheight}{\stockheight}%
8409 \fi
8410 }%
8411 }%
8412 }%
8413 \Hy@DisableOption{setpagesize}%
8414 }
8415 </pdftex | xetex>
8416 <*pdftex>
8417 \def\Acrobatmenu#1#2{%
8418 \Hy@Acrobatmenu{#1}{#2}{%
8419 \pdfstartlink
8420 attr{%
8421 \Hy@setpdfborder
8422 \ifx\@pdfhighlight\@empty

```

```

8423     \else
8424       /H\@pdfhighlight
8425     \fi
8426     \ifx\@menubordercolor\relax
8427     \else
8428       /C[\@menubordercolor]%
8429     \fi
8430   }%
8431   user{%
8432     /Subtype/Link%
8433     \ifHy@pdfa /F 4\fi
8434     /A<<%
8435       /S/Named/N/#1%
8436     >>%
8437   }%
8438   \relax
8439   \Hy@colorlink\@menucolor#2%
8440   \close@pdflink
8441 }%
8442 }

```

#### 46.2.1 Fix for problem with different nesting levels

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

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

```

8443 \def\Hy@FixNotFirstPage{%
8444   \gdef\Hy@FixNotFirstPage{%
8445     \setbox\AtBeginShipoutBox=\hbox{%
8446       \copy\AtBeginShipoutBox
8447     }%
8448   }%
8449 }
8450 \AtBeginShipout{\Hy@FixNotFirstPage}
8451 </pdfTeX>

```

### 46.3 hypertext

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

**href:** `html:<a href = "href_string">`

**name:** `html:<a name = "name_string">`

**end:** `html:</a>`

**image:** `html:<img src = "href_string">`

**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 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<sub>E</sub>X file — the T<sub>E</sub>X 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.

```

8452 \*hypertext
8453 \providecommand*\XR@ext}{dvi}
8454 \def\PDF@FinishDoc{}
8455 \def\PDF@SetupDoc{%
8456   \ifx\@baseurl\@empty
8457   \else
8458     \special{html:<base href="\@baseurl">}%
8459   \fi
8460 }
8461 \def\hyper@anchor#1{%
8462   \Hy@SaveLastskip
8463   \Hy@VerboseAnchor{#1}%
8464   \begingroup
8465     \let\protect=\string
8466     \hyper@chars
8467     \special{html:<a name=%
8468       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8469   \endgroup
8470   \Hy@activeanchortrue
8471   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8472   \special{html:</a>}%
8473   \Hy@activeanchorfalse
8474   \Hy@RestoreLastskip
8475 }
8476 \def\hyper@anchorstart#1{%
8477   \Hy@SaveLastskip
8478   \Hy@VerboseAnchor{#1}%
8479   \begingroup
8480     \hyper@chars
8481     \special{html:<a name=%
8482       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8483   \endgroup
8484   \Hy@activeanchortrue
8485 }
8486 \def\hyper@anchorend{%
8487   \special{html:</a>}%
8488   \Hy@activeanchorfalse
8489   \Hy@RestoreLastskip
8490 }
8491 \def\@urltype{url}
8492 \def\hyper@linkstart#1#2{%

```



```

8493 \Hy@VerboseLinkStart{#1}{#2}%
8494 \expandafter\Hy@colorlink\csname @#1color\endcsname
8495 \def\Hy@tempa{#1}%
8496 \ifx\Hy@tempa \@urltype
8497   \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8498 \else
8499   \begingroup
8500     \hyper@chars
8501     \special{html:<a href=%
8502       \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
8503   \endgroup
8504 \fi
8505 }
8506 \def\hyper@linkend{%
8507   \special{html:</a>}%
8508   \Hy@endcolorlink
8509 }
8510 \def\hyper@linkfile#1#2#3{%
8511   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\#3\fi}%
8512 }
8513 \def\hyper@linkurl#1#2{%

```

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

```

8514 \leavevmode
8515 \ifHy@raiselinks
8516   \setbox\@tempboxa=\color@hbox #1\color@endbox
8517   \@linkdim\dp\@tempboxa
8518   \lower\@linkdim\hbox{%
8519     \hyper@chars
8520     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8521   }%
8522   \Hy@colorlink\@urlcolor#1%
8523   \@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).

```

8524   \advance\@linkdim by -6.5\p@
8525   \raise\@linkdim\hbox{\special{html:</a>}}%
8526   \Hy@endcolorlink
8527 \else
8528   \begingroup
8529     \hyper@chars
8530     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8531     \Hy@colorlink\@urlcolor#1%
8532     \special{html:</a>}%
8533     \Hy@endcolorlink
8534   \endgroup
8535 \fi
8536 }

```

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

```

8537 \def\hyper@link#1#2#3{%
8538   \Hy@VerboseLinkStart{#1}{#2}%
8539   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
8540 }
8541 \def\hyper@image#1#2{%

```

```

8542 \begingroup
8543   \hyper@chars
8544   \special{html:<img src=\hyper@quote#1\hyper@quote>}%
8545 \endgroup
8546 }
8547 </hypertex>
8548 <*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.

```

8549 \providecommand*{\XR@ext}{dvi}
8550 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
8551 \def\hyper@anchor#1{%
8552   \Hy@SaveLastskip
8553   \Hy@VerboseAnchor{#1}%
8554   \begingroup
8555     \let\protect=\string
8556     \special{mark: #1}%
8557   \endgroup
8558   \Hy@activeanchortrue
8559   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8560   \Hy@activeanchorfalse
8561   \Hy@RestoreLastskip
8562 }
8563 \def\hyper@anchorstart#1{%
8564   \Hy@SaveLastskip
8565   \Hy@VerboseAnchor{#1}%
8566   \special{mark: #1}%
8567   \Hy@activeanchortrue
8568 }
8569 \def\hyper@anchorend{%
8570   \Hy@activeanchorfalse
8571   \Hy@RestoreLastskip
8572 }
8573 \def\hyper@linkstart#1#2{%
8574   \Hy@VerboseLinkStart{#1}{#2}%
8575   \expandafter\Hy@colorlink\csname @#1color\endcsname
8576   \special{button: %
8577     10000000 %
8578     \number\baselineskip\space
8579     #2%
8580   }%
8581 }
8582 \def\hyper@linkend{%
8583   \Hy@endcolorlink
8584 }

```

```

8585 \def\hyper@link#1#2#3{%
8586   \Hy@VerboseLinkStart{#1}{#2}%
8587   \setbox\@tempboxa=\color@hbox #3\color@endbox
8588   \leavevmode
8589   \ifHy@raiselinks
8590     \@linkdim\dp\@tempboxa
8591     \lower\@linkdim\hbox{%
8592       \special{button: %
8593         \number\wd\@tempboxa\space
8594         \number\ht\@tempboxa\space
8595         #2%
8596       }%
8597       \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8598       \Hy@endcolorlink
8599     }%
8600     \@linkdim\ht\@tempboxa
8601     \advance\@linkdim by -6.5\p@
8602     \raise\@linkdim\hbox{}%
8603   \else
8604     \special{button: %
8605       \number\wd\@tempboxa\space
8606       \number\ht\@tempboxa\space
8607       #2%
8608     }%
8609     \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8610     \Hy@endcolorlink
8611   \fi
8612 }
8613 \def\hyper@linkurl#1#2{%
8614   \begingroup
8615   \hyper@chars
8616   \leavevmode
8617   \setbox\@tempboxa=\color@hbox #1\color@endbox
8618   \ifHy@raiselinks
8619     \@linkdim\dp\@tempboxa
8620     \lower\@linkdim\hbox{%
8621       \special{button: %
8622         \number\wd\@tempboxa\space
8623         \number\ht\@tempboxa\space
8624         launch: \wwwbrowser\space
8625         #2%
8626       }%
8627       \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8628     }%
8629     \@linkdim\ht\@tempboxa
8630     \advance\@linkdim by -6.5\p@
8631     \raise\@linkdim\hbox{}%
8632   \else
8633     \special{button: %
8634       \number\wd\@tempboxa\space
8635       \number\ht\@tempboxa\space
8636       launch: \wwwbrowser\space
8637       #2%
8638     }%
8639     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8640   \fi
8641   \endgroup

```

```

8642 }
8643 \def\hyper@linkfile#1#2#3{%
8644   \begingroup
8645     \hyper@chars
8646     \leavevmode
8647     \setbox\@tempboxa=\color@hbox #1\color@endbox
8648     \ifHy@raiselinks
8649       \@linkdim\dp\@tempboxa
8650       \lower\@linkdim\hbox{%
8651         \special{button: %
8652           \number\wd\@tempboxa\space
8653           \number\ht\@tempboxa\space
8654           #3,%
8655           file: #2%
8656         }%
8657         \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8658       }%
8659       \@linkdim\ht\@tempboxa
8660       \advance\@linkdim by -6.5\p@
8661       \raise\@linkdim\hbox{%}%
8662     \else
8663       \special{button: %
8664         \number\wd\@tempboxa\space
8665         \number\ht\@tempboxa\space
8666         #3,%
8667         file: #2%
8668       }%
8669       \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8670     \fi
8671   \endgroup
8672 }
8673 \ifx\@pdfproducer\relax
8674   \def\@pdfproducer{dviwindo + Distiller}%
8675 \fi
8676 \HyInfo@AddonUnsupportedtrue
8677 \def\PDF@FinishDoc{%
8678   \Hy@UseMaketitleInfos
8679   \HyInfo@TrappedUnsupported
8680   \special{PDF: Keywords \@pdfkeywords}%
8681   \special{PDF: Title \@pdftitle}%
8682   \special{PDF: Creator \@pdfcreator}%
8683   \ifx\@pdfcreationdate\@empty
8684   \else
8685     \special{PDF: CreationDate \@pdfcreationdate}%
8686   \fi
8687   \ifx\@pdfmoddate\@empty
8688   \else
8689     \special{PDF: ModDate \@pdfmoddate}%
8690   \fi
8691   \special{PDF: Author \@pdfauthor}%
8692   \ifx\@pdfproducer\relax
8693   \else
8694     \special{PDF: Producer \@pdfproducer}%
8695   \fi
8696   \special{PDF: Subject \@pdfsubject}%
8697   \Hy@DisableOption{pdfauthor}%
8698   \Hy@DisableOption{pdftitle}%

```

```

8699 \Hy@DisableOption{pdfsubject}%
8700 \Hy@DisableOption{pdfcreator}%
8701 \Hy@DisableOption{pdfcreationdate}%
8702 \Hy@DisableOption{pdfmoddate}%
8703 \Hy@DisableOption{pdfproducer}%
8704 \Hy@DisableOption{pdfkeywords}%
8705 \Hy@DisableOption{pdftrapped}%
8706 \Hy@DisableOption{pdfinfo}%
8707 }
8708 \def\PDF@SetupDoc{%
8709 \ifx\@baseurl\@empty
8710 \else
8711 \special{PDF: Base \@baseurl}%
8712 \fi
8713 \ifx\@pdfpagescrop\@empty\else
8714 \special{PDF: BBox \@pdfpagescrop}%
8715 \fi
8716 \def\Hy@temp{}%
8717 \ifx\@pdfstartpage\@empty
8718 \else
8719 \ifx\@pdfstartview\@empty
8720 \else
8721 \edef\Hy@temp{%
8722 ,Page=\@pdfstartpage
8723 ,View=\@pdfstartview
8724 }%
8725 \fi
8726 \fi
8727 \edef\Hy@temp{%
8728 \noexpand\pdfmark{%
8729 pdfmark=/DOCVIEW,%
8730 PageMode=/\@pdfpagemode
8731 \Hy@temp
8732 }%
8733 }%
8734 \Hy@temp
8735 \ifx\@pdfpagescrop\@empty
8736 \else
8737 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8738 \fi
8739 \edef\Hy@temp{%
8740 \ifHy@toolbar\else /HideToolbar true\fi
8741 \ifHy@menubar\else /HideMenubar true\fi
8742 \ifHy>windowui\else /HideWindowUI true\fi
8743 \ifHy@fitwindow /FitWindow true\fi
8744 \ifHy@centerwindow /CenterWindow true\fi
8745 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8746 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8747 \Hy@UseNameKey{Direction}\@pdfdirection
8748 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8749 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8750 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8751 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8752 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8753 \Hy@UseNameKey{Duplex}\@pdfduplex
8754 \ifx\@pdfpicktraybypdfsize\@empty
8755 \else

```

```

8756 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8757 \fi
8758 \ifx\@pdfprintpagerange\@empty
8759 \else
8760 /PrintPageRange[\@pdfprintpagerange]%
8761 \fi
8762 \ifx\@pdfnumcopies\@empty
8763 \else
8764 /NumCopies \@pdfnumcopies
8765 \fi
8766 }%
8767 \pdfmark{pdfmark=/PUT,%
8768 Raw={%
8769 \string{Catalog\string}<<%
8770 \ifx\Hy@temp\@empty
8771 \else
8772 /ViewerPreferences<<\Hy@temp>>%
8773 \fi
8774 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8775 \ifx\@pdflang\@empty
8776 \else
8777 /Lang(\@pdflang)%
8778 \fi
8779 >>%
8780 }%
8781 }%
8782 }
8783 </dviwindo>
8784 <*dvipdfm | xetex>

```

## 46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

8785 \providecommand*{\XR@ext}{pdf}
8786 \Hy@setbreaklinks{true}
8787 \newsavebox{\pdfm@box}
8788 \def\@pdfm@mark#1{\special{pdf:#1}}
8789 \def\@pdfm@dest#1{%
8790 \Hy@SaveLastskip
8791 \Hy@VerboseAnchor{#1}%
8792 \begingroup
8793 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8794 \def\x{XYZ}%
8795 \ifx\x\@pdfview
8796 \def\x{XYZ @xpos @ypos null}%
8797 \else
8798 \def\x{FitH}%
8799 \ifx\x\@pdfview
8800 \def\x{FitH @ypos}%
8801 \else
8802 \def\x{FitBH}%
8803 \ifx\x\@pdfview
8804 \def\x{FitBH @ypos}%
8805 \else
8806 \def\x{FitV}%
8807 \ifx\x\@pdfview
8808 \def\x{FitV @xpos}%

```

```

8809     \else
8810     \def\x{FitBV}%
8811     \ifx\x\@pdfview
8812     \def\x{FitBV @xpos}%
8813     \else
8814     \def\x{Fit}%
8815     \ifx\x\@pdfview
8816     \let\x\@pdfview
8817     \else
8818     \def\x{FitB}%
8819     \ifx\x\@pdfview
8820     \let\x\@pdfview
8821     \else
8822     \def\x{FitR}%
8823     \ifx\x\@pdfview
8824     \Hy@Warning{'pdfview=FitR' is not supported}%
8825     \def\x{XYZ @xpos @ypos null}%
8826     \else
8827     \@onelevel@sanitize\@pdfview
8828     \Hy@Warning{%
8829       Unknown value '\@pdfview' for pdfview%
8830     }%
8831     \def\x{XYZ @xpos @ypos null}%
8832     \fi
8833     \fi
8834     \fi
8835     \fi
8836     \fi
8837     \fi
8838     \fi
8839     \fi
8840     \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
8841 \endgroup
8842 \Hy@RestoreLastskip
8843 }
8844 \providecommand*\@pdfview{XYZ}
8845 \providecommand*\@pdfborder{0 0 1}
8846 \providecommand*\@pdfborderstyle{}
8847 \def\hyper@anchor#1{%
8848   \@pdfm@dest{#1}%
8849 }
8850 \def\hyper@anchorstart#1{%
8851   \Hy@activeanchortrue
8852   \@pdfm@dest{#1}%
8853 }
8854 \def\hyper@anchorend{%
8855   \Hy@activeanchorfalse
8856 }
8857 \newcounter{Hy@AnnotLevel}
8858 \ifHy@ocgcolorlinks
8859   \def\OBJ@OCG@view{@OCG@view}%
8860   \@pdfm@mark{%
8861     obj \OBJ@OCG@view <<%
8862     /Type/OCG%
8863     /Name(View)%
8864     /Usage<<%
8865     /Print<<%

```

```

8866         /PrintState/OFF%
8867     >>%
8868     /View<<%
8869         /ViewState/ON%
8870     >>%
8871 >>%
8872 >>%
8873 }%
8874 \@pdfm@mark{close \OBJ@OCG@view}%
8875 \def\OBJ@OCG@print{@OCG@print}%
8876 \@pdfm@mark{%
8877     obj \OBJ@OCG@print <<%
8878         /Type/OCG%
8879         /Name(Print)%
8880         /Usage<<%
8881         /Print<<%
8882         /PrintState/ON%
8883     >>%
8884     /View<<%
8885         /ViewState/OFF%
8886     >>%
8887 >>%
8888 >>%
8889 }%
8890 \@pdfm@mark{close \OBJ@OCG@print}%
8891 \def\OBJ@OCGs{@OCGs}%
8892 \@pdfm@mark{%
8893     obj \OBJ@OCGs [%
8894         \OBJ@OCG@view\space\OBJ@OCG@print
8895     ]%
8896 }%
8897 \@pdfm@mark{close \OBJ@OCGs}%
8898 \@pdfm@mark{%
8899     put @catalog <<%
8900         /OCProperties<<%
8901         /OCGs \OBJ@OCGs
8902         /D<<%
8903         /OFF[\OBJ@OCG@print]%
8904         /AS[%
8905             <<%
8906                 /Event/View%
8907                 /OCGs \OBJ@OCGs
8908                 /Category[/View]%
8909             >>%
8910             <<%
8911                 /Event/Print%
8912                 /OCGs \OBJ@OCGs
8913                 /Category[/Print]%
8914             >>%
8915             <<%
8916                 /Event/Export%
8917                 /OCGs \OBJ@OCGs
8918                 /Category[/Print]%
8919             >>%
8920         ]%
8921     >>%
8922 >>%

```



```

8923 >>%
8924 }%
8925 \AtBeginShipout{%
8926 \setbox\AtBeginShipoutBox=\hbox{%
8927 \copy\AtBeginShipoutBox
8928 \@pdfm@mark{%
8929 put @resources <<%
8930 /Properties<<%
8931 /OCView \OBJ@OCG@view
8932 /OCPrint \OBJ@OCG@print
8933 >>%
8934 >>%
8935 }%
8936 }%
8937 }%
8938 \Hy@AtBeginDocument{%
8939 \def\Hy@colorlink#1{%
8940 \begingroup
8941 \ifHy@ocgcolorlinks
8942 \def\Hy@ocgcolor{#1}%
8943 \setbox0=\color@hbox
8944 \else
8945 \HyColor@UseColor#1%
8946 \fi
8947 }%
8948 \def\Hy@endcolorlink{%
8949 \ifHy@ocgcolorlinks
8950 \color@endbox
8951 \mbox{%
8952 \@pdfm@mark{content /OC/OCPrint BDC}%
8953 \rlap{\copy0}%
8954 \@pdfm@mark{content EMC/OC/OCView BDC}%
8955 \begingroup
8956 \expandafter\HyColor@UseColor\Hy@ocgcolor
8957 \box0 %
8958 \endgroup
8959 \@pdfm@mark{content EMC}%
8960 }%
8961 \fi
8962 \endgroup
8963 }%
8964 }%
8965 \else
8966 \Hy@DisableOption{ocgcolorlinks}%
8967 \fi
8968 \def\Hy@BeginAnnot#1{%
8969 \stepcounter{Hy@AnnotLevel}%
8970 \ifnum\value{Hy@AnnotLevel}=\@ne
8971 #1%
8972 \fi
8973 }
8974 \def\Hy@EndAnnot{%
8975 \ifnum\value{Hy@AnnotLevel}=\@ne
8976 \Hy@endcolorlink
8977 \@pdfm@mark{eann}%
8978 \fi
8979 \addtocounter{Hy@AnnotLevel}\m@ne

```

```

8980 }
8981 \def\Hy@undefinedname{UNDEFINED}
8982 \def\hyper@linkstart#1#2{%
8983   \Hy@VerboseLinkStart{#1}{#2}%
8984   \Hy@BeginAnnot{%
8985     \protected@edef\Hy@testname{#2}%
8986     \ifx\Hy@testname\@empty
8987       \Hy@Warning{%
8988         Empty destination name,\MessageBreak
8989         using '\Hy@undefinedname'%
8990       }%
8991       \let\Hy@testname\Hy@undefinedname
8992     \else
8993       \Hy@pstringdef\Hy@testname{%
8994         \expandafter\HyperDestNameFilter\expandafter{%
8995           \Hy@testname
8996         }%
8997       }%
8998     \fi
8999     \@pdfm@mark{%
9000       bann<<%
9001       /Type/Annot%
9002       /Subtype/Link%
9003       \ifHy@pdfa /F 4\fi
9004       \Hy@setpdfborder
9005       \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9006       \else
9007         /C[\csname @#1bordercolor\endcsname]%
9008       \fi
9009       /A<<%
9010       /S/GoTo%
9011       /D(\Hy@testname)%
9012       >>%
9013       >>%
9014     }%
9015     \expandafter\Hy@colorlink\csname @#1color\endcsname
9016   }%
9017 }
9018 \def\hyper@linkend{\Hy@EndAnnot}%
9019 \def\hyper@link#1#2#3{%
9020   \hyper@linkstart{#1}{#2}#3\hyper@linkend
9021 }
9022 \def\hyper@linkfile#1#2#3{%
9023   \leavevmode
9024   \Hy@BeginAnnot{%
9025     \Hy@pstringdef\Hy@pstringF{#2}%
9026     \Hy@pstringdef\Hy@pstringD{#3}%
9027     \@pdfm@mark{%
9028       bann<<%
9029       /Type/Annot%
9030       /Subtype/Link%
9031       \ifHy@pdfa /F 4\fi
9032       \Hy@setpdfborder
9033       \ifx\@filebordercolor\relax
9034       \else
9035         /C[\@filebordercolor]%
9036       \fi

```

```

9037      /A<<%
9038      /S/GoToR%
9039      /F(\Hy@pstringF)%
9040      /D\ifx\|#3\|[0 \@pdfstartview]\else(\Hy@pstringD)\fi
9041      \Hy@SetNewWindow
9042      >>%
9043      >>%
9044      }%
9045      \Hy@colorlink\@filecolor
9046      }%
9047      #1%
9048      \Hy@EndAnnot
9049      }
9050      \def\hyper@linkurl#1#2{%
9051      \leavevmode
9052      \Hy@BeginAnnot{%
9053      \Hy@pstringdef\Hy@pstringURI{#2}%
9054      \@pdfm@mark{%
9055      bann<<%
9056      /Type/Annot%
9057      /Subtype/Link%
9058      \ifHy@pdfa /F 4\fi
9059      \Hy@setpdfborder
9060      \ifx\@urlbordercolor\relax
9061      \else
9062      /C[\@urlbordercolor]%
9063      \fi
9064      /A<<%
9065      /S/URI%
9066      /URI(\Hy@pstringURI)%
9067      >>%
9068      >>%
9069      }%
9070      \Hy@colorlink\@urlcolor
9071      }%
9072      #1%
9073      \Hy@EndAnnot
9074      }
9075      \def\Acrobatmenu#1#2{%
9076      \Hy@Acrobatmenu{#1}{#2}{%
9077      \Hy@BeginAnnot{%
9078      \@pdfm@mark{%
9079      bann<<%
9080      /Type/Annot%
9081      /Subtype/Link%
9082      \ifHy@pdfa /F 4\fi
9083      /A<<%
9084      /S/Named%
9085      /N/#1%
9086      >>%
9087      \Hy@setpdfborder
9088      \ifx\@menubordercolor\relax
9089      \relax
9090      /C[\@menubordercolor]%
9091      \fi
9092      >>%
9093      }%

```

```

9094 \Hy@colorlink\@menucolor
9095 }%
9096 #2%
9097 \Hy@EndAnnot
9098 }%
9099 }
9100 \ifx\@pdfproducer\relax
9101 \def\@pdfproducer{dvipdfm}%

```

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

```

9102 \begingroup\expandafter\expandafter\expandafter\endgroup
9103 \expandafter\ifx\csname XeTeXversion\endcsname\relax
9104 \else
9105 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
9106 \fi
9107 \fi
9108 \def\PDF@FinishDoc{%
9109 \Hy@UseMaketitleInfos
9110 \HyInfo@GenerateAddons
9111 \@pdfm@mark{%
9112 docinfo<<%
9113 /Title(\@pdftitle)%
9114 /Subject(\@pdfsubject)%
9115 /Creator(\@pdfcreator)%
9116 \ifx\@pdfcreationdate\@empty
9117 \else
9118 /CreationDate(\@pdfcreationdate)%
9119 \fi
9120 \ifx\@pdfmoddate\@empty
9121 \else
9122 /ModDate(\@pdfmoddate)%
9123 \fi
9124 /Author(\@pdfauthor)%
9125 \ifx\@pdfproducer\relax
9126 \else
9127 /Producer(\@pdfproducer)%
9128 \fi
9129 /Keywords(\@pdfkeywords)%
9130 \ifx\@pdftrapped\@empty
9131 \else
9132 /Trapped/\@pdftrapped
9133 \fi
9134 \HyInfo@Addons
9135 >>%
9136 }%
9137 \Hy@DisableOption{pdfauthor}%
9138 \Hy@DisableOption{pdftitle}%
9139 \Hy@DisableOption{pdfsubject}%
9140 \Hy@DisableOption{pdfcreator}%
9141 \Hy@DisableOption{pdfcreationdate}%
9142 \Hy@DisableOption{pdfmoddate}%
9143 \Hy@DisableOption{pdfproducer}%
9144 \Hy@DisableOption{pdfkeywords}%
9145 \Hy@DisableOption{pdftrapped}%
9146 \Hy@DisableOption{pdfinfo}%
9147 }
9148 \def\PDF@SetupDoc{%

```

```

9149 \edef\Hy@temp{%
9150 \ifHy@toolbar\else /HideToolbar true\fi
9151 \ifHy@menubar\else /HideMenubar true\fi
9152 \ifHy>windowui\else /HideWindowUI true\fi
9153 \ifHy@fitwindow /FitWindow true\fi
9154 \ifHy@centerwindow /CenterWindow true\fi
9155 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9156 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9157 \Hy@UseNameKey{Direction}\@pdfdirection
9158 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9159 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9160 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9161 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9162 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9163 \Hy@UseNameKey{Duplex}\@pdfduplex
9164 \ifx\@pdfpicktraybypdfsize\@empty
9165 \else
9166 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9167 \fi
9168 \ifx\@pdfprintpagerange\@empty
9169 \else
9170 /PrintPageRange[\@pdfprintpagerange]%
9171 \fi
9172 \ifx\@pdfnumcopies\@empty
9173 \else
9174 /NumCopies \@pdfnumcopies
9175 \fi
9176 }%
9177 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9178 \@pdfm@mark{%
9179 docview<<%
9180 \ifx\@pdfstartpage\@empty
9181 \else
9182 \ifx\@pdfstartview\@empty
9183 \else
9184 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
9185 \fi
9186 \fi
9187 \ifx\@baseurl\@empty
9188 \else
9189 /URI<</Base(\Hy@pstringB)>>%
9190 \fi
9191 /PageMode/\@pdfpagemode
9192 \ifx\Hy@temp\@empty
9193 \else
9194 /ViewerPreferences<<\Hy@temp>>%
9195 \fi
9196 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9197 \ifx\@pdflang\@empty
9198 \else
9199 /Lang(\@pdflang)%
9200 \fi
9201 >>%
9202 }%
9203 \ifx\@pdfpagescrop\@empty
9204 \else
9205 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%

```

```

9206 \fi
9207 }
9208 </dvipdfm | xetex>

```

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

```

9209 <*dvipdfm>
9210 \AtBeginShipoutFirst{%
9211   \ifHy@setpagesize
9212     \begingroup
9213       \@ifundefined{stockwidth}{%
9214         \ifdim\paperwidth>\z@
9215           \ifdim\paperheight>\z@
9216             \special{papersize=\the\paperwidth,\the\paperheight}%
9217           \fi
9218         \fi
9219       }{%
9220         \ifdim\stockwidth>\z@
9221           \ifdim\stockheight>\z@
9222             \special{papersize=\the\stockwidth,\the\stockheight}%
9223           \fi
9224         \fi
9225       }%
9226     \endgroup
9227 \fi
9228 \Hy@DisableOption{setpagesize}%
9229 }
9230 </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.

```

9231 <*vtexhtml>
9232 \providecommand*{\XR@ext}{htm}
9233 \RequirePackage{vtexhtml}
9234 \newif\if@Localurl
9235 \def\PDF@FinishDoc{}
9236 \def\PDF@SetupDoc{%
9237   \ifx\@baseurl\@empty
9238     \else
9239       \special{!direct <base href="\@baseurl">}%
9240     \fi
9241 }
9242 \def\@urltype{url}
9243 \def\hyper@link#1#2#3{%
9244   \Hy@VerboseLinkStart{#1}{#2}%
9245   \leavevmode
9246   \special{!direct <a href=%
9247     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
9248   #3%
9249   \special{!direct </a>}%
9250 }
9251 \def\hyper@linkurl#1#2{%
9252   \begingroup
9253     \hyper@chars
9254   \leavevmode

```

```

9255 \MathBSuppress=1\relax
9256 \special{!direct <a href=%
9257 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
9258 #1%
9259 \MathBSuppress=0\relax
9260 \special{!direct </a>}%
9261 \endgroup
9262 }
9263 \def\hyper@linkfile#1#2#3{%
9264 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
9265 }
9266 \def\hyper@linkstart#1#2{%
9267 \Hy@VerboseLinkStart{#1}{#2}%
9268 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlltype
9269 \@Localurltrue
9270 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
9271 \else
9272 \@Localurlfalse
9273 \begingroup
9274 \hyper@chars
9275 \special{!aref \HyperDestNameFilter{#2}}%
9276 \endgroup
9277 \fi
9278 }
9279 \def\hyper@linkend{%
9280 \if@Localurl
9281 \special{!endaref}%
9282 \else
9283 \special{!direct </a>}%
9284 \fi
9285 }
9286 \def\hyper@anchorstart#1{%
9287 \Hy@SaveLastskip
9288 \Hy@VerboseAnchor{#1}%
9289 \begingroup
9290 \hyper@chars
9291 \special{!aname #1}%
9292 \special{!direct <a name=%
9293 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9294 \endgroup
9295 \Hy@activeanchortrue
9296 }
9297 \def\hyper@anchorend{%
9298 \special{!direct </a>}%
9299 \Hy@activeanchorfalse
9300 \Hy@RestoreLastskip
9301 }
9302 \def\hyper@anchor#1{%
9303 \Hy@SaveLastskip
9304 \Hy@VerboseAnchor{#1}%
9305 \begingroup
9306 \let\protect=\string
9307 \hyper@chars
9308 \leavevmode
9309 \special{!aname #1}%
9310 \special{!direct <a name=%
9311 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%

```

```

9312 \endgroup
9313 \Hy@activeanchortrue
9314 \bgroup\anchor@spot\egroup
9315 \special{!direct </a>}%
9316 \Hy@activeanchorfalse
9317 \Hy@RestoreLastskip
9318 }
9319 \def\@Form[#1]{%
9320 \typeout{Sorry, TeXpider does not yet support FORMs}%
9321 }
9322 \def\@endForm{}
9323 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9324 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
9325 }
9326 \def\@TextField[#1]#2{% parameters, label
9327 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
9328 }
9329 \def\@CheckBox[#1]#2{% parameters, label
9330 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
9331 }
9332 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9333 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
9334 }
9335 \def\@PushButton[#1]#2{% parameters, label
9336 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
9337 }
9338 \def\@Reset[#1]#2{%
9339 \typeout{Sorry, TeXpider does not yet support FORMs}%
9340 }
9341 \def\@Submit[#1]#2{%
9342 \typeout{Sorry, TeXpider does not yet support FORMs}%
9343 }
9344 \</vtexhtml>
9345 \< *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.

```

9346 \ifx\mediaheight\@undefined
9347 \else
9348 \ifx\mediaheight\relax
9349 \else
9350 \ifHy@setpagesize
9351 \providecommand*\VTeXInitMediaSize{%
9352 \ltx@ifundefined{stockwidth}{%
9353 \ifdim\paperheight>0pt %
9354 \setlength\mediaheight\paperheight
9355 \fi
9356 \ifdim\paperheight>0pt %
9357 \setlength\mediawidth\paperwidth
9358 \fi
9359 }{%
9360 \ifdim\stockheight>0pt %
9361 \setlength\mediaheight\stockheight
9362 \fi
9363 \ifdim\stockwidth>0pt %
9364 \setlength\mediawidth\stockwidth

```



```

9365      \fi
9366      }%
9367      }%
9368      \Hy@AtBeginDocument{\VTeXInitMediaSize}%
9369      \fi
9370      \Hy@DisableOption{setpagesize}%
9371      \fi
9372 \fi

```

Older versions of VTeX require xyz in lower case.

```

9373 \providecommand*\@pdfview{xyz}
9374 \providecommand*\@pdfborder{0 0 1}
9375 \providecommand*\@pdfborderstyle{}
9376 \let\CurrentBorderColor\@linkbordercolor
9377 \def\hyper@anchor#1{%
9378   \Hy@SaveLastskip
9379   \Hy@VerboseAnchor{#1}%
9380   \begingroup
9381     \let\protect=\string
9382     \hyper@chars
9383     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9384   \endgroup
9385   \Hy@activeanchortrue
9386   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9387   \Hy@activeanchorfalse
9388   \Hy@RestoreLastskip
9389 }
9390 \def\hyper@anchorstart#1{%
9391   \Hy@SaveLastskip
9392   \Hy@VerboseAnchor{#1}%
9393   \begingroup
9394     \hyper@chars
9395     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9396   \endgroup
9397   \Hy@activeanchortrue
9398 }
9399 \def\hyper@anchorend{%
9400   \Hy@activeanchorfalse
9401   \Hy@RestoreLastskip
9402 }
9403 \def\@urlltype{url}
9404 \def\Hy@undefinedname{UNDEFINED}
9405 \def\hyper@linkstart#1#2{%
9406   \Hy@VerboseLinkStart{#1}{#2}%
9407   \Hy@pstringdef\Hy@pstringURI{#2}%
9408   \expandafter\Hy@colorlink\csname @#1color\endcsname
9409   \ltx@ifundefined{@#1bordercolor}{%
9410     \let\CurrentBorderColor\relax
9411   }{%
9412     \edef\CurrentBorderColor{%
9413       \csname @#1bordercolor\endcsname
9414     }%
9415   }%
9416   \def\Hy@tempa{#1}%
9417   \ifx\Hy@tempa\@urlltype
9418     \special{!%
9419       aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
9420       a=<%

```

```

9421 \ifHy@pdfa /F 4\fi
9422 \Hy@setpdfborder
9423 \ifx\CurrentBorderColor\relax
9424 \else
9425 /C [\CurrentBorderColor]%
9426 \fi
9427 >%
9428 }%
9429 \else
9430 \protected@edef\Hy@testname{#2}%
9431 \ifx\Hy@testname\@empty
9432 \Hy@Warning{%
9433 Empty destination name,\MessageBreak
9434 using '\Hy@undefinedname'%
9435 }%
9436 \let\Hy@testname\Hy@undefinedname
9437 \fi
9438 \special{!%
9439 aref \expandafter\HyperDestNameFilter
9440 \expandafter{\Hy@testname};%
9441 a=<%
9442 \ifHy@pdfa /F 4\fi
9443 \Hy@setpdfborder
9444 \ifx\CurrentBorderColor\relax
9445 \else
9446 /C [\CurrentBorderColor]%
9447 \fi
9448 >%
9449 }%
9450 \fi
9451 }
9452 \def\hyper@linkend{%
9453 \special{!endaref}%
9454 \Hy@endcolorlink
9455 }
9456 \def\hyper@linkfile#1#2#3{%
9457 \leavevmode
9458 \special{!%
9459 aref <%
9460 \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi
9461 f=#2>#3;%
9462 a=<%
9463 \ifHy@pdfa /F 4\fi
9464 \Hy@setpdfborder
9465 \ifx\@filebordercolor\relax
9466 \else
9467 /C [\@filebordercolor]%
9468 \fi
9469 >%
9470 }%
9471 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
9472 \special{!endaref}%
9473 }
9474 \def\hyper@linkurl#1#2{%
9475 \begingroup
9476 \Hy@pstringdef\Hy@pstringURI{#2}%
9477 \hyper@chars

```

```

9478 \leavevmode
9479 \special{!%
9480   aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
9481   a=<%
9482     \ifHy@pdfa /F 4\fi
9483     \Hy@setpdfborder
9484     \ifx\@urlbordercolor\relax
9485     \else
9486       /C [\@urlbordercolor]%
9487     \fi
9488   >%
9489   }%
9490   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9491 \special{!endaref}%
9492 \endgroup
9493 }
9494 \def\hyper@link#1#2#3{%
9495   \Hy@VerboseLinkStart{#1}{#2}%
9496   \ltx@ifundefined{@#1bordercolor}{%
9497     \let\CurrentBorderColor\relax
9498   }{%
9499     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9500   }%
9501   \leavevmode
9502   \protected@edef\Hy@testname{#2}%
9503   \ifx\Hy@testname\@empty
9504     \Hy@Warning{%
9505       Empty destination name,\MessageBreak
9506       using '\Hy@undefinedname'%
9507     }%
9508     \let\Hy@testname\Hy@undefinedname
9509   \fi
9510   \special{!%
9511     aref \expandafter\HyperDestNameFilter
9512       \expandafter{\Hy@testname};%
9513     a=<%
9514       \ifHy@pdfa /F 4\fi
9515       \Hy@setpdfborder
9516       \ifx\CurrentBorderColor\relax
9517       \else
9518         /C [\CurrentBorderColor]%
9519       \fi
9520     >%
9521   }%
9522   \expandafter
9523   \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
9524   \special{!endaref}%
9525 }
9526 \def\hyper@image#1#2{%
9527   \hyper@linkurl{#2}{#1}%
9528 }
9529 \def\@hyper@launch run:#1\#2#3{%
9530   \Hy@pstringdef\Hy@pstringF{#1}%
9531   \Hy@pstringdef\Hy@pstringP{#3}%
9532   \leavevmode
9533   \special{!aref %
9534     <u=%

```

```

9535 /Type/Action%
9536 /S/Launch%
9537 /F(\Hy@pstringF)%
9538 \Hy@SetNewWindow
9539 \ifx\#3\%
9540 \else
9541 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
9542 \fi%
9543 >%
9544 a=<%
9545 \ifHy@pdfa /F 4\fi
9546 \Hy@setpdfborder
9547 \ifx\@runbordercolor\relax
9548 \else
9549 /C[\@runbordercolor]%
9550 \fi
9551 >%
9552 }%
9553 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
9554 \special{!endaref}%
9555 }
9556 \def\Acrobatmenu#1#2{%
9557 \Hy@Acrobatmenu{#1}{#2}{%
9558 \special{!%
9559 aref <u=/S /Named /N /#1>;%
9560 a=<%
9561 \ifHy@pdfa /F 4\fi
9562 \Hy@setpdfborder
9563 \ifx\@menubordercolor\relax
9564 \else
9565 /C[\@menubordercolor]%
9566 \fi
9567 >%
9568 }%
9569 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
9570 \special{!endaref}%
9571 }%
9572 }

```

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

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

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

```

9573 \ifnum\Hy@VTeXversion<702 %
9574 \else
9575 \def\hyper@pagetransition{%
9576 \ifx\@pdfpagetransition\relax
9577 \else
9578 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

9579 \else
9580 \hvtex@parse@trans\@pdfpagetransition
9581 \fi
9582 \fi
9583 }%

```

I have to write an “honest” parser to convert raw PDF code into  $\text{\texttt{VTeX}}$   $\text{\texttt{\special}}$ .  
(AVK)

Syntax of  $\text{\special{!trans <transition\_effect>}}$ :

```

<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:

```

9584 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
9585 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
9586 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
9587 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
9588 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
9589 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
9590 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

9591 \def\hvtex@param@dimension{/Dm}%
9592 \def\hvtex@param@direction{/Di}%
9593 \def\hvtex@param@duration{/D}%
9594 \def\hvtex@param@motion{/M}%

```

Tokenizer:

```

9595 \def\hvtex@gettoken{%
9596   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
9597 }%

```

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

```

9598 \def\hvtex@gettoken@#1 #2\@nil{%
9599   \edef\hvtex@token{#1}%
9600   \edef\hvtex@buffer{#2}%
9601 }%
9602 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

9603 \let\hvtex@trans@code\@empty
9604 \let\hvtex@param@dimension\@empty
9605 \let\hvtex@param@direction\@empty
9606 \let\hvtex@param@duration\@empty
9607 \let\hvtex@param@motion\@empty
9608 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

9609 \hvtex@gettoken
9610 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

9611   \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

9612     \else
9613     \hvtex@gettoken
9614     \fi
9615 \fi
9616 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

9617 \hvtex@trans@params
9618 }%

```

Reentrant macro to parse optional parameters.

```

9619 \def\hvtex@trans@params{%
9620 \ifx\hvtex@buffer\@empty
9621 \else
9622 \hvtex@gettoken
9623 \let\hvtex@trans@par\hvtex@token
9624 \ifx\hvtex@buffer\@empty
9625 \else
9626 \hvtex@gettoken
9627 \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. V<sub>T</sub><sub>E</sub>X special takes it in milliseconds.

```

9628 \let\hvtex@param@duration\hvtex@token
9629 \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

9630 \expandafter\edef\expandafter\hvtex@param@motion
9631 \expandafter{\expandafter\@gobble\hvtex@token}%
9632 \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

9633 \expandafter\edef\expandafter\hvtex@param@dimension
9634 \expandafter{\expandafter\@gobble\hvtex@token}%
9635 \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).

```

9636 \let\hvtex@param@direction\hvtex@token
9637 \fi\fi\fi
9638 \fi
9639 \fi
9640 \ifx\hvtex@buffer\@empty
9641 \let\next\hvtex@produce@trans
9642 \else
9643 \let\next\hvtex@trans@params
9644 \fi
9645 \next
9646 }%

```

Merge <transition\_\_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

9647 \def\hvtex@produce@trans{%
9648 \let\vtex@trans@special\@empty
9649 \if S\hvtex@trans@code
9650 \edef\vtex@trans@special{\hvtex@trans@code
9651 \hvtex@param@dimension\hvtex@param@motion}%
9652 \else\if B\hvtex@trans@code
9653 \edef\vtex@trans@special{%
9654 \hvtex@trans@code\hvtex@param@dimension

```

```

9655 }%
9656 \else\if X\hvtex@trans@code
9657 \edef\vtex@trans@special{%
9658 \hvtex@trans@code\hvtex@param@motion
9659 }%
9660 \else\if W\hvtex@trans@code
9661 \edef\vtex@trans@special{%
9662 \hvtex@trans@code\hvtex@param@direction
9663 }%
9664 \else\if D\hvtex@trans@code
9665 \let\vtex@trans@special\hvtex@trans@code
9666 \else\if R\hvtex@trans@code
9667 \let\vtex@trans@special\hvtex@trans@code
9668 \else\if G\hvtex@trans@code
9669 \edef\vtex@trans@special{%
9670 \hvtex@trans@code\hvtex@param@direction
9671 }%
9672 \fi\fi\fi\fi\fi\fi
9673 \ifx\vtex@trans@special\@empty
9674 \else
9675 \ifx\hvtex@param@duration\@empty
9676 \else
9677 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

9678 \multiply\dimen@\@m
9679 \edef\vtex@trans@special{%
9680 \vtex@trans@special,\strip@pt\dimen@
9681 }%
9682 \fi

```

And all the mess is just for this.

```

9683 \special{!trans \vtex@trans@special}%
9684 \fi
9685 }%
9686 \def\hyper@pageduration{%
9687 \ifx\@pdfpageduration\relax
9688 \else
9689 \ifx\@pdfpageduration\@empty
9690 \special{!duration-}%
9691 \else
9692 \special{!duration \@pdfpageduration}%
9693 \fi
9694 \fi
9695 }%
9696 \def\hyper@pagehidden{%
9697 \ifHy@useHidKey
9698 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
9699 \fi
9700 }%
9701 \g@addto@macro\Hy@EveryPageBoxHook{%
9702 \hyper@pagetransition
9703 \hyper@pageduration
9704 \hyper@pagehidden
9705 }%
9706 \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

```

9707 \ifx\@pdfproducer\relax
9708 \def\@pdfproducer{VTeX}%
9709 \ifnum\Hy@VTeXversion>\z@
9710 \count@\VTeXversion
9711 \divide\count@ 100 %
9712 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
9713 \multiply\count@ -100 %
9714 \advance\count@\VTeXversion
9715 \edef\@pdfproducer{%
9716 \@pdfproducer
9717 .\ifnum\count@<10 0\fi\the\count@
9718 \ifx\VTeXOS\@undefined\else
9719 \ifnum\VTeXOS>0 %
9720 \ifnum\VTeXOS<6 %
9721 \space(%
9722 \ifcase\VTeXOS
9723 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
9724 \fi
9725 )%
9726 \fi
9727 \fi
9728 \fi
9729 ,\space
9730 \ifnum\OpMode=\@one PDF\else PS\fi
9731 \space backend%
9732 \ifx\gexmode\@undefined\else
9733 \ifnum\gexmode>\z@\space with GeX\fi
9734 \fi
9735 }%
9736 \fi
9737 \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).

```

9738 \def\PDF@SetupDoc{%
9739 \ifx\@pdfpagescrop\@empty
9740 \else

```



```

9741 \special{!pdinfo b=<\@pdfpagescrop>}%
9742 \fi
9743 \ifx\@pdfstartpage\@empty
9744 \else
9745 \ifx\@pdfstartview\@empty
9746 \else
9747 \special{!onopen Page\@pdfstartpage}%
9748 \fi
9749 \fi
9750 \special{!pdinfo p=</\@pdfpagemode>}%
9751 \ifx\@baseurl\@empty
9752 \else
9753 \special{!pdinfo u=<<</Base (\@baseurl)>>>}%
9754 \fi
9755 \special{!pdinfo v=<<<%
9756 \ifHy@toolbar\else /HideToolbar true\fi
9757 \ifHy@menubar\else /HideMenubar true\fi
9758 \ifHy>windowui\else /HideWindowUI true\fi
9759 \ifHy@fitwindow /FitWindow true\fi
9760 \ifHy@centerwindow /CenterWindow true\fi
9761 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9762 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9763 \Hy@UseNameKey{Direction}\@pdfdirection
9764 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9765 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9766 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9767 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9768 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9769 \Hy@UseNameKey{Duplex}\@pdfduplex
9770 \ifx\@pdfpicktraybypdfsize\@empty
9771 \else
9772 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9773 \fi
9774 \ifx\@pdfprintpagerange\@empty
9775 \else
9776 /PrintPageRange[\@pdfprintpagerange]%
9777 \fi
9778 \ifx\@pdfnumcopies\@empty
9779 \else
9780 /NumCopies \@pdfnumcopies
9781 \fi
9782 >>>}%
9783 \ifx\@pdfpagelayout\@empty
9784 \else
9785 \special{!pdinfo l=</\@pdfpagelayout\space>}%
9786 \fi
9787 }%
9788 \HyInfo@AddonUnsupportedtrue
9789 \def\PDF@FinishDoc{%
9790 \Hy@UseMaketitleInfos
9791 \HyInfo@TrappedUnsupported
9792 \special{!pdinfo a=<\@pdfauthor>}%
9793 \special{!pdinfo t=<\@pdftitle>}%
9794 \special{!pdinfo s=<\@pdfsubject>}%
9795 \special{!pdinfo c=<\@pdfcreator>}%
9796 \ifx\@pdfproducer\relax
9797 \else

```

```

9798 \special{!pdfinfo r=<\@pdfproducer>}%
9799 \fi
9800 \special{!pdfinfo k=<\@pdfkeywords>}%
9801 \Hy@DisableOption{pdfauthor}%
9802 \Hy@DisableOption{pdftitle}%
9803 \Hy@DisableOption{pdfsubject}%
9804 \Hy@DisableOption{pdfcreator}%
9805 \Hy@DisableOption{pdfcreationdate}%
9806 \Hy@DisableOption{pdfmoddate}%
9807 \Hy@DisableOption{pdfproducer}%
9808 \Hy@DisableOption{pdfkeywords}%
9809 \Hy@DisableOption{pdftrapped}%
9810 \Hy@DisableOption{pdfinfo}%
9811 }
9812 </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.

```

9813 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
9814 <package>\providecommand*{\Hy@DistillerDestFix}{%
9815 <*pdfmark | dviwindo>
9816 \def\Hy@DistillerDestFix{%
9817 \begingroup
9818 \let\x\literalps@out

```

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

```

9819 \ifnum \@ifundefined{OpMode}{0}{%
9820 \ifundefined{gexmode}{0}{%
9821 \ifnum\gexmode>0 \OpMode\else 0\fi
9822 }>1 %
9823 \def\x##1{%
9824 \immediate\special{!##1}%
9825 }%
9826 \fi
9827 \x{%
9828 /product where{%
9829 pop %
9830 product(Distiller)search{%
9831 pop pop pop %
9832 version(.)search{%
9833 exch pop exch pop%
9834 (3011)eq{%
9835 gsave %
9836 newpath 0 0 moveto closepath clip%
9837 /Courier findfont 10 scalefont setfont %
9838 72 72 moveto(.).show %
9839 grestore%

```

```

9840         }if%
9841         }{pop}ifelse%
9842         }{pop}ifelse%
9843     }if%
9844 }%
9845 \endgroup
9846 }
9847 </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

```

9848 <*pdfmark>
9849 \Hy@breaklinks@unsupported
9850 \def\hyper@anchor#1{%
9851   \Hy@SaveLastskip
9852   \Hy@VerboseAnchor{#1}%
9853   \begingroup
9854   \pdfmark[\anchor@spot]{%
9855     pdfmark=/DEST,%
9856     linktype=anchor,%
9857     View=/\@pdfview \@pdfviewparams,%
9858     DestAnchor={#1}%
9859   }%
9860   \endgroup
9861   \Hy@RestoreLastskip
9862 }
9863 \ltx@ifundefined{hyper@anchorstart}{\endinput}{}
9864 \def\hyper@anchorstart#1{%
9865   \Hy@SaveLastskip
9866   \Hy@VerboseAnchor{#1}%
9867   \literalps@out{H.S}%
9868   \Hy@AllowHyphens
9869   \xdef\hyper@currentanchor{#1}%
9870   \Hy@activeanchortrue
9871 }
9872 \def\hyper@anchorend{%
9873   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
9874   \pdfmark{%
9875     pdfmark=/DEST,%
9876     linktype=anchor,%
9877     View=/\@pdfview \@pdfviewparams,%
9878     DestAnchor=\hyper@currentanchor,%
9879   }%
9880   \Hy@activeanchorfalse

```

```

9881 \Hy@RestoreLastskip
9882 }
9883 \def\hyper@linkstart#1#2{%
9884 \Hy@VerboseLinkStart{#1}{#2}%
9885 \ifHy@breaklinks
9886 \else
9887 \leavevmode\hbox\bgroup
9888 \fi
9889 \expandafter\Hy@colorlink\csname @#1color\endcsname
9890 \literalps@out{H.S}%
9891 \Hy@AllowHyphens
9892 \xdef\hyper@currentanchor{#2}%
9893 \gdef\hyper@currentlinktype{#1}%
9894 }
9895 \def\hyper@linkend{%
9896 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
9897 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
9898 \let\Hy@tempcolor\relax
9899 }{%
9900 \edef\Hy@tempcolor{%
9901 \csname @\hyper@currentlinktype bordercolor\endcsname
9902 }%
9903 }%
9904 \pdfmark{%
9905 pdfmark=/ANN,%
9906 linktype=link,%
9907 Subtype=/Link,%
9908 PDFAFlags=4,%
9909 Dest=\hyper@currentanchor,%
9910 AcroHighlight=\@pdfhighlight,%
9911 Border=\@pdfborder,%
9912 BorderStyle=\@pdfborderstyle,%
9913 Color=\Hy@tempcolor,%
9914 Raw=H.B%
9915 }%
9916 \Hy@endcolorlink
9917 \ifHy@breaklinks
9918 \else
9919 \egroup
9920 \fi
9921 }

```

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.

```

9922 \begingroup
9923 \catcode'P=12 %
9924 \catcode'T=12 %
9925 \lowercase{\endgroup
9926 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
9927 }
9928 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

9929 \def\hyper@pagetransition{%
9930 \ifx\@pdfpagetransition\relax
9931 \else

```

```

9932 \ifx\@pdfpagetransition\@empty
9933 % 1. Does an old entry have to be deleted?
9934 % 2. If 1=yes, how to delete?
9935 \else
9936 \pdfmark{%
9937 pdfmark=/PUT,%
9938 Raw={%
9939 \string{ThisPage\string}%
9940 <</Trans << /S /\@pdfpagetransition\space >> >>%
9941 }%
9942 }%
9943 \fi
9944 \fi
9945 }

```

\hyper@pageduration

```

9946 \def\hyper@pageduration{%
9947 \ifx\@pdfpageduration\relax
9948 \else
9949 \ifx\@pdfpageduration\@empty
9950 % 1. Does an old entry have to be deleted?
9951 % 2. If 1=yes, how to delete?
9952 \else
9953 \pdfmark{%
9954 pdfmark=/PUT,%
9955 Raw={%
9956 \string{ThisPage\string}%
9957 <</Dur \@pdfpageduration>>%
9958 }%
9959 }%
9960 \fi
9961 \fi
9962 }

```

\hyper@pagehidden

```

9963 \def\hyper@pagehidden{%
9964 \ifHy@useHidKey
9965 \pdfmark{%
9966 pdfmark=/PUT,%
9967 Raw={%
9968 \string{ThisPage\string}%
9969 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
9970 }%
9971 }%
9972 \fi
9973 }

```

```

9974 \g@addto@macro\Hy@EveryPageBoxHook{%
9975 \hyper@pagetransition
9976 \hyper@pageduration
9977 \hyper@pagehidden
9978 }

```

```

9979 \def\hyper@image#1#2{%
9980 \hyper@linkurl{#2}{#1}%
9981 }
9982 \def\Hy@undefinedname{UNDEFINED}
9983 \def\hyper@link#1#2#3{%

```

```

9984 \Hy@VerboseLinkStart{#1}{#2}%
9985 \ltx@ifundefined{@#1bordercolor}{%
9986   \let\Hy@tempcolor\relax
9987 }{%
9988   \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
9989 }%
9990 \begingroup
9991   \protected@edef\Hy@testname{#2}%
9992   \ifx\Hy@testname\@empty
9993     \Hy@Warning{%
9994       Empty destination name,\MessageBreak
9995       using '\Hy@undefinedname'%
9996     }%
9997     \let\Hy@testname\Hy@undefinedname
9998   \fi
9999   \pdfmark[{#3}]{%
10000     Color=\Hy@tempcolor,%
10001     linktype={#1},%
10002     AcroHighlight=\@pdfhighlight,%
10003     Border=\@pdfborder,%
10004     BorderStyle=\@pdfborderstyle,%
10005     pdfmark=/ANN,%
10006     Subtype=/Link,%
10007     PDFAFlags=4,%
10008     Dest=\Hy@testname
10009   }%
10010 \endgroup
10011 }
10012 \newtoks\pdf@docset
10013 \def\PDF@FinishDoc{%
10014   \Hy@UseMaketitleInfos
10015   \Hy@Info@GenerateAddons
10016   \let\Hy@temp\@empty
10017   \ifx\@pdfcreationdate\@empty
10018   \else
10019     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
10020   \fi
10021   \ifx\@pdfmoddate\@empty
10022   \else
10023     \expandafter\def\expandafter\Hy@temp\expandafter{%
10024       \Hy@temp
10025       ModDate=\@pdfmoddate,%
10026     }%
10027   \fi
10028   \ifx\@pdfproducer\relax
10029   \else
10030     \expandafter\def\expandafter\Hy@temp\expandafter{%
10031       \Hy@temp
10032       Producer=\@pdfproducer,%
10033     }%
10034   \fi
10035   \expandafter
10036   \pdfmark\expandafter{%
10037     \Hy@temp
10038     pdfmark=/DOCINFO,%
10039     Title=\@pdftitle,%
10040     Subject=\@pdfsubject,%

```

```

10041   Creator=\@pdfcreator,%
10042   Author=\@pdfauthor,%
10043   Keywords=\@pdfkeywords,%
10044   Trapped=\@pdftrapped
10045 }%
10046 \ifx\HyInfo@Addons\@empty
10047 \else
10048   \pdfmark{%
10049     pdfmark=/DOCINFO,%
10050     Raw={\HyInfo@Addons}%
10051   }%
10052 \fi
10053 \Hy@DisableOption{pdfauthor}%
10054 \Hy@DisableOption{pdftitle}%
10055 \Hy@DisableOption{pdfsubject}%
10056 \Hy@DisableOption{pdfcreator}%
10057 \Hy@DisableOption{pdfcreationdate}%
10058 \Hy@DisableOption{pdfmoddate}%
10059 \Hy@DisableOption{pdfproducer}%
10060 \Hy@DisableOption{pdfkeywords}%
10061 \Hy@DisableOption{pdftrapped}%
10062 \Hy@DisableOption{pdfinfo}%
10063 }
10064 \def\PDF@SetupDoc{%
10065   \def\Hy@temp{%
10066     \ifx\@pdfstartpage\@empty
10067     \else
10068       \ifx\@pdfstartview\@empty
10069       \else
10070         \edef\Hy@temp{%
10071           ,Page=\@pdfstartpage
10072           ,View=\@pdfstartview
10073         }%
10074       \fi
10075     \fi
10076     \edef\Hy@temp{%
10077       \noexpand\pdfmark{%
10078         pdfmark=/DOCVIEW,%
10079         PageMode=/\@pdfpagemode
10080       }\Hy@temp
10081     }%
10082   }%
10083   \Hy@temp
10084   \ifx\@pdfpagescrop\@empty
10085   \else
10086     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10087   \fi
10088   \edef\Hy@temp{%
10089     \ifHy@toolbar\else /HideToolbar true\fi
10090     \ifHy@menubar\else /HideMenubar true\fi
10091     \ifHy>windowui\else /HideWindowUI true\fi
10092     \ifHy@fitwindow /FitWindow true\fi
10093     \ifHy@centerwindow /CenterWindow true\fi
10094     \ifHy@displaydoctitle /DisplayDocTitle true\fi
10095     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10096     \Hy@UseNameKey{Direction}\@pdfdirection
10097     \Hy@UseNameKey{ViewArea}\@pdfviewarea

```

```

10098 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10099 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10100 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10101 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10102 \Hy@UseNameKey{Duplex}\@pdfduplex
10103 \ifx\@pdfpicktraybypdfsize\@empty
10104 \else
10105 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10106 \fi
10107 \ifx\@pdfprintpagerange\@empty
10108 \else
10109 /PrintPageRange\@pdfprintpagerange]%
10110 \fi
10111 \ifx\@pdfnumcopies\@empty
10112 \else
10113 /NumCopies \@pdfnumcopies
10114 \fi
10115 }%
10116 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10117 \pdfmark{%
10118 pdfmark=/PUT,%
10119 Raw={%
10120 \string{Catalog\string}<<%
10121 \ifx\Hy@temp\@empty
10122 \else
10123 /ViewerPreferences<<\Hy@temp>>%
10124 \fi
10125 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10126 \ifx\@pdflang\@empty
10127 \else
10128 /Lang(\@pdflang)%
10129 \fi
10130 \ifx\@baseurl\@empty
10131 \else
10132 /URI<</Base(\Hy@pstringB)>>%
10133 \fi
10134 >>%
10135 }%
10136 }%
10137 }
10138 </pdfmark>
10139 <*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.

```

10140 \newif\ifHy@pdfmarkerror
10141 \def\pdfmark{\@ifnextchar{\@pdfmark@}{\pdfmark@[]}}
10142 \def\pdfmark@[#1]#2{%
10143 \Hy@pdfmarkerrorfalse
10144 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
10145 \@processme
10146 \let\pdf@type\relax
10147 \setkeys{PDF}{#2}%
10148 \ifHy@pdfmarkerror

```



```

10149 \else
10150 \ifx\pdf@type\relax
10151 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
10152 \ifx\#1\%
10153 \else
10154 \pdf@rect{#1}%
10155 \fi
10156 \else
10157 \ifx\#1\%
10158 \literalps@out{%
10159 [\the\pdf@toks\space\pdf@type\space pdfmark%
10160 ]%
10161 \else
10162 \ltx@ifundefined{@\pdf@linktype color}{%
10163 \Hy@colorlink\@linkcolor
10164 }{%
10165 \expandafter\Hy@colorlink
10166 \csname @\pdf@linktype color\endcsname
10167 }%
10168 \pdf@rect{#1}%
10169 \literalps@out{%
10170 [\the\pdf@toks\space\pdf@type\space pdfmark%
10171 ]%
10172 \Hy@endcolorlink
10173 \fi
10174 \fi
10175 \fi
10176 }

```

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}

```

```

10177 \newsavebox{\pdf@box}
10178 \providecommand*{\Hy@setouterhbox}{\sbox}
10179 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
10180 \def\Hy@DEST{/DEST}
10181 \def\pdf@rect#1{%
10182 \leavevmode
10183 \ifHy@breaklinks
10184 \Hy@setouterhbox\pdf@box{\Hy@AllowHyphens#1}%
10185 \else
10186 \sbox\pdf@box{#1}%
10187 \fi
10188 \dimen@ht\pdf@box
10189 \ifdim\dp\pdf@box=\z@
10190 \literalps@out{H.S}%
10191 \else
10192 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
10193 \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...).

```
10194 \ifHy@breaklinks
10195   \expandafter\Hy@breaklinksunhbox
10196 \else
10197   \expandafter\box
10198 \fi
10199 \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

10200 \ifdim\dimen@=\z@
10201   \literalps@out{H.R.}%
10202 \else
10203   \raise\dimen@\hbox{\literalps@out{H.R.}}%
10204 \fi
10205 \ifx\pdf@type\Hy@DEST
10206 \else
10207   \pdf@addtoksx{H.B}%
10208 \fi
10209 }
```

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.

```
10210 \newtoks\pdf@toks
10211 \newtoks\pdf@defaulttoks
10212 \pdf@defaulttoks={}%
10213 \def\pdf@addtoks#1#2{%
10214   \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
10215   \@processme
10216 }
10217 \def\pdf@addtoksx#1{%
10218   \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
10219   \@processme
10220 }
10221 \def\PDFdefaults#1{%
10222   \pdf@defaulttoks={#1}%
10223 }
```

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

```
10224 % what is the type of pdfmark?
10225 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
10226 % what is the link type?
10227 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
10228 \def\pdf@linktype{link}
10229 % parameter is a stream of PDF
10230 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
10231 % parameter is a name
10232 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
10233 % parameter is a array
10234 \define@key{PDF}{Border}{}%
10235 \edef\Hy@temp{#1}%
10236 \ifx\Hy@temp\@empty
10237 \else
10238   \pdf@addtoks{#1}\Hy@BorderArrayPatch{Border}% hash-ok
```

```

10239 \fi
10240 }
10241 \let\Hy@BorderArrayPatch\@empty
10242 % parameter is a dictionary
10243 \define@key{PDF}{BorderStyle}{%
10244 \edef\Hy@temp{#1}%
10245 \ifx\Hy@temp\@empty
10246 \else
10247 \pdf@addtoks{<<#1>>}{BS}%
10248 \fi
10249 }
10250 % parameter is a array
10251 \define@key{PDF}{Color}{%
10252 \ifx\relax#1\relax
10253 \else
10254 \pdf@addtoks{[#1]}{Color}% hash-ok
10255 \fi
10256 }
10257 % parameter is a string
10258 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
10259 % parameter is a integer
10260 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
10261 % parameter is a array
10262 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
10263 % parameter is a string
10264 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
10265 % parameter is a string or file
10266 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
10267 % parameter is a destination
10268 \define@key{PDF}{Dest}{%
10269 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10270 \ifx\Hy@pstringDest\@empty
10271 \Hy@pdfmarkerrortrue
10272 \Hy@Warning{Destination with empty name ignored}%
10273 \else
10274 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10275 \fi
10276 }
10277 \define@key{PDF}{DestAnchor}{%
10278 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10279 \ifx\Hy@pstringDest\@empty
10280 \Hy@pdfmarkerrortrue
10281 \Hy@Warning{Destination with empty name ignored}%
10282 \else
10283 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10284 \fi
10285 }
10286 % parameter is a string
10287 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
10288 % parameter is a string
10289 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
10290 % parameter is a int
10291 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
10292 \define@key{PDF}{PDFAFlags}{%
10293 \ifHy@pdfa
10294 \pdf@addtoks{#1}{F}%
10295 \fi

```

```

10296 }
10297 % parameter is a name
10298 \define@key{PDF}{AcroHighlight}{%
10299   \begingroup
10300   \edef\x{#1}%
10301   \expandafter\endgroup\ifx\x\@empty
10302   \else
10303     \pdf@addtoks{#1}{H}%
10304   \fi
10305 }
10306 % parameter is a string
10307 \define@key{PDF}{ID}{\pdf@addtoks{#1}{ID}}% hash-ok
10308 % parameter is a string
10309 \define@key{PDF}{MacFile}{\pdf@addtoks{#1}{MacFile}}
10310 % parameter is a string
10311 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
10312 % parameter is a string
10313 \define@key{PDF}{Op}{\pdf@addtoks{#1}{Op}}
10314 % parameter is a Boolean
10315 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
10316 % parameter is a integer or name
10317 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
10318 % parameter is a name
10319 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
10320 % parameter is a string
10321 \define@key{PDF}{Params}{\pdf@addtoks{#1}{Params}}
10322 % parameter is a array
10323 \define@key{PDF}{Rect}{\pdf@addtoks{#1}{Rect}}% hash-ok
10324 % parameter is a integer
10325 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
10326 % parameter is a name
10327 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
10328 % parameter is a string
10329 \define@key{PDF}{Title}{\pdf@addtoks{#1}{Title}}
10330 % parameter is a string
10331 \define@key{PDF}{Unix}{\pdf@addtoks{#1}{Unix}}
10332 % parameter is a string
10333 \define@key{PDF}{UnixFile}{\pdf@addtoks{#1}{UnixFile}}
10334 % parameter is an array
10335 \define@key{PDF}{View}{\pdf@addtoks{#1}{View}}% hash-ok
10336 % parameter is a string
10337 \define@key{PDF}{WinFile}{\pdf@addtoks{#1}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

10338 \define@key{PDF}{Author}{\pdf@addtoks{#1}{Author}}
10339 \define@key{PDF}{Creator}{\pdf@addtoks{#1}{Creator}}
10340 \define@key{PDF}{CreationDate}{\pdf@addtoks{#1}{CreationDate}}
10341 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
10342 \define@key{PDF}{Producer}{\pdf@addtoks{#1}{Producer}}
10343 \define@key{PDF}{Subject}{\pdf@addtoks{#1}{Subject}}
10344 \define@key{PDF}{Keywords}{\pdf@addtoks{#1}{Keywords}}
10345 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
10346 \define@key{PDF}{Base}{\pdf@addtoks{#1}{Base}}
10347 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
10348 \define@key{PDF}{Trapped}{%
10349   \edef\Hy@temp{#1}%
10350   \ifx\Hy@temp\@empty
10351   \else

```

```

10352 \pdf@addtoks{/#1}{Trapped}%
10353 \fi
10354 }
10355
10356 </pdfmarkbase>
10357 <*pdfmark>
10358 \def\Acrobatmenu#1#2{%
10359 \Hy@Acrobatmenu{#1}{#2}{%
10360 \pdfmark[{#2}]{%
10361 linktype=menu,%
10362 pdfmark=/ANN,%
10363 AcroHighlight=\pdfhighlight,%
10364 Border=\pdfborder,%
10365 BorderStyle=\pdfborderstyle,%
10366 Action={<< /Subtype /Named /N /#1 >>},%
10367 Subtype=/Link,%
10368 PDFAFlags=4%
10369 }%
10370 }%
10371 }

```

And now for some useful examples:

```

10372 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
10373 \def\PDFNextPage@[#1]#2{%
10374 \pdfmark[{#2}]{%
10375 #1,%
10376 Border=\pdfborder,%
10377 BorderStyle=\pdfborderstyle,%
10378 Color=.2 .1 .5,%
10379 pdfmark=/ANN,%
10380 Subtype=/Link,%
10381 PDFAFlags=4,%
10382 Page=/Next%
10383 }%
10384 }
10385 \def\PDFPreviousPage{%
10386 \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
10387 }
10388 \def\PDFPreviousPage@[#1]#2{%
10389 \pdfmark[{#2}]{%
10390 #1,%
10391 Border=\pdfborder,%
10392 BorderStyle=\pdfborderstyle,%
10393 Color=.4 .4 .1,%
10394 pdfmark=/ANN,%
10395 Subtype=/Link,%
10396 PDFAFlags=4,%
10397 Page=/Prev%
10398 }%
10399 }
10400 \def\PDFOpen#1{%
10401 \pdfmark{#1,pdfmark=/DOCVIEW}%
10402 }

```

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

```

10403 \def\hyper@linkurl#1#2{%
10404 \begingroup
10405 \Hy@pstringdef\Hy@pstringURI{#2}%

```

```

10406 \hyper@chars
10407 \leavevmode
10408 \pdfmark[{#1}]{%
10409 pdfmark=/ANN,%
10410 linktype=url,%
10411 AcroHighlight=\@pdfhighlight,%
10412 Border=\@pdfborder,%
10413 BorderStyle=\@pdfborderstyle,%
10414 Color=\@urlbordercolor,%
10415 Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
10416 Subtype=/Link,%
10417 PDFAFlags=4%
10418 }%
10419 \endgroup
10420 }
10421 \def\hyper@linkfile#1#2#3{%
10422 \begingroup
10423 \Hy@pstringdef\Hy@pstringF{#2}%
10424 \Hy@pstringdef\Hy@pstringD{#3}%
10425 \leavevmode
10426 \pdfmark[{#1}]{%
10427 pdfmark=/ANN,%
10428 Subtype=/Link,%
10429 PDFAFlags=4,%
10430 AcroHighlight=\@pdfhighlight,%
10431 Border=\@pdfborder,%
10432 BorderStyle=\@pdfborderstyle,%
10433 linktype=file,%
10434 Color=\@filebordercolor,%
10435 Action={%
10436 <<%
10437 /S/GoToR%
10438 \Hy@SetNewWindow
10439 /F(\Hy@pstringF)%
10440 /D\ifx\#3\@0\@pdfstartview\else(\Hy@pstringD)cvn\fi
10441 >>%
10442 }%
10443 }%
10444 \endgroup
10445 }
10446 \def\@hyper@launch run:#1\#2#3{%
10447 \begingroup
10448 \Hy@pstringdef\Hy@pstringF{#1}%
10449 \Hy@pstringdef\Hy@pstringP{#3}%
10450 \leavevmode
10451 \pdfmark[{#2}]{%
10452 pdfmark=/ANN,%
10453 Subtype=/Link,%
10454 PDFAFlags=4,%
10455 AcroHighlight=\@pdfhighlight,%
10456 Border=\@pdfborder,%
10457 BorderStyle=\@pdfborderstyle,%
10458 linktype=run,%
10459 Color=\@runbordercolor,%
10460 Action={%
10461 <<%
10462 /S/Launch%

```

```

10463      \Hy@SetNewWindow
10464      /F(\Hy@pstringF)%
10465      \ifx\#3\%
10466      \else
10467      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10468      \fi
10469      >>%
10470      }%
10471      }%
10472      \endgroup
10473      }
10474      \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.

```

10475      <*dvips>
10476      \providecommand*\XR@ext\{pdf}
10477      \def\Hy@raisedlink{}
10478      \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
10479      \def\headerps@out#1{\special{! #1}}%
10480      \input{pdfmark.def}%
10481      \ifx\@pdfproducer\relax
10482      \def\@pdfproducer{dvips + Distiller}%
10483      \fi
10484      \providecommand*\@pdfborder{0 0 1}
10485      \providecommand*\@pdfborderstyle{}
10486      \providecommand*\@pdfview{XYZ}
10487      \providecommand*\@pdfviewparams{H.V}
10488      \def\Hy@BorderArrayPatch{BorderArrayPatch}
10489      \g@addto@macro\Hy@FirstPageHook{%
10490      \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.

```

10491      /DvipsToPDF{72.27 mul Resolution div} def%
10492      /PDFToDvips{72.27 div Resolution mul} def%
10493      /BPToDvips{72 div Resolution mul}def%

```

The values inside the /Boder array are not taken literally, but interpreted by ghostscript using the resolution of the dvi driver. I don't know how other distiller programs behaves in this manner.

```

10494 /BorderArrayPatch{%
10495   [exch{%
10496     dup dup type/integertype eq exch type/realtype eq or%
10497     {BPToDvips}if%
10498   }forall]%
10499 }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.

```

10500 /HyperBorder {1 PDFToDvips} def%
10501 /H.V {pdf@hoff pdf@voff null} def%
10502 /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

```

10503 /H.S {%
10504   currentpoint %
10505   HyperBorder add /pdf@lly exch def %
10506   dup DvipsToPDF 72 add /pdf@hoff exch def %
10507   HyperBorder sub /pdf@llx exch def%
10508 } def%

```

The calculation of upper left  $y$  is done without raising the point in  $\text{\TeX}$ , 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`

```

10509 /H.L {%
10510   2 sub dup%
10511   /HyperBasePt exch def %
10512   PDFToDvips /HyperBaseDvips exch def %
10513   currentpoint %
10514   HyperBaseDvips sub /pdf@ury exch def%
10515   /pdf@urx exch def%
10516 } def%
10517 /H.A {%
10518   H.L %
10519 % |pdf@voff| = the distance from the top of the page to a point
10520 % |\baselineskip| above the current point in PDF coordinates
10521   currentpoint exch pop %
10522   vsize 72 sub exch DvipsToPDF %
10523   HyperBasePt sub % baseline skip
10524   sub /pdf@voff exch def%
10525 } def%
10526 /H.R {%
10527   currentpoint %
10528   HyperBorder sub /pdf@ury exch def %
10529   HyperBorder add /pdf@urx exch def %
10530 % |pdf@voff| = the distance from the top of the page to the current point, in
10531 % PDF coordinates
10532   currentpoint exch pop vsize 72 sub %
10533   exch DvipsToPDF sub /pdf@voff exch def%
10534 } def%
10535 }%
10536 }
10537 \AtBeginShipoutFirst{%

```



```

10538 \ifHy@setpagesize
10539 \begingroup
10540 \ifundefined{stockwidth}{%
10541 \ifdim\paperwidth>\z@
10542 \ifdim\paperheight>\z@
10543 \special{papersize=\the\paperwidth,\the\paperheight}%
10544 \fi
10545 \fi
10546 }{%
10547 \ifdim\stockwidth>\z@
10548 \ifdim\stockheight>\z@
10549 \special{papersize=\the\stockwidth,\the\stockheight}%
10550 \fi
10551 \fi
10552 }%
10553 \endgroup
10554 \fi
10555 \Hy@DisableOption{setpagesize}%
10556 }
10557 </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.

```

10558 <*vtexpdfmark>
10559 \providecommand*{\XR@ext}{pdf}
10560 \def\Hy@raisedlink{}
10561 \def\literalps@out#1{\special{pS:#1}}%
10562 \def\headerps@out#1{\immediate\special{pS:#1}}%
10563 \input{pdfmark.def}%
10564 \ifx\@pdfproducer\relax
10565 \ifnum\OpMode=\@ne
10566 \def\@pdfproducer{VTeX}%
10567 \else
10568 \def\@pdfproducer{VTeX + Distiller}%
10569 \fi
10570 \fi
10571 \providecommand*\@pdfborder{0 0 1}
10572 \providecommand*\@pdfborderstyle{}
10573 \providecommand*\@pdfview{XYZ}
10574 \providecommand*\@pdfviewparams{ H.V}
10575 \g@addto@macro\Hy@FirstPageHook{%
10576 \headerps@out{%
10577 /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.

```

10578 /HyperBorder {1} def%
10579 /H.V {pdf@hoff pdf@voff null} def%
10580 /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

10581 /H.S {%
10582   currentpoint %
10583   HyperBorder sub%
10584   /pdf@lly exch def %
10585   dup 72 add /pdf@hoff exch def %
10586   HyperBorder sub%
10587   /pdf@llx exch def%
10588 } def%

```

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

```

10589 /H.L {%
10590   2 sub%
10591   /HyperBasePt exch def %
10592   currentpoint %
10593   HyperBasePt add HyperBorder add%
10594   /pdf@ury exch def %
10595   HyperBorder add%
10596   /pdf@urx exch def%
10597 } def%
10598 /H.A {%
10599   H.L %
10600   currentpoint exch pop %
10601   vsize 72 sub exch %
10602   HyperBasePt add add%
10603   /pdf@voff exch def%
10604 } def%

```

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

```

10605 /H.R {%
10606   currentpoint %
10607   HyperBorder add%
10608   /pdf@ury exch def %
10609   HyperBorder add%
10610   /pdf@urx exch def %
10611   currentpoint exch pop vsize 72 sub add%
10612   /pdf@voff exch def%
10613 } def%
10614 }%
10615 }
10616 </vtxpdfmark>

```

## 46.11 Textures

```

10617 <*textures>
10618 \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.

```

10619 \begingroup
10620 \obeylines %

```

```

10621 \gdef\Hy@ps@CR{\noexpand
10622 }%
10623 \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`.

```

10624 \def\literalps@out#1{%
10625   \special{postscript 0 0 transform}%
10626   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
10627 }%
10628 %

```

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.

```

10629 \def\headerps@out#1{%
10630   \special{%
10631     prepostscript TeXdict begin\Hy@ps@CR
10632       #1\Hy@ps@CR
10633     end%
10634   }%
10635 }%
10636 %

```

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.

```

10637 \g@addto@macro\Hy@FirstPageHook{%
10638   \headerps@out{%
10639     /betterpdfmark {%
10640       systemdict begin %
10641         dup /BP eq%
10642         {cleartomark gsave nulldevice []}%
10643         {dup /EP eq%
10644           {cleartomark cleartomark grestore}%
10645           {cleartomark}%
10646         }ifelse%
10647       }ifelse %
10648     end%
10649   }def\Hy@ps@CR
10650   ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
10651 }% end of \headerps@out
10652 }% end of \AtBeginShipoutFirst
10653 %
10654 \input{pdfmark.def}%
10655 %
10656 \ifx\@pdfproducer\relax
10657   \def\@pdfproducer{Textures + Distiller}%
10658 \fi
10659 \providecommand*\@pdfborder{0 0 1}

```

```

10660 \providecommand*\@pdfborderstyle{}
10661 \providecommand*\@pdfview{XYZ}
10662 \providecommand*\@pdfviewparams{ H.V}
10663 %

```

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  $\TeX$ .

```

10664 \Hy@AtBeginDocument{%
10665   \headerps@out{%

```

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

```

10666   /vsize {\Hy@pageheight} def%
10667   /DvipsToPDF {} def%
10668   /PDFToDvips {} def%
10669   /BPToDvips {} def%
10670   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
10671   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
10672   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
10673   /H.S {%
10674     currentpoint %
10675     HyperBorder add /pdf@lly exch def %
10676     dup DvipsToPDF 72 add /pdf@hoff exch def %
10677     HyperBorder sub /pdf@llx exch def%
10678   } def\Hy@ps@CR
10679   /H.L {%
10680     2 sub %
10681     PDFToDvips /HyperBase exch def %
10682     currentpoint %
10683     HyperBase sub /pdf@ury exch def%
10684     /pdf@urx exch def%
10685   } def\Hy@ps@CR
10686   /H.A {%
10687     H.L %
10688     currentpoint exch pop %
10689     vsize 72 sub exch DvipsToPDF %
10690     HyperBase sub % baseline skip
10691     sub /pdf@voff exch def%
10692   } def\Hy@ps@CR
10693   /H.R {%
10694     currentpoint %
10695     HyperBorder sub /pdf@ury exch def %
10696     HyperBorder add /pdf@urx exch def %
10697     currentpoint exch pop vsize 72 sub %
10698     exch DvipsToPDF sub /pdf@voff exch def%
10699   } def\Hy@ps@CR
10700   }%
10701 }

10702 \Hy@AtBeginDocument{%
10703   \ifHy@colorlinks
10704     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
10705   \fi
10706 }

```

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.

```

10707 \expandafter\let\expandafter\keepPDF@SetupDoc
10708 \csname PDF@SetupDoc\endcsname
10709 \def\PDF@SetupDoc{%
10710 \ifx\@baseurl\@empty
10711 \else
10712 \special{html:<base href="\@baseurl">}%
10713 \fi
10714 \keepPDF@SetupDoc
10715 }
10716 \def\hyper@anchor#1{%
10717 \Hy@SaveLastskip
10718 \Hy@VerboseAnchor{#1}%
10719 \begingroup
10720 \let\protect=\string
10721 \special{html:<a name=%
10722 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10723 \endgroup
10724 \Hy@activeanchortrue
10725 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10726 \special{html:</a>}%
10727 \Hy@activeanchorfalse
10728 \Hy@RestoreLastskip
10729 }
10730 \def\hyper@anchorstart#1{%
10731 \Hy@SaveLastskip
10732 \Hy@VerboseAnchor{#1}%
10733 \begingroup
10734 \hyper@chars
10735 \special{html:<a name=%
10736 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10737 \endgroup
10738 \Hy@activeanchortrue
10739 }
10740 \def\hyper@anchorend{%
10741 \special{html:</a>}%
10742 \Hy@activeanchorfalse
10743 \Hy@RestoreLastskip
10744 }
10745 \def\@urltype{url}
10746 \def\hyper@linkstart#1#2{%
10747 \Hy@VerboseLinkStart{#1}{#2}%
10748 \expandafter\Hy@colorlink\csname @#1color\endcsname
10749 \def\Hy@tempa{#1}%
10750 \ifx\Hy@tempa\@urltype
10751 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10752 \else
10753 \begingroup
10754 \hyper@chars
10755 \special{%
10756 html:<a href=%
10757 \hyper@quote\#1\HyperDestNameFilter{#2}\hyper@quote>%
10758 }%
10759 \endgroup
10760 \fi
10761 }
10762 \def\hyper@linkend{%
10763 \special{html:</a>}%

```

```

10764 \Hy@endcolorlink
10765 }
10766 \def\hyper@linkfile#1#2#3{%
10767 \hyper@linkurl{#1}{%
10768 \Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi
10769 }%
10770 }
10771 \def\hyper@linkurl#1#2{%
10772 \leavevmode
10773 \ifHy@raiselinks
10774 \setbox\@tempboxa=\color@hbox #1\color@endbox
10775 \@linkdim\dp\@tempboxa
10776 \lower\@linkdim\hbox{%
10777 \hyper@chars
10778 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10779 }%
10780 \Hy@colorlink\@urlcolor#1%
10781 \@linkdim\ht\@tempboxa
10782 \advance\@linkdim by -6.5\p@
10783 \raise\@linkdim\hbox{\special{html:</a>}}%
10784 \Hy@endcolorlink
10785 \else
10786 \begingroup
10787 \hyper@chars
10788 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10789 \Hy@colorlink\@urlcolor#1%
10790 \special{html:</a>}%
10791 \Hy@endcolorlink
10792 \endgroup
10793 \fi
10794 }

```

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

```

10795 \def\hyper@link#1#2#3{%
10796 \Hy@VerboseLinkStart{#1}{#2}%
10797 \hyper@linkurl{#3}{\# \Hy@DestNameFilter{#2}}%
10798 }
10799 \def\hyper@image#1#2{%
10800 \begingroup
10801 \hyper@chars
10802 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
10803 \endgroup
10804 }
10805 </textures>

```

## 46.12 dvipsone

```

10806 % \subsection{dvipsone driver}
10807 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
10808 % |\special| commands.
10809 <*dvipsone>
10810 \providecommand*\XR@ext}{pdf}
10811 \def\Hy@raisedlink{}
10812 \providecommand*\@pdfborder{0 0 1}
10813 \providecommand*\@pdfborderstyle{}
10814 \def\literalps@out#1{\special{ps:#1}}%
10815 \def\headerps@out#1{\special{headertext=#1}}%
10816 \input{pdfmark.def}%

```

```

10817 \ifx\@pdfproducer\relax
10818   \def\@pdfproducer{dvipsone + Distiller}%
10819 \fi
10820 \HyInfo@AddonUnsupportedtrue
10821 \def\PDF@FinishDoc{%
10822   \Hy@UseMaketitleInfos
10823   \HyInfo@TrappedUnsupported
10824   \special{PDF: Keywords \@pdfkeywords}%
10825   \special{PDF: Title \@pdftitle}%
10826   \special{PDF: Creator \@pdfcreator}%
10827   \ifx\@pdfcreationdate\@empty
10828   \else
10829     \special{PDF: CreationDate \@pdfcreationdate}%
10830   \fi
10831   \ifx\@pdfmoddate\@empty
10832   \else
10833     \special{PDF: ModDate \@pdfmoddate}%
10834   \fi
10835   \special{PDF: Author \@pdfauthor}%
10836   \ifx\@pdfproducer\relax
10837   \else
10838     \special{PDF: Producer \@pdfproducer}%
10839   \fi
10840   \special{PDF: Subject \@pdfsubject}%
10841   \Hy@DisableOption{pdfauthor}%
10842   \Hy@DisableOption{pdftitle}%
10843   \Hy@DisableOption{pdfsubject}%
10844   \Hy@DisableOption{pdfcreator}%
10845   \Hy@DisableOption{pdfcreationdate}%
10846   \Hy@DisableOption{pdfmoddate}%
10847   \Hy@DisableOption{pdfproducer}%
10848   \Hy@DisableOption{pdfkeywords}%
10849   \Hy@DisableOption{pdftrapped}%
10850   \Hy@DisableOption{pdfinfo}%
10851 }
10852 \def\PDF@SetupDoc{%
10853   \def\Hy@temp{}%
10854   \ifx\@pdfstartpage\@empty
10855   \else
10856     \ifx\@pdfstartview\@empty
10857     \else
10858       \edef\Hy@temp{%
10859         ,Page=\@pdfstartpage
10860         ,View=\@pdfstartview
10861       }%
10862     \fi
10863   \fi
10864   \edef\Hy@temp{%
10865     \noexpand\pdfmark{%
10866       pdfmark=/DOCVIEW,%
10867       PageMode=/\@pdfpagemode
10868       \Hy@temp
10869     }%
10870   }%
10871   \Hy@temp
10872   \ifx\@pdfpagescrop\@empty
10873   \else

```

```

10874 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10875 \fi
10876 \edef\Hy@temp{%
10877 \ifHy@toolbar\else /HideToolbar true\fi
10878 \ifHy@menubar\else /HideMenubar true\fi
10879 \ifHy>windowui\else /HideWindowUI true\fi
10880 \ifHy@fitwindow /FitWindow true\fi
10881 \ifHy@centerwindow /CenterWindow true\fi
10882 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10883 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10884 \Hy@UseNameKey{Direction}\@pdfdirection
10885 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10886 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10887 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10888 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10889 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10890 \Hy@UseNameKey{Duplex}\@pdfduplex
10891 \ifx\@pdfpicktraybypdfsize\@empty
10892 \else
10893 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10894 \fi
10895 \ifx\@pdfprintpagerange\@empty
10896 \else
10897 /PrintPageRange\@pdfprintpagerange]%
10898 \fi
10899 \ifx\@pdfnumcopies\@empty
10900 \else
10901 /NumCopies \@pdfnumcopies
10902 \fi
10903 }%
10904 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10905 \pdfmark{%
10906 pdfmark=/PUT,%
10907 Raw={%
10908 \string{Catalog\string}<<%
10909 \ifx\Hy@temp\@empty
10910 \else
10911 /ViewerPreferences<<\Hy@temp>>%
10912 \fi
10913 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10914 \ifx\@pdflang\@empty
10915 \else
10916 /Lang(\@pdflang)%
10917 \fi
10918 \ifx\@baseurl\@empty
10919 \else
10920 /URI<</Base(\Hy@pstringB)>>%
10921 \fi
10922 >>%
10923 }%
10924 }%
10925 }
10926 \providecommand*\@pdfview{XYZ}
10927 \providecommand*\@pdfviewparams{ %
10928 gsave revscl currentpoint grestore %
10929 72 add exch pop null exch null%
10930 }

```



```
10931 \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  $\TeX$ .

```
10932 \g@addto@macro\Hy@FirstPageHook{%
```

```
10933 \headerps@out{%
```

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

```
10934 /DvipsToPDF { 65781 div } def%
```

```
10935 /PDFToDvips { 65781 mul } def%
```

```
10936 /BPToDvips{65781 mul}def%
```

```
10937 /HyperBorder { 1 PDFToDvips } def%
```

```
10938 /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.

```
10939 /BorderArrayPatch{%
```

```
10940 [exch{%
```

```
10941 dup dup type/integertype eq exch type/realtype eq or%
```

```
10942 {BPToDvips}if%
```

```
10943 }forall]%
```

```
10944 }def%
```

```
10945 /H.S {%
```

```
10946 currentpoint %
```

```
10947 HyperBorder add /pdf@lly exch def %
```

```
10948 dup DvipsToPDF 72 add /pdf@hoff exch def %
```

```
10949 HyperBorder sub /pdf@llx exch def%
```

```
10950 } def%
```

```
10951 /H.L {%
```

```
10952 2 sub %
```

```
10953 PDFToDvips /HyperBase exch def %
```

```
10954 currentpoint %
```

```
10955 HyperBase sub /pdf@ury exch def%
```

```
10956 /pdf@urx exch def%
```

```
10957 } def%
```

```
10958 /H.A {%
```

```
10959 H.L %
```

```
10960 currentpoint exch pop %
```

```
10961 HyperBase sub % baseline skip
```

```
10962 DvipsToPDF /pdf@voff exch def%
```

```
10963 } def%
```

```
10964 /H.R {%
```

```
10965 currentpoint %
```

```
10966 HyperBorder sub /pdf@ury exch def %
```

```
10967 HyperBorder add /pdf@urx exch def %
```

```
10968 currentpoint exch pop DvipsToPDF /pdf@voff exch def%
```

```
10969 } def%
```

```
10970 }%
```

```
10971 }
```

```
10972 </dvipsone>
```

## 46.13 TeX4ht

```
10973 <*tex4ht>
```

```
10974 \providecommand*{\XR@ext}{html}
```

```

10975 \def\Hy@raisedlink{}
10976 \@ifpackageloaded{tex4ht}{%
10977   \typeout{hyperref tex4ht: tex4ht already loaded}%
10978 }{%
10979   \RequirePackage[hx4ht]{tex4ht}%
10980 }
10981 \hyperlinkfileprefix{}
10982 \def\PDF@FinishDoc{}
10983 \def\PDF@SetupDoc{%
10984   \ifx\@baseurl\@empty
10985   \else
10986     \special{t4ht=<base href="\@baseurl">}%
10987   \fi
10988 }
10989 \def\hyper@anchor#1{%
10990   \Hy@SaveLastskip
10991   \Hy@VerboseAnchor{#1}%
10992   \begingroup
10993     \let\protect=\string
10994     \special{t4ht=<a name=%
10995       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10996   \endgroup
10997   \Hy@activeanchortrue
10998   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10999   \special{t4ht=</a>}%
11000   \Hy@activeanchorfalse
11001   \Hy@RestoreLastskip
11002 }
11003 \def\hyper@anchorstart#1{%
11004   \Hy@SaveLastskip
11005   \Hy@VerboseAnchor{#1}%
11006   \begingroup
11007     \hyper@chars\special{t4ht=<a name=%
11008       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11009   \endgroup
11010   \Hy@activeanchortrue
11011 }
11012 \def\hyper@anchorend{%
11013   \special{t4ht=</a>}%
11014   \Hy@activeanchorfalse
11015   \Hy@RestoreLastskip
11016 }
11017 \def\@urltype{url}
11018 \def\hyper@linkstart#1#2{%
11019   \Hy@VerboseLinkStart{#1}{#2}%
11020   \expandafter\Hy@colorlink\csname @#1color\endcsname
11021   \def\Hy@tempa{#1}%
11022   \ifx\Hy@tempa\@urltype
11023     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
11024   \else
11025     \begingroup
11026       \hyper@chars
11027       \special{t4ht=<a href=%
11028         \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>}%
11029     \endgroup
11030   \fi
11031 }

```

```

11032 \def\hyper@linkend{%
11033   \special{t4ht=</a>}%
11034   \Hy@endcolorlink
11035 }
11036 \def\hyper@linkfile#1#2#3{%
11037   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
11038 }
11039 \def\hyper@linkurl#1#2{%
11040   \leavevmode
11041   \ifHy@raiselinks
11042     \setbox\@tempboxa=\color@hbox #1\color@endbox
11043     \@linkdim\dp\@tempboxa
11044     \lower\@linkdim\hbox{%
11045       \begingroup
11046         \hyper@chars
11047         \special{%
11048           t4ht=<a href=\hyper@quote#2\hyper@quote>%
11049         }%
11050       \endgroup
11051     }%
11052     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
11053     \@linkdim\ht\@tempboxa
11054     \advance\@linkdim by -6.5\p@
11055     \raise\@linkdim\hbox{\special{t4ht=</a>}}%
11056   \else
11057     \begingroup
11058     \hyper@chars
11059     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
11060     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
11061     \special{t4ht=</a>}%
11062   \endgroup
11063   \fi
11064 }

```

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

```

11065 \def\hyper@link#1#2#3{%
11066   \Hy@VerboseLinkStart{#1}{#2}%
11067   \hyper@linkurl{#3}{\# \Hy@HyperDestNameFilter{#2}}%
11068 }
11069 \def\hyper@image#1#2{%
11070   \begingroup
11071   \hyper@chars
11072   \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
11073   \endgroup
11074 }
11075 \let\autoref\ref
11076 \ifx \rEfLiNK \UnDef
11077   \def\rEfLiNK #1#2{#2}%
11078 \fi
11079 \def\backref#1{}
11080 </tex4ht>
11081 <*tex4htcfg>
11082 \IfFileExists{\jobname.cfg}{\endinput}{}
11083 \Preamble{html}
11084   \begin{document}%
11085 \EndPreamble
11086 \def\TeX{TeX}
11087 \def\OMEGA{\Omega}

```

```

11088 \def\LaTeX{La\TeX}
11089 \def\LaTeXe{\LaTeX2e}
11090 \def\TeX{e\TeX}
11091 \def\MF{Metafont}
11092 \def\MP{MetaPost}
11093 </tex4htcfg>

```

## 47 Driver-specific form support

### 47.1 pdfmarks

```

11094 <*pdfmark>
11095 \long\def\@Form[#1]{%
11096 \g@addto@macro\Hy@FirstPageHook{%
11097 \headerps@out{%
11098 [%
11099 /_objdef{pdfDocEncoding}%
11100 /type/dict%
11101 /OBJ pdfmark%
11102 [%
11103 {pdfDocEncoding}%
11104 <<%
11105 /Type/Encoding%
11106 /Differences[%
11107 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
11108 /tilde %
11109 39/quotesingle %
11110 96/grave %
11111 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11112 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11113 /quotedblbase/quotedblleft/quotedblright/quoteleft%
11114 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
11115 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11116 164/currency %
11117 166/brokenbar %
11118 168/dieresis/copyright/ordfeminine %
11119 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11120 /twosuperior/threesuperior/acute/mu %
11121 183/periodcentered/cedilla/onesuperior/ordmasculine %
11122 188/onequarter/onehalf/threequarters %
11123 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11124 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11125 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11126 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11127 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11128 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11129 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11130 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
11131 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
11132 /ucircumflex/udieresis/yacute/thorn/ydieresis%
11133 ]%
11134 >>%
11135 /PUT pdfmark%
11136 [%
11137 /_objdef{ZaDb}%
11138 /type/dict%
11139 /OBJ pdfmark%
11140 [%

```

```

11141 {ZaDb}%
11142 <<%
11143 /Type/Font%
11144 /Subtype/Type1%
11145 /Name/ZaDb%
11146 /BaseFont/ZapfDingbats%
11147 >>%
11148 /PUT pdfmark%
11149 [%
11150 /__objdef{Helv}%
11151 /type/dict%
11152 /OBJ pdfmark%
11153 [%
11154 {Helv}%
11155 <<%
11156 /Type/Font%
11157 /Subtype/Type1%
11158 /Name/Helv%
11159 /BaseFont/Helvetica%
11160 /Encoding{pdfDocEncoding}%
11161 >>%
11162 /PUT pdfmark%
11163 [%
11164 /__objdef{aform}%
11165 /type/dict%
11166 /OBJ pdfmark%
11167 [%
11168 /__objdef{afields}%
11169 /type/array%
11170 /OBJ pdfmark%
11171 {%
11172 [%
11173 /BBox[0 0 100 100]%
11174 /__objdef{Check}%
11175 /BP pdfmark %
11176 1 0 0 setrgbcolor%
11177 /ZapfDingbats 80 selectfont %
11178 20 20 moveto%
11179 (4)show%
11180 [/EP pdfmark%
11181 [%
11182 /BBox[0 0 100 100]%
11183 /__objdef{Cross}%
11184 /BP pdfmark %
11185 1 0 0 setrgbcolor%
11186 /ZapfDingbats 80 selectfont %
11187 20 20 moveto%
11188 (8)show%
11189 [/EP pdfmark%
11190 [%
11191 /BBox[0 0 250 100]%
11192 /__objdef{Submit}%
11193 /BP pdfmark %
11194 0.6 setgray %
11195 0 0 250 100 rectfill %
11196 1 setgray %
11197 2 2 moveto %

```

```

11198 2 98 lineto %
11199 248 98 lineto %
11200 246 96 lineto %
11201 4 96 lineto %
11202 4 4 lineto %
11203 fill %
11204 0.34 setgray %
11205 248 98 moveto %
11206 248 2 lineto %
11207 2 2 lineto %
11208 4 4 lineto %
11209 246 4 lineto %
11210 246 96 lineto %
11211 fill%
11212 /Helvetica 76 selectfont %
11213 0 setgray %
11214 8 22.5 moveto%
11215 (Submit)show%
11216 [/EP pdfmark%
11217 [%
11218 /BBox[0 0 250 100]%
11219 /_objdef{SubmitP}%
11220 /BP pdfmark %
11221 0.6 setgray %
11222 0 0 250 100 rectfill %
11223 0.34 setgray %
11224 2 2 moveto %
11225 2 98 lineto %
11226 248 98 lineto %
11227 246 96 lineto %
11228 4 96 lineto %
11229 4 4 lineto %
11230 fill %
11231 1 setgray %
11232 248 98 moveto %
11233 248 2 lineto %
11234 2 2 lineto %
11235 4 4 lineto %
11236 246 4 lineto %
11237 246 96 lineto %
11238 fill%
11239 /Helvetica 76 selectfont %
11240 0 setgray %
11241 10 20.5 moveto%
11242 (Submit)show%
11243 [/EP pdfmark%
11244 } ?pdfmark%
11245 [%
11246 {aform}%
11247 <<%
11248 /Fields{afields}%
11249 /DR<<%
11250 /Font<<%
11251 /ZaDb{ZaDb}%
11252 /Helv{Helv}%
11253 >>%
11254 >>%

```

```

11255 /DA(/Helv 10 Tf 0 g)%
11256 /CO{corder}%
11257 \ifHy@pdfa
11258 \else
11259 /NeedAppearances true%
11260 \fi
11261 >>%
11262 /PUT pdfmark%
11263 [%
11264 {Catalog}%
11265 <<%
11266 /AcroForm{aform}%
11267 >>%
11268 /PUT pdfmark%
11269 [%
11270 /__objdef{corder}%
11271 /type/array%
11272 /OBJ pdfmark% dps
11273 }}%
11274 \setkeys{Form}{#1}%
11275 }
11276 \def\@endForm{}
11277 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11278 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
11279 }
11280 \def\@TextField[#1]#2{% parameters, label
11281 \def\Fld@name{#2}%
11282 \def\Fld@default{}%
11283 \let\Fld@value\@empty
11284 \def\Fld@width{\DefaultWidthofText}%
11285 \def\Fld@height{%
11286 \ifFld@multiline
11287 \DefaultHeightofTextMultiline
11288 \else
11289 \DefaultHeightofText
11290 \fi
11291 }%
11292 \begingroup
11293 \Field@toks={ }%
11294 \expandafter\HyField@SetKeys\expandafter{%
11295 \DefaultOptionsofText,#1%
11296 }%
11297 \HyField@FlagsText
11298 \ifFld@hidden\def\Fld@width{1sp}\fi
11299 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11300 \LayoutTextField{#2}{%
11301 \Hy@escapeform\PDFForm@Text
11302 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
11303 pdfmark=/ANN,Raw={\PDFForm@Text}%
11304 }%
11305 }%
11306 \endgroup
11307 }
11308 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11309 \def\Fld@name{#2}%
11310 \let\Fld@default\relax
11311 \let\Fld@value\relax

```

```

11312 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11313 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11314 \begingroup
11315   \Fld@menulength=0 %
11316   \@tempdima\z@
11317   \@for\@curropt:=#3\do{%
11318     \expandafter\Fld@checkequals\@curropt==\%
11319     \Hy@StepCount\Fld@menulength
11320     \settowidth{\@tempdimb}{\@currDisplay}%
11321     \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11322   }%
11323   \advance\@tempdima by 15\p@
11324   \Field@toks={ }%
11325   \begingroup
11326     \HyField@SetKeys{#1}%
11327   \edef\x{\endgroup
11328     \noexpand\expandafter
11329     \noexpand\HyField@SetKeys
11330     \noexpand\expandafter{%
11331       \expandafter\noexpand\csname DefaultOptionsof%
11332         \ifFld@radio
11333           Radio%
11334         \else
11335           \ifFld@combo
11336             \ifFld@popdown
11337               PopdownBox%
11338             \else
11339               ComboBox%
11340             \fi
11341           \else
11342             ListBox%
11343           \fi
11344         \fi
11345       \endcsname
11346     }%
11347   }\x
11348   \HyField@SetKeys{#1}%
11349   \ifFld@hidden\def\Fld@width{1sp}\fi
11350   \ifx\Fld@value\relax
11351     \let\Fld@value\Fld@default
11352   \fi
11353   \LayoutChoiceField{#2}{%
11354     \ifFld@radio
11355       \HyField@FlagsRadioButton
11356       \@@Radio{#3}%
11357     \else
11358       \begingroup
11359         \HyField@FlagsChoice
11360         \ifdim\Fld@width<\@tempdima
11361           \ifdim\@tempdima<1cm\@tempdima1cm\fi
11362           \edef\Fld@width{\the\@tempdima}%
11363         \fi
11364         \ifFld@combo
11365         \else
11366           \@tempdima=\the\Fld@menulength\Fld@charsize
11367           \advance\@tempdima by \Fld@borderwidth bp %
11368           \advance\@tempdima by \Fld@borderwidth bp %

```



```

11369         \edef\Fld@height{\the\@tempdima}%
11370         \fi
11371         \@@Listbox{#3}%
11372     \endgroup
11373     \fi
11374 }%
11375 \endgroup
11376 }
11377 \def\@@Radio#1{%
11378     \Fld@listcount=0 %
11379     \@for\@curropt:=#1\do{%
11380         \expandafter\Fld@checkequals\@curropt==\%
11381         \Hy@StepCount\Fld@listcount
11382         \@currDisplay\space
11383         \Hy@escapeform\PDFForm@Radio
11384         \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
11385             pdfmark=/ANN,%
11386             Raw={%
11387                 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
11388             }%
11389         } % deliberate space between radio buttons
11390     }%
11391 }
11392 \newcount\Fld@listcount
11393 \def\@@Listbox#1{%
11394     \HyField@PDFChoices{#1}%
11395     \Hy@escapeform\PDFForm@List
11396     \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
11397         pdfmark=/ANN,Raw={\PDFForm@List}%
11398     }%
11399 }
11400 \def\@PushButton[#1]#2{% parameters, label
11401     \def\Fld@name{#2}%
11402     \begingroup
11403     \Field@toks={ }%
11404     \expandafter\HyField@SetKeys\expandafter{%
11405         \DefaultOptionsofPushButton,#1%
11406     }%
11407     \ifHy@pdfa
11408         \PackageError{hyperref}{%
11409             PDF/A: Push button with JavaScript is prohibited%
11410         }\@ehc
11411         \LayoutPushButtonField{%
11412             \leavevmode
11413             \MakeButtonField{#2}%
11414         }%
11415     \else
11416         \HyField@FlagsPushButton
11417         \ifFld@hidden\def\Fld@width{1sp}\fi
11418         \LayoutPushButtonField{%
11419             \leavevmode
11420             \Hy@escapeform\PDFForm@Push
11421             \pdfmark[\MakeButtonField{#2}]{%
11422                 pdfmark=/ANN,Raw={\PDFForm@Push}%
11423             }%
11424         }%
11425     \fi

```

```

11426 \endgroup
11427 }
11428 \def\@Submit[#1]#2{%
11429 \Field@toks={ }%
11430 \def\Fld@width{\DefaultWidthofSubmit}%
11431 \def\Fld@height{\DefaultHeightofSubmit}%
11432 \begingroup
11433 \expandafter\HyField@SetKeys\expandafter{%
11434 \DefaultOptionsofSubmit,#1%
11435 }%
11436 \HyField@FlagsPushButton
11437 \HyField@FlagsSubmit
11438 \ifFld@hidden\def\Fld@width{1sp}\fi
11439 \Hy@escapeform\PDFForm@Submit
11440 \pdfmark[\MakeButtonField{#2}]{%
11441 pdfmark=/ANN,%
11442 Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
11443 }%
11444 \endgroup
11445 }
11446 \def\@Reset[#1]#2{%
11447 \Field@toks={ }%
11448 \def\Fld@width{\DefaultWidthofReset}%
11449 \def\Fld@height{\DefaultHeightofReset}%
11450 \begingroup
11451 \expandafter\HyField@SetKeys\expandafter{%
11452 \DefaultOptionsofReset,#1%
11453 }%
11454 \leavevmode
11455 \ifHy@pdfa
11456 \PackageError{hyperref}{%
11457 PDF/A: Reset action is prohibited%
11458 }{\@ehc
11459 \MakeButtonField{#2}}%
11460 \else
11461 \HyField@FlagsPushButton
11462 \ifFld@hidden\def\Fld@width{1sp}\fi
11463 \Hy@escapeform\PDFForm@Reset
11464 \pdfmark[\MakeButtonField{#2}]{%
11465 pdfmark=/ANN,Raw={\PDFForm@Reset}%
11466 }%
11467 \fi
11468 \endgroup
11469 }%
11470 \def\@CheckBox[#1]#2{% parameters, label
11471 \def\Fld@name{#2}%
11472 \def\Fld@default{0}%
11473 \begingroup
11474 \def\Fld@width{\DefaultWidthofCheckBox}%
11475 \def\Fld@height{\DefaultHeightofCheckBox}%
11476 \Field@toks={ }%
11477 \expandafter\HyField@SetKeys\expandafter{%
11478 \DefaultOptionsofCheckBox,#1%
11479 }%
11480 \HyField@FlagsCheckBox
11481 \ifFld@hidden\def\Fld@width{1sp}\fi
11482 \LayoutCheckField{#2}{%

```

```

11483 \Hy@escapeform\PDFForm@Check
11484 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
11485 pdfmark=/ANN,Raw={\PDFForm@Check}%
11486 }%
11487 }%
11488 \endgroup
11489 }
11490 \pdfmark>

```

## 47.2 HyperTeX

```

11491 <*hypertex>
11492 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
11493 \def\@endForm{}
11494 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11495 \typeout{Sorry, HyperTeX does not support FORM gauges}%
11496 }
11497 \def\@TextField[#1]#2{% parameters, label
11498 \typeout{Sorry, HyperTeX does not support FORM text fields}%
11499 }
11500 \def\@CheckBox[#1]#2{% parameters, label
11501 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
11502 }
11503 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11504 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
11505 }
11506 \def\@PushButton[#1]#2{% parameters, label
11507 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
11508 }
11509 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
11510 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
11511 </hypertex>

```

## 47.3 TeX4ht

```

11512 <*tex4ht>
11513 \def\@Form[#1]{%
11514 \setkeys{Form}{#1}%
11515 \HCode{<form action="\Form@action" method="\Form@method">}%
11516 }
11517 \def\@endForm{\HCode{</form>}}
11518 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11519 \typeout{Sorry, TeX4ht does not support gauges}%
11520 }
11521 \def\@TextField[#1]#2{% parameters, label
11522 \let\Hy@reserved@a\@empty
11523 \def\Fld@name{#2}%
11524 \def\Fld@default{}%
11525 \bgroup
11526 \Field@toks={ }%
11527 \setkeys{Field}{#1}%
11528 \HCode{<label for="\Fld@name">#2</label>}%
11529 \ifFld@password
11530 \@@PasswordField
11531 \else
11532 \@@TextField
11533 \fi
11534 \egroup
11535 }

```

```

11536 \def\@@PasswordField{%
11537   \HCode{%
11538     <input type="password" %
11539       id="\Fld@name" %
11540       name="\Fld@name" %
11541       \ifFld@hidden type="hidden" \fi
11542       value="\Fld@default" %
11543       \the\Field@toks
11544     >%
11545   }%
11546 }
11547 \def\@@TextField{%
11548   \ifFld@multiline
11549     \HCode{<textarea %
11550       \ifFld@readonly readonly \fi
11551       id="\Fld@name" %
11552       name="\Fld@name" %
11553       \ifFld@hidden type="hidden" \fi
11554       \the\Field@toks>%
11555     }%
11556     \Fld@default
11557     \HCode{</textarea>}%
11558   \else
11559     \HCode{<input type="text" %
11560       \ifFld@readonly readonly \fi
11561       id="\Fld@name" %
11562       name="\Fld@name" %
11563       \ifFld@hidden type="hidden" \fi
11564       value="\Fld@default" %
11565       \the\Field@toks>%
11566     }%
11567   \fi
11568 }
11569 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11570   \def\Fld@name{#2}%
11571   \def\Fld@default{#3}%
11572   \let\Hy@reserved@a\relax
11573   \begingroup
11574     \expandafter\Fld@findlength#3\\%
11575     \Field@toks={ }%
11576     \setkeys{Field}{#1}%
11577     #2%
11578     \ifFld@radio
11579       \expandafter\@@Radio#3\\%
11580     \else
11581       \expandafter\@@Menu#3\\%
11582     \fi
11583   \endgroup
11584 }
11585 \def\Fld@findlength#1\\{%
11586   \Fld@menulength=0 %
11587   \@for\@currupt:=#1\do{\Hy@StepCount\Fld@menulength}%
11588 }
11589 \def\@@Menu#1\\{%
11590   \HCode{<select size="\the\Fld@menulength" %
11591     name="\Fld@name" %
11592     \the\Field@toks>%

```

```

11593 }%
11594 \@for\@curropt:=#1\do{%
11595   \expandafter\Fld@checkequals\@curropt==\%
11596   \HCode{<option %
11597     \ifx\@curropt\Fld@default selected \fi
11598     value="\@currValue">\@currDisplay</option>%
11599   }%
11600 }%
11601 \HCode{</select>}%
11602 }
11603 \def\@@Radio#1\{%
11604   \@for\@curropt:=#1\do{%
11605     \expandafter\Fld@checkequals\@curropt==\%
11606     \HCode{<input type="radio" %
11607       \ifx\@curropt\Fld@default checked \fi
11608       name="\Fld@name" %
11609       value="\@currValue" %
11610       \the\Fld@toks>%
11611     }%
11612     \@currDisplay
11613   }%
11614 }
11615 \def\@PushButton[#1]#2{% parameters, label
11616   \def\Fld@name{#2}%
11617   \bgroup
11618   \Fld@toks={ }%
11619   \setkeys{Field}{#1}%
11620   \HCode{<input type="button" %
11621     name="\Fld@name" %
11622     value="#2" %
11623     \the\Fld@toks>%
11624   }%
11625   \HCode{</button>}%
11626   \egroup
11627 }
11628 \def\@Submit[#1]#2{%
11629   \HCode{<button type="submit">#2</button>}%
11630 }
11631 \def\@Reset[#1]#2{%
11632   \HCode{<button type="reset">#2</button>}%
11633 }
11634 \def\@CheckBox[#1]#2{% parameters, label
11635   \let\Hy@reserved@a\@empty
11636   \def\Fld@name{#2}%
11637   \def\Fld@default{0}%
11638   \bgroup
11639   \Fld@toks={ }%
11640   \setkeys{Field}{#1}%
11641   \HCode{<input type="checkbox" %
11642     \ifFld@checked checked \fi
11643     \ifFld@disabled disabled \fi
11644     \ifFld@readonly readonly \fi
11645     name="\Fld@name" %
11646     \ifFld@hidden type="hidden" \fi
11647     value="\Fld@default" %
11648     \the\Fld@toks>%
11649   #2%

```

```

11650 }%
11651 \egroup
11652 }
11653 </tex4ht>

```

## 47.4 pdfTeX

```

11654 <*pdfTeX>
11655 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11656 \typeout{Sorry, pdfTeX does not support FORM gauges}%
11657 }
11658 \def\MakeFieldObject#1#2{\sbox0{#1}%
11659 \immediate\pdfxform0 %
11660 \expandafter\edef\csname #2Object\endcsname{%
11661 \the\pdfastxform\space 0 R%
11662 }%
11663 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}%
11664 }%
11665 \def\HyField@afields{}
11666 \begingroup\expandafter\expandafter\expandafter\endgroup
11667 \expandafter\ifx\csname pdfastlink\endcsname\relax
11668 \let\HyField@AddToFields\relax
11669 \PackageInfo{hyperref}{%
11670 You need pdfTeX 1.40.0 for setting the /Fields entry.%
11671 \MessageBreak
11672 Adobe Reader/Acrobat accepts an empty /Field array,%
11673 \MessageBreak
11674 but other PDF viewers might complain%
11675 }%
11676 \else
11677 \def\HyField@AuxAddToFields#1{%
11678 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
11679 \Hy@AtBeginDocument{%
11680 \if@filesw
11681 \immediate\write\@mainaux{%
11682 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
11683 }%
11684 \fi
11685 \let\HyField@AfterAuxOpen\@firstofone
11686 \def\HyField@AuxAddToFields#1{%
11687 \xdef\HyField@afields{%
11688 \ifx\HyField@afields\@empty
11689 \else
11690 \HyField@afields
11691 \space
11692 \fi
11693 #1 0 R%
11694 }%
11695 }%
11696 }%
11697 \def\HyField@AddToFields{%
11698 \expandafter\HyField@@AddToFields\expandafter{%
11699 \the\pdfastlink
11700 }%
11701 }%
11702 \def\HyField@@AddToFields#1{%
11703 \HyField@AfterAuxOpen{%
11704 \if@filesw

```

```

11705     \write\@mainaux{%
11706       \string\HyField@AuxAddToFields{#1}%
11707     }%
11708   \fi
11709 }%
11710 }%
11711 \fi
11712 \def\@Form[#1]{%
11713   \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
11714   \setkeys{Form}{#1}%
11715   \Hy@FormObjects
11716   \ifnum\pdfTeXversion>13 %
11717     \pdfrefobj\OBJ@pdfdocencoding
11718     \pdfrefobj\OBJ@ZaDb
11719     \pdfrefobj\OBJ@Helv
11720   \fi
11721   \AtVeryEndDocument{%
11722     \immediate\pdfobj{%
11723       <<%
11724       /Fields[\HyField@afields]%
11725       /DR<<%
11726       /Font<<%
11727       /ZaDb \OBJ@ZaDb\space 0 R%
11728       /Helv \OBJ@Helv\space 0 R%
11729       >>%
11730     >>%
11731     /DA(/Helv 10 Tf 0 g)%
11732     \ifHy@pdfa
11733     \else
11734       /NeedAppearances true%
11735     \fi
11736     >>%
11737   }%
11738   \edef\OBJ@acroform{\the\pdfastobj}%
11739   \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
11740 }%
11741 \MakeFieldObject{%

Same as \ding{123} of package pifont.
11742   \begingroup
11743     \fontfamily{pzd}%
11744     \fontencoding{U}%
11745     \fontseries{m}%
11746     \fontshape{n}%
11747     \selectfont
11748     \char123 %
11749   \endgroup
11750 }{Ding}%
11751 \MakeFieldObject{%
11752   \fbox{\textcolor{yellow}{\textsf{Submit}}}%
11753 }{Submit}%
11754 \MakeFieldObject{%
11755   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
11756 }{SubmitP}%
11757 }
11758 \def\@endForm{}
11759 \def\@TextField[#1]#2{% parameters, label
11760   \def\Fld@name{#2}%

```

```

11761 \def\Fld@default{ }%
11762 \let\Fld@value\@empty
11763 \def\Fld@width{\DefaultWidthofText}%
11764 \def\Fld@height{%
11765   \ifFld@multiline
11766     \DefaultHeightofTextMultiline
11767   \else
11768     \DefaultHeightofText
11769   \fi
11770 }%
11771 \begingroup
11772   \Field@toks={ }%
11773   \expandafter\HyField@SetKeys\expandafter{%
11774     \DefaultOptionsofText,#1%
11775   }%
11776   \PDFForm@Name
11777   \HyField@FlagsText
11778   \ifFld@hidden\def\Fld@width{1sp}\fi
11779   \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11780   \LayoutTextField{#2}{%
11781     \Hy@escapeform\PDFForm@Text
11782     \pdfstartlink user {\PDFForm@Text}\relax
11783     \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
11784     \HyField@AddToFields
11785   }%
11786 \endgroup
11787 }
11788 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11789   \def\Fld@name{#2}%
11790   \let\Fld@default\relax
11791   \let\Fld@value\relax
11792   \def\Fld@width{\DefaultWidthofChoiceMenu}%
11793   \def\Fld@height{\DefaultHeightofChoiceMenu}%
11794   \begingroup
11795     \Fld@menulength=0 %
11796     \@tempdima\z@
11797     \@for\@curropt:=#3\do{%
11798       \expandafter\Fld@checkequals\@curropt==\%
11799       \Hy@StepCount\Fld@menulength
11800       \settowidth{\@tempdimb}{\@currDisplay}%
11801       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11802     }%
11803     \advance\@tempdima by 15\p@
11804     \Field@toks={ }%
11805     \begingroup
11806       \HyField@SetKeys{#1}%
11807     \edef\x{\endgroup
11808       \noexpand\expandafter
11809       \noexpand\HyField@SetKeys
11810       \noexpand\expandafter{%
11811         \expandafter\noexpand\csname DefaultOptionsof%
11812           \ifFld@radio
11813             Radio%
11814           \else
11815             \ifFld@combo
11816               \ifFld@popdown
11817                 PopdownBox%

```



```

11818         \else
11819             ComboBox%
11820         \fi
11821     \else
11822         ListBox%
11823     \fi
11824 \fi
11825 \endcsname
11826 }%
11827 }\x
11828 \HyField@SetKeys{#1}%
11829 \PDFForm@Name
11830 \ifFld@hidden\def\Fld@width{1sp}\fi
11831 \ifx\Fld@value\relax
11832     \let\Fld@value\Fld@default
11833 \fi
11834 \LayoutChoiceField{#2}{%
11835     \ifFld@radio
11836         \HyField@FlagsRadioButton
11837         \@@Radio{#3}%
11838     \else
11839         \beginngroup
11840         \HyField@FlagsChoice
11841         \ifdim\Fld@width<\@tempdima
11842             \ifdim\@tempdima<1cm\@tempdima1cm\fi
11843             \edef\Fld@width{\the\@tempdima}%
11844         \fi
11845         \ifFld@combo
11846         \else
11847             \@tempdima=\the\Fld@menulength\Fld@charsize
11848             \advance\@tempdima by \Fld@borderwidth bp %
11849             \advance\@tempdima by \Fld@borderwidth bp %
11850             \edef\Fld@height{\the\@tempdima}%
11851         \fi
11852         \@@ListBox{#3}%
11853     \endgroup
11854 \fi
11855 }%
11856 \endgroup
11857 }
11858 \def\@@Radio#1{%
11859     \Fld@listcount=0 %
11860     \@for\@curropt:=#1\do{%
11861         \expandafter\Fld@checkequals\@curropt==\%
11862         \Hy@StepCount\Fld@listcount
11863         \@currDisplay\space
11864         \leavevmode
11865         \Hy@escapeform\PDFForm@Radio
11866         \pdfstartlink user {%
11867             \PDFForm@Radio
11868         /AP<<%
11869         /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.

```

11870         /\@currValue\space \DingObject
11871     >>%

```

```

11872 >>%
11873 }%
11874 \relax
11875 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
11876 \ifnum\Fld@listcount=1 %
11877   \HyField@AddToFields
11878 \fi
11879 \space % deliberate space between radio buttons
11880 }%
11881 }
11882 \newcount\Fld@listcount
11883 \def\@@ListBox#1{%
11884   \HyField@PDFChoices{#1}%
11885   \leavevmode
11886   \Hy@escapeform\PDFForm@List
11887   \pdfstartlink user {\PDFForm@List}\relax
11888   \MakeChoiceField{\Fld@width}{\Fld@height}%
11889   \pdfendlink
11890   \HyField@AddToFields
11891 }
11892 \def\@PushButton[#1]#2{% parameters, label
11893   \def\Fld@name{#2}%
11894   \begingroup
11895     \Field@toks={ }%
11896     \expandafter\HyField@SetKeys\expandafter{%
11897       \DefaultOptionsofPushButton,#1%
11898     }%
11899     \PDFForm@Name
11900     \ifHy@pdfa
11901       \PackageError{hyperref}{%
11902         PDF/A: Push button with JavaScript is prohibited%
11903       }\@ehc
11904       \LayoutPushButtonField{%
11905         \leavevmode
11906         \MakeButtonField{#2}%
11907       }%
11908     \else
11909       \HyField@FlagsPushButton
11910       \ifFld@hidden\def\Fld@width{1sp}\fi
11911       \LayoutPushButtonField{%
11912         \leavevmode
11913         \Hy@escapeform\PDFForm@Push
11914         \pdfstartlink user {\PDFForm@Push}\relax
11915         \MakeButtonField{#2}%
11916         \pdfendlink
11917         \HyField@AddToFields
11918       }%
11919     \fi
11920   \endgroup
11921 }
11922 \def\@Submit[#1]#2{%
11923   \Field@toks={ }%
11924   \def\Fld@width{\DefaultWidthofSubmit}%
11925   \def\Fld@height{\DefaultHeightofSubmit}%
11926   \begingroup
11927     \expandafter\HyField@SetKeys\expandafter{%
11928       \DefaultOptionsofSubmit,#1%

```

```

11929 }%
11930 \HyField@FlagsPushButton
11931 \HyField@FlagsSubmit
11932 \ifFld@hidden\def\Fld@width{1sp}\fi
11933 \leavevmode
11934 \Hy@escapeform\PDFForm@Submit
11935 \pdfstartlink user {%
11936   \PDFForm@Submit
11937   /AP<</N \SubmitObject/D \SubmitPObject>>%
11938 }%
11939 \relax
11940 \MakeButtonField{#2}%
11941 \pdfendlink
11942 \HyField@AddToFields
11943 \endgroup
11944 }
11945 \def\@Reset[#1]#2{%
11946   \Field@toks={ }%
11947   \def\Fld@width{\DefaultWidthofReset}%
11948   \def\Fld@height{\DefaultHeightofReset}%
11949   \begingroup
11950     \expandafter\HyField@SetKeys\expandafter{%
11951       \DefaultOptionsofReset,#1%
11952     }%
11953     \leavevmode
11954     \ifHy@pdfa
11955       \PackageError{hyperref}{%
11956         PDF/A: Reset action is prohibited%
11957       }\@ehc
11958       \MakeButtonField{#2}%
11959     \else
11960       \HyField@FlagsPushButton
11961       \ifFld@hidden\def\Fld@width{1sp}\fi
11962       \Hy@escapeform\PDFForm@Reset
11963       \pdfstartlink user {\PDFForm@Reset}\relax
11964       \MakeButtonField{#2}%
11965       \pdfendlink
11966       \HyField@AddToFields
11967     \fi
11968   \endgroup
11969 }
11970 \def\@CheckBox[#1]#2{% parameters, label
11971   \def\Fld@name{#2}%
11972   \def\Fld@default{0}%
11973   \begingroup
11974     \def\Fld@width{\DefaultWidthofCheckBox}%
11975     \def\Fld@height{\DefaultHeightofCheckBox}%
11976     \Field@toks={ }%
11977     \expandafter\HyField@SetKeys\expandafter{%
11978       \DefaultOptionsofCheckBox,#1%
11979     }%
11980     \PDFForm@Name
11981     \HyField@FlagsCheckBox
11982     \ifFld@hidden\def\Fld@width{1sp}\fi
11983     \LayoutCheckField{#2}%
11984     \Hy@escapeform\PDFForm@Check
11985     \pdfstartlink user {\PDFForm@Check}\relax

```

```

11986     \MakeCheckField{\Fld@width}{\Fld@height}%
11987     \pdfendlink
11988     \HyField@AddToFields
11989 }%
11990 \endgroup
11991 }
11992 \def\Hy@FormObjects{%
11993 \pdfobj {%
11994 <<%
11995 /Type/Encoding%
11996 /Differences[%
11997 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
11998 /ring/tilde %
11999 39/quotesingle %
12000 96/grave %
12001 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12002 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12003 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12004 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
12005 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12006 164/currency %
12007 166/brokenbar %
12008 168/dieresis/copyright/ordfeminine %
12009 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12010 /twosuperior/threesuperior/acute/mu %
12011 183/periodcentered/cedilla/onesuperior/ordmasculine %
12012 188/onequarter/onehalf/threequarters %
12013 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12014 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12015 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12016 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12017 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12018 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12019 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12020 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12021 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
12022 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
12023 ]%
12024 >>%
12025 }%
12026 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
12027 \pdfobj{%
12028 <<%
12029 /Type/Font%
12030 /Subtype/Type1%
12031 /Name/ZaDb%
12032 /BaseFont/ZapfDingbats%
12033 >>%
12034 }%
12035 \xdef\OBJ@ZaDb{\the\pdflastobj}%
12036 \pdfobj{%
12037 <<%
12038 /Type/Font%
12039 /Subtype/Type1%
12040 /Name/Helv%
12041 /BaseFont/Helvetica%
12042 /Encoding \OBJ@pdfdocencoding\space 0 R%

```

```

12043   >>%
12044   }%
12045   \xdef\OBJ@Helv{\the\pdfastobj}%
12046   \global\let\Hy@FormObjects\relax
12047 }
12048 \pdfTeX

```

## 47.5 dvipdfm, xetex

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

```

12049 \*dvipdfm | xetex

```

\@Gauge

```

12050 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12051   \typeout{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
12052 }

```

\@Form

```

12053 \def\@Form[#1]{%
12054   \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12055   \setkeys{Form}{#1}%
12056   \Hy@FormObjects
12057   \@pdfm@mark{obj @afields []}%
12058   \@pdfm@mark{obj @corder []}%
12059   \@pdfm@mark{%
12060     obj @aform <<%
12061       /Fields @afields%
12062       /DR<<%
12063       /Font<<%
12064       /ZaDb @OBJZaDb%
12065       /Helv @OBJHelv%
12066       >>%
12067       >>%
12068       /DA(/Helv 10 Tf 0 g)%
12069       /CO @corder%
12070       \ifHy@pdfa
12071       \else
12072       /NeedAppearances true%
12073       \fi
12074       >>%
12075     }%
12076   \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
12077 }

```

\@endForm

```

12078 \def\@endForm{}

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

12079 \def\dvipdfm@setdim{%
12080   height \the\ht\pdfm@box\space
12081   width \the\wd\pdfm@box\space
12082   depth \the\dp\pdfm@box\space
12083 }

```

\HyField@AnnotCount

```

12084 \newcount\HyField@AnnotCount
12085 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```
12086 \def\HyField@AdvanceAnnotCount{%
12087   \global\advance\HyField@AnnotCount\@ne
12088 }
```

\HyField@TheAnnotCount

```
12089 \def\HyField@TheAnnotCount{%
12090   \the\HyField@AnnotCount
12091 }
```

\@TextField

```
12092 \def\@TextField[#1]#2{% parameters, label
12093   \def\Fld@name{#2}%
12094   \def\Fld@default{}%
12095   \let\Fld@value\@empty
12096   \def\Fld@width{\DefaultWidthofText}%
12097   \def\Fld@height{%
12098     \ifFld@multiline
12099       \DefaultHeightofTextMultiline
12100     \else
12101       \DefaultHeightofText
12102     \fi
12103   }%
12104   \begingroup
12105     \Field@toks={ }%
12106     \expandafter\HyField@SetKeys\expandafter{%
12107       \DefaultOptionsofText,#1%
12108     }%
12109     \PDFForm@Name
12110     \HyField@FlagsText
12111     \ifFld@hidden\def\Fld@width{1sp}\fi
12112     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12113     \setbox\pdfm@box=\hbox{%
12114       \MakeTextField{\Fld@width}{\Fld@height}%
12115     }%
12116     \HyField@AdvanceAnnotCount
12117     \LayoutTextField{#2}{%
12118       \Hy@escapeform\PDFForm@Text
12119       \@pdfm@mark{%
12120         ann @text\HyField@TheAnnotCount\space
12121         \dvipdfm@setdim << \PDFForm@Text >>%
12122       }%
12123     }%
12124     \unhbox\pdfm@box
12125     \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
12126     % record in @afields array
12127   \endgroup
12128 }
```

\@ChoiceMenu

```
12129 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12130   \def\Fld@name{#2}%
12131   \let\Fld@default\relax
12132   \let\Fld@value\relax
12133   \def\Fld@width{\DefaultWidthofChoiceMenu}%
12134   \def\Fld@height{\DefaultHeightofChoiceMenu}%

```

```

12135 \beginngroup
12136 \Fld@menulength=0 %
12137 \@tempdima\z@
12138 \@for\@curropt:=#3\do{%
12139 \expandafter\Fld@checkequals\@curropt==\\%
12140 \Hy@StepCount\Fld@menulength
12141 \settowidth{\@tempdimb}{\@currDisplay}%
12142 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12143 }%
12144 \advance\@tempdima by 15\p@
12145 \Field@toks={ }%
12146 \beginngroup
12147 \HyField@SetKeys{#1}%
12148 \edef\x{\endgroup
12149 \noexpand\expandafter
12150 \noexpand\HyField@SetKeys
12151 \noexpand\expandafter{%
12152 \expandafter\noexpand\csname DefaultOptionsof%
12153 \ifFld@radio
12154 Radio%
12155 \else
12156 \ifFld@combo
12157 \ifFld@popdown
12158 PopdownBox%
12159 \else
12160 ComboBox%
12161 \fi
12162 \else
12163 ListBox%
12164 \fi
12165 \fi
12166 \endcsname
12167 }%
12168 }\x
12169 \HyField@SetKeys{#1}%
12170 \PDFForm@Name
12171 \ifFld@hidden\def\Fld@width{1sp}\fi
12172 \ifx\Fld@value\relax
12173 \let\Fld@value\Fld@default
12174 \fi
12175 \LayoutChoiceField{#2}{%
12176 \ifFld@radio
12177 \HyField@FlagsRadioButton
12178 \@@Radio{#3}%
12179 \else
12180 \beginngroup
12181 \HyField@FlagsChoice
12182 \ifdim\Fld@width<\@tempdima
12183 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12184 \edef\Fld@width{\the\@tempdima}%
12185 \fi
12186 \ifFld@combo
12187 \else
12188 \@tempdima=\the\Fld@menulength\Fld@charsize
12189 \advance\@tempdima by \Fld@borderwidth bp %
12190 \advance\@tempdima by \Fld@borderwidth bp %
12191 \edef\Fld@height{\the\@tempdima}%

```

```

12192     \fi
12193     \@@ListBox{#3}%
12194   \endgroup
12195   \fi
12196 }%
12197 \endgroup
12198 }

```

#### \@@Radio

```

12199 \def\@@Radio#1{%
12200   \Fld@listcount=0 %
12201   \setbox\pdfm@box=\hbox{%
12202     \MakeRadioField{\Fld@width}{\Fld@height}%
12203   }%
12204   \@for\@curropt:=#1\do{%
12205     \expandafter\Fld@checkequals\@curropt==\%
12206     \Hy@StepCount\Fld@listcount
12207     \@currDisplay\space
12208     \leavevmode
12209     \Hy@escapeform\PDFForm@Radio
12210     \ifnum\Fld@listcount=1 %
12211       \HyField@AdvanceAnnotCount
12212     \fi
12213     \@pdfm@mark{%
12214       ann %
12215       \ifnum\Fld@listcount=1 %
12216         @radio\HyField@TheAnnotCount%
12217       \space
12218     \fi
12219     \dvi pdfm@setdim
12220     <<%
12221     \PDFForm@Radio
12222     /AP<</N<</\@currValue /null>>>>%
12223     >>%
12224   }%
12225   \unhcopy\pdfm@box\space% deliberate space between radio buttons
12226   \ifnum\Fld@listcount=1 %
12227     \@pdfm@mark{%
12228       put @afields @radio\HyField@TheAnnotCount
12229     }%
12230   \fi
12231 }%
12232 }

```

#### \Fld@listcount

```

12233 \newcount\Fld@listcount

```

#### \@@ListBox

```

12234 \def\@@ListBox#1{%
12235   \HyField@PDFChoices{#1}%
12236   \setbox\pdfm@box=\hbox{%
12237     \MakeChoiceField{\Fld@width}{\Fld@height}%
12238   }%
12239   \leavevmode
12240   \Hy@escapeform\PDFForm@List
12241   \HyField@AdvanceAnnotCount
12242   \@pdfm@mark{%

```



```

12243   ann @list\HyField@TheAnnotCount\space
12244   \dvipdfm@setdim
12245   <<\PDFForm@List>>%
12246 }%
12247 \unhbox\pdfm@box
12248 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
12249 }

```

#### \@PushButton

```

12250 \def\@PushButton[#1]#2{% parameters, label
12251   \def\Fld@name{#2}%
12252   \begingroup
12253   \Field@toks={ }%
12254   \expandafter\HyField@SetKeys\expandafter{%
12255     \DefaultOptionsofPushButton,#1%
12256   }%
12257   \PDFForm@Name
12258   \ifHy@pdfa
12259     \PackageError{hyperref}{%
12260       PDF/A: Push button with JavaScript is prohibited%
12261     }\@ehc
12262     \LayoutPushButtonField{%
12263       \leavevmode
12264       \MakeButtonField{#2}%
12265     }%
12266   \else
12267     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12268     \HyField@FlagsPushButton
12269     \ifFld@hidden\def\Fld@width{1sp}\fi
12270     \HyField@AdvanceAnnotCount
12271     \LayoutPushButtonField{%
12272       \leavevmode
12273       \Hy@escapeform\PDFForm@Push
12274       \@pdfm@mark{%
12275         ann @push\HyField@TheAnnotCount\space
12276         \dvipdfm@setdim
12277         <<\PDFForm@Push>>%
12278       }%
12279     }%
12280     \unhbox\pdfm@box
12281     \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
12282   \fi
12283   \endgroup
12284 }

```

#### \@Submit

```

12285 \def\@Submit[#1]#2{%
12286   \Field@toks={ }%
12287   \def\Fld@width{\DefaultWidthofSubmit}%
12288   \def\Fld@height{\DefaultHeightofSubmit}%
12289   \begingroup
12290   \expandafter\HyField@SetKeys\expandafter{%
12291     \DefaultOptionsofSubmit,#1%
12292   }%
12293   \HyField@FlagsPushButton
12294   \HyField@FlagsSubmit
12295   \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

12296 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12297 \leavevmode
12298 \Hy@escapeform\PDFForm@Submit
12299 \HyField@AdvanceAnnotCount
12300 \@pdfm@mark{%
12301   ann @submit\HyField@TheAnnotCount\space
12302   \dvi pdfm@setdim
12303   <<\PDFForm@Submit>>%
12304 }%
12305 \unhbox\pdfm@box%
12306 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
12307 \endgroup
12308 }

```

\@Reset

```

12309 \def\@Reset[#1]#2{%
12310   \Field@toks={ }%
12311   \def\Fld@width{\DefaultWidthofReset}%
12312   \def\Fld@height{\DefaultHeightofReset}%
12313   \begingroup
12314     \expandafter\HyField@SetKeys\expandafter{%
12315       \DefaultOptionsofReset,#1%
12316     }%
12317   \leavevmode
12318   \ifHy@pdfa
12319     \PackageError{hyperref}{%
12320       PDF/A: Reset action is prohibited%
12321     }\@ehc
12322     \MakeButtonField{#2}%
12323   \else
12324     \HyField@FlagsPushButton
12325     \ifFld@hidden\def\Fld@width{1sp}\fi
12326     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12327     \Hy@escapeform\PDFForm@Reset
12328     \HyField@AdvanceAnnotCount
12329     \@pdfm@mark{%
12330       ann @reset\HyField@TheAnnotCount\space
12331       \dvi pdfm@setdim
12332       <<\PDFForm@Reset>>%
12333     }%
12334     \unhbox\pdfm@box
12335     \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
12336   \fi
12337 \endgroup
12338 }

```

\@CheckBox

```

12339 \def\@CheckBox[#1]#2{% parameters, label
12340   \def\Fld@name{#2}%
12341   \def\Fld@default{0}%
12342   \begingroup
12343     \def\Fld@width{\DefaultWidthofCheckBox}%
12344     \def\Fld@height{\DefaultHeightofCheckBox}%
12345     \Field@toks={ }%
12346     \expandafter\HyField@SetKeys\expandafter{%
12347       \DefaultOptionsofCheckBox,#1%
12348     }%

```

```

12349 \PDFForm@Name
12350 \HyField@FlagsCheckBox
12351 \ifFld@hidden\def\Fld@width{1sp}\fi
12352 \setbox\pdfm@box=\hbox{%
12353   \MakeCheckField{\Fld@width}{\Fld@height}%
12354 }%
12355 \HyField@AdvanceAnnotCount
12356 \LayoutCheckField{#2}{%
12357   \Hy@escapeform\PDFForm@Check
12358   \@pdfm@mark{%
12359     ann @check\HyField@TheAnnotCount\space
12360     \dvipdfm@setdim
12361     <<\PDFForm@Check>>%
12362   }%
12363   \unhbox\pdfm@box
12364   \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
12365 }%
12366 \endgroup
12367 }

12368 \def\Hy@FormObjects{%
12369   \@pdfm@mark{obj @OBJpdfdocencoding%
12370     <<%
12371       /Type/Encoding%
12372       /Differences[%
12373         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
12374         39/quotesingle %
12375         96/grave %
12376         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12377         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12378         /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
12379         /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
12380         /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12381         164/currency %
12382         166/brokenbar %
12383         168/dieresis/copyright/ordfeminine %
12384         172/logicalnot/.notdef/registered/macron/degree/plusminus%
12385         /twosuperior/threesuperior/acute/mu %
12386         183/periodcentered/cedilla/onesuperior/ordmasculine %
12387         188/onequarter/onehalf/threequarters %
12388         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12389         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
12390         /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
12391         /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
12392         /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
12393         /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
12394         /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
12395         /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
12396         /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
12397         /thorn/ydieresis%
12398       ]%
12399     >>%
12400   }%
12401   \@pdfm@mark{obj @OBJZaDb%
12402     <<%
12403       /Type/Font%
12404       /Subtype/Type1%
12405       /Name/ZaDb%

```

```

12406 /BaseFont/ZapfDingbats%
12407 >>%
12408 }%
12409 \@pdfm@mark{obj @OBJHelv%
12410 <<%
12411 /Type/Font%
12412 /Subtype/Type1%
12413 /Name/Helv%
12414 /BaseFont/Helvetica%
12415 /Encoding @OBJpdfdocencoding%
12416 >>%
12417 }%
12418 \global\let\Hy@FormObjects\relax
12419 }
12420 </dvipdfm | xetex>

```

## 47.6 Common forms part

```
12421 <*pdfform>
```

\Hy@escapestring

```

12422 \begingroup\expandafter\expandafter\expandafter\endgroup
12423 \expandafter\ifx\csname pdfescapestring\endcsname\relax
12424 \let\Hy@escapestring\@firstofone
12425 \def\Hy@escapeform#1{%
12426   \ifHy@escapeform
12427     \def\Hy@escapestring##1{%
12428       \noexpand\Hy@escapestring{\noexpand##1}%
12429     }%
12430     \edef\Hy@temp{#1}%
12431     \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
12432     \def\Hy@escapestring##1{%
12433       \@ifundefined{Hy@esc@\string##1}{%
12434         ##1%
12435         \ThisShouldNotHappen
12436       }{%
12437         \csname Hy@esc@\string##1\endcsname
12438       }%
12439     }%
12440   \else
12441     \let\Hy@escapestring\@firstofone
12442   \fi
12443 }%
12444 \def\Hy@@@escapeform#1\Hy@escapestring#2#3\@nil{%
12445   \ifx\#3\%
12446   \else
12447     \expandafter
12448     \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
12449     \Hy@ReturnAfterFi{%
12450       \Hy@@@escapeform#3\@nil
12451     }%
12452   \fi
12453 }%
12454 \else
12455 \def\Hy@escapeform#1{%
12456   \ifHy@escapeform
12457     \let\Hy@escapestring\pdfescapestring

```

```

12458 \else
12459 \let\Hy@escapestring\@firstofone
12460 \fi
12461 }%
12462 \Hy@escapeform{}}%
12463 \fi

```

#### \PDFForm@Name

```

12464 \def\PDFForm@Name{%
12465 \begingroup
12466 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
12467 \ifHy@unicode
12468 \Hy@unicodedefalse
12469 \fi
12470 \fi
12471 \HyPsd@XeTeXBigCharstrue
12472 \pdfstringdef\Hy@gtemp\Fld@name
12473 \endgroup
12474 \let\Fld@name\Hy@gtemp
12475 }

```

#### \PDFForm@Check

```

12476 \def\PDFForm@Check{%
12477 /Subtype/Widget%
12478 \Fld@annotflags
12479 /T(\Fld@name)%
12480 /FT/Btn%
12481 \Fld@flags
12482 /Q \Fld@align
12483 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
12484 /MK<<%
12485 \ifnum\Fld@rotation=\z@
12486 \else
12487 /R \Fld@rotation
12488 \fi
12489 \ifx\Fld@bordercolor\relax
12490 \else
12491 /BC[\Fld@bordercolor]%
12492 \fi
12493 \ifx\Fld@bcolor\relax
12494 \else
12495 /BG[\Fld@bcolor]%
12496 \fi
12497 /CA(\Hy@escapestring{\Fld@cbsymbol}})%
12498 >>%
12499 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
12500 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12501 /H/P%
12502 \ifFld@checked /V/Yes\else /V/Off\fi
12503 }

```

#### \PDFForm@Push

```

12504 \ifHy@pdfa
12505 \else
12506 \def\PDFForm@Push{%
12507 /Subtype/Widget%
12508 \Fld@annotflags

```

```

12509 /T(\Fld@name)%
12510 /FT/Btn%
12511 \Fld@flags
12512 /H/P%
12513 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12514 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12515 \ifx\Fld@bordercolor\relax\else 1\fi
12516 \space
12517 \else
12518 /MK<<%
12519 \ifnum\Fld@rotation=\z@
12520 \else
12521 /R \Fld@rotation
12522 \fi
12523 \ifx\Fld@bordercolor\relax
12524 \else
12525 /BC[\Fld@bordercolor]%
12526 \fi
12527 >>%
12528 \fi
12529 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
12530 }%
12531 \fi

```

\Fld@additionalactions

```

12532 \def\Fld@@additionalactions{%
K input (keystroke) format
12533 \ifx\Fld@keystroke@code\@empty
12534 \else
12535 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
12536 \fi
F display format
12537 \ifx\Fld@format@code\@empty
12538 \else
12539 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
12540 \fi
V validation
12541 \ifx\Fld@validate@code\@empty
12542 \else
12543 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
12544 \fi
C calculation
12545 \ifx\Fld@calculate@code\@empty
12546 \else
12547 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
12548 \fi
Fo receiving the input focus
12549 \ifx\Fld@onfocus@code\@empty
12550 \else
12551 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
12552 \fi
Bl loosing the input focus (blurred)
12553 \ifx\Fld@onblur@code\@empty
12554 \else

```

```

12555   /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
12556   \fi
D pressing the mouse button (down)
12557   \ifx\Fld@onmousedown@code\@empty
12558   \else
12559   /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
12560   \fi
U releasing the mouse button (up)
12561   \ifx\Fld@onmouseup@code\@empty
12562   \else
12563   /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
12564   \fi
E cursor enters the annotation's active area.
12565   \ifx\Fld@onenter@code\@empty
12566   \else
12567   /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
12568   \fi
X cursor exits the annotation's active area.
12569   \ifx\Fld@onexit@code\@empty
12570   \else
12571   /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
12572   \fi
12573 }
12574 \def\Fld@additionalactions{%
12575 \if\Fld@@additionalactions-%
12576 \else
12577 \ifHy@pdfa
12578 \else
12579 /AA<<\Fld@@additionalactions>>%
12580 \fi
12581 \fi
12582 }

```

\PDFForm@List

```

12583 \def\PDFForm@List{%
12584 /Subtype/Widget%
12585 \Fld@annotflags
12586 /T(\Fld@name)%
12587 /FT/Ch%
12588 \Fld@flags
12589 /Q \Fld@align
12590 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12591 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12592 \ifx\Fld@bordercolor\relax\else 1\fi
12593 \ifx\Fld@bcolor\relax \else 1\fi
12594 \space
12595 \else
12596 /MK<<%
12597 \ifnum\Fld@rotation=\z@
12598 \else
12599 /R \Fld@rotation
12600 \fi
12601 \ifx\Fld@bordercolor\relax
12602 \else
12603 /BC[\Fld@bordercolor]%

```

```

12604     \fi
12605     \ifx\Fld@bcolor\relax
12606     \else
12607         /BG[\Fld@bcolor]%
12608     \fi
12609     >>%
12610 \fi
12611 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12612     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12613 \Fld@choices
12614 \Fld@additionalactions
12615 }

```

#### \PDFForm@Radio

```

12616 \def\PDFForm@Radio{%
12617 /Subtype/Widget%
12618 \Fld@annotflags
12619 /T(\Fld@name)%
12620 /FT/Btn%
12621 \Fld@flags
12622 /H/P%
12623 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12624 /MK<<%
12625     \ifnum\Fld@rotation=\z@
12626     \else
12627         /R \Fld@rotation
12628     \fi
12629     \ifx\Fld@bordercolor\relax
12630     \else
12631         /BC[\Fld@bordercolor]%
12632     \fi
12633     \ifx\Fld@bcolor\relax
12634     \else
12635         /BG[\Fld@bcolor]%
12636     \fi
12637     /CA(\Fld@radiosymbol)%
12638 >>%
12639 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
12640     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12641 \ifx\@currValue\Fld@default
12642     /V/\Fld@default
12643 \else
12644     /V/Off%
12645 \fi
12646 \Fld@additionalactions
12647 }

```

#### \PDFForm@Text

```

12648 \def\PDFForm@Text{%
12649 /Subtype/Widget%
12650 \Fld@annotflags
12651 /T(\Fld@name)%
12652 /FT/Tx%
12653 \Fld@flags
12654 /Q \Fld@align
12655 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
12656 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi

```



```

12657     \ifx\Fld@bordercolor\relax\else 1\fi
12658     \ifx\Fld@bcolor\relax    \else 1\fi
12659     \space
12660 \else
12661   /MK<<%
12662   \ifnum\Fld@rotation=\z@
12663   \else
12664     /R \Fld@rotation
12665   \fi
12666   \ifx\Fld@bordercolor\relax
12667   \else
12668     /BC[\Fld@bordercolor]%
12669   \fi
12670   \ifx\Fld@bcolor\relax
12671   \else
12672     /BG[\Fld@bcolor]%
12673   \fi
12674   >>%
12675 \fi
12676 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12677   \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12678 /DV(\Hy@escapestring{\Fld@default})%
12679 /V(\Hy@escapestring{\Fld@value})%
12680 \Fld@additionalactions
12681 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
12682 }

```

\PDFForm@Submit

```

12683 \def\PDFForm@Submit{%
12684   /Subtype/Widget%
12685   \Fld@annotflags
12686   /T(\Fld@name)%
12687   /FT/Btn%
12688   \Fld@flags
12689   /H/P%
12690   /BS<</W \Fld@borderwidth/S\Fld@borderstyle>>%
12691   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12692     \ifx\Fld@bordercolor\relax\else 1\fi
12693     \space
12694   \else
12695     /MK<<%
12696     \ifnum\Fld@rotation=\z@
12697     \else
12698       /R \Fld@rotation
12699     \fi
12700     \ifx\Fld@bordercolor\relax
12701     \else
12702       /BC[\Fld@bordercolor]%
12703     \fi
12704     >>%
12705   \fi
12706 /A<<%
12707   /S/SubmitForm%
12708   /F<<%
12709     /FS/URL%
12710     /F(\Hy@escapestring{\Form@action})%
12711   >>%

```

```

12712 \Fld@submitflags
12713 >>%
12714 }

```

\PDFForm@Reset

```

12715 \ifHy@pdfa
12716 \else
12717 \def\PDFForm@Reset{%
12718 /Subtype/Widget%
12719 \Fld@annotflags
12720 /T(\Fld@name)%
12721 /FT/Btn%
12722 \Fld@flags
12723 /H/P%
12724 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
12725 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12726 \ifx\Fld@bordercolor\relax\else 1\fi
12727 \space
12728 \else
12729 /MK<<%
12730 \ifnum\Fld@rotation=\z@
12731 \else
12732 /R \Fld@rotation
12733 \fi
12734 \ifx\Fld@bordercolor\relax
12735 \else
12736 /BC[\Fld@bordercolor]%
12737 \fi
12738 % /CA (Clear)
12739 % /AC (Done)
12740 >>%
12741 \fi
12742 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12743 /A<</S/ResetForm>>%
12744 }%
12745 \fi

12746 </pdfform>
12747 <*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`

```

12748 \def\phantomsection{%
12749 \Hy@MakeCurrentHrefAuto{section*}%
12750 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
12751 }
12752 </package>

```

## 48.1 Bookmarks

12753  $\langle$ \*outlines $\rangle$

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  $\varepsilon$ -TeX, the order of the \BOOKMARK commands written to the \@outlinefile could appear wrong, because of mis-feature of  $\varepsilon$ -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.

```
12754 \def\Hy@writebookmark#1#2#3#4#5{%
12755   % section number, text, label, level, file
12756   \ifx\WriteBookmarks\relax%
12757   \else
12758     \ifnum#4>\Hy@bookmarksdepth\relax
12759     \else
12760       @@writetorep{#1}{#2}{#3}{#4}{#5}%
12761     \fi
12762   \fi
12763 }
12764 \def\Hy@currentbookmarklevel{0}
12765 \def\Hy@numberline#1{#1 }
12766 \def\@@writetorep#1#2#3#4#5{%
12767   \begingroup
12768   \edef\Hy@tempa{#5}%
12769   \ifx\Hy@tempa\Hy@bookmarkstype
12770     \edef\Hy@level{#4}%
12771     \ifx\Hy@levelcheck Y%
12772       \@tempcnta\Hy@level\relax
12773       \advance\@tempcnta by -1 %
12774       \ifnum\Hy@currentbookmarklevel<\@tempcnta
12775         \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
12776         \advance\@tempcnta by 1 %
12777         \Hy@Warning{%
12778           Difference (\the\@tempcnta) between bookmark levels is %
12779           greater \MessageBreak than one, level fixed%
12780         }%
12781         \@tempcnta\Hy@currentbookmarklevel
12782         \advance\@tempcnta by 1 %
12783         \edef\Hy@level{\the\@tempcnta}%
12784       \fi
12785     \else
12786       \global\let\Hy@levelcheck Y%
12787     \fi
12788     \global\let\Hy@currentbookmarklevel\Hy@level
12789     \@tempcnta\Hy@level\relax
12790     \expandafter\edef\csname Parent\Hy@level\endcsname{#3}%
12791     \advance\@tempcnta by -1 %
12792     \edef\Hy@tempa{#3}%
```

```

12793 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
12794 \ifx\Hy@tempa\Hy@tempb
12795 \Hy@Warning{%
12796 The anchor of a bookmark and its parent's must not%
12797 \MessageBreak be the same. Added a new anchor%
12798 }%
12799 \phantomsection
12800 \fi
12801 \ifHy@bookmarksnumbered
12802 \let\numberline\Hy@numberline
12803 \let\partnumberline\Hy@numberline
12804 \let\chapternumberline\Hy@numberline
12805 \else
12806 \let\numberline\@gobble
12807 \let\partnumberline\@gobble
12808 \let\chapternumberline\@gobble
12809 \fi
12810 \HyPsd@XeTeXBigCharstrue
12811 \pdfstringdef\Hy@tempa{#2}%
12812 \HyPsd@SanitizeForOutFile\Hy@tempa
12813 \if@filesw
12814 \stepcounter{bookmark@seq@number}%
12815 \@ifundefined{@outlinefile}{%
12816 }{%
12817 \protected@write{@outlinefile}{%
12818 \protect\BOOKMARK
12819 [\Hy@level][@bookmarkopenstatus{\Hy@level}]{#3}%
12820 {\Hy@tempa}{\Hy@tempb}%
12821 \@percentchar\space\thebookmark@seq@number
12822 }%
12823 }%
12824 \fi
12825 \fi
12826 \endgroup
12827 }
12828 \newcounter{bookmark@seq@number}

12829 \begingroup
12830 \lccode'('= '{%
12831 \lccode'('= '}%
12832 \lccode'1=\z@
12833 \lccode'2=\z@
12834 \lccode'3=\z@
12835 \lccode'5=\z@
12836 \lccode'7=\z@
12837 \lccode'#= \z@
12838 \lccode'\=' \z@
12839 \lccode'\{= \z@
12840 \lccode'\}= \z@
12841 \lowercase{%
12842 \endgroup
12843 \def\HyPsd@SanitizeForOutFile#1{%
12844 \@onelevel@sanitize\Hy@tempa
12845 \escapechar'\%
12846 \edef\Hy@tempa{%
12847 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
12848 }%
12849 \edef\Hy@tempa{%

```

```

12850 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
12851 }%
12852 }%
12853 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
12854 #1%
12855 \ifx\#2\%
12856 \expandafter\ltx@gobble
12857 \else
12858 \expandafter\ltx@firstofone
12859 \fi
12860 {%
12861 \string\173%
12862 \HyPsd@SanitizeOut@BraceLeft#2\@nil
12863 }%
12864 }%
12865 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
12866 #1%
12867 \ifx\#2\%
12868 \expandafter\ltx@gobble
12869 \else
12870 \expandafter\ltx@firstofone
12871 \fi
12872 {%
12873 \string\175%
12874 \HyPsd@SanitizeOut@BraceRight#2\@nil
12875 }%
12876 }%
12877 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

12878 \newcommand{\currentpdfbookmark}{%
12879 \pdfbookmark{\Hy@currentbookmarklevel}%
12880 }
12881 \newcommand{\subpdfbookmark}{%
12882 \@tempcnta\Hy@currentbookmarklevel
12883 \Hy@StepCount\@tempcnta
12884 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
12885 }
12886 \newcommand{\belowpdfbookmark}[2]{%
12887 \@tempcnta\Hy@currentbookmarklevel
12888 \Hy@StepCount\@tempcnta
12889 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
12890 \advance\@tempcnta by -1 %
12891 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
12892 }

```

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.

```

12893 \renewcommand\pdfbookmark[3][0]{%
12894 \Hy@writebookmark}{#2}{#3.#1}{#1}{toc}%
12895 \hyper@anchorstart{#3.#1}\hyper@anchorend
12896 }
12897 \def\BOOKMARK{%
12898 \ifnextchar[{\@BOOKMARK}{\@BOOKMARK[1][-]}%
12899 }
12900 \def\@BOOKMARK[#1]{%

```

```

12901 \ifnextchar[{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
12902 }

```

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`

```

12903 \RequirePackage{rerunfilecheck}[2009/12/10]
12904 \def\Hy@OutlineRerunCheck{%
12905   \RerunFileCheck{\jobname.out}{}%
12906   \immediate\closeout\@outlinefile
12907 }{%
12908   Rerun to get outlines right\MessageBreak
12909   or use package 'bookmark'%
12910 }%
12911 }

```

#### 48.1.2 Driver stuff

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

```

12912 \<*vtex>
12913 \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.

```

12914 \begingroup
12915 \catcode'\'=12 %
12916 \ifnum\Hy@VTeXversion<650 %
12917 \catcode'\ "=12 %
12918 \gdef\hv@pdf@char#1#2#3{%
12919   \char
12920   \ifcase'#1#2#3 %
12921     "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
12922     \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
12923     \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
12924     \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
12925     \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
12926     \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
12927     \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
12928     \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
12929     \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
12930     \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
12931     \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
12932     \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
12933     \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
12934     \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
12935     \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
12936     \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
12937     \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
12938     \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
12939     \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%

```

```

12940 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
12941 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
12942 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
12943 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
12944 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
12945 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
12946 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
12947 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
12948 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
12949 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
12950 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
12951 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
12952 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
12953 \fi
12954 }%
12955 \else
12956 \gdef\hv@pdf@char{\char'}%
12957 \fi
12958 \endgroup

```

\@@BOOKMARK

```

12959 \def\@@BOOKMARK[#1][#2]#3#4#5{%
12960 \expandafter\edef\csname @count@#3\endcsname{%
12961 \the\@serial@counter
12962 }%
12963 \edef\@mycount{\the\@serial@counter}%
12964 \Hy@StepCount\@serial@counter
12965 \edef\@parcount{%
12966 \expandafter\ifx\csname @count@#5\endcsname\relax
12967 0%
12968 \else
12969 \csname @count@#5\endcsname
12970 \fi
12971 }%
12972 \immediate\special{%
12973 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
12974 s=\ifx#2-c\else o\fi,t=#4%
12975 }%
12976 }%

```

\ReadBookmarks

```

12977 \def\ReadBookmarks{%
12978 \begingroup
12979 \def\0{\hv@pdf@char 0}%
12980 \def\1{\hv@pdf@char 1}%
12981 \def\2{\hv@pdf@char 2}%
12982 \def\3{\hv@pdf@char 3}%
12983 \def\({}%
12984 \def\)}{%
12985 \def\do##1{%
12986 \ifnum\catcode'##1=\active
12987 \@makeother##1%
12988 \else
12989 \ifnum\catcode'##1=6 %
12990 \@makeother##1%
12991 \fi
12992 \fi

```

```

12993 }%
12994 \dospecials
12995 \Hy@safe@activetrue
12996 \InputIfFileExists{\jobname.out}{\relax}{\relax}%
12997 \endgroup
12998 \ifx\WriteBookmarks\relax
12999 \else
13000 \if@files
13001 \newwrite\@outlinefile
13002 \Hy@OutlineRerunCheck
13003 \immediate\openout\@outlinefile=\jobname.out\relax
13004 \ifHy@typexml
13005 \immediate\write\@outlinefile{<relaxxml>\relax}%
13006 \fi
13007 \fi
13008 \fi
13009 }

13010 </vtex>
13011 <!*vtex>
13012 \def\ReadBookmarks{%
13013 \begingroup
13014 \def\do##1{%
13015 \ifnum\catcode'##1=\active
13016 \@makeother##1%
13017 \else
13018 \ifnum\catcode'##1=6 %
13019 \@makeother##1%
13020 \fi
13021 \fi
13022 }%
13023 \dospecials
13024 \Hy@safe@activetrue
13025 \escapechar='\\%
13026 \let\escapechar\@gobble %
13027 \def\@@BOOKMARK[##1][##2]##3##4##5{%
13028 \calc@bm@number{##5}%
13029 }%
13030 \InputIfFileExists{\jobname.out}{\relax}{\relax}%
13031 \ifx\WriteBookmarks\relax
13032 \global\let\WriteBookmarks\relax
13033 \fi
13034 \def\@@BOOKMARK[##1][##2]##3##4##5{%
13035 \def\Hy@temp{##4}%
13036 <*pdfTeX>
13037 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
13038 \Hy@OutlineName{\Hy@pstringName{
13039 ##2\check@bm@number{##3}}%
13040 }{%
13041 \expandafter\strip@prefix\meaning\Hy@temp
13042 }%
13043 </pdfTeX>
13044 <*pdfmark>
13045 \pdfmark{%
13046 pdfmark=/OUT,%
13047 Count={##2\check@bm@number{##3}},%
13048 Dest={##3},%
13049 Title=\expandafter\strip@prefix\meaning\Hy@temp

```



```

13050 }%
13051 </pdfmark>
13052 (*dvipdfm | xetex)
13053 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
13054 \@pdfm@mark{%
13055   outline \ifHy@DvipdfmxOutlineOpen
13056     [%
13057       \ifnum##21>\z@
13058       \else
13059       -%
13060       \fi
13061     ] %
13062     \fi
13063     ##1<<%
13064     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
13065     /A<<%
13066     /S/GoTo%
13067     /D(\Hy@pstringName)%
13068     >>%
13069     >>%
13070 }%
13071 </dvipdfm | xetex>
13072 }%
13073 {%
13074   \def\WriteBookmarks{0}%
13075   \InputIfFileExists{\jobname.out}{\relax}%
13076 }%
13077 {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{\relax}%
13078   \ifx\WriteBookmarks\relax
13079   \else
13080     \if@filesw
13081       \newwrite\@outlinefile
13082       \Hy@OutlineRerunCheck
13083       \immediate\openout\@outlinefile=\jobname.out\relax
13084       \ifHy@typexml
13085       \immediate\write\@outlinefile{<relaxxml>\relax}%
13086       \fi
13087     \fi
13088   \fi
13089   \endgroup
13090 }
13091 <*pdfTeX>
13092 \def\Hy@OutlineName#1#2#3#4{%
13093   \pdfoutline goto name{#2}count#3{#4}%
13094 }
13095 </pdfTeX>
13096 \def\check@bm@number#1{%
13097   \expandafter\ifx\csname B_#1\endcsname\relax
13098     0%
13099   \else
13100     \csname B_#1\endcsname
13101   \fi
13102 }
13103 \def\calc@bm@number#1{%
13104   \@tempcnta=\check@bm@number{#1}\relax
13105   \advance\@tempcnta by 1 %
13106   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%

```

```

13107 }
13108 </!vtex>

13109 \ifHy@implicit
13110 \else
13111   \expandafter\endinput
13112 \fi

13113 </outlines>
13114 <*outlines | hypertex>

13115 \newlength\Hy@SectionHShift
13116 \def\Hy@SectionAnchorHref#1{%
13117   \ifx\protect\@typeset@protect
13118     \Hy@@SectionAnchor{#1}%
13119   \fi
13120 }
13121 \DeclareRobustCommand*\Hy@@SectionAnchor[1]{%
13122   \leavevmode
13123   \hbox to 0pt{%
13124     \kern-\Hy@SectionHShift
13125     \Hy@raisedlink{%
13126       \hyper@anchorstart{#1}\hyper@anchorend
13127     }%
13128     \hss
13129   }%
13130 }
13131 \let\H@old@ssect\@ssect
13132 \def\@ssect#1#2#3#4#5{%
13133   \Hy@MakeCurrentHrefAuto{section*}%
13134   \setlength\Hy@SectionHShift{#1}%
13135   \begingroup
13136     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
13137     \toks\tw@\expandafter{%
13138       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13139       #5%
13140     }%
13141   \edef\x{\endgroup
13142     \the\toks@\the\toks\tw@}%
13143   }\x
13144 }
13145 \let\H@old@schapter\@schapter
13146 \def\@schapter#1{%
13147   \begingroup
13148     \let\@mkboth\@gobbletwo
13149     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13150     \Hy@raisedlink{%
13151       \hyper@anchorstart{\@currentHref}\hyper@anchorend
13152     }%
13153   \endgroup
13154   \H@old@schapter{#1}%
13155 }

```

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:

```

13156 \ltx@ifundefined{@chapter}{-}{%
13157   \let\Hy@org@chapter\@chapter
13158   \def\@chapter{%

```

```

13159 \def\Hy@next{%
13160   \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13161   \Hy@raisedlink{%
13162     \hyper@anchorstart{\@currentHref}\hyper@anchorend
13163   }%
13164 }%
13165 \ifnum\c@secnumdepth>\m@ne
13166   \let\IfUndefined\if@mainmatter}%
13167   \iftrue{\csname if@mainmatter\endcsname}%
13168   \let\Hy@next\relax
13169   \fi
13170 \fi
13171 \Hy@next
13172 \Hy@org@chapter
13173 }%
13174 }

13175 \let\H@old@part\@part
13176 \begingroup\expandafter\expandafter\expandafter\endgroup
13177 \expandafter\ifx\csname chapter\endcsname\relax
13178   \let\Hy@secnum@part\z@
13179 \else
13180   \let\Hy@secnum@part\m@ne
13181 \fi
13182 \def\@part{%
13183   \ifnum\Hy@secnum@part>\c@secnumdepth
13184     \phantomsection
13185   \fi
13186   \H@old@part
13187 }

13188 \let\H@old@spart\@spart
13189 \def\@spart#1{%
13190   \Hy@MakeCurrentHrefAuto{part*}%
13191   \Hy@raisedlink{%
13192     \hyper@anchorstart{\@currentHref}\hyper@anchorend
13193   }%
13194   \H@old@spart{#1}%
13195 }

13196 \let\H@old@sect\@sect
13197 \def\@sect#1#2#3#4#5#6[#7]#8{%
13198   \ifnum #2>\c@secnumdepth
13199     \expandafter\@firstoftwo
13200   \else
13201     \expandafter\@secondoftwo
13202   \fi
13203   {%
13204     \Hy@MakeCurrentHrefAuto{section*}%
13205     \setlength{\Hy@SectionHShift}{#3}%
13206     \begingroup
13207       \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
13208       \toks\tw@\expandafter{%
13209         \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13210         #8%
13211       }%
13212       \edef\x{\endgroup
13213         \the\toks@{\the\toks\tw@}}%
13214       }\x
13215   }{%

```

```

13216 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{{#7}}{{#8}%
13217 }%
13218 }

13219 </outlines | hypertex>
13220 <*outlines>

13221 \expandafter\def\csname Parent-4\endcsname{}
13222 \expandafter\def\csname Parent-3\endcsname{}
13223 \expandafter\def\csname Parent-2\endcsname{}
13224 \expandafter\def\csname Parent-1\endcsname{}
13225 \expandafter\def\csname Parent0\endcsname{}
13226 \expandafter\def\csname Parent1\endcsname{}
13227 \expandafter\def\csname Parent2\endcsname{}
13228 \expandafter\def\csname Parent3\endcsname{}
13229 \expandafter\def\csname Parent4\endcsname{}

13230 </outlines>

```

## 49 Compatibility with koma-script classes

```

13231 <*outlines | hypertex>

```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias Isenberg (Tobias.Isenberg@gmx.de). With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

13232 \def\Hy@tempa{%
13233 \def\@addchap{##1}##2{%
13234 \typeout{##2}%
13235 \if@twoside
13236 \@mkboth{##1}{}%
13237 \else
13238 \@mkboth{}{##1}%
13239 \fi
13240 \addtocontents{lof}{\protect\addvspace{10\p@}}%
13241 \addtocontents{lot}{\protect\addvspace{10\p@}}%
13242 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13243 \Hy@raisedlink{%
13244 \hyper@anchorstart{\@currentHref}\hyper@anchorend
13245 }%
13246 \if@twocolumn
13247 \@topnewpage[\@makeschapterhead{##2}]%
13248 \else
13249 \@makeschapterhead{##2}%
13250 \@afterheading
13251 \fi
13252 \addcontentsline{toc}{chapter}{##1}%
13253 }%
13254 }

13255 \ifclassloaded{scrbook}{%
13256 \ifclasslater{scrbook}{2001/01/01}{%
13257 \let\Hy@tempa\@empty
13258 }{}%
13259 }{%
13260 \ifclassloaded{scrreprt}{%
13261 \ifclasslater{scrreprt}{2001/01/01}{%
13262 \let\Hy@tempa\@empty

```

```

13263 }{}%
13264 }{%
13265 \let\Hy@tempa\@empty
13266 }%
13267 }%
13268 \Hy@tempa
13269 </outlines | hypertext>

```

## 50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 50.1 PD1 encoding

```

13270 <*pd1enc>
13271 \DeclareFontEncoding{PD1}{-}{-}

Accents
13272 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
13273 \DeclareTextAccent{\'}{PD1}{\textacute}
13274 \DeclareTextAccent{\~}{PD1}{\textasciicircum}
13275 \DeclareTextAccent{\~}{PD1}{\texttilde}
13276 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
13277 \DeclareTextAccent{\r}{PD1}{\textring}
13278 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
13279 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
13280 \DeclareTextAccent{\c}{PD1}{\textcedilla}
13281 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
13282 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
13283 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
13284 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
13285 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
13286 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
13287 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
13288 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
13289 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
13290 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
13291 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
13292 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
13293 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
13294 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
13295 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
13296 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
13297 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
13298 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
13299 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
13300 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
13301 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
13302 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
13303 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
13304 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
13305 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
13306 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
13307 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
13308 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
13309 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
13310 \DeclareTextCommand{\newtie}{PD1}[1]{%

```

13311 \TextSymbolUnavailable{\newtie{#1}}#1%  
 13312 }

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

13313 % U+0009 (CHARACTER TABULATION)  
 13314 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009  
 13315 % U+000A (LINE FEED)  
 13316 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A  
 13317 % U+000D (CARRIAGE RETURN)  
 13318 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

Accent glyph names

13319 % U+02D8 BREVE; breve  
 13320 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8  
 13321 % U+02C7 CARON; caron  
 13322 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7  
 13323 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex  
 13324 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6  
 13325 % U+02D9 DOT ABOVE; dotaccent  
 13326 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9  
 13327 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 13328 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD  
 13329 % U+02DB OGONEK; ogonek  
 13330 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB  
 13331 % U+02DA RING ABOVE; ring  
 13332 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA  
 13333 % U+02DC SMALL TILDE; ilde, \*tilde  
 13334 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

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

\041: U+0021 EXCLAMATION MARK; exclam

13335 % U+0022 QUOTATION MARK; quotedbl  
 13336 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022  
 13337 % U+0023 NUMBER SIGN; numbersign  
 13338 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023  
 13339 % U+0024 DOLLAR SIGN; dollar  
 13340 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024  
 13341 % U+0025 PERCENT SIGN; percent  
 13342 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025  
 13343 % U+0026 AMPERSAND; ampersand  
 13344 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

\047: U+0027 APOSTROPHE; quotesingle

13345 % U+0028 LEFT PARENTHESIS; parenleft  
 13346 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028  
 13347 % U+0029 RIGHT PARENTHESIS; parenright  
 13348 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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

13349 % U+002E FULL STOP; period  
 13350 \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  
 13351 % U+003C LESS-THAN SIGN; less  
 13352 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 13353 % U+003E GREATER-THAN SIGN; greater  
 13354 \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  
 13355 % U+005C REVERSE SOLIDUS; backslash  
 13356 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 13357 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 13358 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 13359 % U+005F LOW LINE; underscore  
 13360 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 13361 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 13362 % U+0060 GRAVE ACCENT; grave  
 13363 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 13364 % U+0069 LATIN SMALL LETTER I; i  
 13365 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 13366 % U+007B LEFT CURLY BRACKET; braceleft  
 13367 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 13368 % U+007C VERTICAL LINE; \*bar, verticalbar  
 13369 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 13370 % U+007D RIGHT CURLY BRACKET; braceright  
 13371 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 13372 % U+007E TILDE; asciitilde  
 13373 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 13374 % U+2022 BULLET; bullet  
 13375 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 13376 % U+2020 DAGGER; dagger  
 13377 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 13378 % U+2021 DOUBLE DAGGER; daggerdbl  
 13379 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 13380 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 13381 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 13382 % U+2014 EM DASH; emdash  
 13383 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 13384 % U+2013 EN DASH; endash  
 13385 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 13386 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 13387 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192

13388 % U+2044 FRACTION SLASH; fraction  
 13389 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
 13390 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 ingleft  
 13391 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039  
 13392 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 ingright  
 13393 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A  
 13394 % U+2212 MINUS SIGN; minus  
 13395 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
 13396 % U+2030 PER MILLE SIGN; perthousand  
 13397 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
 13398 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 13399 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
 13400 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 13401 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
 13402 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 13403 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
 13404 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 13405 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
 13406 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 13407 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
 13408 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 13409 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
 13410 % U+2122 TRADE MARK SIGN; trademark  
 13411 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
 13412 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 13413 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
 13414 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 13415 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
 13416 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
 13417 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
 13418 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
 13419 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
 13420 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
 13421 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
 13422 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 13423 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178  
 13424 \DeclareTextCommand{\IJ}{PD1}{\230}  
 13425 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 13426 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
 13427 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
 13428 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
 13429 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 13430 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
 13431 % U+0153 LATIN SMALL LIGATURE OE; oe  
 13432 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
 13433 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 13434 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
 13435 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 13436 \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.  
 13437 % U+20AC EURO SIGN; \*Euro, euro  
 13438 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
 13439 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 13440 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1



13441 % U+00A2 CENT SIGN; cent  
 13442 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
 13443 % U+00A3 POUND SIGN; sterling  
 13444 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
 13445 % U+00A4 CURRENCY SIGN; currency  
 13446 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
 13447 % U+00A5 YEN SIGN; yen  
 13448 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
 13449 % U+00A6 BROKEN BAR; brokenbar  
 13450 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
 13451 % U+00A7 SECTION SIGN; section  
 13452 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
 13453 % U+00A8 DIAERESIS; dieresis  
 13454 \DeclareTextCommand{\textasciidiereis}{PD1}{\250}% U+00A8  
 13455 % U+00A9 COPYRIGHT SIGN; copyright  
 13456 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
 13457 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 13458 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
 13459 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motleft  
 13460 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
 13461 % U+00AC NOT SIGN; logicalnot  
 13462 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
 13463 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
 No glyph \255 in PDFDocEncoding.  
 13464 % U+00AE REGISTERED SIGN; registered  
 13465 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
 13466 % U+00AF MACRON; \*macron, overscore  
 13467 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
 13468 % U+00B0 DEGREE SIGN; degree  
 13469 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
 13470 % U+00B1 PLUS-MINUS SIGN; plusminus  
 13471 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
 13472 % U+00B2 SUPERSCRIPT TWO; twosuperior  
 13473 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2  
 13474 % U+00B3 SUPERSCRIPT THREE; threesuperior  
 13475 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3  
 13476 % U+00B4 ACUTE ACCENT; acute  
 13477 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
 13478 % U+00B5 MICRO SIGN; mu, mul  
 13479 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
 13480 % U+00B6 PILCROW SIGN; paragraph  
 13481 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
 13482 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 13483 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
 13484 % U+00B8 CEDILLA; cedilla  
 13485 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
 13486 % U+00B9 SUPERSCRIPT ONE; onesuperior  
 13487 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9  
 13488 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 13489 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
 13490 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motright  
 13491 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
 13492 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 13493 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
 13494 % U+00BD VULGAR FRACTION ONE HALF; onehalf

13495 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
13496 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
13497 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
13498 % U+00BF INVERTED QUESTION MARK; questiondown  
13499 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
13500 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
13501 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
13502 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
13503 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
13504 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
13505 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
13506 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
13507 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
13508 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
13509 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
13510 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
13511 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
13512 % U+00C6 LATIN CAPITAL LETTER AE; AE  
13513 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
13514 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
13515 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
13516 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
13517 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
13518 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
13519 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
13520 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
13521 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
13522 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
13523 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
13524 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
13525 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
13526 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
13527 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
13528 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
13529 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
13530 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
13531 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
13532 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
13533 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
13534 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
13535 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
13536 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
13537 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
13538 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
13539 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
13540 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
13541 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
13542 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
13543 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
13544 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
13545 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
13546 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
13547 % U+00D7 MULTIPLICATION SIGN; multiply  
13548 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
13549 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
13550 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
13551 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave

13552 \DeclareTextCompositeCommand{'}{PD1}{U}{\331}% U+00D9  
13553 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
13554 \DeclareTextCompositeCommand{'}{PD1}{U}{\332}% U+00DA  
13555 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
13556 \DeclareTextCompositeCommand{'}{PD1}{U}{\333}% U+00DB  
13557 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
13558 \DeclareTextCompositeCommand{'}{PD1}{U}{\334}% U+00DC  
13559 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
13560 \DeclareTextCompositeCommand{'}{PD1}{Y}{\335}% U+00DD  
13561 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
13562 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
13563 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
13564 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
13565 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
13566 \DeclareTextCompositeCommand{'}{PD1}{a}{\340}% U+00E0  
13567 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
13568 \DeclareTextCompositeCommand{'}{PD1}{a}{\341}% U+00E1  
13569 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
13570 \DeclareTextCompositeCommand{'}{PD1}{a}{\342}% U+00E2  
13571 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
13572 \DeclareTextCompositeCommand{'}{PD1}{a}{\343}% U+00E3  
13573 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
13574 \DeclareTextCompositeCommand{'}{PD1}{a}{\344}% U+00E4  
13575 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
13576 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
13577 % U+00E6 LATIN SMALL LETTER AE; ae  
13578 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
13579 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
13580 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
13581 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
13582 \DeclareTextCompositeCommand{'}{PD1}{e}{\350}% U+00E8  
13583 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
13584 \DeclareTextCompositeCommand{'}{PD1}{e}{\351}% U+00E9  
13585 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
13586 \DeclareTextCompositeCommand{'}{PD1}{e}{\352}% U+00EA  
13587 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
13588 \DeclareTextCompositeCommand{'}{PD1}{e}{\353}% U+00EB  
13589 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
13590 \DeclareTextCompositeCommand{'}{PD1}{i}{\354}% U+00EC  
13591 \DeclareTextCompositeCommand{'}{PD1}{i}{\354}% U+00EC  
13592 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
13593 \DeclareTextCompositeCommand{'}{PD1}{i}{\355}% U+00ED  
13594 \DeclareTextCompositeCommand{'}{PD1}{i}{\355}% U+00ED  
13595 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
13596 \DeclareTextCompositeCommand{'}{PD1}{i}{\356}% U+00EE  
13597 \DeclareTextCompositeCommand{'}{PD1}{i}{\356}% U+00EE  
13598 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
13599 \DeclareTextCompositeCommand{'}{PD1}{i}{\357}% U+00EF  
13600 \DeclareTextCompositeCommand{'}{PD1}{i}{\357}% U+00EF  
13601 % U+00F0 LATIN SMALL LETTER ETH; eth  
13602 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
13603 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
13604 \DeclareTextCompositeCommand{'}{PD1}{n}{\361}% U+00F1  
13605 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
13606 \DeclareTextCompositeCommand{'}{PD1}{o}{\362}% U+00F2  
13607 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
13608 \DeclareTextCompositeCommand{'}{PD1}{o}{\363}% U+00F3

13609 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 13610 \DeclareTextCompositeCommand{\~}{PD1}{o}{\364}% U+00F4  
 13611 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 13612 \DeclareTextCompositeCommand{\-}{PD1}{o}{\365}% U+00F5  
 13613 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 13614 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
 13615 % U+00F7 DIVISION SIGN; divide  
 13616 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
 13617 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 13618 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
 13619 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 13620 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371}% U+00F9  
 13621 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 13622 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA  
 13623 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 13624 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB  
 13625 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 13626 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC  
 13627 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 13628 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD  
 13629 % U+00FE LATIN SMALL LETTER THORN; thorn  
 13630 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE  
 13631 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 13632 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF  
 13633 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

13634 \DeclareTextCommand{\SS}{PD1}{SS}  
 13635 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

13636 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}  
 13637 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}  
 13638 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}  
 13639 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}  
 13640 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}  
 13641 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}  
 13642 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}  
 13643 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

Aliases (math names)

13644 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}  
 13645 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}  
 13646 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}  
 13647 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}  
 13648 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}  
 13649 \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).

13650 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek  
 13651 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute  
 13652 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek  
 13653 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute  
 13654 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute  
 13655 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute  
 13656 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot  
 13657 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek  
 13658 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute

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13659 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
13660 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
13661 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
13662 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
13663 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
13664 </pdlenc>

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## 50.2 PU encoding

```

13665 <*puenc>
13666 \DeclareFontEncoding{PU}{-}{-}

```

### 50.2.1 NFSS2 accents

```

13667 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
13668 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
13669 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
13670 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
13671 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
13672 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
13673 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
13674 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
13675 % U+0304 COMBINING MACRON; macroncmb
13676 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
13677 % U+0306 COMBINING BREVE; brevecmb
13678 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
13679 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
13680 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
13681 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
13682 % U+0308 COMBINING DIAERESIS; dieresiscmb
13683 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
13684 % U+030A COMBINING RING ABOVE; ringcmb
13685 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
13686 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
13687 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
13688 % U+030C COMBINING CARON; caroncmb
13689 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
13690 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
13691 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
13692 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
13693 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
13694 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
13695 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
13696 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
13697 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
13698 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
13699 % U+0327 COMBINING CEDILLA; cedillacmb
13700 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
13701 % U+0328 COMBINING OGONEK; ogonekcmb
13702 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
13703 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
13704 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
13705 % U+20DD COMBINING ENCLOSING CIRCLE
13706 \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.

```

13707 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}
13708 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}

```

```

13709 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
13710 \DeclareTextCompositeCommand{\-}{PU}{\@empty}{\texttilde}
13711 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
13712 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
13713 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
13714 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
13715 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
13716 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
13717 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
13718 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
13719 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
13720 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
13721 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
13722 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
13723 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
13724 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
13725 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

13726 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}
13727 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
13728 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}
13729 \DeclareTextCompositeCommand{\-}{PU}{\ }{\texttilde}
13730 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
13731 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
13732 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
13733 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
13734 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
13735 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
13736 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
13737 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
13738 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
13739 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
13740 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
13741 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
13742 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
13743 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
13744 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

13745 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
13746 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
13747 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
13748 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
13749 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
13750 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
13751 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\\"{#1}}
13752 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
13753 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
13754 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
13755 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
13756 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
13757 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
13758 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
13759 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

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

Special white space escape characters.

```
13760 % U+0009 (CHARACTER TABULATION)
```

13761 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009  
13762 % U+000A (LINE FEED)  
13763 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A  
13764 % U+000D (CARRIAGE RETURN)  
13765 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D  
\80\040: U+0020 SPACE; space, spacehackarabic  
\80\041: U+0021 EXCLAMATION MARK; exclam  
13766 % U+0022 QUOTATION MARK; quotedbl  
13767 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022  
13768 % U+0023 NUMBER SIGN; numbersign  
13769 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023  
13770 % U+0024 DOLLAR SIGN; dollar  
13771 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024  
13772 % U+0025 PERCENT SIGN; percent  
13773 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025  
13774 % U+0026 AMPERSAND; ampersand  
13775 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026  
13776 % U+0027 APOSTROPHE; quotesingle  
13777 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027  
13778 % U+0028 LEFT PARENTHESIS; parenleft  
13779 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
13780 % U+0029 RIGHT PARENTHESIS; parenright  
13781 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
13782 % U+002A ASTERISK; asterisk  
13783 \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  
13784 % U+003C LESS-THAN SIGN; less  
13785 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
\80\075: U+003D EQUALS SIGN; equal  
13786 % U+003E GREATER-THAN SIGN; greater  
13787 \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  
13788 % U+005C REVERSE SOLIDUS; backslash  
13789 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
\80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
13790 % U+005E CIRCUMFLEX ACCENT; asciicircum  
13791 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
13792 % U+005F LOW LINE; underscore  
13793 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F

```

13794 % U+0060 GRAVE ACCENT; grave
13795 \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
13796 % U+0069 LATIN SMALL LETTER I; i
13797 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069
13798 \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
13799 % U+007B LEFT CURLY BRACKET; braceleft
13800 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
13801 % U+007C VERTICAL LINE; *bar, verticalbar
13802 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
13803 % U+007D RIGHT CURLY BRACKET; braceright
13804 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
13805 % U+007E TILDE; asciitilde
13806 \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
13807 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
13808 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
13809 % U+00A2 CENT SIGN; cent
13810 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
13811 % U+00A3 POUND SIGN; sterling
13812 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
13813 % U+00A4 CURRENCY SIGN; currency
13814 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
13815 % U+00A5 YEN SIGN; yen
13816 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
13817 % U+00A6 BROKEN BAR; brokenbar
13818 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
13819 % U+00A7 SECTION SIGN; section
13820 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
13821 % U+00A8 DIAERESIS; dieresis
13822 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
13823 % U+00A9 COPYRIGHT SIGN; copyright
13824 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
13825 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
13826 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
13827 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
    motleft
13828 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
13829 % U+00AC NOT SIGN; logicalnot
13830 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
13831 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
\80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
13832 % U+00AE REGISTERED SIGN; registered
13833 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
13834 % U+00AF MACRON; *macron, overscore
13835 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
13836 % U+00B0 DEGREE SIGN; degree

```



13837 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
13838 % U+00B1 PLUS-MINUS SIGN; plusminus  
13839 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
13840 % U+00B2 SUPERSCRIPT TWO; twosuperior  
13841 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2  
13842 % U+00B3 SUPERSCRIPT THREE; threesuperior  
13843 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3  
13844 % U+00B4 ACUTE ACCENT; acute  
13845 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
13846 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
13847 % U+00B5 MICRO SIGN; mu, mu1  
13848 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
13849 % U+00B6 PILCROW SIGN; paragraph  
13850 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
13851 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
13852 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
13853 % U+00B8 CEDILLA; cedilla  
13854 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
13855 % U+00B9 SUPERSCRIPT ONE; onesuperior  
13856 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9  
13857 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
13858 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
13859 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
13860 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
13861 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
13862 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
13863 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
13864 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
13865 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
13866 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
13867 % U+00BF INVERTED QUESTION MARK; questiondown  
13868 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
13869 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
13870 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
13871 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
13872 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
13873 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
13874 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
13875 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
13876 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
13877 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
13878 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
13879 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
13880 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
13881 % U+00C6 LATIN CAPITAL LETTER AE; AE  
13882 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
13883 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
13884 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
13885 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
13886 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
13887 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
13888 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
13889 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
13890 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
13891 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
13892 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB

13893 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
13894 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
13895 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
13896 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
13897 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
13898 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
13899 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
13900 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
13901 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
13902 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
13903 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
13904 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
13905 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
13906 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
13907 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
13908 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
13909 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
13910 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
13911 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
13912 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
13913 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
13914 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
13915 % U+00D7 MULTIPLICATION SIGN; multiply  
13916 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
13917 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
13918 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
13919 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
13920 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
13921 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
13922 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
13923 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
13924 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
13925 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
13926 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
13927 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
13928 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
13929 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
13930 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
13931 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
13932 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
13933 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
13934 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
13935 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
13936 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
13937 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
13938 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
13939 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
13940 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
13941 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
13942 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
13943 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
13944 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
13945 % U+00E6 LATIN SMALL LETTER AE; ae  
13946 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
13947 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
13948 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
13949 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave

13950 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8  
 13951 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
 13952 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
 13953 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
 13954 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
 13955 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
 13956 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
 13957 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
 13958 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
 13959 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
 13960 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
 13961 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 13962 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 13963 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
 13964 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
 13965 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
 13966 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
 13967 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
 13968 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
 13969 % U+00F0 LATIN SMALL LETTER ETH; eth  
 13970 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
 13971 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
 13972 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
 13973 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 13974 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
 13975 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 13976 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 13977 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 13978 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4  
 13979 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 13980 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 13981 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 13982 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
 13983 % U+00F7 DIVISION SIGN; divide  
 13984 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 13985 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 13986 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 13987 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 13988 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 13989 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 13990 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 13991 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 13992 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB  
 13993 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 13994 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
 13995 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 13996 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 13997 % U+00FE LATIN SMALL LETTER THORN; thorn  
 13998 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 13999 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 14000 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

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

14001 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 14002 \DeclareTextCompositeCommand{=} {PU}{A}{\81\000}% U+0100  
 14003 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron

14004 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
14005 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
14006 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
14007 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
14008 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
14009 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
14010 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
14011 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
14012 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
14013 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
14014 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
14015 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
14016 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
14017 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
14018 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
14019 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
14020 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
14021 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
14022 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
14023 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
14024 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
14025 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
14026 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
14027 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
14028 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
14029 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
14030 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
14031 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
14032 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
14033 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
14034 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
14035 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron  
14036 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
14037 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
14038 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
14039 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
14040 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
14041 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
14042 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
14043 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
14044 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
14045 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
14046 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
14047 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
14048 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
14049 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
14050 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
14051 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
14052 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
14053 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
14054 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
14055 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
14056 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
14057 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
14058 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
14059 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
14060 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D

14061 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
14062 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
14063 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
14064 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
14065 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
14066 \DeclareTextCompositeCommand{.}{PU}{G}{\81\040}% U+0120  
14067 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
14068 \DeclareTextCompositeCommand{.}{PU}{g}{\81\041}% U+0121  
14069 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaac-  
cent  
14070 \DeclareTextCompositeCommand{c}{PU}{G}{\81\042}% U+0122  
14071 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
14072 \DeclareTextCompositeCommand{c}{PU}{g}{\81\043}% U+0123  
14073 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
14074 \DeclareTextCompositeCommand{^}{PU}{H}{\81\044}% U+0124  
14075 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
14076 \DeclareTextCompositeCommand{^}{PU}{h}{\81\045}% U+0125  
14077 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
14078 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
14079 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar  
14080 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127  
14081 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
14082 \DeclareTextCompositeCommand{~}{PU}{I}{\81\050}% U+0128  
14083 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
14084 \DeclareTextCompositeCommand{~}{PU}{i}{\81\051}% U+0129  
14085 \DeclareTextCompositeCommand{~}{PU}{i}{\81\051}% U+0129  
14086 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
14087 \DeclareTextCompositeCommand{=}{PU}{I}{\81\052}% U+012A  
14088 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
14089 \DeclareTextCompositeCommand{=}{PU}{i}{\81\053}% U+012B  
14090 \DeclareTextCompositeCommand{=}{PU}{i}{\81\053}% U+012B  
14091 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
14092 \DeclareTextCompositeCommand{u}{PU}{I}{\81\054}% U+012C  
14093 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
14094 \DeclareTextCompositeCommand{u}{PU}{i}{\81\055}% U+012D  
14095 \DeclareTextCompositeCommand{u}{PU}{i}{\81\055}% U+012D  
14096 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
14097 \DeclareTextCompositeCommand{k}{PU}{I}{\81\056}% U+012E  
14098 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
14099 \DeclareTextCompositeCommand{k}{PU}{i}{\81\057}% U+012F  
14100 \DeclareTextCompositeCommand{k}{PU}{i}{\81\057}% U+012F  
14101 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
14102 \DeclareTextCompositeCommand{.}{PU}{I}{\81\060}% U+0130  
14103 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
14104 \DeclareTextCommand{i}{PU}{\81\061}% U+0131  
14105 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
14106 \DeclareTextCommand{IJ}{PU}{\81\062}% U+0132  
14107 % U+0133 LATIN SMALL LIGATURE IJ; ij  
14108 \DeclareTextCommand{ij}{PU}{\81\063}% U+0133  
14109 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
14110 \DeclareTextCompositeCommand{^}{PU}{J}{\81\064}% U+0134  
14111 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
14112 \DeclareTextCompositeCommand{^}{PU}{j}{\81\065}% U+0135  
14113 \DeclareTextCompositeCommand{^}{PU}{j}{\81\065}% U+0135  
14114 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-  
cent  
14115 \DeclareTextCompositeCommand{c}{PU}{K}{\81\066}% U+0136

14116 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
 14117 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

The canonical name of U+0138, small letter kra, would be \textkgreenlandic, following the glyph naming convention. However latex/base/inputenc.dtx has choosen \textkra.

14118 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
 14119 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
 14120 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
 14121 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
 14122 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
 14123 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
 14124 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
 14125 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
 14126 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
 14127 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
 14128 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
 14129 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
 14130 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
 14131 \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.

14132 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
 14133 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
 14134 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
 14135 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
 14136 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
 14137 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
 14138 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 14139 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
 14140 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
 14141 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
 14142 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
 14143 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
 14144 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent  
 14145 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
 14146 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
 14147 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
 14148 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
 14149 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
 14150 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
 14151 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
 14152 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn  
 14153 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
 14154 % U+014A LATIN CAPITAL LETTER ENG; Eng  
 14155 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
 14156 % U+014B LATIN SMALL LETTER ENG; eng  
 14157 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
 14158 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
 14159 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
 14160 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
 14161 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
 14162 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
 14163 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E

14164 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
14165 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
14166 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odbla-  
cute, Ohungarumlaut  
14167 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
14168 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohun-  
garumlaut  
14169 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
14170 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
14171 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
14172 % U+0153 LATIN SMALL LIGATURE OE; oe  
14173 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
14174 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
14175 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
14176 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
14177 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
14178 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-  
cent  
14179 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
14180 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
14181 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
14182 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
14183 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
14184 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
14185 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
14186 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
14187 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
14188 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
14189 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
14190 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
14191 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
14192 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
14193 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
14194 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
14195 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
14196 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
14197 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
14198 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
14199 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
14200 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
14201 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
14202 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-  
cent  
14203 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
14204 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
14205 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
14206 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
14207 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
14208 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
14209 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
14210 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
14211 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
14212 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
14213 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
14214 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
14215 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
14216 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde

14217 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
14218 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
14219 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
14220 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
14221 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
14222 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
14223 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
14224 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
14225 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
14226 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
14227 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
14228 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
14229 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
14230 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblac  
cute, Uhungarumlaut  
14231 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
14232 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhun  
garumlaut  
14233 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
14234 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
14235 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
14236 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
14237 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
14238 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
14239 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
14240 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
14241 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
14242 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
14243 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
14244 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
14245 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
14246 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
14247 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
14248 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
14249 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
14250 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
14251 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
14252 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
14253 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
14254 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
14255 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
14256 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
14257 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
14258 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
14259 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
14260 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
14261 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

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

14262 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
14263 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
14264 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
14265 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
14266 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
14267 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
14268 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
14269 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF



14270 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
14271 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
14272 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
14273 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
14274 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
14275 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
14276 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
14277 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
14278 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
14279 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
14280 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
14281 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
14282 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
14283 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
14284 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
14285 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
14286 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
14287 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
14288 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
14289 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
14290 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
14291 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
14292 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
14293 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
14294 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
14295 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
14296 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
14297 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
14298 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
14299 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
14300 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
14301 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
14302 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
14303 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
14304 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
14305 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
14306 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
14307 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9  
14308 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
14309 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
14310 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
14311 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
14312 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; \*Oslashacute, Ostrokeacute  
14313 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
14314 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; \*oslashacute, ostrokeacute  
14315 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
14316 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
14317 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
14318 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
14319 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
14320 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
14321 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
14322 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
14323 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
14324 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave

14325 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
 14326 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
 14327 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
 14328 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
 14329 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
 14330 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
 14331 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
 14332 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
 14333 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
 14334 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
 14335 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
 14336 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
 14337 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
 14338 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
 14339 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
 14340 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
 14341 % U+021E LATIN CAPITAL LETTER H WITH CARON  
 14342 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
 14343 % U+021F LATIN SMALL LETTER H WITH CARON  
 14344 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
 14345 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 14346 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 14347 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 14348 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 14349 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 14350 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 14351 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 14352 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 14353 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 14354 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 14355 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 14356 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 14357 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 14358 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 14359 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 14360 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 14361 % U+0237 LATIN SMALL LETTER DOTLESS J  
 14362 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

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

14363 % U+02C7 CARON; caron  
 14364 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 14365 % U+02D8 BREVE; breve  
 14366 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 14367 % U+02D9 DOT ABOVE; dotaccent  
 14368 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 14369 % U+02DA RING ABOVE; ring  
 14370 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 14371 % U+02DB OGONEK; ogonek  
 14372 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 14373 % U+02DC SMALL TILDE; ilde, \*tilde  
 14374 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 14375 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 14376 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 14377 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
 14378 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 14379 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5

14380 % U+02F7 MODIFIER LETTER LOW TILDE  
 14381 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

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

14382 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 14383 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 14384 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 14385 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 14386 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
 14387 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 14388 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 14389 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 14390 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 14391 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

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

14392 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 14393 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 14394 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 14395 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 14396 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos  
 14397 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 14398 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 14399 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 14400 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 14401 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 14402 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 14403 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 14404 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-  
 cronos  
 14405 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 14406 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos  
 14407 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
 14408 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
 14409 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
 14410 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; io-  
 tadiesis  
 14411 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390  
 14412 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
 14413 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
 14414 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
 14415 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
 14416 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma  
 14417 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393  
 14418 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta  
 14419 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394  
 14420 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
 14421 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
 14422 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
 14423 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
 14424 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
 14425 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
 14426 % U+0398 GREEK CAPITAL LETTER THETA; Theta  
 14427 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398  
 14428 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
 14429 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
 14430 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa

14431 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
14432 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda  
14433 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B  
14434 % U+039C GREEK CAPITAL LETTER MU; Mu  
14435 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
14436 % U+039D GREEK CAPITAL LETTER NU; Nu  
14437 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
14438 % U+039E GREEK CAPITAL LETTER XI; Xi  
14439 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E  
14440 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
14441 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
14442 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
14443 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0  
14444 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
14445 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
14446 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma  
14447 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3  
14448 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
14449 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
14450 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon  
14451 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5  
14452 % U+03A6 GREEK CAPITAL LETTER PHI; Phi  
14453 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6  
14454 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
14455 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
14456 % U+03A8 GREEK CAPITAL LETTER PSI; Psi  
14457 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8  
14458 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega  
14459 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9  
14460 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
14461 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
14462 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA  
14463 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-  
silondieresis  
14464 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB  
14465 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos  
14466 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC  
14467 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon  
14468 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD  
14469 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos  
14470 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE  
14471 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos  
14472 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF  
14473 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-  
silondieresis  
14474 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0  
14475 % U+03B1 GREEK SMALL LETTER ALPHA; alpha  
14476 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1  
14477 % U+03B2 GREEK SMALL LETTER BETA; beta  
14478 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2  
14479 % U+03B3 GREEK SMALL LETTER GAMMA; gamma  
14480 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3  
14481 % U+03B4 GREEK SMALL LETTER DELTA; delta  
14482 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4  
14483 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon  
14484 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5  
14485 % U+03B6 GREEK SMALL LETTER ZETA; zeta

14486 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6  
14487 % U+03B7 GREEK SMALL LETTER ETA; eta  
14488 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7  
14489 % U+03B8 GREEK SMALL LETTER THETA; theta  
14490 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8  
14491 % U+03B9 GREEK SMALL LETTER IOTA; iota  
14492 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9  
14493 % U+03BA GREEK SMALL LETTER KAPPA; kappa  
14494 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA  
14495 % U+03BB GREEK SMALL LETTER LAMDA; lambda  
14496 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB  
14497 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu  
14498 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC  
14499 % U+03BD GREEK SMALL LETTER NU; nu  
14500 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD  
14501 % U+03BE GREEK SMALL LETTER XI; xi  
14502 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE  
14503 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
14504 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
14505 % U+03C0 GREEK SMALL LETTER PI; pi  
14506 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0  
14507 % U+03C1 GREEK SMALL LETTER RHO; rho  
14508 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1  
14509 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
14510 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2  
14511 % U+03C3 GREEK SMALL LETTER SIGMA; sigma  
14512 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3  
14513 % U+03C4 GREEK SMALL LETTER TAU; tau  
14514 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4  
14515 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon  
14516 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5  
14517 % U+03C6 GREEK SMALL LETTER PHI; phi  
14518 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6  
14519 % U+03C7 GREEK SMALL LETTER CHI; chi  
14520 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7  
14521 % U+03C8 GREEK SMALL LETTER PSI; psi  
14522 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8  
14523 % U+03C9 GREEK SMALL LETTER OMEGA; omega  
14524 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9  
14525 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis  
14526 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA  
14527 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-  
silonudieresis  
14528 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB  
14529 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos  
14530 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC  
14531 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos  
14532 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD  
14533 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD  
14534 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos  
14535 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE  
14536 % U+03DA GREEK LETTER STIGMA; Stigmatreek  
14537 \DeclareTextCommand{\textStigmatreek}{PU}{\83\332}% U+03DA  
14538 % U+03DB GREEK SMALL LETTER STIGMA  
14539 \DeclareTextCommand{\textstigmatreek}{PU}{\83\333}% U+03DB  
14540 % U+03DC GREEK LETTER DIGAMMA; Digammagreek  
14541 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC

14542 % U+03DD GREEK SMALL LETTER DIGAMMA  
 14543 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD  
 14544 % U+03DE GREEK LETTER KOPPA; Koppagreek  
 14545 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE  
 14546 % U+03DF GREEK SMALL LETTER KOPPA  
 14547 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF  
 14548 % U+03E0 GREEK LETTER SAMPI; Sampigreek  
 14549 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0  
 14550 % U+03E1 GREEK SMALL LETTER SAMPI  
 14551 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

## 50.2.9 Cyrillic: U+0400 to U+04FF

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

14552 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE  
 14553 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400  
 14554 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, \*afii10023  
 14555 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401  
 14556 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???  
 14557 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, \*afii10051  
 14558 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402  
 14559 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afii10052  
 14560 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403  
 14561 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, \*afii10053  
 14562 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
 14563 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afii10054  
 14564 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
 14565 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, \*afii10055  
 14566 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
 14567 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, \*afii10056  
 14568 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
 14569 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407  
 14570 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
 14571 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
 14572 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
 14573 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
 14574 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
 14575 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
 14576 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
 14577 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
 14578 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
 14579 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
 14580 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
 14581 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D  
 14582 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
 14583 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
 14584 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
 14585 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
 14586 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
 14587 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
 14588 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
 14589 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
 14590 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
 14591 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
 14592 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
 14593 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020

14594 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
14595 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
14596 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
14597 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
14598 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
14599 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
14600 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
14601 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
14602 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
14603 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
14604 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
14605 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
14606 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
14607 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
14608 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
14609 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
14610 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
14611 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
14612 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
14613 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
14614 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
14615 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
14616 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
14617 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
14618 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
14619 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
14620 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
14621 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
14622 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
14623 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
14624 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
14625 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
14626 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
14627 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
14628 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
14629 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
14630 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
14631 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
14632 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
14633 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
14634 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
14635 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
14636 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
14637 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
14638 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
14639 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
14640 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, \*afii10044  
14641 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
14642 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
14643 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
14644 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, \*afii10046  
14645 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
14646 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
14647 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
14648 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
14649 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
14650 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049

14651 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
14652 % U+0430 CYRILLIC SMALL LETTER A; acyrillic; \*afii10065  
14653 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
14654 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
14655 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
14656 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
14657 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
14658 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
14659 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
14660 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
14661 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
14662 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
14663 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
14664 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
14665 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436  
14666 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
14667 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
14668 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iecyrillic  
14669 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
14670 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
14671 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
14672 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
14673 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
14674 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
14675 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
14676 \DeclareTextCommand{\cyl}{PU}{\84\073}% U+043B  
14677 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
14678 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
14679 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
14680 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
14681 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
14682 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
14683 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
14684 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
14685 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
14686 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
14687 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
14688 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441  
14689 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
14690 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
14691 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
14692 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
14693 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
14694 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
14695 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
14696 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
14697 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
14698 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446  
14699 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
14700 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
14701 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
14702 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
14703 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
14704 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
14705 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
14706 \DeclareTextCommand{\cyhrdsn}{PU}{\84\112}% U+044A  
14707 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic



14708 \DeclareTextCommand{\cyrrery}{PU}{\84\113}% U+044B  
14709 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
14710 \DeclareTextCommand{\cyrstfn}{PU}{\84\114}% U+044C  
14711 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
14712 \DeclareTextCommand{\cyrrerev}{PU}{\84\115}% U+044D  
14713 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
14714 \DeclareTextCommand{\cyrriu}{PU}{\84\116}% U+044E  
14715 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
14716 \DeclareTextCommand{\cyrria}{PU}{\84\117}% U+044F  
14717 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
14718 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
14719 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
14720 \DeclareTextCommand{\cyrrio}{PU}{\84\121}% U+0451  
14721 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
14722 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
14723 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
14724 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
14725 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
14726 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
14727 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
14728 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
14729 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
14730 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; \*afii10103, icyril-  
lic  
14731 \DeclareTextCommand{\cyrri}{PU}{\84\126}% U+0456  
14732 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
14733 \DeclareTextCommand{\cyrri}{PU}{\84\127}% U+0457  
14734 \DeclareTextCompositeCommand{\"}{PU}{\cyrri}{\84\127}% U+0457  
14735 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
14736 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
14737 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
14738 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459  
14739 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
14740 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
14741 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
14742 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
14743 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
14744 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
14745 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
14746 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
14747 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
14748 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
14749 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
14750 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
14751 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
14752 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
14753 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
14754 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
14755 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
14756 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
14757 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
14758 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
14759 \DeclareTextCommand{\cyr yat}{PU}{\84\143}% U+0463  
14760 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
14761 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
14762 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
14763 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465

14764 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslitlecyrillic  
14765 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
14766 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslitlecyrillic  
14767 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
14768 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitleio-  
tifiedcyrillic  
14769 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
14770 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleioti-  
fiedcyrillic  
14771 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
14772 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
14773 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
14774 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
14775 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
14776 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
cyrillic  
14777 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
14778 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyril-  
lic  
14779 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
14780 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
14781 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
14782 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
14783 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
14784 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
14785 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
14786 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
14787 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
14788 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
14789 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
14790 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
14791 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
14792 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
14793 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
14794 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
14795 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
14796 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-  
CENT; Izhitsadblgravecyrillic  
14797 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
14798 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-  
CENT; izhitsadblgravecyrillic  
14799 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
14800 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
14801 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
14802 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
14803 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
14804 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-  
lic  
14805 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
14806 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
14807 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
14808 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-  
cyrillic  
14809 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
14810 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-  
cyrillic  
14811 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D

14812 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 14813 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 14814 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 14815 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 14816 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 14817 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 14818 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 14819 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 14820 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 14821 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb  
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrilliccmb  
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrilliccmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrilliccmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 14822 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 14823 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 14824 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 14825 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 14826 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 14827 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 14828 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 14829 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 14830 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 14831 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 14832 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
 14833 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 14834 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, \*afii10050  
 14835 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
 14836 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, gheupturncyrillic  
 14837 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
 14838 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic  
 14839 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
 14840 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
 14841 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
 14842 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic  
 14843 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
 14844 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic  
 14845 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
 14846 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic  
 14847 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
 14848 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic  
 14849 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497

14850 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic  
 14851 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
 14852 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
 14853 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic  
 14854 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
 14855 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
 14856 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic  
 14857 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
 14858 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic  
 14859 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
 14860 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-ticalstrokecyrillic  
 14861 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
 14862 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-ticalstrokecyrillic  
 14863 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
 14864 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
 14865 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
 14866 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
 14867 \DeclareTextCommand{\cyrkhrs}{PU}{\84\237}% U+049F  
 14868 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
 14869 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
 14870 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
 14871 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
 14872 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic  
 14873 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
 14874 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic  
 14875 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
 14876 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
 14877 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
 14878 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
 14879 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
 14880 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
 14881 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
 14882 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
 14883 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
 14884 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
 14885 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
 14886 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
 14887 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
 14888 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
 14889 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
 14890 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
 14891 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
 14892 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
 14893 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB

14894 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
 14895 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
 14896 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
 14897 \DeclareTextCommand{\cyrtddsc}{PU}{\84\255}% U+04AD  
 14898 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
 14899 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
 14900 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; usstraightcyrillic  
 14901 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF  
 14902 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
 14903 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
 14904 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic  
 14905 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1  
 14906 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesendercyrillic  
 14907 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
 14908 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
 14909 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
 14910 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
 14911 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
 14912 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
 14913 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
 14914 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic  
 14915 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
 14916 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
 14917 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
 14918 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chevverticalstrokecyrillic  
 14919 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
 14920 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chevverticalstrokecyrillic  
 14921 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
 14922 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
 14923 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
 14924 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
 14925 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
 14926 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic  
 14927 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
 14928 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic  
 14929 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
 14930 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic  
 14931 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
 14932 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
 14933 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic  
 14934 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
 14935 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
 14936 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic

14937 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
14938 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
14939 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
14940 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
14941 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
14942 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
14943 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
14944 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
14945 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
14946 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
14947 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
14948 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
14949 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
14950 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
14951 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
14952 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
14953 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
14954 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-  
cyrillic  
14955 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
14956 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-  
cyrillic  
14957 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
14958 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
14959 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
14960 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
14961 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
14962 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
14963 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
14964 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
14965 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
14966 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyril-  
lic  
14967 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2  
14968 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
14969 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3  
14970 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
14971 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
14972 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
14973 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
14974 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevecyrillic  
14975 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
14976 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevecyrillic  
14977 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
14978 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
14979 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
14980 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
14981 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
14982 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-  
siscyrillic  
14983 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
14984 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-  
siscyrillic  
14985 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB  
14986 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-  
siscyrillic

14987 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC  
14988 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-cyrillic  
14989 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD  
14990 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-cyrillic  
14991 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE  
14992 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresis-cyrillic  
14993 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF  
14994 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-cyrillic  
14995 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
14996 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasian-cyrillic  
14997 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
14998 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacron-cyrillic  
14999 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\342}% U+04E2  
15000 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacron-cyrillic  
15001 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\343}% U+04E3  
15002 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresis-cyrillic  
15003 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
15004 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresis-cyrillic  
15005 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5  
15006 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresis-cyrillic  
15007 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
15008 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresis-cyrillic  
15009 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
15010 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarred-cyrillic  
15011 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
15012 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarred-cyrillic  
15013 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
15014 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresis-cyrillic  
15015 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
15016 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresis-cyrillic  
15017 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
15018 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
15019 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
15020 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
15021 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
15022 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacron-cyrillic  
15023 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\356}% U+04EE  
15024 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacron-cyrillic  
15025 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\357}% U+04EF  
15026 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresis-cyrillic  
15027 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
15028 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresis-cyrillic  
15029 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
15030 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlaut-cyrillic  
15031 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
15032 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlaut-cyrillic  
15033 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
15034 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresis-cyrillic

15035 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
 15036 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
 15037 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 15038 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 15039 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 15040 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 15041 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
 15042 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic  
 15043 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
 15044 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic  
 15045 \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  
 15046 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 15047 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 15048 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 15049 \DeclareTextCommand{\cyrhkh}{PU}{\84\375}% U+04FD  
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE  
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

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

15050 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 15051 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

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

15052 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 15053 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02  
 15054 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 15055 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03  
 15056 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 15057 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
 15058 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
 15059 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
 15060 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
 15061 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A  
 15062 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
 15063 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B  
 15064 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
 15065 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
 15066 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
 15067 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
 15068 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
 15069 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
 15070 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
 15071 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
 15072 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
 15073 \DeclareTextCompositeCommand{.}{PU}{F}{\9036\036}% U+1E1E  
 15074 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
 15075 \DeclareTextCompositeCommand{.}{PU}{f}{\9036\037}% U+1E1F  
 15076 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
 15077 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
 15078 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron



15079 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
15080 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
15081 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
15082 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
15083 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
15084 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
15085 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
15086 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
15087 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27  
15088 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
15089 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
15090 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
15091 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
15092 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
15093 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
15094 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
15095 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
15096 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
15097 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
15098 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
15099 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
15100 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
15101 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
15102 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
15103 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
15104 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
15105 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
15106 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
15107 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
15108 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
15109 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
15110 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
15111 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
15112 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
15113 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
15114 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
15115 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
15116 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
15117 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
15118 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
15119 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
15120 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
15121 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
15122 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
15123 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
15124 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
15125 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
15126 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
15127 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
15128 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
15129 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
15130 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
15131 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
15132 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
15133 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
15134 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
15135 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F

15136 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
15137 \DeclareTextCompositeCommand{.}{PU}{S}{\9036\140}% U+1E60  
15138 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
15139 \DeclareTextCompositeCommand{.}{PU}{s}{\9036\141}% U+1E61  
15140 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
15141 \DeclareTextCompositeCommand{b}{PU}{T}{\9036\156}% U+1E6E  
15142 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
15143 \DeclareTextCompositeCommand{b}{PU}{t}{\9036\157}% U+1E6F  
15144 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
15145 \DeclareTextCompositeCommand{~}{PU}{V}{\9036\174}% U+1E7C  
15146 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
15147 \DeclareTextCompositeCommand{~}{PU}{v}{\9036\175}% U+1E7D  
15148 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
15149 \DeclareTextCompositeCommand{`}{PU}{W}{\9036\200}% U+1E80  
15150 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
15151 \DeclareTextCompositeCommand{`}{PU}{w}{\9036\201}% U+1E81  
15152 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
15153 \DeclareTextCompositeCommand{'}{PU}{W}{\9036\202}% U+1E82  
15154 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
15155 \DeclareTextCompositeCommand{'}{PU}{w}{\9036\203}% U+1E83  
15156 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
15157 \DeclareTextCompositeCommand{"}{PU}{W}{\9036\204}% U+1E84  
15158 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
15159 \DeclareTextCompositeCommand{"}{PU}{w}{\9036\205}% U+1E85  
15160 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
15161 \DeclareTextCompositeCommand{.}{PU}{W}{\9036\206}% U+1E86  
15162 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
15163 \DeclareTextCompositeCommand{.}{PU}{w}{\9036\207}% U+1E87  
15164 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
15165 \DeclareTextCompositeCommand{.}{PU}{X}{\9036\212}% U+1E8A  
15166 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
15167 \DeclareTextCompositeCommand{.}{PU}{x}{\9036\213}% U+1E8B  
15168 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
15169 \DeclareTextCompositeCommand{"}{PU}{X}{\9036\214}% U+1E8C  
15170 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
15171 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D  
15172 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
15173 \DeclareTextCompositeCommand{.}{PU}{Y}{\9036\216}% U+1E8E  
15174 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
15175 \DeclareTextCompositeCommand{.}{PU}{y}{\9036\217}% U+1E8F  
15176 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
15177 \DeclareTextCompositeCommand{^}{PU}{Z}{\9036\220}% U+1E90  
15178 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
15179 \DeclareTextCompositeCommand{^}{PU}{z}{\9036\221}% U+1E91  
15180 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
15181 \DeclareTextCompositeCommand{b}{PU}{Z}{\9036\224}% U+1E94  
15182 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
15183 \DeclareTextCompositeCommand{b}{PU}{z}{\9036\225}% U+1E95  
15184 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
15185 \DeclareTextCompositeCommand{b}{PU}{h}{\9036\226}% U+1E96  
15186 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
15187 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97  
15188 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
15189 \DeclareTextCompositeCommand{r}{PU}{w}{\9036\230}% U+1E98  
15190 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
15191 \DeclareTextCompositeCommand{r}{PU}{y}{\9036\231}% U+1E99

15192 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent  
 15193 \DeclareTextCompositeCommand{\~}{PU}{\textlongs}{\9036\233}% U+1E9B  
 15194 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
 15195 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
 15196 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
 15197 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
 15198 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
 15199 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2  
 15200 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 15201 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
 15202 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 15203 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 15204 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 15205 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

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

15206 % U+200C ZERO WIDTH NON-JOINER; \*afi61664, zerowidthnonjoiner  
 15207 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 15208 % U+2013 EN DASH; endash  
 15209 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 15210 % U+2014 EM DASH; emdash  
 15211 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 15212 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 15213 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 15214 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 15215 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 15216 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 15217 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 15218 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 15219 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 15220 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 15221 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 15222 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 15223 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 15224 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 15225 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 15226 % U+2020 DAGGER; dagger  
 15227 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020  
 15228 % U+2021 DOUBLE DAGGER; daggerdbl  
 15229 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 15230 % U+2022 BULLET; bullet  
 15231 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022  
 15232 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 15233 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 15234 % U+2030 PER MILLE SIGN; perthousand  
 15235 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 15236 % U+2031 PER TEN THOUSAND SIGN  
 15237 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 15238 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guillemetleft  
 15239 \DeclareTextCommand{\guillemetleft}{PU}{\9040\071}% U+2039  
 15240 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guillemetright  
 15241 \DeclareTextCommand{\guillemetright}{PU}{\9040\072}% U+203A  
 15242 % U+203B REFERENCE MARK; referencemark  
 15243 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B

15244 % U+203D INTERROBANG  
15245 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
15246 % U+2044 FRACTION SLASH; fraction  
15247 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
15248 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
15249 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
15250 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
15251 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
15252 % U+2052 COMMERCIAL MINUS SIGN  
15253 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

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

15254 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
15255 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070  
15256 % U+2074 SUPERSCRIPT FOUR; foursuperior  
15257 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074  
15258 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
15259 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075  
15260 % U+2076 SUPERSCRIPT SIX; sixsuperior  
15261 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076  
15262 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
15263 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077  
15264 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
15265 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078  
15266 % U+2079 SUPERSCRIPT NINE; ninesuperior  
15267 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079  
15268 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
15269 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A  
15270 % U+207B SUPERSCRIPT MINUS  
15271 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}  
15272 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
15273 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}  
15274 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
15275 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}  
15276 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
15277 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}  
15278 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
15279 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}  
15280 % U+2080 SUBSCRIPT ZERO; zeroinferior  
15281 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080  
15282 % U+2081 SUBSCRIPT ONE; oneinferior  
15283 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081  
15284 % U+2082 SUBSCRIPT TWO; twoinferior  
15285 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082  
15286 % U+2083 SUBSCRIPT THREE; threeinferior  
15287 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083  
15288 % U+2084 SUBSCRIPT FOUR; fourinferior  
15289 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084  
15290 % U+2085 SUBSCRIPT FIVE; fiveinferior  
15291 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085  
15292 % U+2086 SUBSCRIPT SIX; sixinferior  
15293 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086  
15294 % U+2087 SUBSCRIPT SEVEN; seveninferior  
15295 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087  
15296 % U+2088 SUBSCRIPT EIGHT; eightinferior  
15297 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088  
15298 % U+2089 SUBSCRIPT NINE; nineinferior

15299 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089  
 15300 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 15301 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D  
 15302 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 15303 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

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

15304 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 15305 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 15306 % U+20A4 LIRA SIGN; afii08941, \*lira  
 15307 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 15308 % U+20A6 NAIRA SIGN  
 15309 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 15310 % U+20A7 PESETA SIGN; peseta  
 15311 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 15312 % U+20A9 WON SIGN; won  
 15313 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 15314 % U+20AB DONG SIGN; dong  
 15315 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 15316 % U+20AC EURO SIGN; \*Euro, euro  
 15317 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 15318 % U+20B1 PESO SIGN  
 15319 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 15320 % U+20B2 GUARANI SIGN  
 15321 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

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

15322 % U+2103 DEGREE CELSIUS; centigrade  
 15323 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 15324 % U+2116 NUMERO SIGN; \*afii61352, numero  
 15325 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 15326 % U+2117 SOUND RECORDING COPYRIGHT  
 15327 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 15328 % U+211E PRESCRIPTION TAKE; prescription  
 15329 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 15330 % U+2120 SERVICE MARK  
 15331 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 15332 % U+2122 TRADE MARK SIGN; trademark  
 15333 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 15334 % U+2126 OHM SIGN; Ohm, Omega  
 15335 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 15336 % U+2127 INVERTED OHM SIGN  
 15337 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127  
 15338 % U+212B ANGSTROM SIGN; angstrom  
 15339 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 15340 % U+212E ESTIMATED SYMBOL; estimated  
 15341 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 15342 % U+2135 ALEF SYMBOL; aleph  
 15343 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

#### 50.2.16 Arrows: U+2190 to U+21FF

15344 % U+2190 LEFTWARDS ARROW; arrowleft  
 15345 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190  
 15346 % U+2191 UPWARDS ARROW; arrowup  
 15347 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191  
 15348 % U+2192 RIGHTWARDS ARROW; arrowright  
 15349 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192

15350 % U+2193 DOWNWARDS ARROW; arrowdown  
 15351 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

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

15352 % U+2212 MINUS SIGN; minus  
 15353 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
 15354 % U+221A SQUARE ROOT; radical  
 15355 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

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

15356 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft  
 15357 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329  
 15358 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright  
 15359 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

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

15360 % U+2422 BLANK SYMBOL  
 15361 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
 15362 % U+2423 OPEN BOX; blank  
 15363 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

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

15364 % U+2460 CIRCLED DIGIT ONE; onecircle  
 15365 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
 15366 % U+2461 CIRCLED DIGIT TWO; twocircle  
 15367 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
 15368 % U+2462 CIRCLED DIGIT THREE; threecircle  
 15369 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
 15370 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
 15371 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
 15372 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
 15373 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
 15374 % U+2465 CIRCLED DIGIT SIX; sixcircle  
 15375 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
 15376 % U+2466 CIRCLED DIGIT SEVEN; sevendigit  
 15377 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
 15378 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
 15379 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
 15380 % U+2468 CIRCLED DIGIT NINE; ninecircle  
 15381 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
 15382 % U+2469 CIRCLED NUMBER TEN; tencircle  
 15383 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
 15384 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
 15385 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
 15386 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
 15387 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
 15388 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
 15389 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
 15390 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
 15391 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
 15392 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
 15393 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
 15394 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
 15395 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
 15396 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
 15397 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
 15398 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle

15399 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
15400 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
15401 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
15402 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
15403 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
15404 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
15405 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
15406 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
15407 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
15408 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
15409 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
15410 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
15411 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
15412 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
15413 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
15414 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
15415 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
15416 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
15417 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
15418 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
15419 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
15420 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
15421 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
15422 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
15423 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
15424 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
15425 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
15426 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
15427 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
15428 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
15429 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
15430 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
15431 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
15432 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
15433 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
15434 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
15435 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
15436 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
15437 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
15438 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
15439 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
15440 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
15441 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
15442 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
15443 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
15444 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
15445 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
15446 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
15447 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
15448 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
15449 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
15450 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
15451 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
15452 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
15453 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
15454 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
15455 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF

15456 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 15457 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 15458 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 15459 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 15460 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 15461 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 15462 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 15463 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 15464 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 15465 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 15466 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 15467 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 15468 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 15469 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 15470 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 15471 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 15472 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 15473 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 15474 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 15475 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 15476 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 15477 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 15478 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 15479 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 15480 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 15481 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 15482 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 15483 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 15484 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 15485 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 15486 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 15487 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 15488 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 15489 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 15490 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 15491 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 15492 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 15493 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 15494 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 15495 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 15496 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 15497 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 15498 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 15499 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 15500 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 15501 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 15502 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 15503 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 15504 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 15505 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 15506 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 15507 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 15508 % U+24EA CIRCLED DIGIT ZERO  
 15509 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

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

15510 % U+25E6 WHITE BULLET; \*openbullet, whitebullet



```

15511 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
15512 % U+25EF LARGE CIRCLE; largecircle
15513 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

```

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

```

15514 % U+266A EIGHTH NOTE; musicalnote
15515 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
15516 % U+26AD MARRIAGE SYMBOL
15517 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
15518 % U+26AE DIVORCE SYMBOL
15519 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

```

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

```

15520 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
15521 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
15522 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
15523 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

```

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

```

15524 % U+FB01 LATIN SMALL LIGATURE FI; fi
15525 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
15526 % U+FB02 LATIN SMALL LIGATURE FL; fl
15527 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

```

### 50.2.25 Miscellaneous

```

15528 \DeclareTextCommand{\SS}{PU}{SS}

```

### 50.2.26 Aliases

Aliases (german.sty)

```

15529 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
15530 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
15531 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
15532 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
15533 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
15534 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
15535 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
15536 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

15537 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
15538 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
15539 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
15540 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
15541 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}

```

```

15542 </puenc>

```

## 50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

15543 <*puvnenc>

```

```

15544 \DeclareTextCommand{\abreve}{PU}{\81\003}
15545 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
15546 \DeclareTextCommand{\dj}{PU}{\81\021}
15547 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
15548 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}

```

15549 \DeclareTextCommand{\ohorn}{PU}{\81\241}  
15550 \DeclareTextCommand{\uhorn}{PU}{\81\260}  
15551 \DeclareTextCommand{\ABREVE}{PU}{\81\002}  
15552 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}  
15553 \DeclareTextCommand{\DJ}{PU}{\81\020}  
15554 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}  
15555 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}  
15556 \DeclareTextCommand{\OHORN}{PU}{\81\240}  
15557 \DeclareTextCommand{\UHORN}{PU}{\81\257}  
  
15558 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}  
15559 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}  
15560 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}  
15561 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}  
15562 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}  
15563 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}  
15564 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}  
15565 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}  
15566 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}  
15567 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}  
15568 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}  
15569 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}  
15570 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}  
15571 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}  
15572 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}  
15573 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}  
15574 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}  
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15576 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}  
15577 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}  
15578 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}  
15579 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}  
15580 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}  
15581 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}  
15582 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}  
15583 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}  
15584 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}  
15585 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}  
15586 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}  
15587 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}  
15588 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}  
15589 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}  
15590 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}  
15591 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}  
15592 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}  
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15594 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}  
15595 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}  
15596 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}  
15597 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}  
15598 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}  
15599 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}  
15600 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}  
15601 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}  
15602 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}  
15603 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}  
15604 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}  
15605 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}

15606 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}  
15607 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}  
15608 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}  
15609 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}  
15610 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}  
15611 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}  
15612 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}  
15613 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}  
15614 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}  
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15616 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}  
15617 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}  
15618 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}  
15619 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}  
15620 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}  
15621 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}  
15622 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}  
15623 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}  
15624 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}  
15625 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}  
15626 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}  
15627 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}  
15628 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}  
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15646 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}  
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15652 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}  
15653 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}  
15654 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}  
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15660 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}  
15661 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}  
15662 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}

```

15663 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
15664 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
15665 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
15666 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
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15668 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
15669 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
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15675 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
15676 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
15677 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
15678 </puvnenc>

```

## 50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

15679 <*puarenc>
15680 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LET-
TER HAMZA
15681 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
15682 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
15683 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE
15684 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LET-
TER ALEF WITH HAMZA BELOW
15685 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LET-
TER YEH WITH HAMZA ABOVE
15686 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
15687 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
15688 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
15689 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
15690 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LET-
TER THEH
15691 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LET-
TER JEEM
15692 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
15693 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
15694 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
15695 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
15696 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
15697 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
15698 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
15699 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LET-
TER SHEEN
15700 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
15701 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
15702 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
15703 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
15704 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN

```

```

15705 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afi57434;ARABIC LET-
TER GHAIN
15706 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afi57440;ARABIC TATWEEL
15707 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afi57441;ARABIC LETTER FEH
15708 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afi57442;ARABIC LETTER QAF
15709 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afi57443;ARABIC LETTER KAF
15710 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afi57444;ARABIC LETTER LAM
15711 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afi57445;ARABIC LET-
TER MEEM
15712 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afi57446;ARABIC LETTER NOON
15713 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afi57470;ARABIC LETTER HEH
15714 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afi57448;ARABIC LETTER WAW
15715 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afi57449;ARABIC LET-
TER ALEF MAKSURA
15716 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afi57450;ARABIC LETTER YEH
15717 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afi57451;ARABIC FATHATAN
15718 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afi57452;ARABIC DAMMATAN
15719 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afi57453;ARABIC KASRATAN
15720 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afi57454;ARABIC FATHA
15721 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afi57455;ARABIC DAMMA
15722 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afi57456;ARABIC KASRA
15723 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afi57457;ARABIC SHADDA
15724 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afi57458;ARABIC SUKUN

Farsi
15725 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afi57506;ARABIC LETTER PEH
15726 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afi57507;ARABIC LET-
TER TCHEH
15727 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afi57508;ARABIC LETTER JEH
15728 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afi????;FARSI LET-
TER KAF
15729 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afi57509;ARABIC LETTER GAF
15730 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afi????;FARSI LET-
TER YEH

15731 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
15732 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ
15733 \puarenc)

```

## 51 End of file hycheck.tex

```

15734 (*check)
15735 \typeout{}
15736 \begin{document}
15737 \end{document}
15738 \check)

```

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