

Hypertext marks in \LaTeX

Sebastian Rahtz

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

Heiko Oberdiek

Email: `oberdiek@uni-freiburg.de`

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1 Documentation overview for `hyperref`

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

Manual The user documentation is also available as HTML.

README 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.

Options This file provides a short option summary.

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

Bookmark talk, paper The paper version of the talk.

Source code documentation:

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

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

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

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3 File hycheck.tex

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

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

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

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

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

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

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

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

`\HyC@checkPackage`

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

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

```

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

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

```

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

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

```

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

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

```

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

`\HyC@noValue`

```

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

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

```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```



```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

161 % *****
162 </check>
163 <*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.

```

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

```

\Hy@SetCatcodes

```

180 \def\Hy@SetCatcodes{%
181   \makeother\‘%
182   \makeother\=%
183   \catcode'\$=3
184   \catcode'\&=4
185   \catcode'\^=7
186   \catcode'\_ =8
187   \makeother\|%
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 }

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```
230 \Hy@SetCatcodes
```

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

```

231 \RequirePackage{keyval}[1997/11/10]
232 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
233 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
234 \def\Hy@Info#1{\PackageInfo{hyperref}{#1}}

```

4.2 Compatibility with format dumps

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

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

```

235 \@ifundefined{AfterBeginDocument}{%
236 \def\AfterBeginDocument{\AtBeginDocument}%
237 }{}%

```

4.3 Switches

```

238 \newif\ifHy@typexml
239 \newif\ifHy@activeanchor
240 \newif\ifHy@backref
241 \newif\ifHy@bookmarks
242 \newif\ifHy@bookmarksnumbered
243 \newif\ifHy@bookmarksopen
244 \newif\ifHy@breaklinks
245 \newif\ifHy@centerwindow
246 \newif\ifHy@CJKbookmarks
247 \newif\ifHy@colorlinks
248 \newif\ifHy@draft
249 \let\Hy@finaltrue\Hy@draftfalse
250 \let\Hy@finalfalse\Hy@drafttrue
251 \newif\ifHy@escapeform
252 \newif\ifHy@figures
253 \newif\ifHy@fitwindow
254 \newif\ifHy@frenchlinks

```

```

255 \newif\ifHy@hyperfootnotes
256 \newif\ifHy@hyperindex
257 \newif\ifHy@hypertextnames
258 \newif\ifHy@implicit
259 \newif\ifHy@linktocpage
260 \newif\ifHy@menubar
261 \newif\ifHy@naturalnames
262 \newif\ifHy@nesting
263 \newif\ifHy@newwindow
264 \newif\ifHy@pageanchor
265 \newif\ifHy@pagelabels
266 \newif\ifHy@pdfpagehidden
267 \newif\ifHy@pdfstring
268 \newif\ifHy@plainpages
269 \newif\ifHy@psize
270 \newif\ifHy@raiselinks
271 \newif\ifHy@seminarslides
272 \newif\ifHy@setpagesize
273 \newif\ifHy@texht
274 \newif\ifHy@toolbar
275 \newif\ifHy@unicode
276 \newif\ifHy@usetitle
277 \newif\ifHy@verbose
278 \newif\ifHy>windowui
279 \newif\ifHy@displaydoctitle

```

Defaults for the switches are now set.

```

280 \Hy@backreffalse
281 \Hy@bookmarksnumberedfalse
282 \Hy@bookmarksopenfalse
283 \Hy@bookmarkstrue
284 \Hy@breaklinksfalse
285 \Hy@centerwindowfalse
286 \Hy@CJKbookmarksfalse
287 \Hy@escapeformfalse
288 \Hy@figuresfalse
289 \Hy@fitwindowfalse
290 \Hy@hyperfootnotesttrue
291 \Hy@hyperindextrue
292 \Hy@hypertextnamesttrue
293 \Hy@implicittrue
294 \Hy@linktocpagefalse
295 \Hy@menubartrue
296 \Hy@naturalnamesfalse
297 \Hy@nestingfalse
298 \Hy@newwindowfalse
299 \Hy@pageanchorttrue
300 \Hy@pagelabelstrue
301 \Hy@pdfpagehiddenfalse
302 \Hy@pdfstringfalse
303 \Hy@plainpagesfalse
304 \Hy@raiselinksfalse
305 \Hy@setpagesizetrue
306 \Hy@texhtfalse
307 \Hy@toolbartrue
308 \Hy@typexmlfalse
309 \Hy@unicodedefalse
310 \Hy@usetitlefalse

```

```

311 \Hy@verbosefalse
312 \Hy>windowuitrue
313 \Hy@displaydoctitlefalse

```

5 Common help macros

`\Hy@StepCount`

```

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

```

`\Hy@GlobalStepCount`

```

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

316 \newdimen\@linkdim
317 \let\Hy@driver\@empty
318 \let\MaybeStopEarly\relax
319 \newcount\Hy@linkcounter
320 \newcount\Hy@pagecounter
321 \Hy@linkcounter0
322 \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.

```

323 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
324 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

```

5.2 Babel's protection of shorthand characters

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

```

325 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
326 \def\Hy@safe@activesfalse{\csname @safe@activesfalse\endcsname}

```

5.3 Coordinate transformations

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

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

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

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

Example (T_EX):

```

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

\hypercalcbp
327 \begingroup\expandafter\expandafter\expandafter\endgroup
328 \expandafter\ifx\csname dimexpr\endcsname\relax
329   \def\hypercalcbpdef#1#2{%
330     \begingroup
331       \toks@{%
332         \HyCal@scan#2\hypercalcbp\@nil
333       \expandafter\endgroup
334       \expandafter\def\expandafter#1\expandafter{\the\toks@}%
335     }
336   \def\HyCal@scan#1\hypercalcbp#2\@nil{%
337     \toks@\expandafter{\the\toks@ #1}%
338     \ifx\#2\%
339       \else
340         \Hy@ReturnAfterFi{%
341           \HyCal@do#2\@nil
342         }%
343       \fi
344     }
345   \def\HyCal@do#1#2\@nil{%
346     \@ifpackageloaded{calc}{}%
347     \Hy@Warning{%
348       For calculations \string\hypercalcbp\space needs\MessageBreak
349       package calc or e-TeX%
350     }%
351   }%
352   \setlength{\dimen@}{#1}%
353   \setlength{\dimen@}{0.99626401\dimen@}%
354   \edef\x{%
355     \toks@{%
356       \the\toks@
357       \strip@pt\dimen@
358     }%
359   }\x
360   \HyCal@scan#2\@nil
361 }
362 \else
363   \def\hypercalcbp#1{%
364     \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
365   }
366   \def\hypercalcbpdef{\def}
367 \fi

```

6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.
 Email: oberdiek@uni-freiburg.de.

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

6.1 Description of PDF strings

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

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

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

6.2 Definition of `\pdfstringdef`

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

Important: In T_EX'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 T_EX 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 T_EX string is expanded the first time to get a PDF string.
3. Postprocessing. The result of the expansion is checked and converted to the final form.

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

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

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

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

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

```
369 \begingroup
```

6.2.1 Preprocessing

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

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

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

```
370 \escapechar'\%
```

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

```
371 \edef\0{\string\0}%  
372 \edef\1{\string\1}%  
373 \edef\2{\string\2}%  
374 \edef\3{\string\3}%
```

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

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

```
375 \ifHy@unicode  
376 \edef\8{\string\8}%  
377 \edef\9{\string\9}%  
378 \fontencoding{PU}%  
379 \HyPsd@UTFviii  
380 \else  
381 \fontencoding{PD1}%  
382 \fi  
383 \enc@update
```

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

```
384 \@inmathwarn\pdfstringdef
```

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

```
385 \let\@inmathwarn\HyPsd@inmathwarn
```


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

```
386 \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.

```
387 \let\{\textbraceleft
388 \let\}\textbraceright
389 \let\\\textbackslash
390 \let\#\textnumbersign
391 \let\$\textdollar
392 \let\%\textpercent
393 \let\&\textampersand
394 % \let\~\textasciitilde
395 \let\_ \textunderscore
396 \let\P\textparagraph
397 \let\ldots\textellipsis
398 \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.

```
399 \def\{\pdfstringdefWarn\\}%
400 \def\newline{\pdfstringdefWarn\newline}%
```

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

```
401 \def\TeX{\TeX}%
402 \def\LaTeX{La\TeX}%
403 \def\LaTeXe{LaTeX2e}%
404 \def\eTeX{e-\TeX}%
405 \def\MF{Metafont}%
406 \def\MP{Metapost}%
```

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

```
407 \let\emph\@firstofone
408 \let\textbf\@firstofone
409 \let\textit\@firstofone
410 \let\textmd\@firstofone
411 \let\textnormal\@firstofone
412 \let\textrm\@firstofone
413 \let\textsc\@firstofone
414 \let\textsf\@firstofone
415 \let\textsl\@firstofone
```

```

416 \let\texttt\@firstofone
417 \let\textup\@firstofone
418 \let\ttfamily\@empty
419 \let\sffamily\@empty
420 \let\itshape\@empty
421 \let\upshape\@empty
422 \let\bfseries\@empty
423 \let\rm\@empty
424 \let\Huge\@empty
425 \let\LARGE\@empty
426 \let\Large\@empty
427 \let\footnotesize\@empty
428 \let\huge\@empty
429 \let\large\@empty
430 \let\normalsize\@empty
431 \let\scriptsize\@empty
432 \let\small\@empty
433 \let\tiny\@empty

```

Package color.

```

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

```

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

```

435 \let\textlatin\@firstofone
436 \@ifundefined{language@group}{-}{%
437 \csname HyPsd@babel@language@group\endcsname
438 }%
439 \let\@safe@activetrue\relax
440 \let\@safe@activesfalse\relax

```

Disable `\cyr`, used in russianb.ldf.

```

441 \let\cyr\relax

```

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

```

442 \let\es@roman\@Roman

```

Package german.

```

443 \let\glqq\textglqq
444 \let\grqq\textgrqq
445 \let\glq\textglq
446 \let\grq\textgrq
447 \let\flqq\textflqq
448 \let\frqq\textfrqq
449 \let\flq\textflq
450 \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}
451 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```
452 \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.

```
453 \let\hspace\HyPsd@hspace
```

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

```
454 \let\label@gobble
455 \let\index@gobble
456 \let\glossary@gobble
457 \let\href@secondoftwo
```

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

```
458 \let\ref\HyPsd@ref
459 \let\pageref\HyPsd@pageref
```

Also we need an expandable form of `\autoref`. Babel's shorthands are not supported inside the reference label.

```
460 \def\HyPsd@ar@get##1.##2\@nil{##1}%
461 \def\HyPsd@ar@tmp##1{%
462   \expandafter\expandafter\expandafter\HyPsd@ar@get
463   \expandafter\@fourthoffive##1\@empty\@empty.\@nil
464 }%
465 \def\auto@setref##1##2##3{%
466   \ifx##1\relax
467   \else
468     \csname\HyPsd@ar@tmp{##1}%
469     \expandafter\ifx\csname\HyPsd@ar@tmp{##1}\autorefname\endcsname
470       \relax
471     \else
472       \autoref%
473     \fi
474     name%
475   \endcsname
476   \space
477   \expandafter##2##1\@empty\@empty
478 \fi
479 }%
```

Miscellaneous commands.

```
480 \let\leavevmode\@empty
481 \let\mbox\@empty
```

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

```
482 \def\halign{\pdfstringdefWarn\halign\@gobble}%
```

Patch for cjk bookmarks.

```
483 \ifHy@CJKbookmarks
484   \HyPsd@CJKhook
485 \fi
```

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

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

```
486 \Hy@pdfstringtrue
487 \pdfstringdefPreHook
```

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

```
488 \HyPsd@LetUnexpandableSpace\space
489 \HyPsd@LetUnexpandableSpace\ %
490 \HyPsd@LetUnexpandableSpace~%
491 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package xspace.

```
492 \@ifundefined{@xspace}{%
493   \let\xspace\HyPsd@ITALCORR
494 }{%
495   \let\xspace\HyPsd@XSPACE
496 }%
497 \let\/\HyPsd@ITALCORR
498 \let\bgroup\/%
499 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
500 \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:

```
501 \let\@ifnextchar\HyPsd@ifnextchar
502 \let\@ifnextchar\HyPsd@new@ifnextchar
503 \let\@protected@testopt\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 $\backslash\text{csname}$ 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.

$\backslash\text{edef}$ This version uses this standard form for expansion. It is stronger than \LaTeX 's $\backslash\text{protected@edef}$. 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 $\backslash\text{edef}$, 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 $\backslash\text{texorpdfstring}$). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don't cause an error like with $\backslash\text{csname}$. 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 $\backslash\text{xdef}$ the $\backslash\text{Generic}\dots$ 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, $\backslash\text{pdfstringdef}$ is slow enough).

```
504    \begingroup
505    \let\GenericError\@gobblefour
506    \let\GenericWarning\@gobbletwo
507    \let\GenericInfo\@gobbletwo
```

Package french. This fix only works, if $\backslash\text{GenericError}$ is disabled.

```
508    \ifx\nofrenchguillemets\@undefined
509    \else
510    \nofrenchguillemets
511    \fi
```

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

```
512    \let\Hy@temp\text{xdef}
513    \let\def\HyPsd@DefCommand
514    \let\gdef\HyPsd@DefCommand
515    \let\edef\HyPsd@DefCommand
516    \let\text{xdef}\HyPsd@DefCommand
517    \let\futurelet\HyPsd@LetCommand
518    \let\let\HyPsd@LetCommand
519    \Hy@temp#1{#2}%
520    \endgroup
```

6.2.3 Postprocessing

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

```
521 \ifx#1\@empty
522 \else
```

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

- T_EX 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_EX'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_EX 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.

```
523 \HyPsd@ProtectSpaces#1%
524 \let\HyPsd@String\@empty
525 \expandafter\HyPsd@RemoveBraces\expandafter{#1}%
526 \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.

```
527 \let\HyPsd@SPACEOPTI\relax
528 {%
529 \let\HyPsd@String\@empty
530 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
531 \global\let#1\HyPsd@String
532}%
533 \expandafter\HyPsd@RemoveMask\expandafter
534 |\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.

```
535 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
536 \let\HyPsd@String\@empty
537 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
538 \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.

```
539 \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.lfd can produce an additional space before \guillemotright, because \lastskip and \unskip do not work. Therefore it is removed here.

```
540 \ifHy@unicode
541 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
542 \HyPsd@SPACEOPTI#1%
543 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
544 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
545 {\HyPsd@SPACEOPTI\80\273}#1%
546 \else
547 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
548 \expandafter\HyPsd@Subst\expandafter{%
549 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
550 \string\273}\HyPsd@SPACEOPTI\273}#1%
551 \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.

```
552 \ifHy@unicode
553 \HyPsd@StringSubst{\)}{\80\051}#1%
554 \HyPsd@Subst){\80\051}#1%
555 \let\HyPsd@empty\relax
556 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
557 {\HyPsd@empty\80\051}#1%
558 \else
559 \HyPsd@StringSubst{\)}{\051}#1%
560 \HyPsd@Subst){\051}#1%
561 \let\HyPsd@empty\relax
```

```

562      \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
563      \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`.

```

564      \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
565      \@ifundefined{xspace}{%
566      }{%
567      \let\HyPsd@xspace\relax
568      \expandafter\HyPsd@Subst\expandafter
569      {\HyPsd@XSPACE}\HyPsd@xspace#1%
570      \let\HyPsd@xspace\HyPsd@doxspace
571      }%
572      \xdef#1{#1\HyPsd@empty}%

```

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

```

573 %      \HyPsd@Subst{---}\textemdash#1%
574 %      \HyPsd@Subst{--}\textendash#1%
575 %      \HyPsd@Subst{fi}\textfi#1%
576 %      \HyPsd@Subst{fl}\textfl#1%
577 %      \HyPsd@Subst{!'}\texttexclamdown#1%
578 %      \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

579      \let\HyPsd@empty\@empty

```

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

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

```

580      \ifHy@unicode
581      \HyPsd@StringSubst{\( \textparenleft#1%
582      \HyPsd@Subst(\textparenleft#1%
583      \else
584      \HyPsd@StringSubst{\( \050}#1%
585      \HyPsd@Subst({ \050}#1%
586      \HyPsd@StringSubst{\050}{\string\)}#1%

```



```
587 \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.

```
588 \ifHy@unicode
589 \edef\HyPsd@SPACEOPTI{\80\040}%
590 \else
591 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
592 \fi
593 \xdef#1{#1\@empty}%
594 \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.

```
595 \ifHy@unicode
596 \HyPsd@ConvertToUnicode#1%
597 \fi
```

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

```
598 \pdfstringdefPostHook#1%
599 \endgroup
600 }
```

6.3 Encodings

6.3.1 PD1 encoding

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

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

```
601 \@ifundefined{T@PD1}{\input{pd1enc.def}}{}
602 \DeclareFontFamily{PD1}{pdf}{}
603 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
604 \DeclareFontSubstitution{PD1}{pdf}{m}{n}
```

6.3.2 PU encoding

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

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

```
605 \def\HyPsd@InitUnicode{%
606 \@ifundefined{T@PU}{\input{puenc.def}}{}%
607 \DeclareFontFamily{PU}{pdf}{}%
```

```

608 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
609 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
610 \let\HyPsd@InitUnicode\relax
611 }

```

6.4 Additional user commands

6.4.1 `\texorpdfstring`

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

```

612 \newcommand*{\texorpdfstring}{%
613   \ifHy@pdfstring
614     \expandafter\@secondoftwo
615   \else
616     \expandafter\@firstoftwo
617   \fi
618 }

```

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`.

```

619 \@ifundefined{pdfstringdefPreHook}{%
620   \let\pdfstringdefPreHook\@empty
621 }{}
622 \@ifundefined{pdfstringdefPostHook}{%
623   \let\pdfstringdefPostHook\@gobble
624 }{}

```

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

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

```

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

```

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

```

625 \def\pdfstringdefDisableCommands{%
626   \begingroup
627     \makeatletter
628     \HyPsd@DisableCommands
629 }

```

`\HyPsd@DisableCommands`

```

630 \long\def\HyPsd@DisableCommands#1{%

```

```

631 \toks0=\expandafter{\pdfstringdefPreHook}%
632 \toks1={#1}%
633 \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
634 \endgroup
635 }

```

`\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`.

```

636 \def\pdfstringdefWarn#1{%
637 \expandafter\noexpand\csname\<>-string#1\endcsname
638 }

```

6.5 Help macros for expansion

6.5.1 Babel languages

```

639 \newif\ifHy@next

Nothing to do for english.
640 \@ifpackagewith{babel}{danish}{}%
641 \def\HyPsd@babel@danish{%
642 \declare@shorthand{danish}{"}{}%
643 \declare@shorthand{danish}{"}{-}%
644 }%
645 {}
646 \Hy@nextfalse
647 \@ifpackagewith{babel}{dutch}{\Hy@nexttrue}{}%
648 \@ifpackagewith{babel}{afrikaans}{\Hy@nexttrue}{}%
649 \ifHy@next
650 \def\HyPsd@babel@dutch{%
651 \declare@shorthand{dutch}{"}{}%
652 \declare@shorthand{dutch}{"}{-}%
653 }%
654 \fi
655 \@ifpackagewith{babel}{finnish}{}%
656 \def\HyPsd@babel@finnish{%
657 \declare@shorthand{finnish}{"}{}%
658 }%
659 {}
660 \Hy@nextfalse
661 \@ifpackagewith{babel}{frenchb}{\Hy@nexttrue}{%
662 \@ifpackagewith{babel}{français}{\Hy@nexttrue}{%
663 \ifHy@next
664 \def\HyPsd@babel@frenchb{%
665 \def\guill@spacing{ }%
666 }%
667 \fi
668 \Hy@nextfalse
669 \@ifpackagewith{babel}{german}{\Hy@nexttrue}{}%
670 \@ifpackagewith{babel}{germanb}{\Hy@nexttrue}{}%
671 \@ifpackagewith{babel}{austrian}{\Hy@nexttrue}{%

```

```

672 \ifHy@next
673   \def\HyPsd@babel@german{%
674     \declare@shorthand{german}{f}{f}%
675     \declare@shorthand{german}{|}{|}%
676     \declare@shorthand{german}{~}{-}%
677   }%
678 \fi
679 \Hy@nextfalse
680 \@ifpackagewith{babel}{ngerman}{\Hy@nexttrue}{}%
681 \@ifpackagewith{babel}{ngermanb}{\Hy@nexttrue}{}%
682 \@ifpackagewith{babel}{naustrian}{\Hy@nexttrue}{}%
683 \ifHy@next
684   \def\HyPsd@babel@ngerman{%
685     \declare@shorthand{german}{|}{|}%
686     \declare@shorthand{german}{~}{-}%
687   }%
688 \fi
689 \Hy@nextfalse
690 \@ifpackagewith{babel}{usorbian}{\Hy@nexttrue}{}%
691 \@ifpackagewith{babel}{uppersorbian}{\Hy@nexttrue}{}%
692 \ifHy@next
693   \def\HyPsd@babel@usorbian{%
694     \declare@shorthand{usorbian}{f}{f}%
695     \declare@shorthand{usorbian}{|}{|}%
696   }%
697 \fi
698 \Hy@nextfalse
699 \@ifpackagewith{babel}{brazil}{\Hy@nexttrue}{}%
700 \@ifpackagewith{babel}{brazilian}{\Hy@nexttrue}{}%
701 \@ifpackagewith{babel}{portuges}{\Hy@nexttrue}{}%
702 \@ifpackagewith{babel}{portuguese}{\Hy@nexttrue}{}%
703 \ifHy@next
704   \def\HyPsd@babel@portuges{%
705     \declare@shorthand{portuges}{|}{|}%
706   }%
707 \fi
708 \Hy@nextfalse
709 \@ifpackagewith{babel}{russian}{\Hy@nexttrue}{}%
710 \@ifpackagewith{babel}{russianb}{\Hy@nexttrue}{}%
711 \ifHy@next
712   \def\HyPsd@babel@russian{%
713     \declare@shorthand{russian}{|}{|}%
714     \declare@shorthand{russian}{~}{-}%
715   }%
716 \fi
717 \Hy@nextfalse
718 \@ifpackagewith{babel}{ukrainian}{\Hy@nexttrue}{}%
719 \@ifpackagewith{babel}{ukraineb}{\Hy@nexttrue}{}%
720 \ifHy@next
721   \def\HyPsd@babel@ukrainian{%
722     \declare@shorthand{ukrainian}{|}{|}%
723     \declare@shorthand{ukrainian}{~}{-}%
724   }%
725 \fi
726 \@ifpackagewith{babel}{macedonian}{%
727   \def\HyPsd@babel@macedonian{%
728     \declare@shorthand{macedonian}{|}{|}%

```

```

729 \declare@shorthand{macedonian}{~}{-}%
730 }%
731 {}
732 \@ifpackagewith{babel}{slovene}{%
733 \def\HyPsd@babel@slovene{%
734 \declare@shorthand{slovene}{~}{-}%
735 }%
736 {}
737 \@ifpackagewith{babel}{swedish}{%
738 \def\HyPsd@babel@swedish{%
739 \declare@shorthand{swedish}{~}{-}%
740 \declare@shorthand{swedish}{~}{-}%
741 }%
742 {}

```

6.5.2 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 ($\geq 0x40$).

```

743 \begingroup
744 \catcode"7F=\active
745 \toks@{%
746 \let\CJK@ignorespaces\empty
747 \def\CJK@char#1{\@gobbletwo}%
748 \let\CJK@charx\@gobblefour
749 \let\CJK@punctchar\@gobblefour
750 \def\CJK@punctcharx#1{\@gobblefour}%
751 \catcode"7F=\active
752 \def^^7f#1^^7f#2^^7f{%
753 \string #1\HyPsd@DecimalToOctal{#2}%
754 }%
755 % ... ?
756 \ifHy@unicode
757 \def\Hy@cjkpu{\80}%
758 \else
759 \let\Hy@cjkpu\@empty
760 \fi
761 \HyPsd@CJKActiveChars
762 }%
763 \count@=127
764 \@whilenum\count@<255 \do{%
765 \advance\count@ by 1
766 \lccode'\~= \count@
767 \lowercase{%
768 \toks@\expandafter{\the\toks@ ~}%
769 }%
770 }%
771 \toks@\expandafter{\the\toks@ !}%
772 \xdef\HyPsd@CJKhook{\the\toks@}%
773 \endgroup

```

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

```

774 \def\HyPsd@CJKActiveChars#1{%
775   \ifx#1!%
776     \let\HyPsd@CJKActiveChars\relax
777   \else
778     \edef#1{\noexpand\Hy@cjkpu\string#1}%
779   \fi
780   \HyPsd@CJKActiveChars
781 }

```

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

```

782 \def\HyPsd@DecimalToOctal#1{%
783   \ifcase #1 %
784     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
785     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
786     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
787     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
788     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
789     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
790     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
791     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
792     \or @\or A\or B\or C\or D\or E\or F\or G%
793     \or H\or I\or J\or K\or L\or M\or N\or O%
794     \or P\or Q\or R\or S\or T\or U\or V\or W%
795     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
796     \or \140\or a\or b\or c\or d\or e\or f\or g%
797     \or h\or i\or j\or k\or l\or m\or n\or o%
798     \or p\or q\or r\or s\or t\or u\or v\or w%
799     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
800     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
801     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
802     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
803     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
804     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
805     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
806     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
807     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
808     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
809     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
810     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
811     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
812     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
813     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
814     \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
815     \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
816   \fi
817 }

```

6.5.3 `\@inmathwarn-Patch`

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

To understand the patch easier, the original code of `\@current@cmd` and `\@changed@cmd`

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

```

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

818 \def\HyPsd@inmathwarn#1#2{%
819   \ifx#2\expandafter
820     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
821       \HyPsd@GLYPHERR
822     \expandafter\@gobble\string#1%
823     >%
824     \expandafter\expandafter\expandafter\HyPsd@EndWithElse
825   \else
826     \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
827   \fi
828 \else
829   \expandafter#2%
830 \fi
831 }
832 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
833 \def\HyPsd@EndWithElse#1\else\else}

```

6.5.4 `\add@accent-Patch`

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

`\HyPsd@add@accent`

```
834 \def\HyPsd@add@accent#1#2{%
835   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
836   #2%
837 }%
```

6.5.5 Unexpandable spaces

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

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

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

```
838 \def\HyPsd@LetUnexpandableSpace#1{%
839   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
840 }
```

`\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.

```
841 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace
```

6.5.6 Marker for commands

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

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

```
842 \edef\HyPsd@XSPACE{\string#\string X}
843 \edef\HyPsd@ITALCORR{\string#\string I}
844 \edef\HyPsd@GLYPHERR{\string#\string G}
```

6.5.7 \hspace fix

`\HyPsd@hspace`

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

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

```
846 \def\HyPsd@@hspace#1*#2\END{%
847   \ifx\#2\%
848     \HyPsd@hspacetest{#1}%
849   \else
850     \expandafter\HyPsd@hspacetest
851   \fi
852 }
```

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

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


6.5.8 Fix for AMS classes

```

854 \@ifundefined{tocsection}{%
855   \let\HyPSD@AMSclassfix\relax
856 }{%
857   \def\HyPSD@AMSclassfix{%
858     \let\tocpart\HyPSD@tocsection
859     \let\tocchapter\HyPSD@tocsection
860     \let\tocappendix\HyPSD@tocsection
861     \let\tocsection\HyPSD@tocsection
862     \let\tocsubsection\HyPSD@tocsection
863     \let\tocsubsubsection\HyPSD@tocsection
864     \let\tocparagraph\HyPSD@tocsection
865   }%
866   \def\HyPSD@tocsection#1#2#3{%
867     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
868     #3%
869   }%
870 }

```

6.5.9 Reference commands

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

```

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

```

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

```

872 \def\HyPsd@@ref#1*#2\END{%
873   \ifx\#2\%
874     \HyPsd@@@ref{#1}%
875   \else
876     \expandafter\HyPsd@@@ref
877   \fi
878 }%

```

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

```

879 \def\HyPsd@@@ref#1{%
880   \expandafter\ifx\csname r@#1\endcsname\relax
881     ??%
882   \else
883     \expandafter\expandafter\expandafter\@car\csname r@#1\endcsname\@nil
884   \fi
885 }

```

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

```

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

```

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

```

887 \def\HyPsd@@pageref#1*#2\END{%
888   \ifx\#2\%
889     \HyPsd@@@pageref{#1}%
890   \else
891     \expandafter\HyPsd@@@pageref
892   \fi
893 }

```

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

```

894 \def\HyPsd@@@pageref#1{%
895   \expandafter\ifx\csname r@#1\endcsname\relax
896     ??%
897   \else
898     \expandafter\expandafter\expandafter\expandafter
899     \expandafter\expandafter\expandafter\@car
900     \expandafter\expandafter\expandafter\@gobble
901     \csname r@#1\endcsname\@nil
902   \fi
903 }
```

6.5.10 Redefining the defining commands

Definitions aren't allowed, because they aren't executed in an only expanding context. So the command to be defined isn't defined and can perhaps be undefined. This would 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
904 \begingroup
905   \def\x#1#2{%
906     \endgroup
907     \let#1\def
908     \def\HyPsd@DefCommand##1##2##{%
909       #1%
910       \expandafter\noexpand
911       \csname\expandafter\@gobble\string##1\@empty\endcsname
912       \@gobble
913     }%
914     \let#2\let
915     \def\HyPsd@@@LetCommand##1{%
```

```

916 \expandafter\ifx\csname##1\expandafter\endcsname
917 \csname iftrue\endcsname
918 \pdfstringdefWarn\let
919 \expandafter\@gobble
920 \else
921 \expandafter\ifx\csname##1\expandafter\endcsname
922 \csname iffalse\endcsname
923 \pdfstringdefWarn\let
924 \expandafter\expandafter\expandafter\@gobble
925 \else
926 #2%
927 \expandafter\noexpand
928 \csname##1\expandafter\expandafter\expandafter\endcsname
929 \fi
930 \fi
931 }%
932 }%
933 \expandafter\x\csname <def>-command\expandafter\endcsname
934 \csname <let>-command\endcsname
935 \def\HyPsd@LetCommand#1{%
936 \expandafter\expandafter\expandafter\HyPsd@@LetCommand
937 \expandafter\expandafter\expandafter{%
938 \expandafter\@gobble\string#1\@empty
939 }%
940 }

```

6.5.11 \ifnextchar

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

```

941 \def\HyPsd@ifnextchar{%
942 \pdfstringdefWarn\ifnextchar
943 \expandafter\@gobbletwo\@gobble
944 }

```

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

```

945 \def\HyPsd@new@ifnextchar{%
946 \pdfstringdefWarn\new@ifnextchar
947 \expandafter\@gobbletwo\@gobble
948 }

```

6.5.12 \@protected@testoptifnextchar

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

```

949 \def\HyPsd@protected@testopt#1{%
950 \pdfstringdefWarn#1%
951 \@gobbletwo
952 }

```

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:

```
953 \def\HyPsd@Warning#1{%
954   \begingroup
955     \def\space{ }%
956     \Hy@Warning{#1}%
957   \endgroup
958 }
```

6.6.2 Protecting spaces

`\HyPsd@ProtectSpaces` `\HyPsd@ProtectSpaces` calls with the expanded string `\HyPsd@@ProtectSpaces`. 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@@ProtectSpaces`.

```
959 \def\HyPsd@ProtectSpaces#1{%
960   \expandafter\HyPsd@@ProtectSpaces
961     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
962 }
```

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

```
963 \def\HyPsd@@ProtectSpaces#1 #2\HyPsd@End#3{%
964   \ifx\scrollmode#2\scrollmode
965     \HyPsd@RemoveMask#1\HyPsd@End#3%
966   \else
967     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
968     \Hy@ReturnAfterFi{%
969       \expandafter\HyPsd@@ProtectSpaces#3\HyPsd@End#3%
970     }%
971   \fi
972 }
```

Remove mask.

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

```
973 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
974   \toks@\expandafter{#1}%
975   \xdef#2{\the\toks@}%
976 }
```

6.6.3 Remove grouping braces

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

```
977 \def\HyPsd@RemoveBraces#1{%
978   \ifx\scrollmode#1\scrollmode
979   \else
980     \Hy@ReturnAfterFi{%
981       \HyPsd@@RemoveBraces#1\HyPsd@End{#1}%
982     }%
983   \fi
984 }
```

`\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`.

```

985 \def\HyPsd@@RemoveBraces#1#2\HyPsd@End#3{%
986   \def\Hy@temp@A{#1#2}%
987   \def\Hy@temp@B{#3}%
988   \ifx\Hy@temp@A\Hy@temp@B
989     \expandafter\def\expandafter\HyPsd@String\expandafter{%
990       \HyPsd@String#1%
991     }%
992     \Hy@ReturnAfterElseFi{%
993       \ifx\scrollmode#2\scrollmode
994       \else
995         \Hy@ReturnAfterFi{%
996           \HyPsd@RemoveBraces{#2}%
997         }%
998       \fi
999     }%
1000  \else
1001    \def\Hy@temp@A{#1}%
1002    \HyPsd@AppendItalcorr\HyPsd@String
1003    \Hy@ReturnAfterFi{%
1004      \ifx\Hy@temp@A\@empty
1005        \Hy@ReturnAfterElseFi{%
1006          \HyPsd@RemoveBraces{#2}%
1007        }%
1008      \else
1009        \Hy@ReturnAfterFi{%
1010          \HyPsd@ProtectSpaces\Hy@temp@A
1011          \HyPsd@AppendItalcorr\Hy@temp@A
1012          \expandafter\HyPsd@RemoveBraces\expandafter
1013            {\Hy@temp@A#2}%
1014        }%
1015      \fi
1016    }%
1017  \fi
1018 }
```

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

```

1019 \def\HyPsd@AppendItalcorr#1{%
1020   \expandafter\HyPsd@@AppendItalcorr\expandafter{/}#1%
1021 }
1022 \def\HyPsd@@AppendItalcorr#1#2{%
1023   \expandafter\def\expandafter#2\expandafter{#2#1}%
1024 }
```

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`).

```

1025 \def\HyPsd@CheckCatcodes#1#2\HyPsd@end{%
1026   \global\let\HyPsd@Rest\relax
1027   \ifcat\relax\noexpand#1\relax
1028     \ifx#1\protect
1029       \else
1030         \ifx#1\penalty
1031           \setbox\z@=\hbox{%
1032             \afterassignment\HyPsd@AfterCountRemove
1033             \count@=#2\HyPsd@end
1034           }%
1035         \else
1036           \ifx#1\kern
1037             \setbox\z@=\hbox{%
1038               \afterassignment\HyPsd@AfterDimenRemove
1039               \dimen@=#2\HyPsd@end
1040             }%
1041           \else
1042             \ifx#1\hskip
1043               \setbox\z@=\hbox{%
1044                 \afterassignment\HyPsd@AfterSkipRemove
1045                 \skip@=#2\HyPsd@end
1046               }%
1047             \else
1048               \HyPsd@CatcodeWarning{#1}%
1049             \fi
1050           \fi
1051         \fi
1052       \fi
1053     \else
1054       \ifcat#1 %SPACE
1055         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1056           \HyPsd@String\HyPsd@SPACEOPTI
1057         }%
1058       \else
1059         \ifcat$#1%
1060           \HyPsd@CatcodeWarning{math shift}%
1061         \else
1062           \ifcat&#1%
1063             \HyPsd@CatcodeWarning{alignment tab}%
1064           \else
1065             \ifcat^#1%
1066               \HyPsd@CatcodeWarning{superscript}%
1067             \else
1068               \ifcat_#1%
1069                 \HyPsd@CatcodeWarning{subscript}%
1070               \else
1071                 \expandafter\def\expandafter\HyPsd@String\expandafter{%

```

```

1072             \HyPsd@String#1%
1073         }%
1074     \fi
1075 \fi
1076 \fi
1077 \fi
1078 \fi
1079 \fi
1080 \ifx\HyPsd@Rest\relax
1081     \Hy@ReturnAfterElseFi{%
1082     \ifx\scrollmode#2\scrollmode
1083     \else
1084         \Hy@ReturnAfterFi{%
1085         \HyPsd@CheckCatcodes#2\HyPsd@End
1086     }%
1087 \fi
1088 }%
1089 \else
1090     \Hy@ReturnAfterFi{%
1091     \ifx\HyPsd@Rest\@empty
1092     \else
1093         \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1094     \fi
1095 }%
1096 \fi
1097 }

```

Remove counts, dimens, skips.

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

```

1098 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1099     \gdef\HyPsd@Rest{#1}%
1100 }

```

`\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.

```

1101 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1102     \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@ \fi > 1ex
1103     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1104     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1105 \else
1106     \ifdim\dimen@=\z@
1107     \else
1108         \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1109     \fi
1110     \gdef\HyPsd@Rest{#1}%
1111 \fi
1112 }

```

`\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).

```

1113 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1114     \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@ \fi > 1ex
1115     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%

```

```

1116 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1117 \else
1118 \ifdim\skip@=\z@
1119 \else
1120 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1121 \fi
1122 \gdef\HyPsd@Rest{#1}%
1123 \fi
1124 }

```

Catcode warnings.

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

```

1125 \def\HyPsd@CatcodeWarning#1{%
1126 \HyPsd@Warning{%
1127 Token not allowed in a PDFDocEncoded string,%
1128 \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
1129 }%
1130 }
1131 \begingroup
1132 \catcode'\|=0
1133 \catcode'\|=12
1134 \gdef\HyPsd@RemoveCmdPrefix#1{%
1135 \expandafter\HyPsd@@RemoveCmdPrefix
1136 \string#1|@empty\<>-|@empty|@empty
1137 }%
1138 \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1139 \endgroup

```

\HyPsd@RemoveSpaceWarning

```

1140 \def\HyPsd@RemoveSpaceWarning#1{%
1141 \HyPsd@Warning{%
1142 Token not allowed in a PDFDocEncoded string:%
1143 \MessageBreak #1\MessageBreak
1144 removed%
1145 }%
1146 }

```

\HyPsd@ReplaceSpaceWarning

```

1147 \def\HyPsd@ReplaceSpaceWarning#1{%
1148 \HyPsd@Warning{%
1149 Token not allowed in a PDFDocEncoded string:%
1150 \MessageBreak #1\MessageBreak
1151 replaced by space%
1152 }%
1153 }

```

6.6.5 Check for wrong glyphs

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

```

1154 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1155 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1156 \HyPsd@String#1%
1157 }%
1158 \ifx\#2\%

```



```

1159 \else
1160   \Hy@ReturnAfterFi{%
1161     \HyPsd@GlyphProcessWarning#2\@empty
1162   }%
1163 \fi
1164 }
1165 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1166   \HyPsd@Warning{%
1167     Glyph not defined in %
1168     P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1169     removing '@backslashchar#1'%
1170   }%
1171   \HyPsd@GlyphProcess#2\@empty
1172 }

```

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`.

```

1173 \def\HyPsd@spaceopti#1{ % first space
1174   \ifx\HyPsd@spaceopti#1%
1175     \040%
1176   \else
1177     #1%
1178   \fi
1179 }%

```

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.

```

1180 \def\HyPsd@Subst#1#2#3{%
1181   \def\HyPsd@@Replace##1#1##2\END{%
1182     ##1%
1183     \ifx\##2\%
1184       \else
1185         #2%
1186         \Hy@ReturnAfterFi{%
1187           \HyPsd@@Replace##2\END
1188         }%
1189       \fi
1190     }%
1191   \xdef#3{%
1192     \expandafter\HyPsd@@Replace#3#1\END
1193   }%
1194 }

```

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

```

1195 \def\HyPsd@StringSubst#1{%
1196   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1197 }

```

6.6.7 Support for package xspace

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

```

1198 \def\HyPsd@doxspace#1{%
1199   \ifx#1\relax\else
1200     \ifx#1.\else
1201       \ifx#1:\else
1202         \ifx#1,\else
1203           \ifx#1;\else
1204             \ifx#1!\else
1205               \ifx#1?\else
1206                 \ifx#1/\else
1207                   \ifx#1-\else
1208                     \ifx#1'\else
1209                       \HyPsd@SPACEOPTI
1210                     \fi
1211                   \fi
1212                 \fi
1213               \fi
1214             \fi
1215           \fi
1216         \fi
1217       \fi
1218     \fi
1219   \fi
1220   #1%
1221 }%
```

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.

```

1222 \begingroup
1223   \catcode'\|=0
1224   \catcode'\|=12
```

`\HyPsd@ConvertToUnicode`

```

1225 |gdef|HyPsd@ConvertToUnicode#1{%
1226   |xdef#1{%
1227     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1228   }%
1229   |xdef#1{%
1230     |ifx#1|@empty
1231     |else
1232       \376\377%
1233       #1%
1234     |fi
1235   }%
1236 }
```

`\HyPsd@DoConvert`

```

1237 |gdef|HyPsd@DoConvert#1{%
1238   |ifx#1|@empty
```

```

1239     |else
1240     |Hy@ReturnAfterFi{%
1241     |ifx#1\%
1242     \%
1243     |expandafter|HyPsd@DoEscape
1244     |else
1245     \000#1%
1246     |expandafter|HyPsd@DoConvert
1247     |fi
1248     }%
1249 |fi
1250 }

```

\HyPsd@DoEscape

```

1251 |gdef|HyPsd@DoEscape#1{%
1252 |ifx#19%
1253 |expandafter|HyPsd@GetTwoBytes
1254 |else
1255 |Hy@ReturnAfterFi{%
1256 |ifx#18%
1257 00%
1258 |expandafter|HyPsd@GetTwoBytes
1259 |else
1260 #1%
1261 |expandafter|HyPsd@GetOneByte
1262 |fi
1263 }%
1264 |fi
1265 }

```

\HyPsd@GetTwoBytes

```

1266 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1267 #1\#2#3#4%
1268 |HyPsd@DoConvert
1269 }

```

\HyPsd@GetOneByte

```

1270 |gdef|HyPsd@GetOneByte#1#2{%
1271 #1#2%
1272 |HyPsd@DoConvert
1273 }
1274 |endgroup

```

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

```

1275 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1276 \xdef#4{#4#1#2}%
1277 \HyPsd@@ConvertToUnicode#3\END#4%
1278 }

```

6.6.9 Support for UTF-8 input encoding

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

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

```

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

1279 \begingroup\expandafter\expandafter\expandafter\endgroup
1280 \expandafter\ifx\csname numexpr\endcsname\relax
1281   \let\HyPsd@UTFviii\relax
1282 \else
1283   \def\HyPsd@UTFviii{%
1284     \let\UTFviii@two@octets\HyPsd@UTFviii@two
1285     \let\UTFviii@three@octets\HyPsd@UTFviii@three
1286     \let\unichar\HyPsd@unichar
1287   }%

```

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.

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

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

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

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

$$(5)$$

```

1288 \def\HyPsd@UTFviii@two#1#2{%
1289   \expandafter\HyPsd@UTFviii@@two
1290   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|%
1291   \number'#1\expandafter|%
1292   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|%
1293   \number'#2 \@nil
1294 }%
1295 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1296   \expandafter\8%
1297   \number\numexpr #1-48\expandafter\relax
1298   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1299   \number\numexpr #3-8*%
1300   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1301   \number\numexpr #4-8*#3\relax
1302 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1303 \def\HyPsd@UTFviii@three#1#2#3{%
1304   \expandafter\HyPsd@UTFviii@@three

```

```

1305 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|%
1306 \number'#1\expandafter|%
1307 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|%
1308 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|%
1309 \number'#2\expandafter|%
1310 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|%
1311 \number'#3 \@nil
1312 }%
1313 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1314 \expandafter\9%
1315 \number\numexpr #1-56\expandafter\relax
1316 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1317 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1318 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1319 \number\numexpr #6-16\expandafter\relax
1320 \number\numexpr #7-8*#6\relax
1321 }%

```

Four octet form: 11110aab (A), 10bccdd (B), 10deeeff (C), and 10ggghhh (D). The result are two surrogate characters 110010aabbccddd and 11001eeeffggghhh, or as octal numbers \931a\bcd and \931e\fgh. The conversion equations:

$$a := A/2 - 120 \quad (13)$$

$$b := (isodd(A)?2 : 0) + (B/32 - 4) \quad (14)$$

$$c := (B - 32 * (B/32))/4 \quad (15)$$

$$d := 2 * (B - 4 * (B/4)) + (C/32 - 4) \quad (16)$$

$$e := (C - 32 * (C/32))/4 \quad (17)$$

$$f := C - 4 * C/4 \quad (18)$$

$$g := D/8 - 16 \quad (19)$$

$$h := D - 8 * (D/8) \quad (20)$$

$$(21)$$

```

1322 \def\HyPsd@UTFviii@four#1{%
1323 \expandafter\HyPsd@UTFviii@@four\number'#1|%
1324 }%
1325 \def\HyPsd@UTFviii@@four#1|#2|#3|#4{%
1326 \expandafter\HyPsd@UTFviii@@@four\number#1\expandafter|%
1327 \number'#2\expandafter|
1328 \number\dimexpr.03125\dimexpr'#2sp\expandafter|%
1329 \number'#3\expandafter|%
1330 \number\dimexpr.03125\dimexpr'#3sp\expandafter|%
1331 \number'#4\expandafter|%
1332 \number\dimexpr.125\dimexpr'#4|%
1333 }%
1334 \def\HyPsd@UTFviii@@@four#1|#2|#3|#4|#5|#6|#7|{%
1335 \931%
1336 \number\numexpr\dimexpr.5\dimexpr#1sp\relax\relax -120\relax
1337 \csname\number\numexpr\ifodd#1 2\else 0\fi +#3-4\relax\endcsname
1338 \number\dimexpr.25\dimexpr #2sp - 32\dimexpr#3sp\relax\relax\relax
1339 % ...
1340 }%

```

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

```

1341 \def\HyPsd@unichar#1{%
1342 \ifHy@unicode

```

```

1343 \ifnum#1>"10FFFF %
1344 \HyPsd@UnicodeReplacementCharacter % illegal
1345 \else
1346 \ifnum#1>"FFFF %

```

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

```

1347 \expandafter\HyPsd@unichar\expandafter{%
1348 \number\numexpr 55296+%
1349 \dimexpr.0009765625\dimexpr\number#1sp-\p@
1350 \relax\relax\relax
1351 }%

```

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

```

1352 \expandafter\HyPsd@unichar\expandafter{%
1353 \number\numexpr#1-9216%
1354 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1355 \relax\relax\relax
1356 }%
1357 \else
1358 \ifnum#1>"7FF %
1359 \9%
1360 \expandafter\HyPsd@unichar@first@byte\expandafter{%
1361 \number
1362 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1363 }%
1364 \else
1365 \8%
1366 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1367 \fi
1368 \expandafter\HyPsd@unichar@second@byte\expandafter{%
1369 \number
1370 \numexpr#1-256*\number
1371 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1372 }%
1373 \fi
1374 \fi
1375 \else
1376 .% unsupported (Unicode -> PDF Doc Encoding)
1377 \fi
1378 }%
1379 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}
1380 \def\HyPsd@unichar@first@byte#1{%
1381 \number\dimexpr.015625\dimexpr#1sp\relax\relax
1382 \expandafter\HyPsd@unichar@octtwo\expandafter{%
1383 \number
1384 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp\relax\relax\relax
1385 }%
1386 }%
1387 \def\HyPsd@unichar@second@byte#1{%
1388 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1389 \expandafter\HyPsd@unichar@octtwo\expandafter{%
1390 \number
1391 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp\relax\relax\relax
1392 }%
1393 }%
1394 \def\HyPsd@unichar@octtwo#1{%
1395 \number\dimexpr.125\dimexpr#1sp\relax\relax
1396 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp\relax\relax\relax

```

```

1397 }%
1398 \fi

```

7 Support of other packages

7.1 Class memoir

```

1399 \@ifclassloaded{memoir}{%
1400   \AtEndOfPackage{\RequirePackage{memhfixc}}%
1401 }{}

```

7.2 Package subfigure

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

```

1402 \@ifpackageloaded{subfigure}{%
1403   \@ifundefined{sub@label}{%
1404     \Hy@hypertextnamesfalse
1405   }{%
1406     \renewcommand*{\sub@label}[1]{%
1407       \@bsphack
1408       \subfig@oldlabel{#1}%
1409       \if@filesw
1410         \begingroup
1411           \edef\@currentlabstr{%
1412             \expandafter\strip@prefix\meaning\@currentlabelname
1413           }%
1414           \protected@write\@auxout{}{%
1415             \string\newlabel{sub@#1}{%
1416               {\@nameuse{@@thesub}\@capttype}}%
1417             {\thepage}%
1418             {\expandafter\strip@period\@currentlabstr\relax.\relax\@@@}%
1419             {\@currentHref}%
1420             {}%
1421           }%
1422         }%
1423       \endgroup
1424     \fi
1425     \@esphack
1426   }%
1427   \@ifpackagelater{subfigure}{2002/03/26}{%
1428     \providecommand*\toclevel@subfigure{1}%
1429     \providecommand*\toclevel@subtable{1}%
1430   }%
1431 }%
1432 }{}

```

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:

```

1433 \@ifundefined{XR@addURL}{%
1434 }{}

```

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.

```

1435 \def\xr@addURL#1{\xr@dURL#1{}{}{}{}\\}%

```

```

1436 \def\XR@dURL#1#2#3#4#5\{%
1437   {#1}-{#2}%
1438   \if!#4!%
1439   \else
1440     {#3}-{#4}-{\XR@URL}%
1441   \fi
1442 }%
1443 }

1444 \def\Hy@true{true}
1445 \def\Hy@false{false}

    Providing dummy definitions.

1446 \let\literalps@out@gobble
1447 \newcommand\pdfbookmark[3] [] {}
1448 \let\Acrobatmenu@gobble
1449 \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

```

1450 \let\HyperRaiseLinkLength\@tempdima
1451 \let\HyperRaiseLinkHook\@empty
1452 \def\HyperRaiseLinkDefault{\baselineskip}

\HyperRaiseLinkHook allows the user to reassign \HyperRaiseLinkLength.

1453 \def\Hy@raisedlink#1{%
1454   \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1455   \HyperRaiseLinkHook
1456   \ifvmode
1457     #1%
1458   \else
1459     \penalty\@M
1460     \smash{\raise\HyperRaiseLinkLength\hbox{#1}}%
1461   \fi
1462 }

```

<pre> \Hy@SaveLastskip \Hy@RestoreLastskip </pre>	<p>Inserting a <code>\special</code> command to set a destination destroys the <code>\lastskip</code> value.</p> <pre> 1463 \def\Hy@SaveLastskip{% 1464 \let\Hy@RestoreLastskip\relax 1465 \ifvmode 1466 \ifdim\lastskip=\z@ 1467 \let\Hy@RestoreLastskip\nobreak 1468 \else 1469 \begingroup 1470 \skip@=-\lastskip </pre>
---	---


```

1471         \edef\x{%
1472         \endgroup
1473         \def\noexpand\Hy@RestoreLastskip{%
1474         \noexpand\ifvmode
1475         \noexpand\nobreak
1476         \vskip\the\skip@
1477         \vskip\the\lastskip\relax
1478         \noexpand\fi
1479         }%
1480     }%
1481     \x
1482     \fi
1483 \else
1484     \ifhmode
1485     \ifdim\lastskip=\z@
1486     \let\Hy@RestoreLastskip\nobreak
1487     \else
1488     \begingroup
1489     \skip@=-\lastskip
1490     \edef\x{%
1491     \endgroup
1492     \def\noexpand\Hy@RestoreLastskip{%
1493     \noexpand\ifhmode
1494     \noexpand\nobreak
1495     \hskip\the\skip@
1496     \hskip\the\lastskip\relax
1497     \noexpand\fi
1498     }%
1499     }%
1500     \x
1501     \fi
1502     \fi
1503 \fi
1504 }%

```

9 Options

9.1 Help macros

\Hy@boolkey

```

1505 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
1506 \def\Hy@@boolkey[#1]#2#3{%
1507     \lowercase{\def\Hy@tempa{#3}}%
1508     \ifx\Hy@tempa\@empty
1509     \let\Hy@tempa\Hy@true
1510     \fi
1511     \ifx\Hy@tempa\Hy@true
1512     \else
1513     \ifx\Hy@tempa\Hy@false
1514     \else
1515     \let\Hy@tempa\relax
1516     \fi
1517     \fi
1518     \ifx\Hy@tempa\relax
1519     \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
1520     \else

```

```

1521 \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
1522 \csname Hy@#2\Hy@tempa\endcsname
1523 \fi
1524 }

```

\Hy@WarnOptionValue

```

1525 \def\Hy@WarnOptionValue#1#2#3{%
1526 \Hy@Warning{%
1527 Unexpected value ‘#1’\MessageBreak
1528 of option ‘#2’ instead of\MessageBreak
1529 #3%
1530 }
1531 }

```

\Hy@DisableOption

```

1532 \def\Hy@DisableOption#1{%
1533 \@ifundefined{KV@Hyp@#1@default}{%
1534 \define@key{Hyp}{#1}%
1535 }{%
1536 \define@key{Hyp}{#1}[]%
1537 }%
1538 {\Hy@WarnOptionDisabled{#1}}%
1539 }

```

\Hy@WarnOptionDisabled

```

1540 \def\Hy@WarnOptionDisabled#1{%
1541 \Hy@Warning{%
1542 Option ‘#1’ has already been used,\MessageBreak
1543 setting the option has no effect%
1544 }%
1545 }

```

\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.

```

1546 \def\Hy@CheckOptionValue#1#2#3{%
1547 \begingroup
1548 \edef\x{#1}%
1549 \@onelevel@sanitize\x
1550 \let\y=y%
1551 \def\do##1##2{%
1552 \def\z{##1}%
1553 \@onelevel@sanitize\z
1554 \ifx\x\z
1555 \let\y=n%
1556 \let\do\@gobbletwo
1557 \fi
1558 }%
1559 #3%
1560 \ifx\y y%
1561 \def\do##1##2{%
1562 * ‘##1’%
1563 \ifx\\##2\\\else\space(##2)\fi
1564 \MessageBreak
1565 }%
1566 \Hy@Warning{%
1567 Values of option ‘#2’:\MessageBreak
1568 #3%

```

```

1569      * An empty value disables the option.\MessageBreak
1570      Unknown value '\x'%
1571    }%
1572  \fi
1573 \endgroup
1574 }

\Hy@DefNameKey #1: option name
#2: \do list with known values, first argument of \do is value, second argument is a
comment.
1575 \def\Hy@DefNameKey#1{%
1576   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
1577 }

\Hy@@DefNameKey #1: macro for value storage
#2: option name
#3: \do list with known values.
1578 \def\Hy@@DefNameKey#1#2#3{%
1579   \define@key{Hyp}{#2}{%
1580     \edef#1{##1}%
1581     \ifx#1\@empty
1582       \else
1583         \Hy@CheckOptionValue{##1}{#2}{#3}%
1584       \fi
1585   }%
1586   \let#1\@empty
1587 }

\Hy@UseNameKey
1588 \def\Hy@UseNameKey#1#2{%
1589   \ifx#2\@empty
1590     \else
1591       /#1/#2%
1592     \fi
1593 }

```

9.2 Defining the options

```

1594 \define@key{Hyp}{implicit}[true]{%
1595   \Hy@boolkey{implicit}{#1}%
1596 }
1597 \define@key{Hyp}{draft}[true]{%
1598   \Hy@boolkey{draft}{#1}%
1599 }
1600 \define@key{Hyp}{final}[true]{%
1601   \Hy@boolkey{final}{#1}%
1602 }
1603 \let\KV@Hyp@nolinks\KV@Hyp@draft
1604 \define@key{Hyp}{a4paper}[true]{%
1605   \def\special@paper{210mm,297mm}%
1606   \def\Hy@pageheight{842}%
1607 }
1608 \define@key{Hyp}{a5paper}[true]{%
1609   \def\special@paper{148mm,210mm}%
1610   \def\Hy@pageheight{595}%
1611 }

```

```

1612 \define@key{Hyp}{b5paper}[true]{%
1613   \def\special@paper{176mm,250mm}%
1614   \def\Hy@pageheight{709}%
1615 }
1616 \define@key{Hyp}{letterpaper}[true]{%
1617   \def\special@paper{8.5in,11in}%
1618   \def\Hy@pageheight{792}%
1619 }
1620 \define@key{Hyp}{legalpaper}[true]{%
1621   \def\special@paper{8.5in,14in}%
1622   \def\Hy@pageheight{1008}%
1623 }
1624 \define@key{Hyp}{executivepaper}[true]{%
1625   \def\special@paper{7.25in,10.5in}%
1626   \def\Hy@pageheight{720}%
1627 }
1628 \define@key{Hyp}{setpagesize}[true]{%
1629   \Hy@boolkey{setpagesize}{#1}%
1630 }
1631 \define@key{Hyp}{debug}[true]{%
1632   \Hy@boolkey{debug}{verbose}{#1}%
1633 }
1634 \define@key{Hyp}{linktopage}[true]{%
1635   \Hy@boolkey{linktopage}{#1}%
1636 }
1637 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
1638 \def\XR@ext{dvi}
1639 \define@key{Hyp}{verbose}[true]{%
1640   \Hy@boolkey{verbose}{#1}%
1641 }
1642 \define@key{Hyp}{typexml}[true]{%
1643   \Hy@boolkey{typexml}{#1}%
1644 }

```

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.

```

1645 \define@key{Hyp}{raiselinks}[true]{%
1646   \Hy@boolkey{raiselinks}{#1}%
1647 }

```

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

```

1648 \define@key{Hyp}{breaklinks}[true]{%
1649   \Hy@boolkey{breaklinks}{#1}%
1650 }

```

Determines whether an automatic anchor is put on each page

```

1651 \define@key{Hyp}{pageanchor}[true]{%
1652   \Hy@boolkey{pageanchor}{#1}%
1653 }

```

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.

```

1654 \define@key{Hyp}{plainpages}[true]{%
1655   \Hy@boolkey{plainpages}{#1}%
1656 }

```

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

```

1657 \define@key{Hyp}{naturalnames}[true]{%
1658   \Hy@boolkey{naturalnames}{#1}%
1659 }

```

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

```

1660 \define@key{Hyp}{hypertexnames}[true]{%
1661   \Hy@boolkey{hypertexnames}{#1}%
1662 }

```

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

```

1663 \define@key{Hyp}{nesting}[true]{%
1664   \Hy@boolkey{nesting}{#1}%
1665 }

```

```

1666 \define@key{Hyp}{unicode}[true]{%
1667   \Hy@boolkey{unicode}{#1}%
1668   \HyPsd@InitUnicode
1669 }

```

10 Options for different drivers

```

1670 \define@key{Hyp}{hyperref}[true]{%
1671 \define@key{Hyp}{tex4ht}[true]{%
1672   \def\XR@ext{html}%
1673   \Hy@texhttrue
1674   \def\Hy@raisedlink{}%
1675   \setkeys{Hyp}{colorlinks=true}%
1676   \def\BeforeTeXIVht{\usepackage{color}}%
1677   \def\Hy@driver{htex4ht}%
1678   \def\MaybeStopEarly{%
1679     \typeout{Hyperref stopped early}%
1680     \AfterBeginDocument{\PDF@FinishDoc}%
1681     \endinput
1682   }%
1683 }
1684 \define@key{Hyp}{pdftex}[true]{%
1685   \def\Hy@driver{hpdftex}%
1686   \def\XR@ext{pdf}%
1687   \PassOptionsToPackage{pdftex}{color}%
1688   \Hy@breaklinkstrue
1689 }
1690 \define@key{Hyp}{dvipdf}[true]{%
1691   \Hy@WarningNoLine{%
1692     Option 'dvipdf' is deprecated.\MessageBreak
1693     See the user manual for available driver options%
1694   }%
1695 }
1696 \define@key{Hyp}{nativepdf}[true]{%
1697   \def\Hy@driver{hdvips}%
1698   \def\Hy@raisedlink{}%
1699   \def\XR@ext{pdf}%
1700 }
1701 \define@key{Hyp}{dvipdfm}[true]{%
1702   \def\Hy@driver{hdvipdfm}%
1703   \def\XR@ext{pdf}%
1704   \Hy@breaklinkstrue
1705 }
1706 \define@key{Hyp}{dvipdfmx}[true]{%

```

```

1707 \def\Hy@driver{hdvipdfm}%
1708 \def\XR@ext{pdf}%
1709 \Hy@breaklinkstrue
1710 }
1711 \define@key{Hyp}{xetex}[true]{%
1712 \def\Hy@driver{hdvipdfm}%
1713 \def\XR@ext{pdf}%
1714 \Hy@breaklinkstrue
1715 }
1716 \define@key{Hyp}{pdfmark}[true]{%
1717 \def\Hy@driver{hdvips}%
1718 \def\Hy@raisedlink{}%
1719 \def\XR@ext{pdf}%
1720 }
1721 \define@key{Hyp}{dvips}[true]{%
1722 \def\Hy@driver{hdvips}%
1723 \def\Hy@raisedlink{}%
1724 \def\XR@ext{pdf}%
1725 }
1726 \define@key{Hyp}{hypertex}[true]{%
1727 \def\Hy@driver{hypertex}%
1728 }
1729 \let\Hy@MaybeStopNow\relax
1730 \define@key{Hyp}{vtex}[true]{%
1731 \begingroup\expandafter\expandafter\expandafter\endgroup
1732 \expandafter\ifx\csname OpMode\endcsname\relax
1733 \latex@error{Non-VTeX processor}{}%
1734 \global\let\Hy@MaybeStopNow\endinput
1735 \endinput
1736 \else
1737 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
1738 \def\XR@ext{pdf}%
1739 \def\Hy@driver{hvtex}%
1740 \else
1741 \ifnum\OpMode=10\relax
1742 \def\XR@ext{htm}%
1743 \def\Hy@driver{hvtexhtm}%
1744 \def\MaybeStopEarly{%
1745 \typeout{Hyperref stopped early}%
1746 \AfterBeginDocument{\PDF@FinishDoc}%
1747 \endinput
1748 }%
1749 \else
1750 \latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
1751 \global\let\Hy@MaybeStopNow\endinput
1752 \endinput
1753 \fi
1754 \fi
1755 \fi
1756 }
1757 \define@key{Hyp}{vtexpdfmark}[true]{%
1758 \begingroup\expandafter\expandafter\expandafter\endgroup
1759 \expandafter\ifx\csname OpMode\endcsname\relax
1760 \latex@error{Non-VTeX processor}{}%
1761 \let\Hy@MaybeStopNow\endinput
1762 \endinput
1763 \else

```

```

1764 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
1765 \def\XR@ext{pdf}%
1766 \def\Hy@driver{hvtexmrk}%
1767 \def\Hy@raisedlink{}%
1768 \else
1769 \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
1770 \let\Hy@MaybeStopNow\endinput
1771 \endinput
1772 \fi
1773 \fi
1774 }
1775 \define@key{Hyp}{dviwindo}[true]{%
1776 \def\Hy@driver{hdvwind}%
1777 \setkeys{Hyp}{colorlinks}%
1778 \PassOptionsToPackage{dviwindo}{color}%
1779 }
1780 \define@key{Hyp}{dvipsone}[true]{%
1781 \def\XR@ext{pdf}%
1782 \def\Hy@driver{hdvipson}%
1783 \def\Hy@raisedlink{}%
1784 }
1785 \define@key{Hyp}{textures}[true]{%
1786 \def\XR@ext{pdf}%
1787 \def\Hy@driver{htexture}%
1788 }
1789 \define@key{Hyp}{latex2html}[true]{%
1790 \AtBeginDocument{\@latextohtmlX}%
1791 }

```

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

```

1792 \define@key{Hyp}{ps2pdf}[true]{%
1793 \def\Hy@driver{hdvips}%
1794 \def\Hy@raisedlink{}%
1795 \providecommand\@pdfborder{0 0 1}%
1796 }

```

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.

```

1797 \define@key{Hyp}{hyperfigures}[true]{%
1798 \Hy@boolkey[hyperfigures]{figures}{#1}%
1799 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

1800 \define@key{Hyp}{hyperfootnotes}[true]{%
1801 \Hy@boolkey[hyperfootnotes]{#1}%
1802 }

```

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

```

1803 \def\back@none{none}
1804 \def\back@section{section}
1805 \def\back@page{page}
1806 \def\back@slide{slide}
1807 \define@key{Hyp}{backref}[section]{%
1808 \lowercase{\def\Hy@tempa{#1}}%
1809 \ifx\Hy@tempa\@empty
1810 \let\Hy@tempa\back@section

```

```

1811 \fi
1812 \ifx\Hy@tempa\Hy@false
1813   \let\Hy@tempa\back@none
1814 \fi
1815 \ifx\Hy@tempa\back@slide
1816   \let\Hy@tempa\back@section
1817 \fi
1818 \ifx\Hy@tempa\back@page
1819   \PassOptionsToPackage{hyperpageref}{backref}%
1820   \Hy@backreftrue
1821 \else
1822   \ifx\Hy@tempa\back@section
1823     \PassOptionsToPackage{hyperref}{backref}%
1824     \Hy@backreftrue
1825   \else
1826     \ifx\Hy@tempa\back@none
1827       \Hy@backreffalse
1828     \else
1829       \Hy@WarnOptionValue{#1}{backref}{%
1830         'section', 'slide', 'page', 'none', \MessageBreak
1831         or 'false'}%
1832     \fi
1833   \fi
1834 \fi
1835 }
1836 \define@key{Hyp}{pagebackref}[true]{%
1837   \lowercase{\def\Hy@tempa{#1}}%
1838   \ifx\Hy@tempa\@empty
1839     \let\Hy@tempa\Hy@true
1840   \fi
1841   \ifx\Hy@tempa\Hy@true
1842     \PassOptionsToPackage{hyperpageref}{backref}%
1843     \Hy@backreftrue
1844   \else
1845     \ifx\Hy@tempa\Hy@false
1846       \Hy@backreffalse
1847     \else
1848       \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
1849     \fi
1850   \fi
1851 }

```

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

```

1852 \define@key{Hyp}{hyperindex}[true]{%
1853   \Hy@boolkey{hyperindex}{#1}%
1854 }

```

Configuration of encap char.

```

1855 \define@key{Hyp}{encap}[\l]{%
1856   \def\HyInd@EncapChar{#1}%
1857 }

```

12 Language options

The \autoref feature depends on the language.

```

1858 \def\HyLang@english{%

```



```

1859 \def\equationautorefname{Equation}%
1860 \def\footnoteautorefname{footnote}%
1861 \def\itemautorefname{item}%
1862 \def\figureautorefname{Figure}%
1863 \def\tableautorefname{Table}%
1864 \def\partautorefname{Part}%
1865 \def\appendixautorefname{Appendix}%
1866 \def\chapterautorefname{chapter}%
1867 \def\sectionautorefname{section}%
1868 \def\subsectionautorefname{subsection}%
1869 \def\subsubsectionautorefname{subsubsection}%
1870 \def\paragraphautorefname{paragraph}%
1871 \def\subparagraphautorefname{subparagraph}%
1872 \def\FancyVerbLineautorefname{line}%
1873 \def\theoremautorefname{Theorem}%
1874 }
1875 \def\HyLang@german{%
1876 \def\equationautorefname{Gleichung}%
1877 \def\footnoteautorefname{Fu\ss note}%
1878 \def\itemautorefname{Punkt}%
1879 \def\figureautorefname{Abbildung}%
1880 \def\tableautorefname{Tabelle}%
1881 \def\partautorefname{Teil}%
1882 \def\appendixautorefname{Anhang}%
1883 \def\chapterautorefname{Kapitel}%
1884 \def\sectionautorefname{Abschnitt}%
1885 \def\subsectionautorefname{Unterabschnitt}%
1886 \def\subsubsectionautorefname{Unterunterabschnitt}%
1887 \def\paragraphautorefname{Absatz}%
1888 \def\subparagraphautorefname{Unterabsatz}%
1889 \def\FancyVerbLineautorefname{Zeile}%
1890 \def\theoremautorefname{Theorem}%
1891 }
1892 \def\HyLang@portuges{%
1893 \def\equationautorefname{Equa\c c\~ao}%
1894 \def\footnoteautorefname{Nota de rodap\~e}%
1895 \def\itemautorefname{Item}%
1896 \def\figureautorefname{Figura}%
1897 \def\tableautorefname{Tabela}%
1898 \def\partautorefname{Parte}%
1899 \def\appendixautorefname{Ap\~endice}%
1900 \def\chapterautorefname{Cap\~itulo}%
1901 \def\sectionautorefname{Se\c c\~ao}%
1902 \def\subsectionautorefname{Subse\c c\~ao}%
1903 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
1904 \def\paragraphautorefname{par\~agrafo}%
1905 \def\subparagraphautorefname{subpar\~agrafo}%
1906 \def\FancyVerbLineautorefname{linha}%
1907 \def\theoremautorefname{Teorema}%
1908 }
1909 \def\HyLang@spanish{%
1910 \def\equationautorefname{Ecuaci\~on}%
1911 \def\footnoteautorefname{Nota a pie de p\~agina}%
1912 \def\itemautorefname{Elemento}%
1913 \def\figureautorefname{Figura}%
1914 \def\tableautorefname{Tabla}%
1915 \def\partautorefname{Parte}%

```

```

1916 \def\appendixautorefname{Ap\'endice}%
1917 \def\chapterautorefname{Cap\'itulo}%
1918 \def\sectionautorefname{Secci\'on}%
1919 \def\subsectionautorefname{Subsecci\'on}%
1920 \def\subsubsectionautorefname{Subsubsecci\'on}%
1921 \def\paragraphautorefname{P\'arrafo}%
1922 \def\subparagraphautorefname{Subp\'arrafo}%
1923 \def\FancyVerbLineautorefname{L\'inea}%
1924 \def\theoremautorefname{Teorema}%
1925 }
1926 \def\HyLang@afrikaans{%
1927 \def\equationautorefname{Vergelyking}%
1928 \def\footnoteautorefname{Voetnota}%
1929 \def\itemautorefname{Item}%
1930 \def\figureautorefname{Figuur}%
1931 \def\tableautorefname{Tabel}%
1932 \def\partautorefname{Deel}%
1933 \def\appendixautorefname{Bylae}%
1934 \def\chapterautorefname{Hoofstuk}%
1935 \def\sectionautorefname{Afdeling}%
1936 \def\subsectionautorefname{Subafdeling}%
1937 \def\subsubsectionautorefname{Subsubafdeling}%
1938 \def\paragraphautorefname{Paragraaf}%
1939 \def\subparagraphautorefname{Subparagraaf}%
1940 \def\FancyVerbLineautorefname{Lyn}%
1941 \def\theoremautorefname{Teorema}%
1942 }
1943 \def\HyLang@french{%
1944 \def\equationautorefname{\`Equation}%
1945 \def\footnoteautorefname{note}%
1946 \def\itemautorefname{item}%
1947 \def\figureautorefname{Figure}%
1948 \def\tableautorefname{Tableau}%
1949 \def\partautorefname{Partie}%
1950 \def\appendixautorefname{Appendice}%
1951 \def\chapterautorefname{chapitre}%
1952 \def\sectionautorefname{section}%
1953 \def\subsectionautorefname{sous-section}%
1954 \def\subsubsectionautorefname{sous-sous-section}%
1955 \def\paragraphautorefname{paragraphe}%
1956 \def\subparagraphautorefname{sous-paragraphe}%
1957 \def\FancyVerbLineautorefname{ligne}%
1958 \def\theoremautorefname{Th\'eor\'eme}%
1959 }
1960 \def\HyLang@vietnamese{%
1961 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr\'inh}%
1962 \def\footnoteautorefname{Ch\'u th\'ich}%
1963 \def\itemautorefname{m\du{c}}%
1964 \def\figureautorefname{H\'inh}%
1965 \def\tableautorefname{B\h{a}ng}%
1966 \def\partautorefname{Ph\'acircumflex{}n}%
1967 \def\appendixautorefname{Ph\d{u} l\d{u}c}%
1968 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
1969 \def\sectionautorefname{m\du{c}}%
1970 \def\subsectionautorefname{m\du{c}}%
1971 \def\subsubsectionautorefname{m\du{c}}%
1972 \def\paragraphautorefname{\dj{}o\d{a}n}%

```

```

1973 \def\subparagraphautorefname{\dj{o}{d{a}n}%
1974 \def\FancyVerbLineautorefname{d'ong}%
1975 \def\theoremautorefname{DJ{d{i}nh 1'y}%
1976 }

```

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

```

1977 \def\HyLang@addto#1#2{%
1978   #2%
1979   \@temptokena{#2}%
1980   \ifx#1\relax
1981     \let#1\@empty
1982   \fi
1983   \ifx#1\undefined
1984     \edef#1{\the\@temptokena}%
1985   \else
1986     \toks@\expandafter{#1}%
1987     \edef#1{\the\toks@\the\@temptokena}%
1988   \fi
1989   \@temptokena{}\toks@\@temptokena
1990 }

1991 \def\HyLang@DeclareLang#1#2{%
1992   \begingroup
1993     \edef\x##1##2{%
1994       \noexpand\ifx##2\relax
1995         \errmessage{No definitions for language #2' found!}%
1996       \noexpand\fi
1997     \endgroup
1998     \noexpand\define@key{Hyp}{#1}[]{%
1999       \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2000     }%
2001   }%
2002   \expandafter\x\csname extras#1\expandafter\endcsname
2003     \csname HyLang@#2\endcsname
2004 }

2005 \HyLang@DeclareLang{english}{english}
2006 \HyLang@DeclareLang{UKenglish}{english}
2007 \HyLang@DeclareLang{british}{english}
2008 \HyLang@DeclareLang{USenglish}{english}
2009 \HyLang@DeclareLang{american}{english}
2010 \HyLang@DeclareLang{german}{german}
2011 \HyLang@DeclareLang{austrian}{german}
2012 \HyLang@DeclareLang{ngerman}{german}
2013 \HyLang@DeclareLang{naustrian}{german}
2014 \HyLang@DeclareLang{brazil}{portuges}
2015 \HyLang@DeclareLang{brazilian}{portuges}
2016 \HyLang@DeclareLang{portuguese}{portuges}
2017 \HyLang@DeclareLang{spanish}{spanish}
2018 \HyLang@DeclareLang{afrikaans}{afrikaans}
2019 \HyLang@DeclareLang{french}{french}
2020 \HyLang@DeclareLang{frenchb}{french}
2021 \HyLang@DeclareLang{francais}{french}
2022 \HyLang@DeclareLang{acadian}{french}
2023 \HyLang@DeclareLang{canadien}{french}

```

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

```

2024 \define@key{Hyp}{vietnamese}[]{}%
2025 \HyLang@addto\extrasvietnamese\HyLang@vietnamese

```

```

2026 \AtEndOfPackage{%
2027   \ifundefined{T@PU}{-}{%
2028     \input{puvnenc.def}%
2029   }%
2030 }%
2031 }
2032 \define@key{Hyp}{vietnam}[]{%
2033   \HyLang@addto\extrasvietnam\HyLang@vietnamese
2034 \AtEndOfPackage{%
2035   \ifundefined{T@PU}{-}{%
2036     \input{puvnenc.def}%
2037   }%
2038 }%
2039 }

```

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

```

2040 \define@key{Hyp}{arabic}[]{%
2041   \AtEndOfPackage{%
2042     \ifundefined{T@PU}{-}{%
2043       \input{puarenc.def}%
2044     }%
2045   }%
2046 }

```

13 Options to change appearance of links

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

```

2047 \define@key{Hyp}{colorlinks}[true]{%
2048   \Hy@boolkey{colorlinks}{#1}%
2049   \ifHy@colorlinks
2050     \def\pdfborder{0 0 0}%
2051     \let\pdfborderstyle\@empty
2052   \fi
2053 }
2054 \define@key{Hyp}{frenchlinks}[true]{%
2055   \Hy@boolkey{frenchlinks}{#1}%
2056 }

```

14 Bookmarking

```

2057 \define@key{Hyp}{bookmarks}[true]{%
2058   \Hy@boolkey{bookmarks}{#1}%
2059 }
2060 \define@key{Hyp}{bookmarksopen}[true]{%
2061   \Hy@boolkey{bookmarksopen}{#1}%
2062 }

```

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.

```

2063 \let\Hy@bookmarksdepth\c@tocdepth
2064 \define@key{Hyp}{bookmarksdepth}[]{%
2065   \begingroup
2066     \edef\x{#1}%
2067     \ifx\x\empty
2068       \global\let\Hy@bookmarksdepth\c@tocdepth
2069     \else
2070       \@ifundefined{toclevel@\x}{%
2071         \@onelevel@sanitize\x
2072         \edef\y{\expandafter\@car\x\@nil}%
2073         \ifcase 0\expandafter\ifx\y-1\fi
2074           \expandafter\ifnum\expandafter'\y>47 %
2075             \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
2076           \Hy@Warning{Unknown document division name (\x)}%
2077         \else
2078           \setbox\z@=\hbox{%
2079             \count@=\x
2080             \xdef\Hy@bookmarksdepth{\the\count@}%
2081           }%
2082         \fi
2083       }{%
2084         \setbox\z@=\hbox{%
2085           \count@=\csname toclevel@\x\endcsname
2086           \xdef\Hy@bookmarksdepth{\the\count@}%
2087         }%
2088       }%
2089     \fi
2090   \endgroup
2091 }

```

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

```

2092 \define@key{Hyp}{bookmarksopenlevel}{%
2093   \def\@bookmarksopenlevel{#1}%
2094 }
2095 \def\@bookmarksopenlevel{\maxdimen}
2096 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
2097 \define@key{Hyp}{bookmarkstype}{%
2098   \def\Hy@bookmarkstype{#1}%
2099 }
2100 \def\Hy@bookmarkstype{toc}

```

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

```

2101 \define@key{Hyp}{bookmarksnumbered}[true]{%
2102   \Hy@boolkey{bookmarksnumbered}{#1}%
2103 }

```

Option `CJKbookmarks` enables the patch for CJK bookmarks.

```

2104 \define@key{Hyp}{CJKbookmarks}[true]{%
2105   \Hy@boolkey{CJKbookmarks}{#1}%
2106 }
2107 \define@key{Hyp}{linkcolor}{\def\@linkcolor{#1}}
2108 \define@key{Hyp}{anchorcolor}{\def\@anchorcolor{#1}}
2109 \define@key{Hyp}{citecolor}{\def\@citecolor{#1}}

```

```

2110 \define@key{Hyp}{urlcolor}{\def\@urlcolor{#1}}
2111 \define@key{Hyp}{menucolor}{\def\@menucolor{#1}}
2112 \define@key{Hyp}{filecolor}{\def\@filecolor{#1}}
2113 \define@key{Hyp}{pagecolor}{\def\@pagecolor{#1}}

```

Default values:

```

2114 \def\@linkcolor{red}
2115 \def\@anchorcolor{black}
2116 \def\@citecolor{green}
2117 \def\@filecolor{cyan}
2118 \def\@urlcolor{magenta}
2119 \def\@menucolor{red}
2120 \def\@pagecolor{red}
2121 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2122 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2123 \let\@baseurl\empty
2124 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2125 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2126 \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.

```

2127 \let\pdfpagetransition\relax
2128 \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.

```

2129 \let\pdfpageduration\relax
2130 \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.

```

2131 \newif\ifHy@useHidKey
2132 \Hy@useHidKeyfalse
2133 \define@key{Hyp}{pdfpagehidden}[true]{%
2134   \Hy@boolkey{pdfpagehidden}{#1}%
2135   \ifHy@pdfpagehidden
2136     \global\Hy@useHidKeytrue
2137   \fi
2138 }

```

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).

```

2139 \def\Hy@ColorList{cite,file,link,menu,page,run,url}
2140 \@for\Hy@temp:=\Hy@ColorList\do{%

```

```

2141 \edef\Hy@temp{%
2142   \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2143     \noexpand\Hy@bordercolor{\Hy@temp}{##1}{ }%
2144   }%
2145 }%
2146 \Hy@temp
2147 }
2148 \def\Hy@bordercolor#1#2#3{%
2149   \begingroup
2150   \Hy@safe@activetrue
2151   \@ifundefined{XC@edef}{\edef}{\XC@edef}\x{#2}%
2152   \expandafter\Hy@CheckColorSpec\x#3#3\@nil{#1}{#2}%
2153 }
2154 \def\Hy@CheckColorSpec#1 #2 #3\@nil#4#5{%
2155   \ifx\#3\%
2156     \@ifundefined{XC@bordercolor}{%
2157       \Hy@Warning{%
2158         Unsupported color specification (#4bordercolor).\MessageBreak
2159         Load package 'xcolor' (version >= 2.11) first.\MessageBreak
2160         Ignoring color specification%
2161       }%
2162     \endgroup
2163   }{%
2164     \endgroup
2165     \XC@bordercolor{#4}{#5}%
2166   }%
2167 \else
2168   \endgroup
2169   \@namedef{@#4bordercolor}{#5}%
2170 \fi
2171 }

2172 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
2173 \Hy@DefNameKey{pdfhighlight}{%
2174   \do{/I}{Invert}%
2175   \do{/N}{None}%
2176   \do{/O}{Outline}%
2177   \do{/P}{Push}%
2178 }
2179 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
2180 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
2181 \def\Hy@setpdfborder{%
2182   \ifx\@pdfborder\@empty
2183   \else
2184     /Border[\@pdfborder]%
2185   \fi
2186   \ifx\@pdfborderstyle\@empty
2187   \else
2188     /BS<<\@pdfborderstyle>>%
2189   \fi
2190 }
2191 \Hy@DefNameKey{pdfpagemode}{%
2192   \do{UseNone}{}%
2193   \do{UseOutlines}{}%
2194   \do{UseThumbs}{}%
2195   \do{FullScreen}{}%
2196   \do{UseOC}{PDF 1.5}%
2197   \do{UseAttachments}{PDF 1.6}%

```

```

2198 }
2199 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2200   \do{UseNone}{}%
2201   \do{UseOutlines}{}%
2202   \do{UseThumbs}{}%
2203   \do{FullScreen}{}%
2204   \do{UseOC}{PDF 1.5}%
2205   \do{UseAttachments}{PDF 1.6}%
2206 }
2207 \Hy@DefNameKey{pdfdirection}{%
2208   \do{L2R}{Left to right}%
2209   \do{R2L}{Right to left}%
2210 }
2211 \Hy@DefNameKey{pdfviewarea}{%
2212   \do{MediaBox}{}%
2213   \do{CropBox}{}%
2214   \do{BleedBox}{}%
2215   \do{TrimBox}{}%
2216   \do{ArtBox}{}%
2217 }
2218 \Hy@DefNameKey{pdfviewclip}{%
2219   \do{MediaBox}{}%
2220   \do{CropBox}{}%
2221   \do{BleedBox}{}%
2222   \do{TrimBox}{}%
2223   \do{ArtBox}{}%
2224 }
2225 \Hy@DefNameKey{pdfprintarea}{%
2226   \do{MediaBox}{}%
2227   \do{CropBox}{}%
2228   \do{BleedBox}{}%
2229   \do{TrimBox}{}%
2230   \do{ArtBox}{}%
2231 }
2232 \Hy@DefNameKey{pdfprintclip}{%
2233   \do{MediaBox}{}%
2234   \do{CropBox}{}%
2235   \do{BleedBox}{}%
2236   \do{TrimBox}{}%
2237   \do{ArtBox}{}%
2238 }
2239 \Hy@DefNameKey{pdfprintscaling}{%
2240   \do{AppDefault}{}%
2241   \do{None}{}%
2242 }
2243 \Hy@DefNameKey{pdfduplex}{%
2244   \do{Simplex}{}%
2245   \do{DuplexFlipShortEdge}{}%
2246   \do{DuplexFlipLongEdge}{}%
2247 }
2248 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
2249   \do{true}{}%
2250   \do{false}{}%
2251 }
2252 \define@key{Hyp}{pdfprintpagerange}{%
2253   \def\@pdfprintpagerange{#1}%
2254 }

```



```

2255 \Hy@DefNameKey{pdfnumcopies}{%
2256   \do{2}{two copies}%
2257   \do{3}{three copies}%
2258   \do{4}{four copies}%
2259   \do{5}{five copies}%
2260 }
2261 \define@key{Hyp}{pdfusetitle}[true]{%
2262   \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
2263 }
2264 \define@key{Hyp}{pdftitle}{\pdfstringdef\@pdftitle{#1}}
2265 \define@key{Hyp}{pdfauthor}{\pdfstringdef\@pdfauthor{#1}}
2266 \define@key{Hyp}{pdfproducer}{\pdfstringdef\@pdfproducer{#1}}
2267 \define@key{Hyp}{pdfcreator}{\pdfstringdef\@pdfcreator{#1}}
2268 \define@key{Hyp}{pdfcreationdate}{\pdfstringdef\@pdfcreationdate{#1}}
2269 \define@key{Hyp}{pdfmoddate}{\pdfstringdef\@pdfmoddate{#1}}
2270 \define@key{Hyp}{pdfsubject}{\pdfstringdef\@pdfsubject{#1}}
2271 \define@key{Hyp}{pdfkeywords}{\pdfstringdef\@pdfkeywords{#1}}
2272 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
2273 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
2274 \let\setpdflinkmargin\@gobble
2275 \def\calculate@pdfview#1 #2\{%
2276   \def\@pdfview{#1}%
2277   \ifx\@#2\%
2278     \def\@pdfviewparams{ -32768}%
2279   \else
2280     \def\@pdfviewparams{ #2}%
2281   \fi
2282 }
2283 \define@key{Hyp}{pdfstartpage}{\def\@pdfstartpage{#1}}
2284 \define@key{Hyp}{pdfstartview}{%
2285   \ifx\@#1\%
2286     \def\@pdfstartview{}%
2287   \else
2288     \hypercalcbpdef\@pdfstartview{ /#1 }%
2289   \fi
2290 }
2291 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
2292 \define@key{Hyp}{pdftoolbar}[true]{%
2293   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
2294 }
2295 \define@key{Hyp}{pdfmenubar}[true]{%
2296   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
2297 }
2298 \define@key{Hyp}{pdfwindowui}[true]{%
2299   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
2300 }
2301 \define@key{Hyp}{pdffitwindow}[true]{%
2302   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
2303 }
2304 \define@key{Hyp}{pdfcenterwindow}[true]{%
2305   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
2306 }
2307 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
2308   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
2309 }
2310 \define@key{Hyp}{pdfnewwindow}[true]{%
2311   \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%

```

```

2312 }
2313 \Hy@DefNameKey{pdfpagelayout}{%
2314   \do{SinglePage}{}%
2315   \do{OneColumn}{}%
2316   \do{TwoColumnLeft}{}%
2317   \do{TwoColumnRight}{}%
2318   \do{TwoPageLeft}{PDF 1.5}%
2319   \do{TwoPageRight}{PDF 1.5}%
2320 }
2321 \define@key{Hyp}{pdflang}{%
2322   \def\@pdflang{#1}%
2323 }
2324 \define@key{Hyp}{pdfpagelabels}[true]{%
2325   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
2326 }
2327 \define@key{Hyp}{pdfescapeform}[true]{%
2328   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
2329 }

```

Default values:

```

2330 \def\@linkbordercolor{1 0 0}
2331 \def\@urlbordercolor{0 1 1}
2332 \def\@menubordercolor{1 0 0}
2333 \def\@filebordercolor{0 .5 .5}
2334 \def\@runbordercolor{0 .7 .7}
2335 \def\@citebordercolor{0 1 0}
2336 \def\@pagebordercolor{1 1 0}
2337 \def\@pdfhighlight{/I}
2338 \def\@pdftitle{}
2339 \def\@pdfauthor{}
2340 \let\@pdfproducer\relax
2341 \def\@pdfcreator{LaTeX with hyperref package}
2342 \def\@pdfcreationdate{}
2343 \def\@pdfmoddate{}
2344 \def\@pdfsubject{}
2345 \def\@pdfkeywords{}
2346 \def\@pdfpagescrop{}
2347 \def\@pdfstartview{/Fit }
2348 \def\@pdfstartpage{1}
2349 \def\@pdfprintpagerange{}
2350 \def\@pdflang{}
2351 \let\PDF@SetupDoc\@empty
2352 \let\PDF@FinishDoc\@empty
2353 \let\phantomsection\@empty
2354 \@ifundefined{stockwidth}{%
2355   \edef\special@paper{\the\paperwidth,\the\paperheight}
2356 }{%
2357   \edef\special@paper{\the\stockwidth,\the\stockheight}
2358 }
2359 \begingroup
2360   \dimen@=\@ifundefined{stockheight}{\paperheight}{\stockheight}\relax
2361   \dimen@=0.99626401\dimen@
2362   \xdef\Hy@pageheight{\strip@pt\dimen@}
2363 \endgroup
2364 \def\HyInd@EncapChar{||}
2365 \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.

```

2366 \let\hyper@normalise\ExecuteOptions
2367 \let\ExecuteOptions\hypersetup
2368 \Hy@RestoreCatcodes
2369 \InputIfFileExists{hyperref.cfg}{-}{-}
2370 \Hy@SetCatcodes
2371 \let\ExecuteOptions\hyper@normalise
2372 \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`.

```

2373 \RequirePackage{kvoptions}[2006/08/17]

```

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

```

2374 \@ifpackageloaded{tex4ht}{%
2375   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
2376   \PassOptionsToPackage{tex4ht}{hyperref}%
2377 }%
2378 }{}

2379 \let\ReadBookmarks\relax
2380 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

2381 \AtBeginDocument{%
2382   \ifHy@draft
2383     \let\hyper@@anchor@gobble
2384     \gdef\hyper@link#1#2#3{#3}%
2385     \let\hyper@anchorstart@gobble
2386     \let\hyper@anchorend@empty
2387     \let\hyper@linkstart@gobbletwo
2388     \let\hyper@linkend@empty
2389     \def\hyper@linkurl#1#2{#1}%
2390     \def\hyper@linkfile#1#2#3{#1}%
2391     \def\Acrobatmenu#1#2{#2}%
2392     \let\PDF@SetupDoc@empty
2393     \let\PDF@FinishDoc@empty
2394     \let\@fifthoffive\@secondoftwo
2395     \let\@secondoffive\@secondoftwo
2396     \let\ReadBookmarks\relax
2397     \let\WriteBookmarks\relax
2398     \Hy@WarningNoLine{ draft mode on}%
2399   \fi
2400   \Hy@DisableOption{draft}%
2401   \Hy@DisableOption{nolinks}%
2402   \Hy@DisableOption{final}%
2403 }%

```

If option `unicode` is already processed, then the command `\HyPsd@InitUnicode` is cleared after execution. Then the option code only sets the meaning of the switch `\ifHy@unicode`.

```

2404 \ifx\HyPsd@InitUnicode\relax
2405   \define@key{Hyp}{unicode}[true]{%
2406     \Hy@boolkey{unicode}{#1}%

```

```

2407 }
2408 \else
2409   \define@key{Hyp}{unicode}[true]{%
2410     \Hy@boolkey{unicode}{#1}%
2411     \ifHy@unicode
2412       \Hy@WarningNoLine{Set package option 'unicode' first\MessageBreak
2413         in order to load unicode support%
2414       }%
2415     \Hy@unicodedefalse
2416   \fi
2417 }
2418 \fi

```

The macro `\HyPsd@InitUnicode` is no longer needed.

```

2419 \let\HyPsd@InitUnicode\@undefined

```

15.1 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.

```

2420 \Hy@nextfalse
2421 \@ifpackagewith{babel}{spanish}{\Hy@nexttrue}{}
2422 \@ifpackagewith{babel}{galician}{\Hy@nexttrue}{}
2423 \@ifpackagewith{babel}{estonian}{\Hy@nexttrue}{}
2424 \ifHy@next
2425   \let\texttilde~%
2426 \fi

2427 \ifHy@figures
2428   \Hy@Info{Hyper figures ON}
2429 \else
2430   \Hy@Info{Hyper figures OFF}
2431 \fi

2432 \ifHy@nesting
2433   \Hy@Info{Link nesting ON}
2434 \else
2435   \Hy@Info{Link nesting OFF}
2436 \fi

2437 \ifHy@hyperindex
2438   \Hy@Info{Hyper index ON}
2439 \else
2440   \Hy@Info{Hyper index OFF}
2441 \fi

2442 \ifHy@plainpages
2443   \Hy@Info{Plain pages ON}
2444 \else
2445   \Hy@Info{Plain pages OFF}
2446 \fi

2447 \ifHy@backref
2448   \Hy@Info{Backreferencing ON}
2449 \else
2450   \Hy@Info{Backreferencing OFF}
2451 \fi

2452 \ifHy@typexml
2453   \AtEndOfPackage{\RequirePackage{color}\RequirePackage{nameref}}
2454 \fi

2455 \Hy@DisableOption{typexml}
2456 \ifHy@implicit

```

```

2457 \typeout{Implicit mode ON; LaTeX internals redefined}%
2458 \else
2459 \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
2460 \def\MaybeStopEarly{%
2461   \typeout{Hyperref stopped early}%
2462   \AfterBeginDocument{\PDF@FinishDoc}%
2463   \endinput
2464 }%
2465 \AtBeginDocument{%
2466   \let\autoref\ref
2467   \ifx\@pdfpagemode\@empty
2468     \gdef\@pdfpagemode{UseNone}%
2469   \fi
2470   \global\Hy@backreffalse
2471 }%
2472 \AtEndOfPackage{%
2473   \global\let\ReadBookmarks\relax
2474   \global\let\WriteBookmarks\relax
2475 }%
2476 \fi
2477 \Hy@DisableOption{implicit}

```

15.1.1 Driver loading

```

2478 \AtEndOfPackage{%
2479   \@ifpackageloaded{tex4ht}{%
2480     \def\Hy@driver{htex4ht}%
2481     \Hy@texhttrue
2482   }{%
2483     \ifx\Hy@driver\@empty
2484       \providecommand*\Hy@defaultdriver{hypertex}%
2485       \begingroup\expandafter\expandafter\expandafter\endgroup
2486       \expandafter\ifx\csname pdfoutput\endcsname\relax
2487         \begingroup\expandafter\expandafter\expandafter\endgroup
2488         \expandafter\ifx\csname OpMode\endcsname\relax
2489           \begingroup\expandafter\expandafter\expandafter\endgroup
2490           \expandafter\ifx\csname XeTeXversion\endcsname\relax
2491             \let\Hy@driver\Hy@defaultdriver
2492           \else
2493             \def\Hy@driver{hdvipdfm}%
2494           \fi
2495         \else
2496           \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2497             \def\Hy@driver{hvtex}%
2498             \def\XR@ext{pdf}%
2499           \else
2500             \ifnum\OpMode=10\relax
2501               \def\XR@ext{htm}%
2502             \def\Hy@driver{hvtexhtm}%
2503             \def\MaybeStopEarly{%
2504               \typeout{Hyperref stopped early}%
2505               \AfterBeginDocument{\PDF@FinishDoc}%
2506             \endinput
2507             }%
2508           \else
2509             \let\Hy@driver\Hy@defaultdriver
2510           \fi

```

```

2511     \fi
2512 \fi
2513 \else
2514   \ifnum\pdfoutput<1 %
2515     \let\Hy@driver\Hy@defaultdriver
2516   \else
2517     \def\Hy@driver{hpdftex}%
2518     \def\XR@ext{pdf}%
2519     \PassOptionsToPackage{pdftex}{color}%
2520     \Hy@breaklinkstrue
2521   \fi
2522 \fi
2523 \ifx\Hy@driver\Hy@defaultdriver
2524   \def\Hy@temp{hdvips}%
2525   \ifx\Hy@temp\Hy@driver
2526     \def\Hy@raisedlink{}%
2527     \def\XR@ext{pdf}%
2528   \fi
2529   \def\Hy@temp{hdvipdfm}%
2530   \ifx\Hy@temp\Hy@driver
2531     \def\XR@ext{pdf}%
2532     \Hy@breaklinkstrue
2533   \fi
2534   \def\Hy@temp{hdviwind}%
2535   \ifx\Hy@temp\Hy@driver
2536     \setkeys{Hyp}{colorlinks}%
2537     \PassOptionsToPackage{dviwindo}{color}%
2538   \fi
2539   \def\Hy@temp{hdvipson}%
2540   \ifx\Hy@temp\Hy@driver
2541     \def\XR@ext{pdf}%
2542     \def\Hy@raisedlink{}%
2543   \fi
2544   \def\Hy@temp{textures}%
2545   \ifx\Hy@temp\Hy@driver
2546     \def\XR@ext{pdf}%
2547   \fi
2548 \fi
2549 \typeout{*hyperref using default driver \Hy@driver*}%
2550 \else
2551   \typeout{*hyperref using driver \Hy@driver*}%
2552 \fi
2553 \input{\Hy@driver.def}%
2554 \let\@unprocessedoptions\relax
2555 \Hy@RestoreCatcodes
2556 }
2557 \Hy@DisableOption{tex4ht}
2558 \Hy@DisableOption{pdftex}
2559 \Hy@DisableOption{dvipdf}
2560 \Hy@DisableOption{nativepdf}
2561 \Hy@DisableOption{dvipdfm}
2562 \Hy@DisableOption{pdfmark}
2563 \Hy@DisableOption{dvips}
2564 \Hy@DisableOption{hypertex}
2565 \Hy@DisableOption{vtex}
2566 \Hy@DisableOption{vtexpdfmark}
2567 \Hy@DisableOption{dviwindo}

```

```

2568 \Hy@DisableOption{dvipsone}
2569 \Hy@DisableOption{textures}
2570 \Hy@DisableOption{latex2html}
2571 \Hy@DisableOption{ps2pdf}
2572 \Hy@DisableOption{xetex}

```

15.1.2 Bookmarks

```

2573 \def\WriteBookmarks{0}
2574 \def\@bookmarkopenstatus#1{%
2575   \ifHy@bookmarksopen

```

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

```

2576   \ifnum#1<\expandafter\@firstofone\expandafter
2577       {\number\@bookmarksopenlevel} % explicit space
2578   \else
2579     -%
2580   \fi
2581 \else
2582   -%
2583 \fi
2584 }
2585 \ifHy@bookmarks
2586   \Hy@Info{Bookmarks ON}%
2587   \ifx\@pdfpagemode\@empty
2588     \def\@pdfpagemode{UseOutlines}%
2589   \fi
2590 \else
2591   \def\@bookmarkopenstatus#1{%
2592     \Hy@Info{Bookmarks OFF}%
2593     \AtEndOfPackage{%
2594       \global\let\ReadBookmarks\relax
2595       \global\let\WriteBookmarks\relax
2596     }
2597     \ifx\@pdfpagemode\@empty
2598       \def\@pdfpagemode{UseNone}%
2599     \fi
2600 \fi
2601 \Hy@DisableOption{bookmarks}

```

\Hy@colorlink expects a macro as argument. It contains the color specification.

```

2602 \AtBeginDocument{%
2603   \ifHy@colorlinks
2604     \ifHy@typexml\else\RequirePackage{color}\fi
2605     \def\Hy@colorlink#1{%
2606       \begingroup
2607         \expandafter\Hy@colorscan\expandafter#1#1\@nil%
2608       }%
2609       \def\Hy@colorscan#1{%
2610         \@ifnextchar[% ]
2611         {%
2612           \Hy@@colorscan
2613         }{%
2614           \expandafter\color\expandafter#1\@car{}%
2615         }%
2616       }%
2617       \def\Hy@@colorscan#1\@nil{\color#1}%
2618       \def\Hy@endcolorlink{\endgroup}%

```

```

2619 \Hy@Info{Link coloring ON}%
2620 \else
2621 \ifHy@frenchlinks
2622 \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
2623 \def\Hy@endcolorlink{\endgroup}%
2624 \Hy@Info{French linking ON}%
2625 \else
for grouping consistency:
2626 \def\Hy@colorlink#1{\begingroup}%
2627 \def\Hy@endcolorlink{\endgroup}%
2628 \Hy@Info{Link coloring OFF}%
2629 \fi
2630 \fi
2631 \Hy@DisableOption{colorlinks}%
2632 \Hy@DisableOption{frenchlinks}%
2633 \ifHy@texht
2634 \long\def\@firstoffive#1#2#3#4#5{#1}%
2635 \long\def\@secondoffive#1#2#3#4#5{#2}%
2636 \long\def\@thirdoffive#1#2#3#4#5{#3}%
2637 \long\def\@fourthoffive#1#2#3#4#5{#4}%
2638 \long\def\@fifthoffive#1#2#3#4#5{#5}%
2639 \providecommand*\@safe@activestruer{}%
2640 \providecommand*\@safe@activesfalses{}%
2641 \def\T@ref#1{%
2642 \Hy@safe@activestruer
2643 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
2644 \Hy@safe@activesfalses
2645 }%
2646 \def\T@pageref#1{%
2647 \Hy@safe@activestruer
2648 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
2649 \Hy@safe@activesfalses
2650 }%
2651 \else
2652 \ifHy@typexml\else\RequirePackage{nameref}\fi
2653 \fi
2654 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
2655 \DeclareRobustCommand\pageref{%
2656 \@ifstar\@pagerefstar\T@pageref
2657 }%
2658 }
2659 \AfterBeginDocument{%
2660 \ifHy@texht
2661 \else
2662 \ReadBookmarks
2663 \fi
2664 }

2665 \ifHy@backref
2666 \RequirePackage{backref}
2667 \else
2668 \let\Hy@backout\@gobble
2669 \fi
2670 \Hy@DisableOption{backref}
2671 \Hy@DisableOption{pagebackref}
2672 \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.

```
2673 \begingroup
2674   \endlinechar=-1
2675   \catcode'\^M\active
2676   \catcode'\%\active
2677   \catcode'\#\active
2678   \catcode'\_\active
2679   \catcode'\$\active
2680   \gdef\hyper@normalise{
2681     \begingroup
2682     \catcode'\^M\active
2683     \def^^M{ }
2684     \catcode'\%\active
2685     \let%\@percentchar
2686     \let%\@percentchar
2687     \catcode'\#\active
2688     \def#{\hyper@hash}
2689     \def\#{\hyper@hash}
2690     \@makeother\&
2691     \edef\textunderscore{\string_}
2692     \let\_ \textunderscore
2693     \catcode'\_\active
2694     \let\_ \textunderscore
2695     \let~\hyper@tilde
2696     \let~\hyper@tilde
2697     \let\textasciitilde\hyper@tilde
2698     \let\\\@backslashchar
2699     \edef$\{ \string$}
2700     \Hy@safe@activetrue
2701     \hyper@n@rmalise
2702   }
2703   \catcode'\#=6
2704   \gdef\hyper@n@rmalise#1#2{
2705     \edef\Hy@tempa{
2706       \endgroup
2707       \noexpand#1{\Hy@RemovePercentCr#2%\^M\@nil}
2708     }
2709     \Hy@tempa
2710   }
2711   \gdef\Hy@RemovePercentCr#1%\^M#2\@nil{
2712     #1
2713     \ifx\limits#2\limits
2714     \else
2715       \Hy@ReturnAfterFi{
2716         \Hy@RemovePercentCr #2\@nil
2717       }
2718     \fi
2719   }
2720 \endgroup
2721 \providecommand\hyper@chars{%
```

```

2722 \let\#\hyper@hash
2723 \let%\@percentchar
2724 }

2725 \def\hyperlink#1#2{%
2726   \hyper@@link{#1}{#2}%
2727 }

2728 \DeclareRobustCommand*\href{\hyper@normalise\href@}
2729 \begingroup
2730   \catcode'\$=6
2731   \catcode'\#=12
2732   \gdef\href$1{\expandafter\href@split$1##\}
2733   \gdef\href@split$1#$2##$3\{\%
2734     \hyper@@link{$1}{$2}%
2735   }
2736 \endgroup

```

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

```

2737 \RequirePackage{url}
2738 \let\HyOrg@url\url
2739 \def\Hurl{\begingroup \Url}
2740 \let\nolinkurl\Hurl
2741 \DeclareRobustCommand*\url{\hyper@normalise\url@}
2742 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

2743 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
2744 \providecommand\hyper@image[2]{#2}

2745 \def\hypertarget#1#2{%
2746   \ifHy@nesting
2747     \hyper@@anchor{#1}{#2}%
2748   \else
2749     \hyper@@anchor{#1}{\relax}#2%
2750   \fi
2751 }

```

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

```

2752 \DeclareRobustCommand*\hyperref{\%
2753   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
2754 }

2755 \def\Hy@babelnormalise#1[#2]{%
2756   \begingroup
2757     \Hy@safe@activetrue
2758     \edef\Hy@tempa{%
2759       \endgroup
2760       \noexpand#1[#2]}%
2761   }%
2762   \Hy@tempa
2763 }

2764 \def\@hyperref{\hyper@normalise\@hyperref}
2765 \def\@hyperref#1#2#3{%
2766   \edef\ref@one{\ifx\\#2\\\else#2.\fi#3}%
2767   \expandafter\tryhyper@link\ref@one\{#1}%
2768 }

```

```

2769 \def\tryhyper@link#1\#2{%
2770   \hyper@@link{#2}{#1}%
2771 }

2772 \def\hyperdef{\@ifnextchar[{\label@hyperdef}{\@hyperdef}}
2773 \def\@hyperdef#1#2#3{%, category, name, text
2774   \ifHy@nesting
2775     \hyper@@anchor{#1.#2}{#3}%
2776   \else
2777     \hyper@@anchor{#1.#2}{\relax}#3%
2778   \fi
2779 }

```

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

```

2780 \def\label@hyperref[#1]{%
2781   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
2782 }%
2783 \def\label@@hyperref#1#2#3{%
2784   \ifx#1\relax
2785     \protect\G@refundefinedtrue
2786     \@latex@warning{%
2787       Hyper reference ‘#2’ on page \thepage \space undefined%
2788     }%
2789     \hyper@@link{}{??}{#3}%
2790   \else
2791     \hyper@@link{\expandafter\@fifthoffive#1}%
2792       {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
2793   \fi
2794 }
2795 \def\label@hyperdef[#1]#2#3#4{ label name, category, name,
2796                               % anchor text
2797   \@bsphack
2798   \if@filesw
2799     \protected@write\@auxout{%
2800       {\string\newlabel{#1}{#2}{#3}{#4}}%
2801     \fi
2802   \@esphack
2803   \ifHy@nesting
2804     \hyper@@anchor{#2.#3}{#4}%
2805   \else
2806     \hyper@@anchor{#2.#3}{\relax}#4%
2807   \fi
2808 }

```

17 Underlying basic hypertext macros

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

```

2809 \def\hyper@@link{\let\Hy@reserved@a\relax
2810   \@ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
2811 }
2812 \def\hyper@link@[#1]#2#3#4{%
2813   \begingroup
2814     \protected@edef\Hy@tempa{#2}%

```

```

2815 \Hy@safe@activetrue
2816 \edef\x{#3}%
2817 \ifx\Hy@tempa\@empty
2818 \toks0{\hyper@link{#1}}%
2819 \else
2820 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
2821 \fi
2822 \toks1{#{#4}}%
2823 \edef\x{\endgroup
2824 \the\toks0 \x\the\toks1 %
2825 }%
2826 \x
2827 }

```

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.

```

2828 \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.

```

2829 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
2830 }

```

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

```

2831 \def\@pdftempwordfile{file}%
2832 \def\@pdftempwordrun{run}%
2833 \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 :

```

2834 \ifx\#6\%
2835 \expandafter\@hyper@linkfile file:#7\{#3}{#2}%
2836 \else
2837 \ifx\#4\%
2838 \expandafter\@hyper@linkfile file:#7\{#3}{#2}%
2839 \else

```

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

```

2840 \def\@pdftempa{#4}%
2841 \ifx\@pdftempa\@pdftempwordfile
2842 \expandafter\@hyper@linkfile#7\{#3}{#2}%
2843 \else

```

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

```
2844      \ifx\@pdftempa\@pdftempwordrun
2845      \expandafter\@hyper@launch#7\{\#3}\#2}%
2846      \else
```

otherwise its a URL

```
2847      \hyper@linkurl{\#3}\#7\ifx\#2\\\else\hyper@hash#2\fi}%
2848      \fi
2849      \fi
2850      \fi
2851      \fi
2852 }
```

By default, turn run: into file:

```
2853 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
2854   \hyper@linkurl{\#2}\Hy@linkfileprefix#1\ifx\#3\\\else\hyper@hash#3\fi}%
2855 }
```

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

```
2856 \def\@hyper@linkfile file:#1\#2#3{%
2857   %file url,link string, name
2858   \filename@parse{\#1}%
2859   \ifx\filename@ext\relax
2860     \edef\filename@ext{\XR@ext}%
2861   \fi
2862   \def\use@file{\filename@area\filename@base.\filename@ext}%
2863   \ifx\filename@ext\XR@ext
2864     \hyper@linkfile{\#2}\{use@file}\#3}%
2865   \else
2866     \ifx\@baseurl\@empty
2867       \hyper@linkurl{\#2}\{
2868         \Hy@linkfileprefix\use@file\ifx\#3\\\else\hyper@hash#3\fi
2869       }\%
2870     \else
2871       \hyper@linkurl{\#2}\{use@file\ifx\#3\\\else\hyper@hash#3\fi}%
2872     \fi
2873   \fi
2874 }
```

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.

```
2875 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
2876 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
2877   \ifx\#1\%
2878     #2\Hy@WarningNoLine{empty link? #1: #2#3}%
2879   \else
2880     \def\anchor@spot{\#2#3}%
2881     \let\put@me@back\@empty
2882     \ifx\relax#2\relax
2883     \else
2884       \ifHy@nesting
2885       \else
```

```

2886     \ifcat a\noexpand#2\relax
2887     \else
2888         \ifcat 0\noexpand#2 \relax
2889         \else
2890             \typeout{Anchor start is not alphanumeric %
2891             on input line\the\inputlineno%
2892             }%
2893             \let\anchor@spot\@empty
2894             \def\put@me@back{#2#3}%
2895         \fi
2896     \fi
2897 \fi
2898 \fi
2899 \ifHy@activeanchor
2900     \anchor@spot
2901 \else
2902     \hyper@anchor{#1}%
2903 \fi
2904 \expandafter\put@me@back
2905 \fi
2906 \let\anchor@spot\@empty
2907 }

```

18 Compatibility with the *L^AT_EX2html* package

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

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

```

2908 \let\htmladding\hyperimage
2909 \def\htmladdnormallink#1#2{\href{#2}{#1}}
2910 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
2911 \def\htmlref#1#2{% anchor text, label
2912     \label@hyperref[{#2}]{#1}%
2913 }

```

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

```

2914 \def\@@latextohtmlX{%
2915     \let\hhyperref\hyperref
2916     \def\hyperref##1##2##3##4{% anchor text for HTML
2917         % text to print before label in print
2918         % label
2919         % post-label text in print
2920         ##2\ref{##4}##3%
2921     }%
2922 }

```

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 could not have started this without the encouragement of T V Raman.

```
2923 \newif\ifFld@checked
2924 \newif\ifFld@hidden
2925 \newif\ifFld@multiline
2926 \newif\ifFld@readonly
2927 \newif\ifFld@disabled
2928 \newif\ifFld@password
2929 \newif\ifFld@radio
2930 \newif\ifFld@combo
2931 \newif\ifFld@popdown
2932 \Fld@multilinefalse
2933 \Fld@checkedfalse
2934 \Fld@hiddenfalse
2935 \Fld@readonlyfalse
2936 \Fld@disabledfalse
2937 \Fld@radiofalse
2938 \Fld@combofalse
2939 \Fld@popdownfalse
2940 \Fld@passwordfalse
2941 \newcount\Fld@menulength
2942 \newdimen\Fld@Width
2943 \newdimen\Fld@charsize
2944 \Fld@charsize=10\p@
2945 \def\Fld@maxlen{0}
2946 \def\Fld@align{0}
2947 \def\Fld@color{0 0 0}
2948 \def\Fld@bcolor{1 1 1}
2949 \def\Fld@bordercolor{1 0 0}
2950 \def\Fld@bordersep{1\p@}
2951 \def\Fld@borderwidth{1}
2952 \def\Fld@borderstyle{S}
2953 \def\Fld@cbsymbol{4}
2954 \newtoks\Choice@toks
2955 \def\Fld@ifnextchar[{\@Form}{\@Form[]}]
2956 \def\Fld@endForm{\@endForm}
2957 \newif\ifForm@html
2958 \Form@htmlfalse
2959 \def\Fld@boolkey#1#2{%
2960   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
2961 }
2962 \define@key{Form}{action}{%
2963   \hyper@normalise\Hy@DefFormAction{#1}%
2964 }
2965 \def\Hy@DefFormAction{\def\Fld@action}
2966 \def\Fld@enc@html{html}
2967 \define@key{Form}{encoding}{%
2968   \def\Hy@tempa{#1}%
2969   \ifx\Hy@tempa\Fld@enc@html
2970     \Form@htmltrue
2971   \else
2972     \typeout{hyperref: form 'encoding' key set to #1 %
2973     -- unknown type%
2974   }%
2975   \Form@htmlfalse
2976 \fi
2977 }
```

```

2978 \define@key{Form}{method}{%
2979   \def\Form@method{#1}%
2980 }
2981 \def\Form@method{}
2982 \def\Field@boolkey#1#2{%
2983   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
2984 }
2985 \newtoks\Field@toks
2986 \Field@toks={ }%
2987 \def\Field@addtoks#1#2{%
2988   \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
2989   \@processme
2990 }
2991 \def\Fld@checkequals#1=#2=#3\\{%
2992   \def\@currDisplay{#1}%
2993   \ifx\\#2\\%
2994     \def\@currValue{#1}%
2995   \else
2996     \def\@currValue{#2}%
2997   \fi
2998 }
2999 \define@key{Field}{loc}{%
3000   \def\Fld@loc{#1}%
3001 }
3002 \define@key{Field}{multiline}[true]{%
3003   \lowercase{\Field@boolkey{#1}}{multiline}%
3004 }
3005 \define@key{Field}{checked}[true]{%
3006   \lowercase{\Field@boolkey{#1}}{checked}%
3007 }
3008 \define@key{Field}{hidden}[true]{%
3009   \lowercase{\Field@boolkey{#1}}{hidden}%
3010 }
3011 \define@key{Field}{readonly}[true]{%
3012   \lowercase{\Field@boolkey{#1}}{readonly}%
3013 }
3014 \define@key{Field}{disabled}[true]{%
3015   \lowercase{\Field@boolkey{#1}}{disabled}%
3016 }
3017 \define@key{Field}{password}[true]{%
3018   \lowercase{\Field@boolkey{#1}}{password}%
3019 }
3020 \define@key{Field}{radio}[true]{%
3021   \lowercase{\Field@boolkey{#1}}{radio}%
3022 }
3023 \define@key{Field}{combo}[true]{%
3024   \lowercase{\Field@boolkey{#1}}{combo}%
3025 }
3026 \define@key{Field}{popdown}[true]{%
3027   \lowercase{\Field@boolkey{#1}}{popdown}%
3028 }
3029 \define@key{Field}{accesskey}{%
3030   \Field@addtoks{accesskey}{#1}%
3031 }
3032 \define@key{Field}{tabkey}{%
3033   \Field@addtoks{tabkey}{#1}%
3034 }

```



```

3035 \define@key{Field}{name}{%
3036   \def\Fld@name{#1}%
3037 }
3038 \define@key{Field}{width}{%
3039   \def\Fld@width{#1}%
3040   \Field@Width#1\setbox0=\hbox{m}%
3041 }
3042 \define@key{Field}{maxlen}{%
3043   \def\Fld@maxlen{#1}%
3044 }
3045 \define@key{Field}{menulength}{%
3046   \Fld@menulength=#1\relax
3047 }
3048 \define@key{Field}{height}{%
3049   \def\Fld@height{#1}%
3050 }
3051 \define@key{Field}{charsize}{%
3052   \Fld@charsize#1%
3053 }
3054 \define@key{Field}{fillcolor}{%
3055   \def\Fld@fillcolor{#1}%
3056 }
3057 \define@key{Field}{borderwidth}{%
3058   \def\Fld@borderwidth{#1}%
3059 }
3060 \define@key{Field}{borderstyle}{%
3061   \def\Fld@borderstyle{#1}%
3062 }
3063 \define@key{Field}{bordersep}{%
3064   \def\Fld@bordersep{#1}%
3065 }
3066 \define@key{Field}{default}{%
3067   \def\Fld@default{#1}%
3068 }
3069 \define@key{Field}{align}{%
3070   \def\Fld@align{#1}%
3071 }
3072 \define@key{Field}{value}{%
3073   \def\Fld@value{#1}%
3074 }
3075 \define@key{Field}{checkboxsymbol}{%
3076   \def\Fld@cbsymbol{#1}%
3077 }

3078 \define@key{Field}{backgroundcolor}{%
3079   \Hy@fieldcolor{bcolor}{#1}{ }{backgroundcolor}%
3080 }
3081 \define@key{Field}{bordercolor}{%
3082   \Hy@fieldcolor{bordercolor}{#1}{ }{bordercolor}%
3083 }
3084 \define@key{Field}{color}{%
3085   \Hy@fieldcolor{color}{#1}{ }{color}%
3086 }
3087 \def\Hy@fieldcolor#1#2#3#4{%
3088   \begingroup
3089     \Hy@safe@activetrue
3090     \@ifundefined{XC@edef}{\edef}{\XC@edef}\x{#2}%
3091     \expandafter\Hy@FieldCheckColorSpec\x#3#3\@nil{#1}{#2}{#4}%

```

```

3092 }
3093 \def\Hy@FieldCheckColorSpec#1 #2 #3\@nil#4#5#6{%
3094   \ifx\#3\%
3095     \ifundefined{XC@bordercolor}{%
3096       \Hy@Warning{%
3097         Unsupported color specification (#6).\MessageBreak
3098         Load package 'xcolor' (version >= 2.11) first.\MessageBreak
3099         Ignoring color specification%
3100       }%
3101     \endgroup
3102   }{%
3103     \endgroup
3104     \XC@bordercolor{temp}{#5}%
3105     \expandafter\let\csname Fld@#4\endcsname\@tempbordercolor
3106   }%
3107 \else
3108   \endgroup
3109   \@namedef{Fld@#4}{#5}%
3110 \fi
3111 }

3112 \def\Fld@format@code{}
3113 \def\Fld@validate@code{}
3114 \def\Fld@calculate@code{}
3115 \def\Fld@keystroke@code{}
3116 \def\Fld@onfocus@code{}
3117 \def\Fld@onblur@code{}
3118 \def\Fld@onmousedown@code{}
3119 \def\Fld@onmouseup@code{}
3120 \def\Fld@onenter@code{}
3121 \def\Fld@onexit@code{}
3122 \define@key{Field}{keystroke}{%
3123   \def\Fld@keystroke@code{#1}%
3124 }
3125 \define@key{Field}{format}{%
3126   \def\Fld@format@code{#1}%
3127 }
3128 \define@key{Field}{validate}{%
3129   \def\Fld@validate@code{#1}%
3130 }
3131 \define@key{Field}{calculate}{%
3132   \def\Fld@calculate@code{#1}%
3133 }
3134 \define@key{Field}{onfocus}{%
3135   \def\Fld@onfocus@code{#1}%
3136 }
3137 \define@key{Field}{onblur}{%
3138   \def\Fld@onblur@code{#1}%
3139 }
3140 \define@key{Field}{onenter}{%
3141   \def\Fld@onenter@code{#1}%
3142 }
3143 \define@key{Field}{onexit}{%
3144   \def\Fld@onexit@code{#1}%
3145 }
3146 \define@key{Field}{onselect}{%
3147   \Field@addtoks{onselect}{#1}%
3148 }

```

```

3149 \define@key{Field}{onchange}{%
3150   \Field@addtoks{onchange}{#1}%
3151 }
3152 \define@key{Field}{onclick}{%
3153   \def\Fld@onclick{#1}%
3154   \Field@addtoks{onclick}{#1}%
3155 }
3156 \define@key{Field}{ondblclick}{%
3157   \Field@addtoks{ondblclick}{#1}%
3158 }
3159 \define@key{Field}{onmousedown}{%
3160   \Field@addtoks{onmousedown}{#1}%
3161 }
3162 \define@key{Field}{onmouseup}{%
3163   \Field@addtoks{onmouseup}{#1}%
3164 }
3165 \define@key{Field}{onmouseover}{%
3166   \Field@addtoks{onmouseover}{#1}%
3167 }
3168 \define@key{Field}{onmousemove}{%
3169   \Field@addtoks{onmousemove}{#1}%
3170 }
3171 \define@key{Field}{onmouseout}{%
3172   \Field@addtoks{onmouseout}{#1}%
3173 }
3174 \define@key{Field}{onkeypress}{%
3175   \Field@addtoks{onkeypress}{#1}%
3176 }
3177 \define@key{Field}{onkeydown}{%
3178   \Field@addtoks{onkeydown}{#1}%
3179 }
3180 \define@key{Field}{onkeyup}{%
3181   \Field@addtoks{onkeyup}{#1}%
3182 }
3183 %
3184 \DeclareRobustCommand\TextField{%
3185   \@ifnextchar[{\@TextField}{\@TextField[]}%
3186 }
3187 \DeclareRobustCommand\ChoiceMenu{%
3188   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
3189 }
3190 \DeclareRobustCommand\CheckBox{%
3191   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
3192 }
3193 \DeclareRobustCommand\PushButton{%
3194   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
3195 }
3196 \DeclareRobustCommand\Gauge{%
3197   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
3198 }
3199 \DeclareRobustCommand\Submit{%
3200   \@ifnextchar[{\@Submit}{\@Submit[]}%
3201 }
3202 \DeclareRobustCommand\Reset{%
3203   \@ifnextchar[{\@Reset}{\@Reset[]}%
3204 }
3205 \def\LayoutTextField#1#2{% label, field

```

```

3206 #1 #2%
3207 }
3208 \def\LayoutChoiceField#1#2{% label, field
3209 #1 #2%
3210 }
3211 \def\LayoutCheckField#1#2{% label, field
3212 #1 #2%
3213 }
3214 \def\LayoutPushButtonField#1{% button
3215 #1%
3216 }
3217 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
3218 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
3219 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
3220 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
3221 \def\MakeButtonField#1{%
3222 \sbox0{%
3223 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
3224 }%
3225 \@tempdima\ht0
3226 \advance\@tempdima by \Fld@borderwidth bp
3227 \advance\@tempdima by \Fld@borderwidth bp
3228 \ht0\@tempdima
3229 \@tempdima\dp0
3230 \advance\@tempdima by \Fld@borderwidth bp
3231 \advance\@tempdima by \Fld@borderwidth bp
3232 \dp0\@tempdima
3233 \box0\relax
3234 }
3235 \def\DefaultHeightofSubmit{14pt}
3236 \def\DefaultWidthofSubmit{2cm}
3237 \def\DefaultHeightofReset{14pt}
3238 \def\DefaultWidthofReset{2cm}
3239 \def\DefaultHeightofCheckBox{\baselineskip}
3240 \def\DefaultWidthofCheckBox{\baselineskip}
3241 \def\DefaultHeightofChoiceMenu{\baselineskip}
3242 \def\DefaultWidthofChoiceMenu{\baselineskip}
3243 \def\DefaultHeightofText{\baselineskip}
3244 \def\DefaultWidthofText{3cm}

```

20 Setup

```

3245 \ifHy@figures
3246 \Hy@Info{Hyper figures ON}
3247 \else
3248 \Hy@Info{Hyper figures OFF}
3249 \fi
3250 \ifHy@nesting
3251 \Hy@Info{Link nesting ON}
3252 \else
3253 \Hy@Info{Link nesting OFF}
3254 \fi
3255 \ifHy@hyperindex
3256 \Hy@Info{Hyper index ON}
3257 \else
3258 \Hy@Info{Hyper index OFF}

```

```

3259 \fi
3260 \ifHy@backref
3261   \Hy@Info{backreferencing ON}
3262 \else
3263   \Hy@Info{backreferencing OFF}
3264 \fi
3265 \ifHy@colorlinks
3266   \Hy@Info{Link coloring ON}
3267 \else
3268   \Hy@Info{Link coloring OFF}
3269 \fi

```

21 Low-level utility macros

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

```

3270 \edef\hyper@hash{\string#}
3271 \edef\hyper@tilde{\string~}
3272 \edef\hyper@quote{\string"}
3273 \let\@currentHref\@empty
3274 \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.

```

3275 \AfterBeginDocument{%
3276   \Hy@pdfstringtrue
3277   \PDF@SetupDoc
3278   \let\PDF@SetupDoc\@empty
3279   \Hy@DisableOption{pdfpagescrop}%
3280   \Hy@DisableOption{pdfpagemode}%
3281   \Hy@DisableOption{pdfnonfullscreenpagemode}%
3282   \Hy@DisableOption{pdfdirection}%
3283   \Hy@DisableOption{pdfviewarea}%
3284   \Hy@DisableOption{pdfviewclip}%
3285   \Hy@DisableOption{pdfprintarea}%
3286   \Hy@DisableOption{pdfprintclip}%
3287   \Hy@DisableOption{pdfprintscaling}%
3288   \Hy@DisableOption{pdfduplex}%
3289   \Hy@DisableOption{pdfpicktraybypdfsize}%
3290   \Hy@DisableOption{pdfprintpagerange}%
3291   \Hy@DisableOption{pdfnumcopies}%
3292   \Hy@DisableOption{pdfstartview}%
3293   \Hy@DisableOption{pdfstartpage}%
3294   \Hy@DisableOption{pdftoolbar}%
3295   \Hy@DisableOption{pdfmenubar}%
3296   \Hy@DisableOption{pdfwindowui}%
3297   \Hy@DisableOption{pdfwindow}%
3298   \Hy@DisableOption{pdfcenterwindow}%
3299   \Hy@DisableOption{pdfdisplaydoctitle}%
3300   \Hy@DisableOption{pdfpagelayout}%
3301   \Hy@DisableOption{pdflang}%
3302   \Hy@DisableOption{baseurl}%
3303   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
3304   \Hy@pdfstringfalse
3305 }

```

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

```
3306 \def\NoHyper{%
3307   \def\hyper@link@{##1}##2##3##4{##4}%
3308   \def\hyper@@anchor##1{%
3309     \global\let\hyper@livelink\hyper@link
3310     \gdef\hyper@link##1##2##3{##3}%
3311     \def\hyper@anchorstart##1{%
3312       \let\hyper@anchorend\@empty
3313       \def\hyper@linkstart##1##2{%
3314         \let\hyper@linkend\@empty
3315         \def\hyper@linkurl##1##2{##1}%
3316         \def\hyper@linkfile##1##2##3{##1}%
3317         \let\Hy@backout\@gobble
3318       }
3319       \def\stop@hyper{%
3320         \def\hyper@link@{##1}##2##3##4{##4}%
3321         \let\Hy@backout\@gobble
3322         \def\hyper@@anchor##1{%
3323           \def\hyper@link##1##2##3{##3}%
3324           \def\hyper@anchorstart##1{%
3325             \let\hyper@anchorend\@empty
3326             \def\hyper@linkstart##1##2{%
3327               \let\hyper@linkend\@empty
3328               \def\hyper@linkurl##1##2{##1}%
3329               \def\hyper@linkfile##1##2##3{##1}%
3330             }
3331             \def\endNoHyper{%
3332               \global\let\hyper@link\hyper@livelink
3333             }
3334           }
3335         }
3336       }
3337     }
3338   }
3339 }
3340 \end{package}
```

23 Package nohyperref

This package is introduced by Sebastian Rahtz.

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

Some low-level commands:

```
3335 \def\*nohyperref{
3336   \let\hyper@@anchor\@gobble
3337   \def\hyper@link#1#2#3{#3}%
3338   \let\hyper@anchorstart\@gobble
3339   \let\hyper@anchorend\@empty
3340   \let\hyper@linkstart\@gobbletwo
3341   \let\hyper@linkend\@empty
3342   \def\hyper@linkurl#1#2{#1}%
3343   \def\hyper@linkfile#1#2#3{#1}%
3344   \let\PDF@SetupDoc\@empty
3345   \let\PDF@FinishDoc\@empty
}
```

Some top-level commands:

```

3346 \let\Acrobatmenu\@gobble
3347 \let\pdfstringdefDisableCommands\@gobbletwo
3348 \let\texorpdfstring\@firstoftwo
3349 \let\pdfbookmark\@undefined
3350 \newcommand\pdfbookmark[3] [] {}
3351 \let\phantomsection\@empty
3352 \let\hypersetup\@gobble
3353 \let\hyperbaseurl\@gobble
3354 \let\href\@gobble
3355 \let\hyperdef\@gobbletwo
3356 \let\hyperlink\@gobble
3357 \let\hypertarget\@gobble
3358 \def\hyperref{\@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}}
3359 \long\def\@gobbleopt[#1]{}
3360 \let\hyperpage\@empty
3361 \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}`

```

3362 \*package
3363 \AfterBeginDocument{%

```

First the code to deal with removing the hyperref package from a document.

Write some stuff into the aux file so if the next run is done without hyperref, then `\contentsline` and `\newlabel` are defined to cope with the extra arguments.

```

3364 \if@filesw
3365   \ifHy@typexml
3366     \immediate\closeout\@mainaux
3367     \immediate\openout\@mainaux\jobname.aux
3368     \immediate\write\@auxout{<relaxxml>\relax}%
3369   \fi
3370   \immediate\write\@auxout{%
3371     \string\ifx\string\hyper@anchor\string\@undefined^^J%
3372     \global\let\string\oldcontentsline\string\contentsline^^J%
3373     \gdef\string\contentsline%
3374       \string#1\string#2\string#3\string#4{%
3375       \string\oldcontentsline%
3376       {\string#1}{\string#2}{\string#3}}^^J%
3377     \global\let\string\oldnewlabel\string\newlabel^^J%
3378     \gdef\string\newlabel\string#1\string#2{%
3379     \string\newlabelxx{\string#1}\string#2}^^J%
3380     \gdef\string\newlabelxx%
3381     \string#1\string#2\string#3\string#4\string#5\string#6{%
3382     \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.

```

3383   \string\AtEndDocument{%
3384     \let\string\contentsline\string\oldcontentsline^^J%
3385     \let\string\newlabel\string\oldnewlabel^^J%

```

If the document is being run with hyperref put this definition into the aux file, so we can spot it on the next run.

```

3386     \string\else^^J%
3387     \global\let\string\hyper@last\relax^^J%
3388     \string\fi^^J%
3389 }%
3390 \fi

```

Now the code to deal with adding the hyperref package to a document with aux and toc written the standard way.

If hyperref was used last time, do nothing. If it was not used, or an old version of hyperref was used, don't use that TOC at all but generate a warning. Not ideal, but better than failing with pre-5.0 hyperref TOCs.

```

3391 \ifx\hyper@last\@undefined
3392   \def\@starttoc#1{%
3393     \begingroup
3394       \makeatletter
3395       \IfFileExists{\jobname.#1}{%
3396         \Hy@WarningNoLine{%
3397           old #1 file detected, not used; run LaTeX again%
3398         }%
3399       }{%
3400         \if@filesw
3401           \expandafter\newwrite\csname tf@#1\endcsname
3402           \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
3403         \fi
3404         \@nobreakfalse
3405       \endgroup
3406     }%
3407   \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
3408 \fi
3409 }

```

25 Title strings

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

```

3410 \ifHy@usetitle
3411   \let\HyOrg@title\title
3412   \let\HyOrg@author\author
3413   \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
3414   \def\Hy@scanopttitle[#1]{%
3415     \gdef\Hy@title{#1}%
3416     \HyOrg@title[{#1}]%
3417   }%
3418   \def\Hy@scantitle#1{%
3419     \gdef\Hy@title{#1}%
3420     \HyOrg@title{#1}%
3421   }
3422   \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
3423   \def\Hy@scanoptauthor[#1]{%
3424     \gdef\Hy@author{#1}%
3425     \HyOrg@author[{#1}]%
3426   }%
3427   \def\Hy@scanauthor#1{%
3428     \gdef\Hy@author{#1}%

```



```

3429 \HyOrg@author{#1}%
3430 }

```

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.

```

3431 \begingroup
3432 \def\process@me#1\@nil#2{%
3433 \expandafter\let\expandafter\x\csname @#2\endcsname
3434 \edef\y{\expandafter\strip@prefix\meaning\x}%
3435 \def\c##1##2\@nil{%
3436 \ifx\\##1\\%
3437 \else
3438 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
3439 \expandafter{\x}%
3440 \fi
3441 }%
3442 \expandafter\c\y\relax#1\@nil
3443 }%
3444 \expandafter\process@me\string\@latex@\@nil{title}%
3445 \expandafter\process@me\string\@latex@\@nil{author}%
3446 \endgroup
3447 \fi
3448 \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.

```

3449 \def\Hy@UseMaketitleString#1{%
3450 \@ifundefined{Hy@#1}{-}{%
3451 \begingroup
3452 \let\Hy@saved@hook\pdfstringdefPreHook
3453 \pdfstringdefDisableCommands{%
3454 \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
3455 \let\newline\\%
3456 }%
3457 \expandafter\ifx\csname @pdf#1\endcsname\@empty
3458 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
3459 \csname Hy@#1\endcsname\@empty
3460 }%
3461 \fi
3462 \global\let\pdfstringdefPreHook\Hy@saved@hook
3463 \endgroup
3464 }%
3465 }
3466 \def\Hy@newline@title#1{ #1}
3467 \def\Hy@newline@author#1{, #1}
3468 \def\Hy@UseMaketitleInfos{%
3469 \Hy@UseMaketitleString{title}%
3470 \Hy@UseMaketitleString{author}%
3471 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

26.1 PDF /PageLabels

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

```
3472 \ifHy@pagelabels
3473   \begingroup\expandafter\expandafter\expandafter\endgroup
3474   \expandafter\ifx\csname thepage\endcsname\relax
3475     \Hy@pagelabelsfalse
3476     \Hy@WarningNoLine{%
3477       Option 'pdfpagelabels' is turned off\MessageBreak
3478       because \string\thepage\space is undefined%
3479     }%
3480     \csname fi\endcsname
3481     \csname iffalse\expandafter\endcsname
3482     \fi
```

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

```
3483 \def\thispdfpagelabel#1{%
3484   \gdef\HyPL@thisLabel{#1}%
3485 }
3486 \global\let\HyPL@thisLabel\relax
```

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

```
3487 \def\HyPL@Labels{}
```

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

```
3488 \newcount\Hy@abspage
3489 \Hy@abspage=0
```

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

```
3490 \def\HyPL@LastType{init}%
3491 \def\HyPL@LastNumber{0}%
3492 \def\HyPL@LastPrefix{}
```

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

```
3493 \def\HyPL@arabic{D}%
3494 \def\HyPL@Roman{R}%
3495 \def\HyPL@roman{r}%
3496 \def\HyPL@Alph{A}%
3497 \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.

```
3498 \def\HyPL@EveryPage{%
3499   \begingroup
3500   \ifx\HyPL@thisLabel\relax
3501     \let\HyPL@page\thepage
3502   \else
3503     \let\HyPL@page\HyPL@thisLabel
3504     \global\let\HyPL@thisLabel\relax
3505   \fi
3506   \let\HyPL@Type\relax
```

```

3507 \ifnum\the\c@page>0
3508 \expandafter\HyPL@CheckThePage\HyPL@page\@nil
3509 \fi
3510 \let\Hy@temp Y%
3511 \ifx\HyPL@Type\HyPL@LastType
3512 \else
3513 \let\Hy@temp N%
3514 \fi
3515 \ifx\HyPL@Type\relax
3516 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
3517 \else
3518 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
3519 \fi
3520 \ifx\HyPL@Prefix\HyPL@LastPrefix
3521 \else
3522 \let\Hy@temp N%
3523 \fi
3524 \if Y\Hy@temp
3525 \advance\c@page by -1
3526 \ifnum\HyPL@LastNumber=\the\c@page\relax
3527 \else
3528 \let\Hy@temp N%
3529 \fi
3530 \Hy@StepCount\c@page
3531 \fi
3532 \if N\Hy@temp
3533 \ifx\HyPL@Type\relax
3534 \HyPL@StorePageLabel{/P (\HyPL@Prefix)}%
3535 \else
3536 \HyPL@StorePageLabel{%
3537 \ifx\HyPL@Prefix\@empty
3538 \else
3539 /P (\HyPL@Prefix)
3540 \fi
3541 /S /\csname HyPL\HyPL@Type\endcsname
3542 \ifnum\the\c@page=1
3543 \else
3544 \space/St \the\c@page
3545 \fi
3546 }%
3547 \fi
3548 \fi
3549 \xdef\HyPL@LastNumber{\the\c@page}%
3550 \global\let\HyPL@LastType\HyPL@Type
3551 \global\let\HyPL@LastPrefix\HyPL@Prefix
3552 \endgroup
3553 \Hy@GlobalStepCount\Hy@abspage
3554 }

```

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

```

3555 \def\HyPL@CheckThePage#1\@nil{%
3556 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
3557 }

```

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

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

```

\thepage.
3558 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
3559 \def\Hy@tempa{#4}%
3560 \def\Hy@tempb{\csname\endcsname\c@page}%
3561 \ifx\Hy@tempa\Hy@tempb
3562 \expandafter\ifx\csname HyPL#3\endcsname\relax
3563 \else
3564 \def\HyPL@Type{#3}%
3565 \def\HyPL@Prefix{#2}%
3566 \fi
3567 \else
3568 \begingroup
3569 \let\Hy@next\endgroup
3570 \let\HyPL@found\@undefined
3571 \def\arabic{\HyPL@Format{arabic}}%
3572 \def\Roman{\HyPL@Format{Roman}}%
3573 \def\roman{\HyPL@Format{roman}}%
3574 \def\Alph{\HyPL@Format{Alph}}%
3575 \def\alph{\HyPL@Format{alph}}%
3576 \protected@edef\Hy@temp{#1}%
3577 \ifx\HyPL@found\relax
3578 \toks@{\expandafter{\Hy@temp}}%
3579 \edef\Hy@next{\endgroup
3580 \noexpand\HyPL@@CheckThePage\the\toks@
3581 \noexpand\HyPL@found\relax\noexpand\@nil
3582 }%
3583 \fi
3584 \Hy@next
3585 \fi
3586 }

```

\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`.

```

3587 \def\HyPL@Format#1#2{%
3588 \ifx\HyPL@found\@undefined
3589 \expandafter\ifx\csname c@#2\endcsname\c@page
3590 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
3591 \else
3592 \expandafter\noexpand\csname#1\endcsname{#2}%
3593 \fi
3594 \else
3595 \expandafter\noexpand\csname#1\endcsname{#2}%
3596 \fi
3597 }

```

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

```

3598 \def\HyPL@@CheckThePage#1\HyPL@found#2#3\@nil{%
3599 \def\Hy@tempa{#3}%
3600 \def\Hy@tempb{\HyPL@found\relax}%
3601 \ifx\Hy@tempa\Hy@tempb
3602 \def\HyPL@Type{#2}%
3603 \def\HyPL@Prefix{#1}%
3604 \fi
3605 }

```

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

```

3606 \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.
3607 \def\HyPL@Useless{0 << /S /D >> }%
3608 \@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.
3609 \def\HyPL@SetPageLabels{%
3610     \@onelevel@sanitize\HyPL@Labels
3611     \ifx\HyPL@Labels\@empty
3612     \else
3613         \ifx\HyPL@Labels\HyPL@Useless
3614         \else
3615             \Hy@PutCatalog{/PageLabels << /Nums [\HyPL@Labels] >>}%
3616         \fi
3617     \fi
3618 }

\HyPL@EveryPage Without option ‘pdfpagelabels’ we need a dummy for \HyPL@EveryPage.
3619 \else
3620     \let\HyPL@EveryPage\@empty
3621 \fi

Option ‘pdfpagelabels’ has been used and is now disabled.
3622 \Hy@DisableOption{pdfpagelabels}
3623 </package>

```

26.1.1 pdfTeX and VTeX

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

`\Hy@PutCatalog`

```

3624 <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.
3625 <*vTeX>
3626 \edef\Hy@VTeXversion{%
3627     \ifx\VTeXversion\@undefined
3628         \z@
3629     \else
3630         \ifx\VTeXversion\relax
3631         \z@
3632     \else
3633         \VTeXversion
3634     \fi
3635 \fi
3636 }
3637 \begingroup

```

```

3638 \ifnum\Hy@VTeXversion<660 %
3639   \gdef\Hy@PutCatalog#1{%
3640     \Hy@WarningNoLine{%
3641       VTeX 6.59g or above required for pdfpagelabels%
3642     }%
3643   }
3644 \else
3645   \gdef\Hy@PutCatalog#1{%
3646     \Hy@vt@PutCatalog#1/PageLabels <<>>\@nil
3647   }
3648   \gdef\Hy@vt@PutCatalog#1/PageLabels <<#2>>#3\@nil{%
3649     \ifx\#2\%
3650       \else
3651         \immediate\special{!pdfpagelabels #2}%
3652       \fi
3653     }
3654   \fi
3655 \endgroup
3656 \</vtex>

3657 \<*pdfTeX | vtex>

```

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

```

3658 \ifHy@pagelabels
3659   \def\HyPL@StorePageLabel#1{%
3660     \toks@{\expandafter{\HyPL@Labels}}%
3661     \xdef\HyPL@Labels{%
3662       \the\toks@
3663       \the\Hy@abspage\space<< #1 >> %
3664     }%
3665   }

```

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

```

3666 \AtEndDocument{\clearpage\HyPL@SetPageLabels}
3667 \fi
3668 \</pdfTeX | vtex>

```

26.1.2 pdfmarkbase, dvipdfm

`\Hy@PutCatalog`

```

3669 \<dvipdfm>\def\Hy@PutCatalog#1{\@pdfmark{docview << #1 >>}}
3670 \<*pdfmarkbase>
3671 \def\Hy@PutCatalog#1{%
3672   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
3673 }
3674 \</pdfmarkbase>

3675 \<*pdfmarkbase | dvipdfm>
3676 \ifHy@pagelabels

```

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

```

3677 \def\HyPL@StorePageLabel#1{%
3678   \if@filesw
3679     \begingroup
3680     \edef\Hy@tempa{\the\Hy@abspage\space<< #1 >> }%

```

```

3681      \immediate\write\@mainaux{%
3682      \string\HyPL@Entry{\Hy@tempa}%
3683      }%
3684      \endgroup
3685      \fi
3686      }

```

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.

```

3687 \AfterBeginDocument{%
3688   \if@filesw
3689     \immediate\write\@mainaux{%
3690     \string\providecommand\string*\string\HyPL@Entry[1]{}%
3691     }%
3692   \fi
3693   \ifx\HyPL@Labels\@empty
3694     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
3695   \else
3696     \HyPL@SetPageLabels
3697   \fi
3698   \let\HyPL@Entry\@gobble
3699 }%

```

`\HyPL@Entry`

```

3700 \def\HyPL@Entry#1{%
3701   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
3702     \HyPL@Labels
3703     #1%
3704   }%
3705 }

3706 \fi
3707 </pdfmarkbase | dvipdfm>
3708 <*package>
3709 \MaybeStopEarly

```

27 Automated L^AT_EX hypertext cross-references

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

```

3710 \newcommand\theHequation{\theHsection.\arabic{equation}}
3711 \@ifundefined{thepart}{\newcommand\theHpart{\arabic{part}}}{%
3712 \@ifundefined{thechapter}{%
3713   \newcommand\theHsection    {\arabic{section}}
3714   \newcommand\theHfigure     {\arabic{figure}}
3715   \newcommand\theHtable     {\arabic{table}}
3716 }{%
3717   \newcommand\theHchapter    {\arabic{chapter}}
3718   \newcommand\theHfigure     {\theHchapter.\arabic{figure}}
3719   \newcommand\theHtable     {\theHchapter.\arabic{table}}
3720   \newcommand\theHsection    {\theHchapter.\arabic{section}}
3721 }
3722 \newcommand\theHsubsection   {\theHsection.\arabic{subsection}}
3723 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
3724 \newcommand\theHparagraph    {\theHsubsubsection.\arabic{paragraph}}
3725 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
3726 \newcommand\theHtheorem      {\theHsection.\arabic{theorem}}
3727 \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.

```

3728 \let\H@item\item
3729 \newcounter{Item}
3730 \def\theHItem{\arabic{Item}}
3731 \def\item{%
3732   \@hyper@itemfalse
3733   \if@nmbrrlist\@hyper@itemtrue\fi
3734   \H@item
3735 }
3736 \newcommand\theHenumi    {\theHItem}
3737 \newcommand\theHenumii   {\theHItem}
3738 \newcommand\theHenumiii  {\theHItem}
3739 \newcommand\theHenumiv   {\theHItem}
3740 \newcommand\theHHfootnote {\arabic{Hfootnote}}
3741 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
3742 \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.

```

3743 \let\H@refstepcounter\refstepcounter
3744 \edef\name@of@eq{equation}%
3745 \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.

```

3746 \newif\if@hyper@item
3747 \newif\if@skiphyperref
3748 \@hyper@itemfalse
3749 \@skiphyperreffalse
3750 \def\refstepcounter#1{%
3751   \H@refstepcounter{#1}%
3752   \edef\This@name{#1}%
3753   \ifx\This@name\name@of@slide
3754     \else
3755       \if@skiphyperref

```



```

3756 \else
3757 \if@hyper@item
3758 \stepcounter{Item}%
3759 \hyper@refstepcounter{Item}%
3760 \else
3761 \hyper@refstepcounter{#1}%
3762 \fi
3763 \fi
3764 \fi
3765 }

```

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

```

3766 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

3767 \def\hyper@refstepcounter#1{%
3768 \edef\This@name{#1}%
3769 \ifx\This@name\name@of@eq
3770 \make@stripped@name{\theequation}%
3771 \let\theHequation\newname
3772 \fi
3773 \@ifundefined{theH#1}{%
3774 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
3775 }{}%
3776 \hyper@makecurrent{#1}%
3777 \ifmeasuring@
3778 \else
3779 \Hy@raisedlink{%
3780 \hyper@anchorstart{\@currentHref}\hyper@anchorend
3781 }%
3782 \fi
3783 }

```

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`.

```

3784 \begingroup\expandafter\expandafter\expandafter\endgroup
3785 \expandafter\ifx\csname chapter\endcsname\relax
3786 \def\Hy@chapterstring{section}%
3787 \else
3788 \def\Hy@chapterstring{chapter}%
3789 \fi
3790 \def\Hy@appendixstring{appendix}
3791 \def\Hy@chapapp{\Hy@chapterstring}
3792 \let\HyOrg@appendix\appendix
3793 \def\appendix{%
3794 \@ifundefined{chapter}%
3795 {\gdef\theHsection{\Alph{section}}}%
3796 {\gdef\theHchapter{\Alph{chapter}}}%
3797 \xdef\Hy@chapapp{\Hy@appendixstring}%
3798 \HyOrg@appendix
3799 }

```

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

```

3800 \def\hyper@makecurrent#1{%
3801   \begingroup
3802     \edef\Hy@param{#1}%
3803     \ifx\Hy@param\Hy@chapterstring
3804       \let\Hy@param\Hy@chapapp
3805     \fi
3806     \ifHy@hypertextnames
3807       \let\@number\@firstofone
3808     \ifHy@naturalnames
3809       \let\textlatin\@firstofone
3810       \xdef\@currentHlabel{\csname the#1\endcsname}%
3811     \else
3812       \xdef\@currentHlabel{\csname theH#1\endcsname}%
3813     \fi
3814     \xdef\@currentHref{%
3815       \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
3816     }%
3817   \else
3818     \Hy@GlobalStepCount\Hy@linkcounter
3819     \xdef\@currentHref{\Hy@param.the\Hy@linkcounter}%
3820   \fi
3821 \endgroup
3822 }

3823 \ifpackageloaded{fancyvrb}{%
3824   \def\FV@StepLineNo{%
3825     \FV@SetLineNo
3826     \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
3827     \FV@StepLineNo
3828   }%
3829 }{}

```

28 Package lastpage support

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

```

\lastpage@putlabel

3830 \AtBeginDocument{%
3831   \ifpackageloaded{lastpage}{%
3832     \ifHy@pageanchor
3833     \else
3834       \Hy@WarningNoLine{%
3835         The \string\pageref{LastPage} link doesn't work\MessageBreak
3836         with disabled option 'pageanchor'%
3837       }%
3838     \fi
3839     \def\lastpage@putlabel{%
3840       \addtocounter{page}{-1}%
3841       \if@filesw

```

```

3842     \begingroup
3843     \let\@number\@firstofone
3844     \ifHy@pageanchor
3845         \ifHy@hypertexnames
3846             \ifHy@plainpages
3847                 \def\Hy@temp{\arabic{page}}%
3848             \else
3849                 \Hy@unicodedefalse
3850                 \pdfstringdef\Hy@temp{\thepage}%
3851             \fi
3852         \else
3853             \def\Hy@temp{\the\Hy@pagecounter}%
3854         \fi
3855     \fi
3856     \immediate\write\@auxout{%
3857         \string\newlabel
3858         {LastPage}{\thepage}{\thepage}%
3859         \ifHy@pageanchor page.\Hy@temp\fi}%
3860     }%
3861 \endgroup
3862 \fi
3863 \addtocounter{page}{1}%
3864 }%
3865 }{}%
3866 }
3867 \</package>
3868 \<*check>
3869 \checkpackage{lastpage}[1994/06/25]
3870 \checkcommand\def\lastpage@putlabel{%
3871     \addtocounter{page}{-1}%
3872     \immediate\write\@auxout{%
3873         \string\newlabel{LastPage}{\thepage}%
3874     }%
3875     \addtocounter{page}{1}%
3876 }
3877 \</check>
3878 \<*package>

```

29 Package ifthen support

Since version 6.75a this is done in package nameref.

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

```

3879 \def\hypergetref#1{\getrefbykeydefault{#1}{}}
3880 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

30 Package titlesec and titletoc support

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

Package titlesec support:

```

3881 \@ifpackageloaded{titlesec}{%
3882     \def\ttl@Hy@steplink#1{%
3883         \Hy@GlobalStepCount\Hy@linkcounter
3884         \xdef\@currentHref{#1*.\the\Hy@linkcounter}%

```

```

3885 \def\ttl@Hy@saveanchor{%
3886 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
3887 }%
3888 }%
3889 \def\ttl@Hy@refstepcounter#1{%
3890 \let\ttl@b\Hy@raisedlink
3891 \def\Hy@raisedlink##1{\def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}}%
3892 \refstepcounter{#1}%
3893 \let\Hy@raisedlink\ttl@b
3894 }%
3895 }{}

Package titletoc support:
3896 \@ifpackageloaded{titletoc}{%
3897 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
3898 }{}

```

31 Package varioref support

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

```

3899 \def\Hy@varioref@undefined{{{??}}{??}{-}{-}}
3900 \@ifpackageloaded{varioref}{%
3901 \def\vref@pagenum#1#2{%
3902 \ifundefined{r@#2}{%
3903 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
3904 }{}%
3905 \edef#1{\getpagerefnumber{#2}}%
3906 }%
3907 }{}

```

32 Package longtable support

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

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

```

3908 \@ifpackageloaded{longtable}{%
3909 \begingroup
3910 \def\y{\LT@array}%
3911 \ifundefined{scr@LT@array}{-}{\def\y{\scr@LT@array}}%
3912 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
3913 \expandafter\endgroup
3914 \expandafter\def\y[#1]##2{%
3915 \H@refstepcounter{#1}%
3916 \hyper@makecurrent{table}%
3917 #2\@sharp####4%
3918 }%
3919 }%
3920 \expandafter\expandafter\expandafter\x\y[#1]{#2}\@nil

```

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

```

3921 \begingroup
3922 \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%

```

```

3923     \endgroup
3924     \def\LT@start{%
3925         #1%
3926         \hyper@refstepcounter{table}%
3927         \ifvoid\LT@firsthead\copy
3928         #2%
3929     }%
3930 }%
3931 \expandafter\x\LT@start\@nil
3932 }{}

```

33 Equations

We want to make the whole equation a target anchor. Overload equation, temporarily reverting to original `\refstepcounter`. If, however, it is in AMS math, we do not do anything, as the tag mechanism is used there (see section 40). The exception is that we move the equation incrementation inside the math environment to avoid specials outside and a wrong vertical spacing of equation environments.

```

3933 \let\new@refstepcounter\refstepcounter
3934 \let\H@equation\equation
3935 \let\H@endequation\endequation
3936 \ifpackageloaded{amsmath}{%
3937     \long\def\Hy@temp{%
3938         \incr@eqnum
3939         \mathdisplay@push
3940         \st@rredfalse \global\@eqnswtrue
3941         \mathdisplay{equation}%
3942     }%
3943     \ifx\Hy@temp\equation
3944         \expandafter\ifx\csname if@fleqn\expandafter\endcsname
3945             \csname iftrue\endcsname
3946     \else
3947         \long\def\equation{%
3948             \mathdisplay@push
3949             \st@rredfalse \global\@eqnswtrue
3950             \mathdisplay{equation}%
3951             \incr@eqnum
3952         }%
3953     \fi
3954 \fi
3955 }{}%
3956 \def\equation{%
3957     \let\refstepcounter\H@refstepcounter
3958     \H@equation
3959     \make@stripped@name{\theequation}%
3960     \let\theHequation\newname
3961     \hyper@makecurrent{equation}%
3962     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
3963     \let\refstepcounter\new@refstepcounter
3964 }%
3965 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
3966 }

```

My goodness, why can't L^AT_EX be consistent? Why is `\eqnarray` set up differently from other objects?

People (you know who you are, Thomas Beuth) sometimes make an eqnarray where *all* the lines end with \notag, so there is no suitable anchor at all. In this case, pass by on the other side.

```

3967 \newif\if@eqnstar
3968 \@eqnstarfalse
3969 \let\H@eqnarray\eqnarray
3970 \let\H@endeqnarray\endeqnarray
3971 \def\eqnarray{%
3972   \let\Hy@reserved@a\relax
3973   \def\@currentHref{%
3974     \H@eqnarray
3975     \if@eqnstar
3976     \else
3977       \ifx\\ \@currentHref\\
3978       \else
3979         \make@stripped@name{\theequation}%
3980         \let\theHequation\newname
3981         \hyper@makecurrent{equation}%
3982         \hyper@anchorstart{\@currentHref}\hyper@anchorend
3983       \fi
3984     \fi
3985   }
3986 \def\endeqnarray{%
3987   \H@endeqnarray
3988 }

```

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.

```

3989 \@namedef{eqnarray*}{%
3990   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
3991 }
3992 \@namedef{endeqnarray*}{%
3993   \nonumber\endeqnarray\@eqnstarfalse
3994 }

```

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

```

3995 \@ifundefined{subeqnarray}{%
3996   \let\H@subeqnarray\subeqnarray
3997   \let\H@endsubeqnarray\endsubeqnarray
3998   \def\subeqnarray{%
3999     \let\Hy@reserved@a\relax
4000     \H@subeqnarray
4001     \make@stripped@name{\theequation}%
4002     \let\theHequation\newname
4003     \hyper@makecurrent{equation}%
4004     \hyper@anchorstart{\@currentHref}\hyper@anchorend
4005   }%
4006 \def\endsubeqnarray{%
4007   \H@endsubeqnarray
4008 }%
4009 \newcommand\theHsubequation{\theHequation\alpha{subequation}}%
4010 }

```

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

```

4011 \def\make@stripped@name#1{%
4012   \begingroup
4013     \escapechar\m@ne

```

```

4014 \global\let\newname\@empty
4015 \protected@edef\Hy@tempa{#1}%
4016 \edef\@tempb{%
4017   \noexpand\@tfor\noexpand\Hy@tempa:=%
4018   \expandafter\strip@prefix\meaning\Hy@tempa
4019 }%
4020 \@tempb\do{%
4021   \if{\Hy@tempa\else
4022     \if}\Hy@tempa\else
4023     \xdef\newname{\newname\Hy@tempa}%
4024   \fi
4025   \fi
4026 }%
4027 \endgroup
4028 }

```

34 Footnotes

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

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

```

4029 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{%
4030 \ifHy@hyperfootnotes
4031   \newcounter{Hfootnote}
4032   \let\H@@footnotetext\@footnotetext
4033   \let\H@@footnotemark\@footnotemark
4034   \def\@xfootnotenext[#1]{%
4035     \begingroup
4036       \csname c@\@mpfn\endcsname #1\relax
4037       \unrestored@protected\xdef\@thefnmark{\thempfn}%
4038     \endgroup
4039     \ifx\@footnotetext\@mpfootnotetext
4040       \expandafter\H@@mpfootnotetext
4041     \else
4042       \expandafter\H@@footnotetext
4043     \fi
4044   }%
4045   \def\@xfootnotemark[#1]{%
4046     \begingroup
4047       \c@footnote #1\relax
4048       \unrestored@protected\xdef\@thefnmark{\thefootnote}%
4049     \endgroup
4050     \H@@footnotemark
4051   }%
4052   \let\H@@mpfootnotetext\@mpfootnotetext
4053   \long\def\@mpfootnotetext#1{%
4054     \H@@mpfootnotetext{%
4055       \ifHy@nesting
4056         \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
4057       \else
4058         \Hy@raisedlink{%
4059           \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
4060         }#1%
4061       \fi

```

```

4062 }%
4063 }%
4064 \long\def\@footnotetext#1{%
4065   \H\@footnotetext{%
4066     \ifHy@nesting
4067       \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
4068     \else
4069       \Hy@raisedlink{%
4070         \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
4071       }%
4072       \let\@currentHlabel\Hy@footnote@currentHlabel
4073       \let\@currentHref\Hy@footnote@currentHref
4074       \let\@currentlabelname\@empty
4075       #1%
4076     \fi
4077   }%
4078 }%

```

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.

```

4079 \def\@footnotemark{%
4080   \leavevmode
4081   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
4082   \stepcounter{Hfootnote}%
4083   \global\let\Hy@saved@currentHlabel\@currentHlabel
4084   \global\let\Hy@saved@currentHref\@currentHref
4085   \hyper@makecurrent{Hfootnote}%
4086   \global\let\Hy@footnote@currentHlabel\@currentHlabel
4087   \global\let\Hy@footnote@currentHref\@currentHref
4088   \global\let\@currentHlabel\Hy@saved@currentHlabel
4089   \global\let\@currentHref\Hy@saved@currentHref
4090   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
4091   \@makefnmark
4092   \hyper@linkend
4093   \ifhmode\spacefactor\x@sf\fi
4094   \relax
4095 }%

```

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.

```

4096 \@ifpackageloaded{longtable}{%
4097   \CheckCommand*\LT@p@ftntext}[1]{%
4098     \edef\@tempa{%
4099       \the\LT@p@ftn
4100       \noexpand\footnotetext[\the\c@footnote]%
4101     }%
4102     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
4103   }%
4104   \long\def\LT@p@ftntext#1{%
4105     \edef\@tempa{%
4106       \the\LT@p@ftn
4107       \begingroup
4108       \noexpand\c@footnote=\the\c@footnote\relax
4109       \noexpand\protected@xdef

```



```

4110         \noexpand\@thefnmark{\noexpand\thempfn}%
4111         \noexpand\protected@xdef\noexpand\@thefnmark{%
4112         \noexpand\thempfn
4113     }%
4114     \expandafter\expandafter\expandafter\noexpand
4115     \expandafter\expandafter\expandafter\Hy@LT@footnotetext
4116     \expandafter\expandafter\expandafter{%
4117         \expandafter\Hy@footnote@currentHref\expandafter
4118         }\expandafter{\Hy@footnote@currentHlabel}%
4119     }%
4120     \global\LT@p@ftn\expandafter{%
4121         \@tempa{#1}%
4122     \endgroup
4123     }%
4124 }%
4125 \long\def\Hy@LT@footnotetext#1#2#3{%
4126     \H@@footnotetext{%
4127         \ifHy@nesting
4128             \hyper@@anchor{#1}{#3}%
4129         \else
4130             \Hy@raisedlink{%
4131                 \hyper@@anchor{#1}{\relax}%
4132             }%
4133             \def\@currentHlabel{#2}%
4134             \def\@currentHref{#1}%
4135             \let\@currentlabelname\@empty
4136             #3%
4137         \fi
4138     }%
4139 }%
4140 }-}%

```

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.

```

4141 \let\HyOrg@maketitle\maketitle
4142 \def\maketitle{%
4143     \let\Hy@saved@footnotemark\@footnotemark
4144     \let\Hy@saved@footnotetext\@footnotetext
4145     \let\@footnotemark\H@@footnotemark
4146     \let\@footnotetext\H@@footnotetext
4147     \@ifnextchar[\Hy@maketitle@optarg{% ]
4148         \HyOrg@maketitle
4149         \Hy@maketitle@end
4150     }%
4151 }%
4152 \def\Hy@maketitle@optarg[#1]{%
4153     \HyOrg@maketitle[#1]%
4154     \Hy@maketitle@end
4155 }%
4156 \def\Hy@maketitle@end{%
4157     \ifx\@footnotemark\H@@footnotemark
4158         \let\@footnotemark\Hy@saved@footnotemark
4159     \fi
4160     \ifx\@footnotetext\H@@footnotetext
4161         \let\@footnotetext\Hy@saved@footnotetext
4162     \fi
4163 }%

```

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

```

4164 \def\realfootnote{%
4165   \@ifnextchar[\@xfootnote{%
4166     \stepcounter{\@mpfn}%
4167     \protected@xdef\@thefnmark{\thempfn}%
4168     \H@@footnotemark\H@@footnotetext
4169   }%
4170 }%

4171 \fi
4172 \Hy@DisableOption{hyperfootnotes}

4173 </package>
4174 <*check>
4175 \checklatex
4176 \checkcommand\def\@xfootnotenext[#1]{%
4177   \begingroup
4178     \csname c@\@mpfn\endcsname #1\relax
4179     \unrestored@protected@xdef\@thefnmark{\thempfn}%
4180   \endgroup
4181   \@footnotetext
4182 }
4183 \checkcommand\def\@xfootnotemark[#1]{%
4184   \begingroup
4185     \c@footnote #1\relax
4186     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
4187   \endgroup
4188   \@footnotemark
4189 }
4190 \checkcommand\def\@footnotemark{%
4191   \leavevmode
4192   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
4193   \@makefnmark
4194   \ifhmode\spacefactor\@x@sf\fi
4195   \relax
4196 }
4197 </check>
4198 <*package>

```

35 Float captions

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

```

4199 \def\caption{%
4200   \ifx\@cuptype\@undefined
4201     \@latex@error{\noexpand\caption outside float}\@ehd
4202     \expandafter\@gobble
4203   \else
4204     \H@refstepcounter\@cuptype
4205     \@ifundefined{fst@\@cuptype}{%
4206       \let\Hy@tempa\@caption
4207     }{%
4208       \let\Hy@tempa\Hy@float@caption
4209     }%
4210     \expandafter\@firstofone
4211   \fi

```

```

4212 {\@dblarg{\Hy@tempa\@capttype}}%
4213 }
4214 \long\def\@caption#1[#2]#3{%
4215   \hyper@makecurrent{\@capttype}%
4216   \def\@currentlabelname{#2}%
4217   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
4218     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
4219   }%
4220   \begingroup
4221     \@parboxrestore
4222     \if@minipage
4223       \setminipage
4224     \fi
4225     \normalsize
4226     \@makecaption{\csname fnum@#1\endcsname}{%
4227       \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

4228     \ifHy@nesting
4229       \hyper@@anchor{\@currentHref}{#3}%
4230     \else
4231       \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%
4232     \fi
4233   }%
4234   \par
4235 \endgroup
4236 }

```

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.

```

4237 \let\Hy@float@caption\@caption
4238 \@ifpackageloaded{float}{%
4239   \def\Hy@float@caption{%
4240     \hyper@makecurrent{\@capttype}%
4241     \float@caption
4242   }
4243   \let\HyOrg@float@makebox\float@makebox
4244   \renewcommand{\float@makebox}[1]{%
4245     \HyOrg@float@makebox{%
4246       #1\relax
4247     }
4248     \begingroup
4249       \hyper@makecurrent{\@capttype}%
4250       \hyper@@anchor{\@currentHref}{\relax}%
4251     \endgroup
4252   }%
4253 }{}

4254 \</package>
4255 \<*check>
4256 \checklatex[1999/06/01 - 2000/06/01]
4257 \checkcommand\def\caption{%
4258   \ifx\@capttype\undefined
4259     \@latex@error{\noexpand\caption outside float}\@ehd
4260     \expandafter\@gobble
4261   \else
4262     \refstepcounter\@capttype
4263     \expandafter\@firstofone
4264   \fi

```

```

4265 {\@dblarg{\@caption\@capttype}}%
4266 }
4267 \checkcommand\long\def\@caption#1[#2]#3{%
4268   \par
4269   \addcontentsline{\csname ext@#1\endcsname}{#1}%
4270   {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
4271   \begingroup
4272     \@parboxrestore
4273     \if@minipage
4274       \setminipage
4275     \fi
4276     \normalsize
4277     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
4278   \endgroup
4279 }
4280 \</check>
4281 \<*package>

```

36 Bibliographic references

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

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

```

4282 \def\hyper@natlinkstart#1{%
4283   \Hy@backout{#1}%
4284   \hyper@linkstart{cite}{cite.#1}%
4285   \def\hyper@nat@current{#1}%
4286 }
4287 \def\hyper@natlinkend{%
4288   \hyper@linkend
4289 }
4290 \def\hyper@natlinkbreak#1#2{%
4291   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
4292 }
4293 \def\hyper@natanchorstart#1{%
4294   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
4295 }
4296 \def\hyper@natanchorend{\hyper@anchorend}

```

Do not play games if we have *natbib* support. Macro `extra@binfo` added for *chapterbib* support.

```

4297 \@ifundefined{NAT@parse}{%
4298   \def\bibcite#1#2{%
4299     \newl@bel{b}{#1\@extra@binfo}{\hyper@link{cite}{cite.#1}{#2}}%
4300   }%
4301   \gdef\@extra@binfo{}%

```

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

```

4302 \let\Hy@bibcite\bibcite
4303 \begingroup

```

```

4304 \ifundefined{bbl@cite@choice}{\%
4305 \g@addto@macro\bbl@cite@choice{\%
4306 \let\bibcite\Hy@bibcite
4307 }%
4308 }%
4309 \endgroup
\@BIBLABEL is working around a ‘feature’ of RevTeX.
4310 \providecommand*{\@BIBLABEL}{\@biblabel}%
4311 \def\@lbibitem[#1]#2{%
4312 \@skiphyperreftrue
4313 \H@item[%
4314 \ifx\Hy@raisedlink\@empty
4315 \hyper@anchorstart{cite.#2}\@BIBLABEL{#1}\hyper@anchorend
4316 \else
4317 \Hy@raisedlink{\hyper@anchorstart{cite.#2}\hyper@anchorend}%
4318 \@BIBLABEL{#1}%
4319 \fi
4320 \hfill
4321 ]%
4322 \@skiphyperreffalse
4323 \if@filesw
4324 \begingroup
4325 \let\protect\noexpand
4326 \immediate\write\@auxout{%
4327 \string\bibcite{#2}{#1}%
4328 }%
4329 \endgroup
4330 \fi
4331 \ignorespaces
4332 }%

```

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

```

4333 \def\@bibitem#1{%
4334 \@skiphyperreftrue\H@item\@skiphyperreffalse
4335 \Hy@raisedlink{\hyper@anchorstart{cite.#1}\relax\hyper@anchorend}%
4336 \if@filesw
4337 \begingroup
4338 \let\protect\noexpand
4339 \immediate\write\@auxout{%
4340 \string\bibcite{#1}{\the\value{\@listctr}}%
4341 }%
4342 \endgroup
4343 \fi
4344 \ignorespaces
4345 }%
4346 \{}

4347 \</package>
4348 \<*check>
4349 \checklatex
4350 \checkcommand\def\@lbibitem[#1]#2{%
4351 \item[\@biblabel{#1}\hfill]%
4352 \if@filesw
4353 {%
4354 \let\protect\noexpand
4355 \immediate\write\@auxout{%
4356 \string\bibcite{#2}{#1}%

```

```

4357     }%
4358   }%
4359 \fi
4360 \ignorespaces
4361 }
4362 \checkcommand\def\@bibitem#1{%
4363   \item
4364   \if@filesw
4365     \immediate\write\@auxout{%
4366       \string\bibcite{#1}{\the\value{\@listctr}}}%
4367   }%
4368 \fi
4369 \ignorespaces
4370 }
4371 </check>
4372 <*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.

```

4373 \ifclassloaded{revtex}{%
4374   \Hy@Info{*** compatibility with revtex **** }%
4375   \def\revtex@checking#1#2{%
4376     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
4377     \expandafter\def\csname b@#1\endcsname{#2}%
4378     \SetMaxRnhefLabel{#1}%
4379     \expandafter\let\csname b@#1\endcsname\T@temp
4380   }%

```

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

```

4381 \ifundefined{@CITE}{\def\@CITE{\@cite}}{%
4382 \providecommand*{\@extra@b@citeb}{}%
4383 \def\@CITE[#1]#2{%
4384   \let\@citea\@empty
4385   \leavevmode
4386   \unskip
4387   $^{}%
4388   \scriptstyle
4389   \@CITE{%
4390     \@for\@citeb:=#2\do{%
4391       \@citea
4392       \def\@citea{\penalty\@m\ }%
4393       \edef\@citeb{\expandafter\@firstofone\@citeb}%
4394       \if@filesw
4395         \immediate\write\@auxout{\string\citation{\@citeb}}%
4396       \fi
4397       \ifundefined{b@\@citeb\extra@b@citeb}{%
4398         \mbox{\reset@font\bfseries ?}%
4399         \G@refundefinedtrue
4400         \latex@warning{%
4401           Citation ‘\@citeb’ on page \thepage \space undefined%
4402         }%
4403       }{%
4404         {\csname b@\@citeb\extra@b@citeb\endcsname}%
4405       }%
4406     }%
4407   }{#1}%

```

```

4408   }$%
4409   }%

```

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.

```

4410   \def\@citex[#1]#2{%
4411     \let\@citea\@empty
4412     \@cite{%
4413       \@for\@citeb:=#2\do{%
4414         \@citea
4415         \def\@citea{,\penalty\@m\ }%
4416         \edef\@citeb{\expandafter\@firstofone\@citeb}%
4417         \if@filesw
4418           \immediate\write\@auxout{\string\citation{\@citeb}}%
4419         \fi
4420         \@ifundefined{b@\@citeb\@extra@b@citeb}{%
4421           \mbox{\reset@font\bfseries ?}%
4422           \G@refundefinedtrue
4423           \@latex@warning{%
4424             Citation ‘\@citeb’ on page \thepage \space undefined%
4425           }%
4426         }{%
4427           \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
4428         }%
4429       }%
4430     }{#1}%
4431   }%
4432 }{}

```

36.1 Package harvard

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

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

```

4433 \@ifpackageloaded{harvard}{%
4434   \AtBeginDocument{%
4435     \Hy@Info{*** compatibility with harvard *** }%
4436     \Hy@raiselinksfalse
4437     \def\harvardcite#1#2#3#4{%
4438       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite.#1}{#2}}%
4439       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite.#1}{#3}}%
4440       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite.#1}{#4}}%
4441       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
4442     }%
4443     \def\HAR@citetoaux#1{%
4444       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
4445       \ifHy@backref
4446         \ifx\@empty\@currentlabel
4447         \else
4448           \@bsphack
4449           \if@filesw
4450             \protected@write\@auxout{}{%
4451               \string\writefile{brf}{%
4452                 \string\backcite{#1}{%

```

```

4453         {\thepage}{\@currentlabel}{\@currentHref}%
4454     }%
4455 }%
4456 }%
4457 \fi
4458 \@esphack
4459 \fi
4460 \fi
4461 }%
4462 \def\harvarditem{%
4463     \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
4464 }%
4465 \def\@harvarditem[#1]#2#3#4#5\par{%
4466     \item[]%
4467     \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
4468     \if@filesw
4469         \begingroup
4470         \def\protect##1{\string ##1\space}%
4471         \ifthenelse{\equal{#1}{\null}}%
4472             {\def\next{{#4}{#2}{#3}}}%
4473             {\def\next{{#4}{#2}{#1}{#3}}}%
4474         \immediate\write\@auxout{\string\harvardcite\codeof\next}%
4475         \endgroup
4476     \fi
4477     \protect\hspace*{-\labelwidth}%
4478     \protect\hspace*{-\labelsep}%
4479     \ignorespaces
4480     #5%
4481     \ifHy@backref
4482         \newblock
4483         \backref{\csname br@#4\endcsname}%
4484     \fi
4485     \par
4486 }%

```

\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:

```

4487 \long\def\HAR@checkcitations#1#2#3#4{%
4488     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
4489     \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
4490         \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
4491         \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
4492             \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
4493             \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
4494                 \else
4495                     \@tempswatrue
4496                 \fi
4497             \else
4498                 \@tempswatrue
4499             \fi
4500         \else
4501             \@tempswatrue
4502         \fi
4503     }%
4504 }%
4505 }{}

```


36.2 Package chicago

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

```
4506 \@ifpackageloaded{chicago}{%

\citeN
4507   \def\citeN{%
4508     \def\@citesep{--1000}%
4509     \def\@cite##1##2{##1}%
4510     \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
4511     \@citedata@opt
4512   }%

\shortciteN
4513   \def\shortciteN{%
4514     \def\@citesep{--1000}%
4515     \def\@cite##1##2{##1}%
4516     \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
4517     \@citedata@opt
4518   }%

\@citedata@opt
4519   \def\@citedata@opt{%
4520     \let\@cite@opt\@empty
4521     \@ifnextchar [{%
4522       \@tempswatrue
4523       \@citedatax@opt
4524     }{%
4525       \@tempswafalse
4526       \@citedatax[]%
4527     }%
4528   }%

\@citedatax@opt
4529   \def\@citedatax@opt[#1]{%
4530     \def\@cite@opt{, #1}%
4531     \@citedatax[#1]}%
4532   }

4533 }{}
```

37 Page numbers

Give every page an automatic number anchor. This involves, sigh, overloading \LaTeX 's output bits and pieces, which must be dangerous. This used to be `\@shipoutsetup`, now `\@begindvi`. We cannot even overload this, as it sets itself to null. SIGH.

```
4534 \def\@begindvi{%
4535   \unvbox \@begindvibox
4536   \Hy@begindvi
4537   \global\let\@begindvi\Hy@begindvi
4538 }
4539 \def\Hy@begindvi{%
4540   \@hyperfixhead
4541   \HyPL@EveryPage
4542 }
```

```

4543 \def\pagenumbering#1{%
4544   \global\c@page \one
4545   \gdef\thepage{\csname @#1\endcsname\c@page}%
4546 }

```

This is needed for some unremembered reason. . .

```

4547 \let\HYPERPAGEANCHOR\hyperpageanchor

```

Macro \@hyperfixhead calls \hyper@pagetransition and \hyper@pageduration. Therefore empty definitions are provided for drivers that do not define these macros.

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.

```

4548 \providecommand\hyper@pagetransition{}
4549 \providecommand\hyper@pageduration{}
4550 \providecommand\hyper@pagehidden{}

```

This where we supply a destination for each page. Test to see if there is some sort of header. The test used to be \expandafter\ifx\expandafter\@empty\H@old@thehead.

\@hyperfixhead

```

4551 \def\@hyperfixhead{%
4552   \Hy@DistillerDestFix
4553   \ifHy@pageanchor
4554     \ifHy@hypertextnames
4555     \ifHy@plainpages
4556       \gdef\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
4557     \else
4558       \begingroup
4559         \let\@number\@firstofone
4560         \Hy@unicodedefalse
4561         \pdfstringdef\@the@H@page{\thepage}%
4562       \endgroup
4563       \gdef\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
4564     \fi
4565   \else
4566     \Hy@GlobalStepCount\Hy@pagecounter
4567     \gdef\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
4568   \fi
4569 \else
4570   \let\Hy@TempPageAnchor\@empty
4571 \fi
4572 \let\H@old@thehead\@thehead
4573 \if^\@thehead~%
4574   \def\H@old@thehead{\hfil}%
4575 \fi
4576 \ifHy@texht
4577   \def\@thehead{}%
4578 \else
4579   \ifHy@seminarslides
4580     \begingroup
4581       \let\leavevmode\relax
4582       \Hy@TempPageAnchor\relax
4583       \hyper@pagetransition
4584       \hyper@pageduration
4585       \hyper@pagehidden

```

```

4586     \endgroup
4587     \else
4588     \def\@thehead{%
4589         \Hy@TempPageAnchor\relax
4590         \hyper@pagetransition
4591         \hyper@pageduration
4592         \hyper@pagehidden
4593         \H@old@thehead
4594     }%
4595     \fi
4596 \fi
4597 \ifx\PDF@FinishDoc\@empty
4598 \else
4599     \PDF@FinishDoc
4600     \gdef\PDF@FinishDoc{%
4601 \fi
4602 }

```

38 Table of contents

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

```

4603 \begingroup\expandafter\expandafter\expandafter\endgroup
4604 \expandafter\ifx\csname chapter\endcsname\relax
4605     \def\toclevel@part{0}
4606 \else
4607     \def\toclevel@part{-1}
4608 \fi
4609 \def\toclevel@chapter{0}
4610 \def\toclevel@section{1}
4611 \def\toclevel@subsection{2}
4612 \def\toclevel@subsubsection{3}
4613 \def\toclevel@paragraph{4}
4614 \def\toclevel@subparagraph{5}
4615 \def\toclevel@figure{0}
4616 \def\toclevel@table{0}
4617 \ifpackageloaded{listings}{%
4618     \providecommand*\theHlstlisting{\thelstlisting}%
4619     \providecommand*\toclevel@lstlisting{0}%
4620 }{}
4621 \ifpackageloaded{listing}{%
4622     \providecommand*\theHlisting{\thelisting}%
4623     \providecommand*\toclevel@listing{0}%
4624 }{}
4625 \def\addcontentsline#1#2#3{% toc extension, type, tag
4626     \begingroup
4627         \let\label\@gobble
4628         \let\textlatin\@firstofone
4629         \ifx\@currentHref\@empty
4630             \Hy@Warning{%
4631                 No destination for bookmark of \string\addcontentsline,%
4632                 \MessageBreak destination is added%
4633             }%
4634         \phantomsection
4635     \fi

```

```

4636 \expandafter\ifx\csname toplevel@#2\endcsname\relax
4637 \begingroup
4638 \def\Hy@tempa{#1}%
4639 \ifx\Hy@tempa\Hy@bookmarkstype
4640 \Hy@WarningNoLine{bookmark level for unknown #2 defaults to 0}%
4641 \else
4642 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
4643 \fi
4644 \endgroup
4645 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
4646 \fi
4647 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
4648 \Hy@writebookmark{\csname the#2\endcsname}%
4649 {#3}%
4650 {\@currentHref}%
4651 {\Hy@toplevel}%
4652 {#1}%
4653 \ifHy@verbose
4654 \def\Hy@tempa{#3}%
4655 \@onelevel@sanitize\Hy@tempa
4656 \typeout{pdfTeX: bookmark at \the\inputlineno:
4657 {\csname the#2\endcsname}
4658 {\Hy@tempa}
4659 {\@currentHref}%
4660 {\Hy@toplevel}%
4661 {#1}%
4662 }%
4663 \fi
4664 \addtocontents{#1}{%
4665 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
4666 }%
4667 \endgroup
4668 }
4669 \def\contentsline#1#2#3#4{%
4670 \ifx\#4\%
4671 \csname l@#1\endcsname{#2}{#3}%
4672 \else
4673 \ifHy@linktopage
4674 \csname l@#1\endcsname{#2}{%
4675 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
4676 }%
4677 \else
4678 \csname l@#1\endcsname{%
4679 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
4680 }{#3}%
4681 \fi
4682 \fi
4683 }
4684 \end{package}
4685 \end{check}
4686 \checklatex
4687 \checkcommand\def\addcontentsline#1#2#3{%
4688 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
4689 }
4690 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
4691 \end{check}
4692 \end{package}

```

39 New counters

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

```
4693 \let\H@definecounter\@definecounter
4694 \def\@definecounter#1{%
4695   \H@definecounter{#1}%
4696   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
4697 }
```

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.

```
4698 \let\H@newctr\@newctr
4699 \def\@newctr#1[#2]{%
4700   \H@newctr#1[#2]%
4701   \expandafter\def\csname theH#1\endcsname{%
4702     \csname the\@ifundefined{theH#2}{-}{H}#2\endcsname.\arabic{#1}%
4703   }%
4704 }
```

40 AMS \LaTeX compatibility

Oh, no, they don't use anything as simple as `\refstepcounter` in the AMS! We need to intercept some low-level operations of theirs. Damned if we are going to try and work out what they get up to. Just stick a label of 'AMS' on the front, and use the label *they* worked out. If that produces something invalid, I give up. They'll change all the code again anyway, I expect.

```
4705 \let\Hmake@df@tag@@\make@df@tag@@
4706 \def\make@df@tag@@#1{%
4707   \Hmake@df@tag@@{#1}%
4708   \Hy@GlobalStepCount\Hy@linkcounter
4709   \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
4710   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
4711 }
4712 \let\Hmake@df@tag@@@\make@df@tag@@@
4713 \def\make@df@tag@@@#1{%
4714   \Hmake@df@tag@@@{#1}%
4715   \Hy@GlobalStepCount\Hy@linkcounter
4716   \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
4717   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
4718 }
```

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

```
4719 \@ifpackagewith{hyperref}{pdf $\TeX$ }{%
4720   \let\H@seteqlabel\@seteqlabel
4721   \def\@seteqlabel#1{%
4722     \H@seteqlabel{#1}%
4723     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
4724     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
4725   }%
4726 }{}
```

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

```
\let\H@tagform@\tagform@
```

```

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

```

40.1 \@addtoreset and \numberwithin patches

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

```

4727 \let\HyOrg@addtoreset\@addtoreset
4728 \def\@addtoreset#1#2{%
4729   \HyOrg@addtoreset{#1}{#2}%
4730   \expandafter\xdef\csname theH#1\endcsname{%
4731     \expandafter\noexpand
4732     \csname the\@ifundefined{theH#2}{H#2\endcsname
4733     .\noexpand\the\noexpand\value{#1}}%
4734   }%
4735 }

```

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

```

4736 </package>
4737 <*check>
4738 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
4739 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
4740   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
4741     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
4742       \@addtoreset{#2}{#3}%
4743       \@xp\xdef\csname the#2\endcsname{%
4744         \@xp@nx\csname the#3\endcsname .\@nx#1{#2}%
4745       }%
4746     }%
4747   }%
4748 }%
4749 </check>
4750 <*package>
4751 \@ifpackageloaded{amsmath}{%
4752   \@ifpackagelater{amsmath}{1999/12/14}{%
4753     \renewcommand*{\numberwithin}[3][\arabic]{%
4754       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
4755         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
4756           \HyOrg@addtoreset{#2}{#3}%
4757           \@xp\xdef\csname the#2\endcsname{%
4758             \@xp@nx\csname the#3\endcsname .\@nx#1{#2}%
4759           }%
4760           \@xp\xdef\csname theH#2\endcsname{%
4761             \@xp@nx
4762             \csname the\@ifundefined{theH#3}{H#3\endcsname
4763             .\@nx#1{#2}}%
4764           }%
4765         }%
4766       }%
4767     }%
4768   }%
4769   \Hy@WarningNoLine{%

```

```

4770     \string\numberwithin\space of package ‘amsmath’
4771     only fixed\MessageBreak
4772     for version 2000/06/06 v2.12 or newer%
4773 }%
4774 }
4775 }{}

```

41 Included figures

Simply intercept the low level graphics package macro.

```

4776 \ifHy@figures
4777   \let\Hy@Gin@setfile\Gin@setfile
4778   \def\Gin@setfile#1#2#3{%
4779     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
4780   }
4781 \fi
4782 \Hy@DisableOption{hyperfigures}

```

42 hyperindex entries

Internal command names are prefixed with \HyInd@.

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

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

```

4783 \ifHy@hyperindex
4784   \def\HyInd@ParenLeft{()%
4785   \def\HyInd@ParenRight{)%}
4786   \Hy@nextfalse
4787   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
4788   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
4789   \begingroup
4790     \lccode‘\|=\expandafter‘\HyInd@EncapChar\relax
4791     \lowercase{\endgroup
4792       \ifHy@next
4793         \let\HyInd@org@wrindex\@wrindex
4794         \def\@wrindex#1#2{\HyInd@wrindex{#1}#2||\}%
4795         \def\HyInd@wrindex#1#2|#3|#4\{\%
4796           \ifx\|#3\%
4797             \HyInd@org@wrindex{#1}{#2|hyperpage}%
4798           \else
4799             \def\Hy@temp@A{#3}%
4800             \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
4801               \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
4802             \relax
4803             \HyInd@org@wrindex{#1}{#2|#3}%
4804           \else
4805             \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
4806           \fi
4807         \fi

```

```

4808     }%
4809   \else
4810     \def\@wrindex#1{\@wrindex#1||\}
4811     \def\@wrindex#1|#2|#3\{\%
4812       \if@files
4813         \ifx\#2\%
4814           \protected@write\@indexfile{}\%
4815             \string\indexentry{#1|hyperpage}{\thepage}%
4816         }%
4817       \else
4818         \def\Hy@temp@A{#2}%
4819         \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
4820           \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
4821         \relax
4822         \protected@write\@indexfile{}\%
4823           \string\indexentry{#1|#2}{\thepage}%
4824         }%
4825       \else
4826         \protected@write\@indexfile{}\%
4827           \string\indexentry{#1|#2hyperpage}{\thepage}%
4828         }%
4829       \fi
4830     \fi
4831   \fi
4832 \endgroup
4833 \@esphack
4834 }%
4835 \fi
4836 }%
4837 \fi
4838 \Hy@DisableOption{hyperindex}
4839 \Hy@DisableOption{encap}

```

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.

```

4840 \def\hyperpage#1{\@hyperpage#1---\}
4841 \def\@hyperpage#1--#2--#3\{\%
4842   \ifx\#2\%
4843     \@commahyperpage{#1}%
4844   \else
4845     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
4846   \fi
4847 }
4848 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
4849 \def\@commahyperpage#1, #2,#3\{\%
4850   \ifx\#2\%
4851     \HyInd@pagelink{#1}%
4852   \else
4853     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
4854   \fi
4855 }

```

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

```

4856 \def\HyInd@pagelink#1{\%
4857   \begingroup
4858     \toks@={}%
4859     \HyInd@removespaces#1 \@nil

```



```

4860 \endgroup
4861 }
4862 \def\HyInd@removespaces#1 #2\@nil{%
4863   \toks@=\expandafter{\the\toks@#1}%
4864   \ifx\#2\%
4865     \edef\x{\the\toks@}%
4866     \ifx\x\@empty
4867       \else
4868         \hyperlink{page.\the\toks@}{\the\toks@}%
4869       \fi
4870   \else
4871     \Hy@ReturnAfterFi{%
4872       \HyInd@removespaces#2\@nil
4873     }%
4874   \fi
4875 }

```

43 Compatibility with foiltex

```

4876 \@ifclassloaded{foils}{%
4877   \providecommand*\ext@table{lot}%
4878   \providecommand*\ext@figure{lof}%
4879 }{}

```

44 Compatibility with seminar slide package

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

```

4880 \@ifclassloaded{seminar}{%
4881   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}%
4882 }{%
4883   \Hy@seminarslidesfalse
4884 }
4885 \@ifpackageloaded{slidesec}{%
4886   \newcommand\theHslidesection {\arabic{slidesection}}%
4887   \newcommand\theHslidesubsection{%
4888     \theHslidesection.\arabic{slidesubsection}}%
4889   }%
4890   \def\slide@heading[#1]#2{%
4891     \H@refstepcounter{slidesection}%
4892     \@addtoreset{slidesubsection}{slidesection}%
4893     \addtocontents{los}{%
4894       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
4895       {\@SCTR}{slideheading.\theslidesection}}%
4896   }%
4897   \def\Hy@tempa{#2}%
4898   \ifx\Hy@tempa\@empty
4899   \else
4900     {%
4901       \edef\@currentlabel{%
4902         \csname p@slidesection\endcsname\theslidesection
4903       }%
4904       \makeslideheading{#2}%
4905     }%
4906   \fi
4907   \gdef\theslideheading{#1}%

```

```

4908 \gdef\theslidesubheading{}%
4909 \ifHy@bookmarksnumbered
4910 \def\Hy@slidetitle{\theslidesection\space #1}%
4911 \else
4912 \def\Hy@slidetitle{#1}%
4913 \fi
4914 \ifHy@hypertextnames
4915 \ifHy@naturalnames
4916 \hyper@@anchor{slideheading.\theslidesection}{\relax}%
4917 \Hy@writebookmark
4918 {\theslidesection}%
4919 {\Hy@slidetitle}%
4920 {slideheading.\theslidesection}%
4921 {1}%
4922 {toc}%
4923 \else
4924 \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
4925 \Hy@writebookmark
4926 {\theslidesection}%
4927 {\Hy@slidetitle}%
4928 {slideheading.\theHslidesection}%
4929 {1}%
4930 {toc}%
4931 \fi
4932 \else
4933 \Hy@GlobalStepCount\Hy@linkcounter
4934 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
4935 \Hy@writebookmark
4936 {\theslidesection}%
4937 {\Hy@slidetitle}%
4938 {slideheading.\the\Hy@linkcounter}%
4939 {1}%
4940 {toc}%
4941 \fi
4942 }%
4943 \def\slide@subheading[#1]#2{%
4944 \H@refstepcounter{slidesubsection}%
4945 \addtocontents{los}{%
4946 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
4947 {\@SCTR}{slideheading.\theslidesubsection}%
4948 }%
4949 \def\Hy@tempa{#2}%
4950 \ifx\Hy@tempa\@empty
4951 \else
4952 {%
4953 \edef\@currentlabel{%
4954 \csname p@slidesubsection\endcsname\theslidesubsection
4955 }%
4956 \makeslidesubheading{#2}%
4957 }%
4958 \fi
4959 \gdef\theslidesubheading{#1}%
4960 \ifHy@bookmarksnumbered
4961 \def\Hy@slidetitle{\theslidesubsection\space #1}%
4962 \else
4963 \def\Hy@slidetitle{#1}%
4964 \fi

```

```

4965 \ifHy@hypertextnames
4966 \ifHy@naturalnames
4967 \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
4968 \Hy@writebookmark
4969 {\theslidesubsection}%
4970 {\Hy@slidetitle}%
4971 {slideheading.\theslidesubsection}%
4972 {2}%
4973 {toc}%
4974 \else
4975 \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
4976 \Hy@writebookmark
4977 {\theslidesubsection}%
4978 {\Hy@slidetitle}%
4979 {slideheading.\theHslidesubsection}%
4980 {2}%
4981 {toc}%
4982 \fi
4983 \else
4984 \Hy@GlobalStepCount\Hy@linkcounter
4985 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
4986 \Hy@writebookmark
4987 {\theslidesubsection}%
4988 {\Hy@slidetitle}%
4989 {slideheading.\the\Hy@linkcounter}%
4990 {1}%
4991 {toc}%
4992 \fi
4993 }%
4994 \providecommand*{\listslidenam}{List of Slides}%
4995 \def\listofslides{%
4996 \section*{%
4997 \listslidenam
4998 \@mkboth{%
4999 \expandafter\MakeUppercase\listslidenam
5000 }{%
5001 \expandafter\MakeUppercase\listslidenam
5002 }%
5003 }%
5004 \def\l@slide##1##2##3##4{%
5005 \slide@undottedcline{%
5006 \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
5007 }{}%
5008 }%
5009 \let\l@subslide\l@slide
5010 \@startlos
5011 }%
5012 \def\slide@contents{%
5013 \def\l@slide##1##2##3##4{%
5014 \slide@cline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
5015 }%
5016 \let\l@subslide\@gobblefour
5017 \@startlos
5018 }%
5019 \def\Slide@contents{%
5020 \def\l@slide##1##2##3##4{%
5021 \ifcase\lslide@flag

```

```

5022 \message{##1 ** \the\c@slide@section}%
5023 \ifnum##1>\c@slide@section
5024 \def\lslide@flag{1}%
5025 {%
5026 \large
5027 \slide@cline{%
5028 \slidenumberline{$\rightarrow\bullet$}%
5029 {\hyperlink{##4}{##2}}%
5030 }{##3}%
5031 }%
5032 \else
5033 {%
5034 \large
5035 \slide@cline{%
5036 \slidenumberline{$\surd\;\bullet$}%
5037 {\hyperlink{##4}{##2}}%
5038 }{##3}%
5039 }%
5040 \fi
5041 \or
5042 \def\lslide@flag{2}%
5043 {%
5044 \large
5045 \slide@cline{%
5046 \slidenumberline{$\bullet$}%
5047 {\hyperlink{##4}{##2}}%
5048 }{##3}%
5049 }%
5050 \or
5051 {%
5052 \large
5053 \slide@cline{%
5054 \slidenumberline{$\bullet$}%
5055 {\hyperlink{##4}{##2}}%
5056 }{##3}%
5057 }%
5058 \fi
5059 }%
5060 \def\l@subslide##1##2##3##4{%
5061 \ifnum\lslide@flag=1
5062 \undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
5063 \fi
5064 }%
5065 \def\lslide@flag{0}%
5066 \@startlos
5067 }%
5068 }{}

```

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.)

```

5069 \ifHy@texht
5070 \expandafter\endinput
5071 \fi
5072 \let\real@setref\@setref
5073 \def\@setref#1#2#3{% csname, extract group, refname
5074 \ifx#1\relax
5075 \protect\G@refundefinedtrue

```

```

5076 \nfss@text{\reset@font\bfseries ??}%
5077 \latex@warning{%
5078   Reference ‘#3’ on page \thepage \space undefined%
5079 }%
5080 \else
5081 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
5082 \fi
5083 }

```

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

```

5084 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
5085 \begingroup
5086 \toks0={\hyper@@link{#5}{#4}}%
5087 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
5088 \edef\x{\endgroup
5089   \the\toks0 {\the\toks1 }}%
5090 }%
5091 \x
5092 }
5093 \def\@pagesetref#1#2#3{% csname, extract macro, ref
5094 \ifx#1\relax
5095 \protect\G@refundefinedtrue
5096 \nfss@text{\reset@font\bfseries ??}%
5097 \latex@warning{%
5098   Reference ‘#3’ on page \thepage \space undefined%
5099 }%
5100 \else
5101 \protect\hyper@@link
5102 {\expandafter\@fifthoffive#1}%
5103 {page.\expandafter\@secondoffive#1}%
5104 {\expandafter\@secondoffive#1}%
5105 \fi
5106 }
5107 \</package>
5108 \<*check>
5109 \checklatex
5110 \checkcommand\def\@setref#1#2#3{%
5111 \ifx#1\relax
5112 \protect\G@refundefinedtrue
5113 \nfss@text{\reset@font\bfseries ??}%
5114 \latex@warning{%
5115   Reference ‘#3’ on page \thepage\space undefined%
5116 }%
5117 \else
5118 \expandafter#2#1\@null
5119 \fi
5120 }
5121 \</check>
5122 \<*package>

```

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

```

5123 \def\@refstar#1{%
5124 \Hy@safe@activetrue
5125 \expandafter\real@setref\csname r@#1\endcsname\@firstoffive{#1}%
5126 \Hy@safe@activesfalse
5127 }

```

```

5128 \def\@pagerefstar#1{%
5129   \Hy@safe@activetrue
5130   \expandafter\real@setref\csname r@#1\endcsname\@secondoffive{#1}%
5131   \Hy@safe@activesfalse
5132 }
5133 \DeclareRobustCommand\autoref{%
5134   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@link}%
5135 }
5136 \def\HyRef@autoref#1#2{%
5137   \begingroup
5138     \Hy@safe@activetrue
5139     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
5140   \endgroup
5141 }
5142 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
5143   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
5144     \edef\HyRef@thisref{\expandafter\@fourthoffive#1\@empty\@empty\@empty}%
5145     \expandafter\HyRef@testreftype\HyRef@thisref\\%
5146     \Hy@safe@activesfalse
5147     #3{%
5148       \expandafter\@fifthoffive#1%
5149     }{%
5150       \expandafter\@fourthoffive#1\@empty\@empty\@empty
5151     }{%
5152       \HyRef@currentHtag
5153       \expandafter\@firstoffive#1\@empty\@empty\@empty
5154       \null
5155     }%
5156   \else
5157     \protect\G@refundefinedtrue
5158     \nfss@text{\reset@font\bfseries ??}%
5159     \@latex@warning{%
5160       Reference ‘#2’ on page \thepage\space undefined%
5161     }%
5162   \fi
5163 }
5164 \def\HyRef@testreftype#1.#2\\{%
5165   \@ifundefined{#1autorefname}{%
5166     \@ifundefined{#1name}{%
5167       \def\HyRef@currentHtag{%
5168         \@latex@warning{no tag name for #1 at \the\inputlineno}%
5169       }{%
5170         \edef\HyRef@currentHtag{%
5171           \expandafter\noexpand\csname#1name\endcsname
5172           \noexpand~%
5173         }%
5174       }%
5175     }{%
5176       \edef\HyRef@currentHtag{%
5177         \expandafter\noexpand\csname#1autorefname\endcsname
5178         \noexpand~%
5179       }%
5180     }%
5181   }
5182 \def\HyRef@currentHtag{}

```

Defaults for the names that \autoref uses.

```

5183 \providecommand\AMSautorefname{\equationautorefname}

```

```

5184 \providecommand\Hfootnoteautorefname{\footnoteautorefname}
5185 \providecommand\Itemautorefname{\itemautorefname}
5186 \providecommand\itemautorefname{item}
5187 \providecommand\equationautorefname{Equation}
5188 \providecommand\footnoteautorefname{footnote}
5189 \providecommand\itemautorefname{item}
5190 \providecommand\figureautorefname{Figure}
5191 \providecommand\tableautorefname{Table}
5192 \providecommand\partautorefname{Part}
5193 \providecommand\appendixautorefname{Appendix}
5194 \providecommand\chapterautorefname{chapter}
5195 \providecommand\sectionautorefname{section}
5196 \providecommand\subsectionautorefname{subsection}
5197 \providecommand\subsubsectionautorefname{subsubsection}
5198 \providecommand\paragraphautorefname{paragraph}
5199 \providecommand\subparagraphautorefname{subparagraph}
5200 \providecommand\FancyVerbLineautorefname{line}
5201 \providecommand\theoremautorefname{Theorem}
5202 \end{package}

```

45 Configuration files

45.1 PS/PDF strings

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

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

```

5203 < *pdfTeX | dvipdfm | vtex | pdfmarkbase | dviwindo >
5204 \begingroup\expandafter\expandafter\expandafter\endgroup
5205 \expandafter\ifx\csname pdfescapestring\endcsname\relax
5206   \begingroup
5207     \catcode'\| = 0 %
5208     \@makeother\| %
5209     |@firstofone{| \endgroup
5210     |def|Hy@pstringdef#1#2{%
5211       |edef#1{#2}%
5212       |@onelevel@sanitize#1%
5213       |edef#1{| \expandafter|Hy@ExchangeBackslash#1\|@nil}%
5214       |edef#1{| \expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
5215       |edef#1{| \expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
5216     }%
5217     |def|Hy@ExchangeBackslash#1\#2|@nil{%
5218       #1%
5219       |ifx|\#2\| %
5220       |else
5221         \| %
5222         |Hy@ReturnAfterFi{%
5223           |Hy@ExchangeBackslash#2|@nil
5224         }%
5225       |fi
5226     }%
5227   }

```

```

5228 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
5229   #1%
5230   \ifx\|#2\%
5231   \else
5232     \@backslashchar(%
5233     \Hy@ReturnAfterFi{%
5234       \Hy@ExchangeLeftParenthesis#2\@nil
5235     }%
5236   \fi
5237 }
5238 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
5239   #1%
5240   \ifx\|#2\%
5241   \else
5242     \@backslashchar)%
5243     \Hy@ReturnAfterFi{%
5244       \Hy@ExchangeRightParenthesis#2\@nil
5245     }%
5246   \fi
5247 }
5248 \else
5249   \def\Hy@pstringdef#1#2{%
5250     \edef#1{\pdfescapestring{#2}}%
5251   }%
5252 \fi
5253 </pdfTeX | dvipdfm | vTeX | pdfmarkbase | dviwindo>

```

45.2 pdftex

5254 < *pdftex >

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

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

```

5255 \def\setpdflinkmargin#1{\pdflinkmargin#1}
5256 \ifx\pdfstartlink\undefined% less than version 14
5257   \let\pdfstartlink\pdfannotlink
5258   \let\pdflinkmargin\@tempdima
5259   \let\pdfxform\pdfform
5260   \let\pdflastxform\pdflastform
5261   \let\pdfrefxform\pdfrefform
5262 \else
5263   \pdflinkmargin1pt
5264 \fi

```

First set up the default linking

```
5265 \providecommand\@pdfview{XYZ}
```

First define the anchors:

```

5266 \def\new@pdflink#1{%
5267   \ifHy@verbose
5268     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
5269   \fi
5270   \Hy@SaveLastskip
5271   \Hy@pstringdef\Hy@pstringDest{#1}%
5272   \Hy@DestName\Hy@pstringDest\@pdfview
5273   \Hy@RestoreLastskip
5274 }

```



```

5275 \let\pdf@endanchor\@empty
\Hy@DestName Wrap the call of \pdfdest name in \Hy@DestName. Then it can easier be caught by
package hypdestopt.
5276 \def\Hy@DestName#1#2{%
5277   \pdfdest name{#1}#2\relax
5278 }

```

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.

```

5279 \providecommand\@pdfborder{0 0 1}
5280 \providecommand*\@pdfborderstyle{}
5281 \def\Hy@undefinedname{UNDEFINED}
5282 \def\find@pdflink#1#2{%
5283   \leavevmode
5284   \protected@edef\Hy@testname{#2}%
5285   \ifx\Hy@testname\@empty
5286     \let\Hy@testname\Hy@undefinedname
5287   \else
5288     \Hy@pstringdef\Hy@testname\Hy@testname
5289   \fi
5290   \Hy@StartlinkName{%
5291     \Hy@setpdfborder
5292     \ifx\@pdfhighlight\@empty
5293       \else
5294         /H\@pdfhighlight
5295       \fi
5296       /C[\CurrentBorderColor]%
5297   }\Hy@testname
5298   \expandafter\Hy@colorlink\csname @#1color\endcsname
5299 }
5300 \def\Hy@StartlinkName#1#2{%
5301   \pdfstartlink attr{#1}goto name{#2}\relax
5302 }
5303 \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
5304 \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
5305 \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
5306 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
5307 \def\hyper@linkstart#1#2{%
5308   \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
5309   \find@pdflink{#1}{#2}}
5310 \def\hyper@linkend{\close@pdflink}
5311 \def\hyper@link#1#2#3{%
5312   \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
5313   \find@pdflink{#1}{#2}#3\close@pdflink
5314 }
5315 \def\CurrentBorderColor{\@linkbordercolor}
5316 \def\hyper@linkurl#1#2{%
5317   \beginngroup
5318     \Hy@pstringdef\Hy@pstringURI{#2}%
5319     \hyper@chars
5320     \leavevmode
5321     \pdfstartlink
5322       attr{%
5323         \Hy@setpdfborder

```

```

5324         \ifx\@pdfhighlight\@empty
5325         \else
5326             /H\@pdfhighlight
5327         \fi
5328         /C[\@urlbordercolor]%
5329     }%
5330     user{%
5331         /Subtype/Link%
5332         /A<<%
5333             /Type/Action%
5334             /S/URI%
5335             /URI(\Hy@pstringURI)%
5336         >>%
5337     }%
5338     \relax
5339     \Hy@colorlink\@urlcolor#1%
5340     \close@pdflink
5341 \endgroup
5342 }
5343 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
5344     \beginngroup
5345         \Hy@pstringdef\Hy@pstringF{#2}%
5346         \Hy@pstringdef\Hy@pstringD{#3}%
5347         \leavevmode
5348         \pdfstartlink
5349         attr{%
5350             \Hy@setpdfborder
5351             \ifx\@pdfhighlight\@empty
5352             \else
5353                 /H\@pdfhighlight
5354             \fi
5355             /C[\@filebordercolor]%
5356         }%
5357         user {%
5358             /Subtype/Link%
5359             /A<<%
5360                 /F(\Hy@pstringF)%
5361                 /S/GoToR%
5362                 \ifHy@newwindow /NewWindow true\fi

```

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}

5363         \ifx\@#3\@
5364             /D[0 \@pdfstartview]%
5365         \else
5366             /D(\Hy@pstringD)%
5367         \fi
5368         >>%
5369     }%

```

```

5370      \relax
5371      \Hy@colorlink\@filecolor#1%
5372      \close@pdflink
5373  \endgroup
5374 }
5375 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
5376  \begin{group}
5377    \Hy@pstringdef\Hy@pstringF{#1}%
5378    \Hy@pstringdef\Hy@pstringP{#3}%
5379    \leavevmode
5380    \pdfstartlink
5381      attr{%
5382        \Hy@setpdfborder
5383        \ifx\@pdfhighlight\@empty
5384          \else
5385            /H\@pdfhighlight
5386          \fi
5387        /C[\@runbordercolor]%
5388      }%
5389      user {%
5390        /Subtype/Link%
5391        /A<<%
5392          /F(\Hy@pstringF)%
5393          /S/Launch%
5394          \ifHy@newwindow /NewWindow true\fi
5395          \ifx\#3\%
5396            \else
5397              /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
5398            \fi
5399          >>%
5400        }%
5401      \relax
5402      \Hy@colorlink\@filecolor#2%
5403      \close@pdflink
5404  \endgroup
5405 }

```

\@pdfproducer

```

5406 \ifx\@pdfproducer\relax
5407   \def\@pdfproducer{pdfTeX}
5408   \ifx\@pdfproducer\@undefined
5409     \else
5410       \ifx\@pdfproducer\relax
5411         \else
5412           \ifnum\@pdfproducer>0 %
5413             \def\@pdfproducer{pdfTeX}
5414           \fi
5415         \fi
5416       \fi
5417       \ifx\@pdfproducer\@undefined
5418         \else
5419           \ifnum\@pdfproducer<100 %
5420             \edef\@pdfproducer{%
5421               \@pdfproducer
5422               \the\@pdfproducer.\@pdfproducerrevision
5423             }
5424           \else

```

```

5425 \ifnum\pdfTeXversion<130 %
5426 \edef\pdfproducer{%
5427 \pdfproducer-%
5428 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
5429 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
5430 \pdfTeXrevision
5431 }
5432 \else
5433 \ifnum\pdfTeXversion<140 %
5434 \else
5435 \def\pdfproducer{pdfTeX}%
5436 \fi
5437 \edef\pdfproducer{%
5438 \pdfproducer-%
5439 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
5440 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
5441 \pdfTeXrevision
5442 }%
5443 \fi
5444 \fi
5445 \fi
5446 \fi

```

\PDF@SetupDox

```

5447 \def\PDF@SetupDoc{%
5448 \ifx\pdfpagescrop\@empty
5449 \else
5450 \edef\process@me{%
5451 \pdfpagesattr={%
5452 /CropBox[\pdfpagescrop]%
5453 \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
5454 \else
5455 ^^J\the\pdfpagesattr
5456 \fi
5457 }%
5458 }%
5459 \process@me
5460 \fi
5461 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
5462 \pdfcatalog{%
5463 /PageMode/\pdfpagemode
5464 \ifx\@baseurl\@empty
5465 \else
5466 /URI<</Base(\Hy@pstringB)>>%
5467 \fi
5468 }%
5469 \ifx\pdfstartview\@empty
5470 \else
5471 openaction goto page \pdfstartpage {\pdfstartview}%
5472 \fi
5473 \edef\Hy@temp{%
5474 \ifHy@toolbar\else /HideToolbar true\fi
5475 \ifHy@menubar\else /HideMenubar true\fi
5476 \ifHy@windowui\else /HideWindowUI true\fi
5477 \ifHy@fitwindow /FitWindow true\fi
5478 \ifHy@centerwindow /CenterWindow true\fi
5479 \ifHy@displaydoctitle /DisplayDocTitle true\fi

```

```

5480 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
5481 \Hy@UseNameKey{Direction}\@pdfdirection
5482 \Hy@UseNameKey{ViewArea}\@pdfviewarea
5483 \Hy@UseNameKey{ViewClip}\@pdfviewclip
5484 \Hy@UseNameKey{PrintArea}\@pdfprintarea
5485 \Hy@UseNameKey{PrintClip}\@pdfprintclip
5486 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
5487 \Hy@UseNameKey{Duplex}\@pdfduplex
5488 \ifx\@pdfpicktraybypdfsize\@empty
5489 \else
5490 /PickTrayByPDFSize \@pdfpicktraybypdfsize
5491 \fi
5492 \ifx\@pdfprintpagerange\@empty
5493 \else
5494 /PrintPageRange[\@pdfprintpagerange]%
5495 \fi
5496 \ifx\@pdfnumcopies\@empty
5497 \else
5498 /NumCopies \@pdfnumcopies
5499 \fi
5500 }%
5501 \pdfcatalog{%
5502 \ifx\Hy@temp\@empty
5503 \else
5504 /ViewerPreferences<<\Hy@temp>>%
5505 \fi
5506 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
5507 \ifx\@pdflang\@empty
5508 \else
5509 /Lang(\@pdflang)%
5510 \fi
5511 }%
5512 }

```

\PDF@FinishDoc

```

5513 \def\PDF@FinishDoc{%
5514 \Hy@UseMaketitleInfos
5515 \pdfinfo{%
5516 /Author(\@pdfauthor)%
5517 /Title(\@pdftitle)%
5518 /Subject(\@pdfsubject)%
5519 /Creator(\@pdfcreator)%
5520 \ifx\@pdfcreationdate\@empty
5521 \else
5522 /CreationDate(\@pdfcreationdate)%
5523 \fi
5524 \ifx\@pdfmoddate\@empty
5525 \else
5526 /ModDate(\@pdfmoddate)%
5527 \fi
5528 \ifx\@pdfproducer\relax
5529 \else
5530 /Producer(\@pdfproducer)%
5531 \fi
5532 /Keywords(\@pdfkeywords)%
5533 }%
5534 \Hy@DisableOption{pdfauthor}%

```

```

5535 \Hy@DisableOption{pdftitle}%
5536 \Hy@DisableOption{pdfsubject}%
5537 \Hy@DisableOption{pdfcreator}%
5538 \Hy@DisableOption{pdfcreationdate}%
5539 \Hy@DisableOption{pdfmoddate}%
5540 \Hy@DisableOption{pdfproducer}%
5541 \Hy@DisableOption{pdfkeywords}%
5542 }

```

`\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`.

```

5543 \def\hyper@pagetransition{%
5544   \ifx\@pdfpagetransition\relax
5545   \else
5546     \expandafter\Hy@RemoveTransPageAttr\the\pdfpageattr^^J/Trans{>>\END
5547     \ifx\@pdfpagetransition\@empty
5548     \else
5549       \edef\@processme{%
5550         \global\pdfpageattr{%
5551           \the\pdfpageattr
5552           ^^J/Trans << /S /\@pdfpagetransition\space >>%
5553         }%
5554       }%
5555       \@processme
5556     \fi
5557   \fi
5558 }

```

`\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.

```

5559 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
5560   \ifx\#2\%
5561     \global\pdfpageattr{#1}%
5562   \else
5563     \Hy@RemoveTransPageAttr#1#4\END
5564   \fi
5565 }

```

`\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`.

```

5566 \def\hyper@pageduration{%
5567   \ifx\@pdfpageduration\relax
5568   \else
5569     \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{ } \END
5570     \ifx\@pdfpageduration\@empty
5571     \else
5572       \edef\@processme{%
5573         \global\pdfpageattr{%
5574           \the\pdfpageattr
5575           ^^J/Dur \@pdfpageduration\space
5576         }%
5577       }%
5578       \@processme

```

```

5579 \fi
5580 \fi
5581 }

```

`\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.

```

5582 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
5583 \ifx\#2\%
5584 \global\pdfpageattr{#1}%
5585 \else
5586 \Hy@RemoveDurPageAttr#1#4\END
5587 \fi
5588 }

```

`\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).

```

5589 \def\hyper@pagehidden{%
5590 \ifHy@useHidKey
5591 \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
5592 \ifHy@pdfpagehidden
5593 \edef\@processme{%
5594 \global\pdfpageattr{%
5595 \the\pdfpageattr
5596 ^^J/Hid true % SPACE
5597 }%
5598 }%
5599 \@processme
5600 \fi
5601 \fi
5602 }

```

`\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.

```

5603 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
5604 \ifx\#2\%
5605 \global\pdfpageattr{#1}%
5606 \else
5607 \Hy@RemoveHidPageAttr#1#4\END
5608 \fi
5609 }

```

Let us explicitly turn on PDF generation; they can reverse this decision in the document, but since we are emitting PDF links anyway, we *must* be in PDF mode.

```

5610 \pdfoutput=1
5611 \pdfcompresslevel=9
5612 \AtBeginDocument{%
5613 \ifHy@setpagesize
5614 \expandafter\@firstofone
5615 \else
5616 \expandafter\gobble
5617 \fi

```

```

5618 {%
5619   \@ifclassloaded{seminar}{%
5620     \setlength{\pdfhorigin}{1truein}%
5621     \setlength{\pdfvorigin}{1truein}%
5622     \ifportrait
5623       \ifdim\paperwidth=\z@
5624       \else
5625         \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
5626       \fi
5627       \ifdim\paperheight=\z@
5628       \else
5629         \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
5630       \fi
5631     \else
5632       \ifdim\paperheight=\z@
5633       \else
5634         \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
5635       \fi
5636       \ifdim\paperwidth=\z@
5637       \else
5638         \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
5639       \fi
5640     \fi
5641   }{%
5642     \@ifundefined{stockwidth}{%
5643       \ifdim\paperwidth=\z@
5644       \else
5645         \setlength{\pdfpagewidth}{\paperwidth}%
5646       \fi
5647       \ifdim\paperheight=\z@
5648       \else
5649         \setlength{\pdfpageheight}{\paperheight}%
5650       \fi
5651     }{%
5652       \ifdim\stockwidth=\z@
5653       \else
5654         \setlength{\pdfpagewidth}{\stockwidth}%
5655       \fi
5656       \ifdim\stockheight=\z@
5657       \else
5658         \setlength{\pdfpageheight}{\stockheight}%
5659       \fi
5660     }%
5661   }%
5662 }%
5663 \Hy@DisableOption{setpagesize}%
5664 }
5665 \def\Acrobatmenu#1#2{%
5666   \leavevmode
5667   \pdfstartlink
5668   attr{%
5669     \Hy@setpdfborder
5670     \ifx\@pdfhighlight\@empty
5671     \else
5672       /H\@pdfhighlight
5673     \fi
5674     /C[\@menubordercolor]%

```



```

5675    }%
5676    user{
5677        /Subtype /Link
5678        /A<<%
5679        /S/Named/N/#1%
5680        >>%
5681    }%
5682    \relax
5683    \Hy@colorlink\@menucolor#2\close@pdflink
5684 }
5685 </pdfTeX>
5686 <*hypertex>

```

45.3 hypertex

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

href: `html:`

name: `html:`

end: `html:`

image: `html:`

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

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

The *href* and *name* commands must be paired with an *end* command later in the TeX file — the TeX 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.

```

5687 \def\PDF@FinishDoc{}
5688 \def\PDF@SetupDoc{%
5689     \ifx\@baseurl\@empty
5690     \else
5691         \special{html:<base href="\@baseurl">}%
5692     \fi
5693 }
5694 \def\hyper@anchor#1{%
5695     \Hy@SaveLastskip
5696     \begingroup

```

```

5697 \let\protect=\string
5698 \hyper@chars
5699 \special{html:<a name=\hyper@quote #1\hyper@quote>}%
5700 \endgroup
5701 \Hy@activeanchortrue
5702 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
5703 \special{html:</a>}%
5704 \Hy@activeanchorfalse
5705 \Hy@RestoreLastskip
5706 }
5707 \def\hyper@anchorstart#1{%
5708 \Hy@SaveLastskip
5709 \begingroup
5710 \hyper@chars
5711 \special{html:<a name=\hyper@quote#1\hyper@quote>}%
5712 \endgroup
5713 \Hy@activeanchortrue
5714 }
5715 \def\hyper@anchorend{%
5716 \special{html:</a>}%
5717 \Hy@activeanchorfalse
5718 \Hy@RestoreLastskip
5719 }
5720 \def\@urltype{url}
5721 \def\hyper@linkstart#1#2{%
5722 \expandafter\Hy@colorlink\csname @#1color\endcsname
5723 \def\Hy@tempa{#1}%
5724 \ifx\Hy@tempa\@urltype
5725 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
5726 \else
5727 \begingroup
5728 \hyper@chars
5729 \special{html:<a href=\hyper@quote\##2\hyper@quote>}%
5730 \endgroup
5731 \fi
5732 }
5733 \def\hyper@linkend{%
5734 \special{html:</a>}%
5735 \Hy@endcolorlink
5736 }
5737 \def\hyper@linkfile#1#2#3{%
5738 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
5739 }
5740 \def\hyper@linkurl#1#2{%

```

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

```

5741 \leavevmode
5742 \ifHy@raiselinks
5743 \setbox\@tempboxa=\color@hbox #1\color@endbox
5744 \@linkdim\dp\@tempboxa
5745 \lower\@linkdim\hbox{%
5746 \hyper@chars
5747 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
5748 }%
5749 \Hy@colorlink\@urlcolor#1%
5750 \@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).

```

5751 \advance\@linkdim by -6.5\p@
5752 \raise\@linkdim\hbox{\special{html:</a>}}%
5753 \Hy@endcolorlink
5754 \else
5755 \begingroup
5756 \hyper@chars
5757 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
5758 \Hy@colorlink\@urlcolor#1%
5759 \special{html:</a>}%
5760 \Hy@endcolorlink
5761 \endgroup
5762 \fi
5763 }
5764 \def\hyper@link#1#2#3{%
5765 \hyper@linkurl{#3}{##2}%
5766 }

5767 \def\hyper@image#1#2{%
5768 \begingroup
5769 \hyper@chars
5770 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
5771 \endgroup
5772 }
5773 </hypertex>
5774 <*dviwindo>

```

45.4 dviwindo

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

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

```

5775 \providecommand\wwwbrowser{c:\string\netscape\string\netscape}
5776 \def\hyper@anchor#1{%
5777 \Hy@SaveLastskip
5778 \begingroup
5779 \let\protect=\string
5780 \special{mark: #1}%
5781 \endgroup
5782 \Hy@activeanchortrue
5783 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
5784 \Hy@activeanchorfalse
5785 \Hy@RestoreLastskip
5786 }
5787 \def\hyper@anchorstart#1{%
5788 \Hy@SaveLastskip
5789 \special{mark: #1}%

```

```

5790 \Hy@activeanchortrue
5791 }
5792 \def\hyper@anchorend{%
5793 \Hy@activeanchorfalse
5794 \Hy@RestoreLastskip
5795 }
5796 \def\hyper@linkstart#1#2{%
5797 \expandafter\Hy@colorlink\csname @#1color\endcsname
5798 \special{button:
5799 10000000
5800 \number\baselineskip\space
5801 #2%
5802 }%
5803 }
5804 \def\hyper@linkend{%
5805 \Hy@endcolorlink
5806 }
5807 \def\hyper@link#1#2#3{%
5808 \setbox\@tempboxa=\color@hbox #3\color@endbox
5809 \leavevmode
5810 \ifHy@raiselinks
5811 \@linkdim\dp\@tempboxa
5812 \lower\@linkdim\hbox{%
5813 \special{button:
5814 \number\wd\@tempboxa\space
5815 \number\ht\@tempboxa\space
5816 #2%
5817 }%
5818 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
5819 \Hy@endcolorlink
5820 }%
5821 \@linkdim\ht\@tempboxa
5822 \advance\@linkdim by -6.5\p@
5823 \raise\@linkdim\hbox{}%
5824 \else
5825 \special{button:
5826 \number\wd\@tempboxa\space
5827 \number\ht\@tempboxa\space
5828 #2%
5829 }%
5830 \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
5831 \fi
5832 }
5833 \def\hyper@linkurl#1#2{%
5834 \begingroup
5835 \hyper@chars
5836 \leavevmode
5837 \setbox\@tempboxa=\color@hbox #1\color@endbox
5838 \ifHy@raiselinks
5839 \@linkdim\dp\@tempboxa
5840 \lower\@linkdim\hbox{%
5841 \special{button:
5842 \number\wd\@tempboxa\space
5843 \number\ht\@tempboxa\space
5844 launch: \wwwbrowser\space
5845 #2%
5846 }%

```

```

5847      \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
5848    }%
5849    \@linkdim\ht\@tempboxa
5850    \advance\@linkdim by -6.5\p@
5851    \raise\@linkdim\hbox{}}%
5852  \else
5853    \special{button:
5854      \number\wd\@tempboxa\space
5855      \number\ht\@tempboxa\space
5856      launch: \wwwbrowser\space
5857      #2%
5858    }%
5859    \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
5860  \fi
5861 \endgroup
5862 }
5863 \def\hyper@linkfile#1#2#3{%
5864 \begingroup
5865   \hyper@chars
5866   \leavevmode
5867   \setbox\@tempboxa=\color@hbox #1\color@endbox
5868   \ifHy@raiselinks
5869     \@linkdim\dp\@tempboxa
5870     \lower\@linkdim\hbox{%
5871       \special{button:
5872         \number\wd\@tempboxa\space
5873         \number\ht\@tempboxa\space
5874         #3,
5875         file: #2%
5876       }%
5877       \Hy@colorlink\@filecolor#1\Hy@endcolorlink
5878     }%
5879     \@linkdim\ht\@tempboxa
5880     \advance\@linkdim by -6.5\p@
5881     \raise\@linkdim\hbox{}}%
5882   \else
5883     \special{button:
5884       \number\wd\@tempboxa\space
5885       \number\ht\@tempboxa\space
5886       #3,
5887       file: #2
5888     }%
5889     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
5890   \fi
5891 \endgroup
5892 }
5893 \ifx\@pdfproducer\relax
5894   \def\@pdfproducer{dviwindo + Distiller}
5895 \fi
5896 \def\PDF@FinishDoc{%
5897   \Hy@UseMaketitleInfos
5898   \special{PDF: Keywords \@pdfkeywords}%
5899   \special{PDF: Title \@pdftitle}%
5900   \special{PDF: Creator \@pdfcreator}%
5901   \ifx\@pdfcreationdate\@empty
5902   \else
5903     \special{PDF: CreationDate \@pdfcreationdate}%

```

```

5904 \fi
5905 \ifx\@pdfmoddate\@empty
5906 \else
5907   \special{PDF: ModDate \@pdfmoddate}%
5908 \fi
5909 \special{PDF: Author \@pdfauthor}%
5910 \ifx\@pdfproducer\relax
5911 \else
5912   \special{PDF: Producer \@pdfproducer}%
5913 \fi
5914 \special{PDF: Subject \@pdfsubject}%
5915 \Hy@DisableOption{pdfauthor}%
5916 \Hy@DisableOption{pdftitle}%
5917 \Hy@DisableOption{pdfsubject}%
5918 \Hy@DisableOption{pdfcreator}%
5919 \Hy@DisableOption{pdfcreationdate}%
5920 \Hy@DisableOption{pdfmoddate}%
5921 \Hy@DisableOption{pdfproducer}%
5922 \Hy@DisableOption{pdfkeywords}%
5923 }
5924 \def\PDF@SetupDoc{%
5925   \ifx\@baseurl\@empty
5926   \else
5927     \special{PDF: Base \@baseurl}%
5928   \fi
5929   \ifx\@pdfpagescrop\@empty\else
5930     \special{PDF: BBox \@pdfpagescrop}%
5931   \fi
5932   \pdfmark{pdfmark=/DOCVIEW,
5933     Page=\@pdfstartpage,
5934     View=\@pdfstartview,
5935     PageMode=/\@pdfpagemode
5936   }%
5937   \ifx\@pdfpagescrop\@empty
5938   \else
5939     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
5940   \fi
5941   \edef\Hy@temp{%
5942     \ifHy@toolbar\else /HideToolbar true\fi
5943     \ifHy@menubar\else /HideMenubar true\fi
5944     \ifHy>windowui\else /HideWindowUI true\fi
5945     \ifHy@fitwindow /FitWindow true\fi
5946     \ifHy@centerwindow /CenterWindow true\fi
5947     \ifHy@displaydoctitle /DisplayDocTitle true\fi
5948     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
5949     \Hy@UseNameKey{Direction}\@pdfdirection
5950     \Hy@UseNameKey{ViewArea}\@pdfviewarea
5951     \Hy@UseNameKey{ViewClip}\@pdfviewclip
5952     \Hy@UseNameKey{PrintArea}\@pdfprintarea
5953     \Hy@UseNameKey{PrintClip}\@pdfprintclip
5954     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
5955     \Hy@UseNameKey{Duplex}\@pdfduplex
5956     \ifx\@pdfpicktraybypdfsize\@empty
5957     \else
5958       /PickTrayByPDFSize \@pdfpicktraybypdfsize
5959     \fi
5960     \ifx\@pdfprintpagerange\@empty

```

```

5961 \else
5962 /PrintPageRange[\@pdfprintpagerange]%
5963 \fi
5964 \ifx\@pdfnumcopies\@empty
5965 \else
5966 /NumCopies \@pdfnumcopies
5967 \fi
5968 }%
5969 \pdfmark{pdfmark=/PUT,
5970 Raw={%
5971 \string{Catalog\string} <<
5972 \ifx\Hy@temp\@empty
5973 \else
5974 /ViewerPreferences<<\Hy@temp>>%
5975 \fi
5976 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
5977 \ifx\@pdflang\@empty
5978 \else
5979 /Lang(\@pdflang)%
5980 \fi
5981 >>%
5982 }%
5983 }%
5984 }
5985 </dviwindo>
5986 <*dvipdfm>

```

45.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

5987 \newsavebox{\pdfm@box}
5988 \def\@pdfm@mark#1{\special{pdf:#1}}
5989 \def\@pdfm@dest#1{%
5990 \Hy@SaveLastskip
5991 \Hy@pstringdef\Hy@pstringDest{#1}%
5992 \@pdfm@mark{dest (\Hy@pstringDest) [thispage /\@pdfview\space @xpos @ypos]}}%
5993 \Hy@RestoreLastskip
5994 }
5995 \providecommand\@pdfview{XYZ}
5996 \providecommand\@pdfborder{0 0 1}
5997 \providecommand*\@pdfborderstyle{}
5998 \def\hyper@anchor#1{%
5999 \@pdfm@dest{#1}%
6000 }
6001 \def\hyper@anchorstart#1{%
6002 \Hy@activeanchortrue
6003 \@pdfm@dest{#1}%
6004 }
6005 \def\hyper@anchorend{%
6006 \Hy@activeanchorfalse
6007 }
6008 \def\Hy@undefinedname{UNDEFINED}
6009 \def\hyper@linkstart#1#2{%
6010 \protected@edef\Hy@testname{#2}%
6011 \ifx\Hy@testname\@empty
6012 \let\Hy@testname\Hy@undefinedname
6013 \else

```

```

6014 \Hy@pstringdef\Hy@testname\Hy@testname
6015 \fi
6016 \@pdfm@mark{%
6017   bann <<
6018     /Type /Annot
6019     /Subtype /Link
6020     \Hy@setpdfborder
6021     /C [\csname @#1bordercolor\endcsname]
6022     /A <<
6023       /S /GoTo
6024       /D (\Hy@testname)
6025     >>
6026   >>
6027 }%
6028 \expandafter\Hy@colorlink\csname @#1color\endcsname
6029 }
6030 \def\hyper@linkend{%
6031   \Hy@endcolorlink
6032   \@pdfm@mark{eann}%
6033 }
6034 \def\hyper@link#1#2#3{%
6035   \hyper@linkstart{#1}{#2}#3\hyper@linkend
6036 }
6037 \def\hyper@linkfile#1#2#3{%
6038   \Hy@pstringdef\Hy@pstringF{#2}%
6039   \Hy@pstringdef\Hy@pstringD{#3}%
6040   \leavevmode
6041   \@pdfm@mark{%
6042     bann <<
6043       /Type /Annot
6044       /Subtype /Link
6045       \Hy@setpdfborder
6046       /C [\@filebordercolor]
6047       /A <<
6048         /S /GoToR
6049         /F (\Hy@pstringF)
6050         /D \ifx\#3\[\[0 \@pdfstartview]\else(\Hy@pstringD)\fi\space
6051         \ifHy@newwindow /NewWindow true \fi
6052       >>
6053     >>%
6054   }%
6055   \Hy@colorlink\@filecolor#1\Hy@endcolorlink
6056   \@pdfm@mark{eann}%
6057 }
6058 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
6059   \Hy@pstringdef\Hy@pstringF{#1}%
6060   \Hy@pstringdef\Hy@pstringP{#3}%
6061   \leavevmode
6062   \@pdfm@mark{%
6063     bann <<
6064       /Type /Annot
6065       /Subtype /Link
6066       \Hy@setpdfborder
6067       /C [\@filebordercolor]
6068       /A <<
6069         /S /Launch
6070         /F (\Hy@pstringF)

```



```

6071         \ifHy@newwindow /NewWindow true \fi
6072         \ifx\#3\%
6073         \else
6074             /Win << /P (\Hy@pstringP) /F (\Hy@pstringF) >>
6075         \fi
6076     >>
6077     >>%
6078 }%
6079 \Hy@colorlink\@filecolor#2\Hy@endcolorlink
6080 \@pdfm@mark{eann}%
6081 }
6082 \def\hyper@linkurl#1#2{%
6083     \Hy@pstringdef\Hy@pstringURI{#2}%
6084     \leavevmode
6085     \@pdfm@mark{%
6086         bann <<
6087         /Type /Annot
6088         /Subtype /Link
6089         \Hy@setpdfborder
6090         /C [\@urlbordercolor]
6091         /A <<
6092         /S /URI
6093         /URI (\Hy@pstringURI)
6094         >>
6095     >>%
6096 }%
6097 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
6098 \@pdfm@mark{eann}%
6099 }
6100 \def\Acrobatmenu#1#2{%
6101     \leavevmode
6102     \@pdfm@mark{%
6103         bann <<
6104         /Type /Annot
6105         /Subtype /Link
6106         /A <<
6107         /S /Named
6108         /N /#1
6109         >>
6110         \Hy@setpdfborder
6111         /C [\@menubordercolor]
6112     >>%
6113 }%
6114 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
6115 \@pdfm@mark{eann}%
6116 }
6117 \ifx\@pdfproducer\relax
6118     \def\@pdfproducer{dvipdfm}
6119 \fi
6120 \def\PDF@FinishDoc{%
6121     \Hy@UseMaketitleInfos
6122     \@pdfm@mark{%
6123         docinfo <<
6124         /Title (\@pdftitle)
6125         /Subject (\@pdfsubject)
6126         /Creator (\@pdfcreator)
6127         \ifx\@pdfcreationdate\empty

```

```

6128     \else
6129         /CreationDate(\@pdfcreationdate) %
6130     \fi
6131     \ifx\@pdfmoddate\@empty
6132     \else
6133         /ModDate(\@pdfmoddate) %
6134     \fi
6135     /Author (\@pdfauthor)
6136     \ifx\@pdfproducer\relax
6137     \else
6138         /Producer (\@pdfproducer)
6139     \fi
6140     /Keywords (\@pdfkeywords)
6141     >>%
6142 }%
6143 \Hy@DisableOption{pdfauthor}%
6144 \Hy@DisableOption{pdftitle}%
6145 \Hy@DisableOption{pdfsubject}%
6146 \Hy@DisableOption{pdfcreator}%
6147 \Hy@DisableOption{pdfcreationdate}%
6148 \Hy@DisableOption{pdfmoddate}%
6149 \Hy@DisableOption{pdfproducer}%
6150 \Hy@DisableOption{pdfkeywords}%
6151 }

6152 \def\PDF@SetupDoc{%
6153     \edef\Hy@temp{%
6154         \ifHy@toolbar\else /HideToolbar true\fi
6155         \ifHy@menubar\else /HideMenubar true\fi
6156         \ifHy>windowui\else /HideWindowUI true\fi
6157         \ifHy@fitwindow /FitWindow true\fi
6158         \ifHy@centerwindow /CenterWindow true\fi
6159         \ifHy@displaydoctitle /DisplayDocTitle true\fi
6160         \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
6161         \Hy@UseNameKey{Direction}\@pdfdirection
6162         \Hy@UseNameKey{ViewArea}\@pdfviewarea
6163         \Hy@UseNameKey{ViewClip}\@pdfviewclip
6164         \Hy@UseNameKey{PrintArea}\@pdfprintarea
6165         \Hy@UseNameKey{PrintClip}\@pdfprintclip
6166         \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
6167         \Hy@UseNameKey{Duplex}\@pdfduplex
6168         \ifx\@pdfpicktraybypdfsize\@empty
6169         \else
6170             /PickTrayByPDFSize \@pdfpicktraybypdfsize
6171         \fi
6172         \ifx\@pdfprintpagerange\@empty
6173         \else
6174             /PrintPageRange[\@pdfprintpagerange]%
6175         \fi
6176         \ifx\@pdfnumcopies\@empty
6177         \else
6178             /NumCopies \@pdfnumcopies
6179         \fi
6180     }%
6181     \Hy@pstringdef\Hy@pstringB{\@baseurl}%
6182     \@pdfm@mark{%
6183         docview <<%
6184         \ifx\@pdfstartview\@empty

```

```

6185     \else
6186       /OpenAction[@page\@pdfstartpage\@pdfstartview]%
6187     \fi
6188     \ifx\@baseurl\@empty
6189     \else
6190       /URI<</Base(\Hy@pstringB)>>%
6191     \fi
6192     /PageMode/\@pdfpagemode
6193     \ifx\Hy@temp\@empty
6194     \else
6195       /ViewerPreferences<<\Hy@temp>>%
6196     \fi
6197     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
6198     \ifx\@pdflang\@empty
6199     \else
6200       /Lang(\@pdflang)%
6201     \fi
6202   >>%
6203 }%
6204 \ifx\@pdfpagescrop\@empty
6205 \else
6206   \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}
6207 \fi
6208 }
6209 </dvipdfm>

```

45.6 VTeX typesetting system

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

```

6210 <*vtexhtml>
6211 \RequirePackage{vtexhtml}
6212 \newif\if@Localurl
6213 \def\PDF@FinishDoc{}
6214 \def\PDF@SetupDoc{%
6215   \ifx\@baseurl\@empty
6216   \else
6217     \special{!direct <base href="\@baseurl">}%
6218   \fi
6219 }
6220 \def\@urltype{url}
6221 \def\hyper@link#1#2#3{%
6222   \leavevmode
6223   \special{!direct <a href=\hyper@quote\hyper@hash#2\hyper@quote>}}%
6224   #3%
6225   \special{!direct </a>}}%
6226 }
6227 \def\hyper@linkurl#1#2{%
6228   \begingroup
6229     \hyper@chars
6230     \leavevmode
6231     \MathBSuppress=1\relax
6232     \special{!direct <a href=\hyper@quote#2\hyper@quote>}}%
6233     #1%
6234     \MathBSuppress=0\relax
6235     \special{!direct </a>}}%
6236   \endgroup

```

```

6237 }
6238 \def\hyper@linkfile#1#2#3{%
6239   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\\#3\fi}%
6240 }
6241 \def\hyper@linkstart#1#2{%
6242   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
6243     \@Localurltrue
6244     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
6245   \else
6246     \@Localurlfalse
6247     \begingroup
6248     \hyper@chars
6249     \special{!aref #2}%
6250   \endgroup
6251   \fi
6252 }
6253 \def\hyper@linkend{%
6254   \if@Localurl
6255     \special{!endaref}%
6256   \else
6257     \special{!direct </a>}%
6258   \fi
6259 }
6260 \def\hyper@anchorstart#1{%
6261   \Hy@SaveLastskip
6262   \begingroup
6263   \hyper@chars
6264   \special{!aname #1}%
6265   \special{!direct <a name=\hyper@quote#1\hyper@quote>}%
6266   \endgroup
6267   \Hy@activeanchortrue
6268 }
6269 \def\hyper@anchorend{%
6270   \special{!direct </a>}%
6271   \Hy@activeanchorfalse
6272   \Hy@RestoreLastskip
6273 }
6274 \def\hyper@anchor#1{%
6275   \Hy@SaveLastskip
6276   \begingroup
6277   \let\protect=\string
6278   \hyper@chars
6279   \leavevmode
6280   \special{!aname #1}%
6281   \special{!direct <a name=\hyper@quote #1\hyper@quote>}%
6282   \endgroup
6283   \Hy@activeanchortrue
6284   \bgroup\anchor@spot\egroup
6285   \special{!direct </a>}%
6286   \Hy@activeanchorfalse
6287   \Hy@RestoreLastskip
6288 }
6289 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
6290 \def\@endForm{}
6291 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
6292   \typeout{Sorry, TeXpider does not yet support FORM gauges}%
6293 }

```

```

6294 \def\@TextField[#1]#2{% parameters, label
6295   \typeout{Sorry, TeXpider does not yet support FORM text fields}%
6296 }
6297 \def\@CheckBox[#1]#2{% parameters, label
6298   \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
6299 }
6300 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
6301   \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
6302 }
6303 \def\@PushButton[#1]#2{% parameters, label
6304   \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
6305 }
6306 \def\@Reset[#1]#2{\typeout{Sorry, TeXpider does not yet support FORMs}}
6307 \def\@Submit[#1]#2{\typeout{Sorry, TeXpider does not yet support FORMs}}
6308 </vtexhtml>
6309 <*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.

```

6310 \ifx\mediaheight\@undefined
6311 \else
6312   \ifx\mediaheight\relax
6313   \else
6314     \ifHy@setpagesize
6315       \providecommand*\VTeXInitMediaSize{%
6316         \@ifundefined{stockwidth}{%
6317           \ifdim\paperheight>0pt %
6318             \setlength\mediaheight\paperheight
6319           \fi
6320           \ifdim\paperheight>0pt %
6321             \setlength\mediawidth\paperwidth
6322           \fi
6323         }{%
6324           \ifdim\stockheight>0pt %
6325             \setlength\mediaheight\stockheight
6326           \fi
6327           \ifdim\stockwidth>0pt %
6328             \setlength\mediawidth\stockwidth
6329           \fi
6330         }%
6331       }%
6332       \AtBeginDocument{\VTeXInitMediaSize}%
6333     \fi
6334     \Hy@DisableOption{setpagesize}%
6335   \fi
6336 \fi

```

Older versions of VTeX require xyz in lower case.

```

6337 \providecommand\@pdfview{xyz}
6338 \providecommand\@pdfborder{0 0 1}
6339 \providecommand*\@pdfborderstyle{}
6340 \def\CurrentBorderColor{\@linkbordercolor}
6341 \def\hyper@anchor#1{%
6342   \Hy@SaveLastskip
6343   \begingroup
6344     \let\protect=\string
6345     \hyper@chars

```

```

6346 \special{!aname #1;\@pdfview}%
6347 \endgroup
6348 \Hy@activeanchortrue
6349 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
6350 \Hy@activeanchorfalse
6351 \Hy@RestoreLastskip
6352 }
6353 \def\hyper@anchorstart#1{%
6354 \Hy@SaveLastskip
6355 \beginingroup
6356 \hyper@chars
6357 \special{!aname #1;\@pdfview}%
6358 \endgroup
6359 \Hy@activeanchortrue
6360 }
6361 \def\hyper@anchorend{%
6362 \Hy@activeanchorfalse
6363 \Hy@RestoreLastskip
6364 }
6365 \def\@urltype{url}
6366 \def\Hy@undefinedname{UNDEFINED}
6367 \def\hyper@linkstart#1#2{%
6368 \Hy@pstringdef\Hy@pstringURI{#2}%
6369 \expandafter\Hy@colorlink\csname @#1color\endcsname
6370 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
6371 \def\Hy@tempa{#1}%
6372 \ifx\Hy@tempa\@urltype
6373 \special{!%
6374 \href <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
6375 a=<\Hy@setpdfborder /C [\CurrentBorderColor]>%
6376 }%
6377 \else
6378 \protected@edef\Hy@testname{#2}%
6379 \ifx\Hy@testname\@empty
6380 \let\Hy@testname\Hy@undefinedname
6381 \fi
6382 \special{!%
6383 \href \Hy@testname;%
6384 a=<\Hy@setpdfborder /C [\CurrentBorderColor]>%
6385 }%
6386 \fi
6387 }
6388 \def\hyper@linkend{%
6389 \special{!endaref}%
6390 \Hy@endcolorlink
6391 }
6392 \def\hyper@linkfile#1#2#3{%
6393 \leavevmode
6394 \special{!%
6395 \href <%
6396 \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
6397 f=#2>#3;%
6398 a=<\Hy@setpdfborder /C [\@filebordercolor]>%
6399 }%
6400 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
6401 \special{!endaref}%
6402 }

```

```

6403 \def\hyper@linkurl#1#2{%
6404   \begingroup
6405     \Hy@pstringdef\Hy@pstringURI{#2}%
6406     \hyper@chars
6407     \leavevmode
6408     \special{!%
6409       aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
6410       a=<\Hy@setpdfborder /C [\@urlbordercolor]>%
6411     }%
6412     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
6413     \special{!endaref}%
6414   \endgroup
6415 }
6416 \def\hyper@link#1#2#3{%
6417   \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
6418   \leavevmode
6419   \protected@edef\Hy@testname{#2}%
6420   \ifx\Hy@testname\empty
6421     \let\Hy@testname\Hy@undefinedname
6422   \fi
6423   \special{!%
6424     aref \Hy@testname;%
6425     a=<\Hy@setpdfborder /C [\CurrentBorderColor]>%
6426   }%
6427   \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
6428   \special{!endaref}%
6429 }
6430 \def\hyper@image#1#2{%
6431   \hyper@linkurl{#2}{#1}%
6432 }
6433 \def\@hyper@launch run:#1\#2#3{%
6434   \Hy@pstringdef\Hy@pstringF{#1}%
6435   \Hy@pstringdef\Hy@pstringP{#3}%
6436   \leavevmode
6437   \special{!aref
6438     <u=%
6439     /Type /Action
6440     /S /Launch
6441     /F (\Hy@pstringF)
6442     \ifHy@newwindow /NewWindow true \fi
6443     \ifx\#3\else /Win << /F (\Hy@pstringF) /P (\Hy@pstringP) >> \fi%
6444   >;%
6445   a=<\Hy@setpdfborder /C [\@runbordercolor]>%
6446 }%
6447 \Hy@colorlink\@filecolor#2\Hy@endcolorlink
6448 \special{!endaref}%
6449 }
6450 \def\Acrobatmenu#1#2{%
6451   \leavevmode
6452   \special{!%
6453     aref <u=/S /Named /N /#1>;%
6454     a=<\Hy@setpdfborder /C [\@menubordercolor]>%
6455   }%
6456   \Hy@colorlink\@menucolor#2\Hy@endcolorlink
6457   \special{!endaref}%
6458 }

```

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

The code below makes sense for V_TE_X 7.02 or later.

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

```
6459 \ifnum\Hy@VTeXversion<702 %
6460 \else
6461   \def\hyper@pagetransition{%
6462     \ifx\@pdfpagetransition\relax
6463     \else
6464       \ifx\@pdfpagetransition\@empty
```

Standard incantation.

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

```
6465     \else
6466     \hvtex@parse@trans\@pdfpagetransition
6467     \fi
6468   \fi
6469 }
```

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

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

```
<transition_effect> ::= <transition_style>[,<transition_duration>]
<transition_style> ::= <Blinds_effect> | <Box_effect> |
                       <Dissolve_effect> | <Glitter_effect> |
                       <Split_effect> | <Wipe_effect>
<Blinds_effect> ::= B[<effect_dimension>]
<Box_effect> ::= X[<effect_motion>]
<Dissolve_effect> ::= D
<Glitter_effect> ::= G[<effect_direction>]
<Split_effect> ::= S[<effect_motion>][<effect_dimension>]
<Wipe_effect> ::= W[<effect_direction>]
<Replace_effect> ::= R
<effect_direction> ::= <number>
<effect_dimension> ::= H | V
<effect_motion> ::= I | O
<transition_duration> ::= <number>
```

Transition codes:

```
6470 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}
6471 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}
6472 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}
6473 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}
6474 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}
6475 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}
6476 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}
```

Optional parameters:

```
6477 \def\hvtex@par@dimension{/Dm}
6478 \def\hvtex@par@direction{/Di}
6479 \def\hvtex@par@duration{/D}
6480 \def\hvtex@par@motion{/M}
```

Tokenizer:

```
6481 \def\hvtex@gettoken{\expandafter\hvtex@gettoken@\hvtex@buffer\@nil}
```

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

```
6482 \def\hvtex@gettoken@#1 #2\@nil{%
6483   \edef\hvtex@token{#1}%
6484   \edef\hvtex@buffer{#2}%
```



```

6485 }
6486 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

6487 \let\hvtex@trans@code\@empty
6488 \let\hvtex@param@dimension\@empty
6489 \let\hvtex@param@direction\@empty
6490 \let\hvtex@param@duration\@empty
6491 \let\hvtex@param@motion\@empty
6492 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

6493 \hvtex@gettoken
6494 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

6495 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

6496 \else
6497 \hvtex@gettoken
6498 \fi
6499 \fi
6500 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

6501 \hvtex@trans@params
6502 }

```

Reentrant macro to parse optional parameters.

```

6503 \def\hvtex@trans@params{%
6504 \ifx\hvtex@buffer\@empty
6505 \else
6506 \hvtex@gettoken
6507 \let\hvtex@trans@par\hvtex@token
6508 \ifx\hvtex@buffer\@empty
6509 \else
6510 \hvtex@gettoken
6511 \ifx\hvtex@trans@par\hvtex@par@duration

```

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

```

6512 \let\hvtex@param@duration\hvtex@token
6513 \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

6514 \expandafter\edef\expandafter\hvtex@param@motion
6515 \expandafter{\expandafter\@gobble\hvtex@token}%
6516 \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

6517 \expandafter\edef\expandafter\hvtex@param@dimension
6518 \expandafter{\expandafter\@gobble\hvtex@token}%
6519 \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).

```

6520 \let\hvtex@param@direction\hvtex@token
6521 \fi\fi\fi\fi
6522 \fi
6523 \fi
6524 \ifx\hvtex@buffer\@empty

```

```

6525     \let\next\hvtex@produce@trans
6526     \else
6527     \let\next\hvtex@trans@params
6528     \fi
6529     \next
6530 }

```

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

```

6531 \def\hvtex@produce@trans{%
6532     \let\vtex@trans@special\@empty
6533     \if S\hvtex@trans@code
6534         \edef\vtex@trans@special{\hvtex@trans@code
6535             \hvtex@param@dimension\hvtex@param@motion}%
6536     \else \if B\hvtex@trans@code
6537         \edef\vtex@trans@special{\hvtex@trans@code\hvtex@param@dimension}%
6538     \else \if X\hvtex@trans@code
6539         \edef\vtex@trans@special{\hvtex@trans@code\hvtex@param@motion}%
6540     \else \if W\hvtex@trans@code
6541         \edef\vtex@trans@special{\hvtex@trans@code\hvtex@param@direction}%
6542     \else \if D\hvtex@trans@code
6543         \let\vtex@trans@special\hvtex@trans@code
6544     \else \if R\hvtex@trans@code
6545         \let\vtex@trans@special\hvtex@trans@code
6546     \else \if G\hvtex@trans@code
6547         \edef\vtex@trans@special{\hvtex@trans@code\hvtex@param@direction}%
6548     \fi\fi\fi\fi\fi\fi\fi
6549     \ifx\vtex@trans@special\@empty
6550     \else
6551         \ifx\hvtex@param@duration\@empty
6552         \else
6553             \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

6554         \multiply\dimen@\@m
6555         \edef\vtex@trans@special{\vtex@trans@special,\strip@pt\dimen@}%
6556     \fi

```

And all the mess is just for this.

```

6557     \special{!trans \vtex@trans@special}%
6558     \fi
6559 }

6560 \def\hyper@pageduration{%
6561     \ifx\@pdfpageduration\relax
6562     \else
6563         \ifx\@pdfpageduration\@empty
6564             \special{!duration-}%
6565         \else
6566             \special{!duration \@pdfpageduration}%
6567         \fi
6568     \fi
6569 }

6570 \def\hyper@pagehidden{%
6571     \ifHy@useHidKey
6572         \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
6573     \fi
6574 }
6575 \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

```

6576 \ifx\@pdfproducer\relax
6577   \def\@pdfproducer{VTeX}
6578   \ifnum\Hy@VTeXversion>\z@
6579     \count@VTeXversion
6580     \divide\count@ 100
6581     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}
6582     \multiply\count@ -100
6583     \advance\count@VTeXversion
6584     \edef\@pdfproducer{%
6585       \@pdfproducer
6586       .\ifnum\count@<10 0\fi\the\count@
6587       \ifx\VTeXOS\@undefined\else
6588         \ifnum\VTeXOS>0 %
6589           \ifnum\VTeXOS<6 %
6590             \space%
6591             \ifcase\VTeXOS
6592               \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
6593             \fi
6594             )%
6595           \fi
6596         \fi
6597       \fi
6598       ,\space
6599       \ifnum\OpMode=\@ne PDF\else PS\fi
6600       \space backend%
6601       \ifx\gexmode\@undefined\else
6602         \ifnum\gexmode>\z@\space with GeX\fi
6603       \fi
6604     }
6605   \fi
6606 \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).

```
6607 \def\PDF@SetupDoc{%
6608   \ifx\@pdfpagescrop\@empty
6609   \else
6610     \special{!pdfinfo b=<\@pdfpagescrop>}%
6611   \fi
6612   \special{!onopen Page\@pdfstartpage}%
6613   \special{!pdfinfo p=</\@pdfpagemode>}%
6614   \ifx\@baseurl\@empty
6615   \else
6616     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
6617   \fi
6618   \special{!pdfinfo v=<<<%
6619     \ifHy@toolbar\else /HideToolbar true\fi
6620     \ifHy@menubar\else /HideMenubar true\fi
6621     \ifHy>windowui\else /HideWindowUI true\fi
6622     \ifHy@fitwindow /FitWindow true\fi
6623     \ifHy@centerwindow /CenterWindow true\fi
6624     \ifHy@displaydoctitle /DisplayDocTitle true\fi
6625     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
6626     \Hy@UseNameKey{Direction}\@pdfdirection
6627     \Hy@UseNameKey{ViewArea}\@pdfviewarea
6628     \Hy@UseNameKey{ViewClip}\@pdfviewclip
6629     \Hy@UseNameKey{PrintArea}\@pdfprintarea
6630     \Hy@UseNameKey{PrintClip}\@pdfprintclip
6631     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
6632     \Hy@UseNameKey{Duplex}\@pdfduplex
6633     \ifx\@pdfpicktraybypdfsize\@empty
6634     \else
6635       /PickTrayByPDFSize \@pdfpicktraybypdfsize
6636     \fi
6637     \ifx\@pdfprintpagerange\@empty
6638     \else
6639       /PrintPageRange[\@pdfprintpagerange]%
6640     \fi
6641     \ifx\@pdfnumcopies\@empty
6642     \else
6643       /NumCopies \@pdfnumcopies
6644     \fi
6645   >>>}%
6646   \ifx\@pdfpagelayout\@empty
6647   \else
6648     \special{!pdfinfo l=</\@pdfpagelayout\space>}%
6649   \fi
6650 }%
6651 \def\PDF@FinishDoc{%
6652   \Hy@UseMaketitleInfos
6653   \special{!pdfinfo a=<\@pdfauthor>}%
6654   \special{!pdfinfo t=<\@pdftitle>}%
6655   \special{!pdfinfo s=<\@pdfsubject>}%
6656   \special{!pdfinfo c=<\@pdfcreator>}%
6657   \ifx\@pdfproducer\relax
6658   \else
6659     \special{!pdfinfo r=<\@pdfproducer>}%
6660   \fi
6661   \special{!pdfinfo k=<\@pdfkeywords>}%
6662   \Hy@DisableOption{pdfauthor}%
```

```

6663 \Hy@DisableOption{pdftitle}%
6664 \Hy@DisableOption{pdfsubject}%
6665 \Hy@DisableOption{pdfcreator}%
6666 \Hy@DisableOption{pdfcreationdate}%
6667 \Hy@DisableOption{pdfmoddate}%
6668 \Hy@DisableOption{pdfproducer}%
6669 \Hy@DisableOption{pdfkeywords}%
6670 }
6671 \</vtex>

```

45.7 Fix for Adobe bug number 466320

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

```

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

```

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

```

6672 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
6673 <package>\providecommand*{\Hy@DistillerDestFix}{-}
6674 <*pdfmark | dviwindo>
6675 \def\Hy@DistillerDestFix{%
6676   \begingroup
6677     \let\x\literalps@out

```

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

```

6678   \ifnum \@ifundefined{OpMode}{0}{}%
6679   \@ifundefined{gexmode}{0}{%
6680     \ifnum\gexmode>0 \OpMode\else 0\fi
6681   }>1 %
6682   \def\x##1{%
6683     \immediate\special{!=##1}%
6684   }%
6685 \fi
6686 \x{%
6687   /product where{%
6688     pop %
6689     product(Distiller)search{%
6690       pop pop pop %
6691       version(.)search{%
6692         exch pop exch pop%
6693         (3011)eq{%
6694           gsave %
6695           newpath 0 0 moveto closepath clip%
6696           /Courier findfont 10 scalefont setfont %
6697           72 72 moveto(.)show %
6698           grestore%
6699         }if%
6700       }{pop}ifelse%
6701     }{pop}ifelse%
6702   }if%
6703   }%
6704 \endgroup

```

```

6705 }
6706 </pdfmark | dviwindo>

```

45.8 Direct pdfmark support (dvipdf and pdfmark)

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

```

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

```

and the correct definitions of the following PostScript procedures:

```

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

```

```

6707 <*pdfmark | dvipdf>
6708 \def\hyper@anchor#1{%
6709   \Hy@SaveLastskip
6710   \begingroup
6711     \pdfmark[\anchor@spot]{%
6712       pdfmark=/DEST,%
6713       linktype=anchor,%
6714       View=/\@pdfview \@pdfviewparams,%
6715       DestAnchor={#1}%
6716     }%
6717   \endgroup
6718   \Hy@RestoreLastskip
6719 }
6720 <*dvipdf>
6721 \def\hyper@anchorstart#1{\Hy@activeanchortrue}
6722 \def\hyper@anchorend{\Hy@activeanchorfalse}
6723 \def\hyper@linkstart#1#2{%
6724   \expandafter\Hy@colorlink\csname @#1color\endcsname
6725   \xdef\hyper@currentanchor{#2}%
6726 }
6727 \def\hyper@linkend{%
6728   \Hy@endcolorlink
6729 }
6730 </dvipdf>
6731 <*pdfmark>
6732 \ifundefined{hyper@anchorstart}{\endinput}
6733 \def\hyper@anchorstart#1{%
6734   \Hy@SaveLastskip
6735   \literalps@out{H.S}%
6736   \xdef\hyper@currentanchor{#1}%
6737   \Hy@activeanchortrue
6738 }
6739 \def\hyper@anchorend{%
6740   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
6741   \pdfmark{%
6742     pdfmark=/DEST,%
6743     linktype=anchor,%
6744     View=/\@pdfview \@pdfviewparams,%
6745     DestAnchor=\hyper@currentanchor,%

```

```

6746     Raw=H.B%
6747 }%
6748 \Hy@activeanchorfalse
6749 \Hy@RestoreLastskip
6750 }
6751 \def\hyper@linkstart#1#2{%
6752   \ifHy@breaklinks
6753   \else
6754     \leavevmode\hbox\bgroup
6755     \fi
6756     \expandafter\Hy@colorlink\csname @#1color\endcsname
6757     \literalps@out{H.S}%
6758     \xdef\hyper@currentanchor{#2}%
6759     \gdef\hyper@currentlinktype{#1}%
6760 }
6761 \def\hyper@linkend{%
6762   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
6763   \edef\Hy@tempcolor{\csname @\hyper@currentlinktype bordercolor\endcsname}%
6764   \pdfmark{%
6765     pdfmark=/ANN,%
6766     linktype=link,%
6767     Subtype=/Link,%
6768     Dest=\hyper@currentanchor,%
6769     AcroHighlight=\@pdfhighlight,%
6770     Border=\@pdfborder,%
6771     BorderStyle=\@pdfborderstyle,%
6772     Color=\Hy@tempcolor,%
6773     Raw=H.B%
6774   }%
6775   \Hy@endcolorlink
6776   \ifHy@breaklinks
6777   \else
6778     \egroup
6779   \fi
6780 }
6781 \langle*pdfmark\rangle

```

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.

```

6782 \begingroup
6783 \catcode'P=12
6784 \catcode'T=12
6785 \lowercase{\endgroup
6786 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
6787 }
6788 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}
6789 \langle/pdfmark\rangle

```

\hyper@pagetransition

```

6790 \def\hyper@pagetransition{%
6791   \ifx\@pdfpagetransition\relax
6792   \else
6793     \ifx\@pdfpagetransition\@empty
6794       % 1. Does an old entry have to be deleted?
6795       % 2. If 1=yes, how to delete?
6796     \else

```

```

6797 \pdfmark{%
6798 pdfmark=/PUT,%
6799 Raw={%
6800 \string{ThisPage\string}%
6801 <</Trans << /S /@pdfpagetransition\space >> >>%
6802 }%
6803 }%
6804 \fi
6805 \fi
6806 }

```

\hyper@pageduration

```

6807 \def\hyper@pageduration{%
6808 \ifx\@pdfpageduration\relax
6809 \else
6810 \ifx\@pdfpageduration\@empty
6811 % 1. Does an old entry have to be deleted?
6812 % 2. If 1=yes, how to delete?
6813 \else
6814 \pdfmark{%
6815 pdfmark=/PUT,%
6816 Raw={%
6817 \string{ThisPage\string}%
6818 <</Dur \@pdfpageduration>>%
6819 }%
6820 }%
6821 \fi
6822 \fi
6823 }

```

\hyper@pagehidden

```

6824 \def\hyper@pagehidden{%
6825 \ifHy@useHidKey
6826 \pdfmark{%
6827 pdfmark=/PUT,%
6828 Raw={%
6829 \string{ThisPage\string}%
6830 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
6831 }%
6832 }%
6833 \fi
6834 }

6835 </pdfmark>
6836 \def\hyper@image#1#2{%
6837 \hyper@linkurl{#2}{#1}}
6838 \def\Hy@undefinedname{UNDEFINED}
6839 \def\hyper@link#1#2#3{%
6840 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
6841 \begingroup
6842 \protected@edef\Hy@testname{#2}%
6843 \ifx\Hy@testname\@empty
6844 \let\Hy@testname\Hy@undefinedname
6845 \fi
6846 <*dvipdf>
6847 \pdfmark[#{#3}]{%
6848 pdfmark=/LNK,%

```



```

6849     {},%
6850     linktype={#1},%
6851     AcroHighlight=\@pdfhighlight,%
6852     Border=\@pdfborder,%
6853     BorderStyle=\@pdfborderstyle,%
6854     Color=\Hy@tempcolor,%
6855     Dest=\Hy@testname
6856   }%
6857 </dvipdf>
6858 <*pdfmarkbase>
6859   \pdfmark[{#3}]{%
6860     Color=\Hy@tempcolor,%
6861     linktype={#1},%
6862     AcroHighlight=\@pdfhighlight,%
6863     Border=\@pdfborder,%
6864     BorderStyle=\@pdfborderstyle,%
6865     pdfmark=/ANN,%
6866     Subtype=/Link,%
6867     Dest=\Hy@testname
6868   }%
6869 </pdfmarkbase>
6870 \endgroup
6871 }
6872 \newtoks\pdf@docset
6873 \def\PDF@FinishDoc{%
6874   \Hy@UseMaketitleInfos
6875   \let\Hy@temp\@empty
6876   \ifx\@pdfcreationdate\@empty
6877   \else
6878     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
6879   \fi
6880   \ifx\@pdfmoddate\@empty
6881   \else
6882     \expandafter\def\expandafter\Hy@temp\expandafter{%
6883       \Hy@temp
6884       ModDate=\@pdfmoddate,%
6885     }%
6886   \fi
6887   \ifx\@pdfproducer\relax
6888   \else
6889     \expandafter\def\expandafter\Hy@temp\expandafter{%
6890       \Hy@temp
6891       Producer=\@pdfproducer,%
6892     }%
6893   \fi
6894   \expandafter
6895   \pdfmark\expandafter{%
6896     \Hy@temp
6897     pdfmark=/DOCINFO,%
6898     Title=\@pdftitle,%
6899     Subject=\@pdfsubject,%
6900     Creator=\@pdfcreator,%
6901     Author=\@pdfauthor,%
6902     Keywords=\@pdfkeywords
6903   }%
6904   \Hy@DisableOption{pdfauthor}%
6905   \Hy@DisableOption{pdftitle}%

```

```

6906 \Hy@DisableOption{pdfsubject}%
6907 \Hy@DisableOption{pdfcreator}%
6908 \Hy@DisableOption{pdfcreationdate}%
6909 \Hy@DisableOption{pdfmoddate}%
6910 \Hy@DisableOption{pdfproducer}%
6911 \Hy@DisableOption{pdfkeywords}%
6912 }
6913 \def\PDF@SetupDoc{%
6914 \pdfmark{%
6915 pdfmark=/DOCVIEW,%
6916 Page=\pdfstartpage,%
6917 View=\pdfstartview,%
6918 PageMode=/\pdfpagemode
6919 }%
6920 \ifx\@pdfpagescrop\@empty
6921 \else
6922 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
6923 \fi
6924 \edef\Hy@temp{%
6925 \ifHy@toolbar\else /HideToolbar true\fi
6926 \ifHy@menubar\else /HideMenubar true\fi
6927 \ifHy>windowui\else /HideWindowUI true\fi
6928 \ifHy@fitwindow /FitWindow true\fi
6929 \ifHy@centerwindow /CenterWindow true\fi
6930 \ifHy@displaydoctitle /DisplayDocTitle true\fi
6931 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
6932 \Hy@UseNameKey{Direction}\@pdfdirection
6933 \Hy@UseNameKey{ViewArea}\@pdfviewarea
6934 \Hy@UseNameKey{ViewClip}\@pdfviewclip
6935 \Hy@UseNameKey{PrintArea}\@pdfprintarea
6936 \Hy@UseNameKey{PrintClip}\@pdfprintclip
6937 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
6938 \Hy@UseNameKey{Duplex}\@pdfduplex
6939 \ifx\@pdfpicktraybypdfsize\@empty
6940 \else
6941 /PickTrayByPDFSize \@pdfpicktraybypdfsize
6942 \fi
6943 \ifx\@pdfprintpagerange\@empty
6944 \else
6945 /PrintPageRange[\@pdfprintpagerange]%
6946 \fi
6947 \ifx\@pdfnumcopies\@empty
6948 \else
6949 /NumCopies \@pdfnumcopies
6950 \fi
6951 }%
6952 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
6953 \pdfmark{%
6954 pdfmark=/PUT,%
6955 Raw={%
6956 \string{Catalog\string} <<
6957 \ifx\Hy@temp\@empty
6958 \else
6959 /ViewerPreferences<<\Hy@temp>>%
6960 \fi
6961 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
6962 \ifx\@pdflang\@empty

```

```

6963         \else
6964             /Lang(\@pdflang)%
6965         \fi
6966         \ifx\@baseurl\@empty
6967         \else
6968             /URI << /Base (\Hy@pstringB) >>%
6969         \fi
6970     >>%
6971 }%
6972 }%
6973 }
6974 </pdfmark | dvipdf>
6975 <*pdfmarkbase | dvipdf>

```

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.

```

6976 \newif\ifHy@pdfmarkerror
6977 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
6978 \def\pdfmark@[#1]#2{%
6979     \Hy@pdfmarkerrorfalse
6980     \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
6981     \@processme
6982     \let\pdf@type\relax
6983     \setkeys{PDF}{#2}%
6984     \ifHy@pdfmarkerror
6985     \else
6986         \ifx\pdf@type\relax
6987             \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
6988             \ifx\#1\\\relax\else\pdf@rect{#1}\fi
6989         \else
6990             \ifx\#1\\\relax
6991 <pdfmarkbase> \literalps@out{[\the\pdf@toks\space\pdf@type\space pdfmark}%
6992 <dvipdf> \literalps@out{/ANN >>}%
6993         \else
6994             \@ifundefined{@pdf@linktype color}{%
6995                 \Hy@colorlink\@linkcolor
6996             }{%
6997                 \expandafter\Hy@colorlink
6998                     \csname @\pdf@linktype color\endcsname
6999             }%
7000             \pdf@rect{#1}%
7001 <pdfmarkbase> \literalps@out{[\the\pdf@toks\space\pdf@type\space pdfmark}%
7002 <dvipdf> \literalps@out{/ANN >>}%
7003             \Hy@endcolorlink
7004         \fi
7005     \fi
7006 \fi
7007 }

```

The complicated bit is working out the right enclosing rectangle of some piece of TeX text, needed by the /Rect key. This solution originates with Toby Thain (tobyth@netspace.net.au).

For the case breaklinks is enabled, I have added two hooks, the first one for package setouterhbox, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```

\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}

7008 \newsavebox{\pdf@box}
7009 \providecommand{\Hy@setouterhbox}{\sbox}
7010 \providecommand{\Hy@breaklinksunhbox}{\unhbox}
7011 \def\pdf@rect#1{%
7012 \dvpdf) \literalps@out{/ANN \pdf@type\space\the\pdf@toks\space <<}&#1%
7013 \leavevmode
7014 \ifHy@breaklinks
7015 \Hy@setouterhbox\pdf@box{#1}%
7016 \else
7017 \sbox\pdf@box{#1}%
7018 \fi
7019 \dimen@ht\pdf@box
7020 \ifdim\dp\pdf@box=\z@
7021 \literalps@out{H.S}%
7022 \else
7023 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
7024 \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...).

```

7025 \ifHy@breaklinks
7026 \expandafter\Hy@breaklinksunhbox
7027 \else
7028 \expandafter\box
7029 \fi
7030 \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

7031 \ifdim\dimen@=\z@
7032 \literalps@out{H.R}%
7033 \else
7034 \raise\dimen@\hbox{\literalps@out{H.R}}%
7035 \fi
7036 \pdf@addtoksx{H.B}%
7037 }

```

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.

```

7038 \newtoks\pdf@toks
7039 \newtoks\pdf@defaulttoks
7040 \pdf@defaulttoks={}
7041 \def\pdf@addtoks#1#2{%
7042 \edef\@processme{\pdf@toks{\the\pdf@toks\space /#2 #1}}%
7043 \@processme
7044 }
7045 \def\pdf@addtoksx#1{%
7046 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
7047 \@processme
7048 }

```

```

7049 \def\PDFdefaults#1{%
7050   \pdf@defaulttoks={#1}%
7051 }

```

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

```

7052 % what is the type of pdfmark?
7053 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
7054 % what is the link type?
7055 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
7056 \def\pdf@linktype{link}
7057 % parameter is a stream of PDF
7058 \define@key{PDF}{Raw}{\pdf@addtoks{#1}}
7059 % parameter is a name
7060 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
7061 % parameter is a array
7062 \define@key{PDF}{Border}{%
7063   \edef\Hy@temp{#1}%
7064   \ifx\Hy@temp\@empty
7065   \else
7066     \pdf@addtoks{#1}{Border}%
7067   \fi
7068 }
7069 % parameter is a dictionary
7070 \define@key{PDF}{BorderStyle}{%
7071   \edef\Hy@temp{#1}%
7072   \ifx\Hy@temp\@empty
7073   \else
7074     \pdf@addtoks{<<#1>>}{BS}%
7075   \fi
7076 }
7077 % parameter is a array
7078 \define@key{PDF}{Color}{\pdf@addtoks{#1}{Color}}
7079 % parameter is a string
7080 \define@key{PDF}{Contents}{\pdf@addtoks{#1}{Contents}}
7081 % parameter is a integer
7082 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
7083 % parameter is a array
7084 \define@key{PDF}{CropBox}{\pdf@addtoks{#1}{CropBox}}
7085 % parameter is a string
7086 \define@key{PDF}{DOSFile}{\pdf@addtoks{#1}{DOSFile}}
7087 % parameter is a string or file
7088 \define@key{PDF}{DataSource}{\pdf@addtoks{#1}{DataSource}}
7089 % parameter is a destination
7090 \define@key{PDF}{Dest}{%
7091   \Hy@pstringdef\Hy@pstringDest{#1}%
7092   \ifx\Hy@pstringDest\@empty
7093     \Hy@pdfmarkerrortrue
7094     \Hy@Warning{Destination with empty name ignored}%
7095   \else
7096     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
7097   \fi
7098 }
7099 \define@key{PDF}{DestAnchor}{%
7100   \Hy@pstringdef\Hy@pstringDest{#1}%
7101   \ifx\Hy@pstringDest\@empty
7102     \Hy@pdfmarkerrortrue
7103     \Hy@Warning{Destination with empty name ignored}%
7104   \else

```

```

7105 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
7106 \fi
7107 }
7108 % parameter is a string
7109 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
7110 % parameter is a string
7111 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
7112 % parameter is a int
7113 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
7114 % parameter is a name
7115 \define@key{PDF}{AcroHighlight}{%
7116 \begingroup
7117 \edef\x{#1}%
7118 \expandafter\endgroup\ifx\x\@empty
7119 \else
7120 \pdf@addtoks{#1}{H}%
7121 \fi
7122 }
7123 % parameter is a string
7124 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}
7125 % parameter is a string
7126 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
7127 % parameter is a string
7128 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
7129 % parameter is a string
7130 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
7131 % parameter is a Boolean
7132 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
7133 % parameter is a integer or name
7134 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
7135 % parameter is a name
7136 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
7137 % parameter is a string
7138 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
7139 % parameter is a array
7140 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}
7141 % parameter is a integer
7142 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
7143 % parameter is a name
7144 \pdfmarkbase\define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
7145 \dvipdf\define@key{PDF}{Subtype}{\pdf@addtoks{#1}{}}
7146 % parameter is a string
7147 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
7148 % parameter is a string
7149 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
7150 % parameter is a string
7151 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
7152 % parameter is an array
7153 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}
7154 % parameter is a string
7155 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

7156 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
7157 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
7158 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
7159 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
7160 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}

```

```

7161 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
7162 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
7163 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
7164 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
7165 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
7166 </pdfmarkbase | dvipdf>
7167 <*pdfmark | dvipdf>
7168 \def\Acrobatmenu#1#2{%
7169   \pdfmark[{#2}] {%
7170     linktype=menu,%
7171     pdfmark=/ANN,%
7172     AcroHighlight=\pdfhighlight,%
7173     Border=\pdfborder,%
7174     BorderStyle=\pdfborderstyle,%
7175     Action={<< /Subtype /Named /N /#1 >>},%
7176     Subtype=/Link%
7177   }%
7178 }

```

And now for some useful examples:

```

7179 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
7180 \def\PDFNextPage@[#1]#2{%
7181   \pdfmark[{#2}] {%
7182     #1,%
7183     Border=\pdfborder,%
7184     BorderStyle=\pdfborderstyle,%
7185     Color=.2 .1 .5,%
7186     pdfmark=/ANN,%
7187     Subtype=/Link,%
7188     Page=/Next%
7189   }%
7190 }
7191 \def\PDFPreviousPage{%
7192   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}]%
7193 }
7194 \def\PDFPreviousPage@[#1]#2{%
7195   \pdfmark[{#2}] {%
7196     #1,%
7197     Border=\pdfborder,%
7198     BorderStyle=\pdfborderstyle,%
7199     Color=.4 .4 .1,%
7200     pdfmark=/ANN,%
7201     Subtype=/Link,%
7202     Page=/Prev%
7203   }%
7204 }
7205 \def\PDFOpen#1{%
7206   \pdfmark{#1,pdfmark=/DOCVIEW}%
7207 }

```

This is not as simple as it looks; if we make the argument of this macro eg `\pageref{foo}` and expect it to expand to ‘3’, we need a special version of `\pageref` which does *not* produce ‘3’... David Carlisle looked at this bit and provided the solution, as ever!

```

7208 \def\PDFPage{\@ifnextchar[{\PDFPage@}{\PDFPage@[]}}
7209 \def\PDFPage@[#1]#2#3{%
7210   \let\pageref\simple@pageref
7211   \pdfmark[{#3}] {%
7212     #1,%

```

```

7213   Page={#2},%
7214   AcroHighlight=\@pdfhighlight,%
7215   Border=\@pdfborder,%
7216   BorderStyle=\@pdfborderstyle,%
7217   Color=\@pagebordercolor,%
7218   pdfmark=/ANN,%
7219   Subtype=/Link%
7220 }%
7221 }
7222 \def\simple@pageref#1{%
7223   \expandafter\ifx\csname r@#1\endcsname\relax
7224     0%
7225   \else
7226     \expandafter\expandafter\expandafter
7227       \@secondoffive\csname r@#1\endcsname
7228   \fi}

```

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

```

7229 \def\hyper@linkurl#1#2{%
7230   \begingroup
7231     \Hy@pstringdef\Hy@pstringURI{#2}%
7232     \hyper@chars
7233     \leavevmode
7234   \pdfmarkbase{
7235     \pdfmark[{#1}]{%
7236       pdfmark=/ANN,%
7237       linktype=url,%
7238       AcroHighlight=\@pdfhighlight,%
7239       Border=\@pdfborder,%
7240       BorderStyle=\@pdfborderstyle,%
7241       Color=\@urlbordercolor,%
7242       Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
7243       Subtype=/Link%
7244     }%
7245   \pdfmarkbase}
7246 \dvi pdf{
7247   \pdfmark[{#1}]{%
7248     pdfmark=/LNK,%
7249     linktype=url,%
7250     AcroHighlight=\@pdfhighlight,%
7251     Border=\@pdfborder,%
7252     BorderStyle=\@pdfborderstyle,%
7253     Color=\@urlbordercolor,%
7254     Action={URI /URI <\Hy@hstringURI>}%
7255   }%
7256 \dvi pdf}
7257 \endgroup
7258 }
7259 \def\hyper@linkfile#1#2#3{%
7260   \begingroup
7261     \Hy@pstringdef\Hy@pstringF{#2}%
7262     \Hy@pstringdef\Hy@pstringD{#3}%
7263     \leavevmode
7264   \pdfmark{
7265     \pdfmark[{#1}]{%
7266       pdfmark=/ANN,%
7267       Subtype=/Link,%
7268       AcroHighlight=\@pdfhighlight,%

```



```

7269     Border=\@pdfborder,%
7270     BorderStyle=\@pdfborderstyle,%
7271     linktype=file,%
7272     Color=\@filebordercolor,%
7273     Action={<<
7274         /S /GoToR
7275         \ifHy@newwindow /NewWindow true \fi
7276         /F (\Hy@pstringF)
7277         /D \ifx\#3\ [0 \@pdfstartview]\else(\Hy@pstringD) cvn\fi
7278     >>}%
7279 }%
7280 </pdfmark>
7281 <*dvipdf>
7282     \pdfmark[{#1}]{%
7283         pdfmark=/LNK,%
7284         linktype=file,%
7285         AcroHighlight=\@pdfhighlight,%
7286         Border=\@pdfborder,%
7287         BorderStyle=\@pdfborderstyle,%
7288         Color=\@filebordercolor,%
7289         Action={<<
7290             /S /GoToR
7291             \ifHy@newwindow /NewWindow true \fi
7292             /F (\Hy@pstringF)
7293             /D \ifx\#3\ [0 \@pdfstartview]\else(\Hy@pstringD) cvn\fi
7294         >>}%
7295     }%
7296 </dvipdf>
7297 \endgroup
7298 }
7299 \def\@hyper@launch run:#1\#2#3{%
7300     \begin{group}
7301         \Hy@pstringdef\Hy@pstringF{#1}%
7302         \Hy@pstringdef\Hy@pstringP{#3}%
7303         \leavevmode
7304     <*pdfmark>
7305         \pdfmark[{#2}]{%
7306             pdfmark=/ANN,%
7307             Subtype=/Link,%
7308             AcroHighlight=\@pdfhighlight,%
7309             Border=\@pdfborder,%
7310             BorderStyle=\@pdfborderstyle,%
7311             linktype=file,%
7312             Color=\@filebordercolor,%
7313             Action={<<
7314                 /S /Launch
7315                 \ifHy@newwindow /NewWindow true \fi
7316                 /F (\Hy@pstringF)
7317                 \ifx\#3\%
7318                 \else
7319                     /Win << /P (\Hy@pstringP) /F (\Hy@pstringF) >>
7320                 \fi
7321             >>}%
7322         }%
7323     </pdfmark>
7324     <*dvipdf>
7325         \pdfmark[{#2}]{%

```

```

7326 pdfmark=/LNK,%
7327 linktype=file,%
7328 AcroHighlight=@pdfhighlight,%
7329 Border=@pdfborder,%
7330 BorderStyle=@pdfborderstyle,%
7331 Color=@filebordercolor,%
7332 Action={<<
7333   /S /GoToR
7334   \ifHy@newwindow /NewWindow true \fi
7335   /F (\Hy@pstringF)
7336   \ifx\#3\%
7337   \else
7338     /Win << /P (\Hy@pstringP) /F (\Hy@pstringF) >>
7339   \fi
7340   >>}%
7341 }%
7342 </dvipdf>
7343 \endgroup
7344 }
7345 </pdfmark | dvipdf>

```

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

45.9 Rokicki's dvips

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

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

```

7346 < *dvips>
7347 \input{pdfmark.def}%
7348 \ifx\@pdfproducer\relax
7349   \def\@pdfproducer{dvips + Distiller}
7350 \fi
7351 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
7352 \def\headerps@out#1{\special{! #1}}%
7353 \providecommand\@pdfborder{0 0 12}
7354 \providecommand*\@pdfborderstyle{}
7355 \providecommand\@pdfview{XYZ}
7356 \providecommand\@pdfviewparams{ H.V}
7357 \AtBeginDvi{%
7358   \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.

```

7359 /DvipsToPDF { 72.27 mul Resolution div } def
7360 /PDFToDvips { 72.27 div Resolution mul } 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.

```
7361 /HyperBorder { 1 PDFToDvips } def
7362 /H.V {pdf@hoff pdf@voff null} def
7363 /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

```
7364 /H.S {
7365     currentpoint
7366     HyperBorder add /pdf@lly exch def
7367     dup DvipsToPDF /pdf@hoff exch def
7368     HyperBorder sub /pdf@llx exch def
7369 } def
```

The calculation of upper left y is done without raising the point in \TeX , by simply adding on the current `\baselineskip` to the current y . This is usually too much, so we remove a notional 2 points.

We have to see what the current `baselineskip` is, and convert it to the dvips coordinate system.

Argument: `baselineskip` in pt. The x and y coordinates of the current point, minus the `baselineskip`

```
7370 /H.L {
7371     2 sub dup
7372     /HyperBasePt exch def
7373     PDFToDvips /HyperBaseDvips exch def
7374     currentpoint
7375     HyperBaseDvips sub /pdf@ury exch def
7376     /pdf@urx exch def
7377 } def
7378 /H.A {
7379     H.L
7380 % |pdf@voff| = the distance from the top of the page to a point
7381 % |\baselineskip| above the current point in PDF coordinates
7382     currentpoint exch pop
7383     vsize 72 sub exch DvipsToPDF
7384     HyperBasePt sub % baseline skip
7385     sub /pdf@voff exch def
7386 } def
7387 /H.R {
7388     currentpoint
7389     HyperBorder sub /pdf@ury exch def
7390     HyperBorder add /pdf@urx exch def
7391 % |pdf@voff| = the distance from the top of the page to the current point, in
7392 % PDF coordinates
7393     currentpoint exch pop vsize 72 sub
7394     exch DvipsToPDF sub /pdf@voff exch def
7395 } def
7396 systemdict /pdfmark known
7397 {
7398     userdict /?pdfmark systemdict /exec get put
7399 }{
7400     userdict /?pdfmark systemdict /pop get put
7401     userdict /pdfmark systemdict /cleartomark get put
7402 }
7403 ifelse
7404 }%
```

```

7405 }
7406 \AfterBeginDocument{%
7407   \ifx\special@paper\@empty\else
7408     \ifHy@setpagesize
7409       \special{papersize=\special@paper}%
7410     \fi
7411     \Hy@DisableOption{setpagesize}%
7412   \fi
7413 }
7414 </dvips>

```

45.10 VTeX's vtexpdfmark driver

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

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

```

7415 <*vtexpdfmark>
7416 \input{pdfmark.def}%
7417 \ifx\@pdfproducer\relax
7418   \ifnum\OpMode=\@ne
7419     \def\@pdfproducer{VTeX}
7420   \else
7421     \def\@pdfproducer{VTeX + Distiller}
7422   \fi
7423 \fi
7424 \def\literalps@out#1{\special{pS:#1}}%
7425 \def\headerps@out#1{\immediate\special{pS:#1}}%
7426 \providecommand\@pdfborder{0 0 1}
7427 \providecommand*\@pdfborderstyle{}
7428 \providecommand\@pdfview{XYZ}
7429 \providecommand\@pdfviewparams{ H.V}
7430 \AtBeginDvi{%
7431   \headerps@out{%
7432     /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.

```

7433   /HyperBorder {1} def
7434   /H.V {pdf@hoff pdf@voff null} def
7435   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

7436   /H.S {
7437     currentpoint
7438     HyperBorder sub
7439     /pdf@lly exch def
7440     dup 72 add /pdf@hoff exch def
7441     HyperBorder sub
7442     /pdf@llx exch def
7443   } def

```

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

```

7444   /H.L {

```

```

7445      2 sub
7446      /HyperBasePt exch def
7447      currentpoint
7448      HyperBasePt add HyperBorder add
7449      /pdf@ury exch def
7450      HyperBorder add
7451      /pdf@urx exch def
7452    } def
7453    /H.A {
7454      H.L
7455      currentpoint exch pop
7456      vsize 72 sub exch
7457      HyperBasePt add add
7458      /pdf@voff exch def
7459    } def
pdf@ury =  $Y_c + \text{HyperBorder}$ , pdf@urx =  $X_c + \text{HyperBorder}$ 
7460    /H.R {
7461      currentpoint
7462      HyperBorder add
7463      /pdf@ury exch def
7464      HyperBorder add
7465      /pdf@urx exch def
7466      currentpoint exch pop vsize 72 sub add
7467      /pdf@voff exch def
7468    } def
7469    systemdict /pdfmark known
7470    {
7471      userdict /?pdfmark systemdict /exec get put
7472    }{
7473      userdict /?pdfmark systemdict /pop get put
7474      userdict /pdfmark systemdict /cleartomark get put
7475    }
7476    ifelse
7477  }%
7478 }
7479 </vtexpdfmark>

```

45.11 Textures

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.

```

7480 < *textures >
7481 \begingroup
7482   \obeylines %
7483   \gdef\Hy@ps@CR{\noexpand
7484   }%
7485 \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`.

```
7486 \def\literalps@out#1{%
7487   \special{postscript 0 0 transform}%
7488   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
7489 }%
7490 %
```

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.

```
7491 \def\headerps@out#1{%
7492   \special{%
7493     prepostscript TeXdict begin\Hy@ps@CR
7494     #1\Hy@ps@CR
7495     end%
7496   }%
7497 }%
7498 %
```

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.

```
7499 \AtBeginDvi{%
7500   \headerps@out{%
7501     /betterpdfmark {%
7502       systemdict begin
7503         dup /BP eq
7504         {cleartomark gsave nulldevice []
7505          {dup /EP eq
7506           {cleartomark cleartomark grestore}
7507           {cleartomark}
7508           ifelse
7509         }ifelse
7510       end
7511     }def\Hy@ps@CR
7512     __pdfmark__ not{/pdfmark /betterpdfmark load def}if
7513     systemdict /pdfmark known
7514     {
7515       userdict /?pdfmark systemdict /load get put
7516     }{
7517       userdict /?pdfmark systemdict /pop get put
7518     }
7519     ifelse
7520   }% end of \headerps@out
7521 }% end of \AtBeginDvi
7522 %
7523 \input{pdfmark.def}%
7524 %
7525 \ifx\@pdfproducer\relax
```

```

7526 \def\@pdfproducer{Textures + Distiller}%
7527 \fi
7528 \providecommand\@pdfborder{0 0 1}
7529 \providecommand*\@pdfborderstyle{}
7530 \providecommand\@pdfview{XYZ}
7531 \providecommand\@pdfviewparams{ H.V}
7532 %

```

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 T_EX.

```

7533 \headerps@out{%

```

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

```

7534 /vsize {\Hy@pageheight} def
7535 /DvipsToPDF {} def
7536 /PDFToDvips {} def
7537 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
7538 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
7539 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
7540 /H.S {
7541   currentpoint
7542   HyperBorder add /pdf@lly exch def
7543   dup DvipsToPDF /pdf@hoff exch def
7544   HyperBorder sub /pdf@llx exch def
7545 } def\Hy@ps@CR
7546 /H.L {
7547   2 sub
7548   PDFToDvips /HyperBase exch def
7549   currentpoint
7550   HyperBase sub /pdf@ury exch def
7551   /pdf@urx exch def
7552 } def\Hy@ps@CR
7553 /H.A {
7554   H.L
7555   currentpoint exch pop
7556   vsize 72 sub exch DvipsToPDF
7557   HyperBase sub % baseline skip
7558   sub /pdf@voff exch def
7559 } def\Hy@ps@CR
7560 /H.R {
7561   currentpoint
7562   HyperBorder sub /pdf@ury exch def
7563   HyperBorder add /pdf@urx exch def
7564   currentpoint exch pop vsize 72 sub
7565   exch DvipsToPDF sub /pdf@voff exch def
7566 } def\Hy@ps@CR
7567 }
7568 \AfterBeginDocument{%
7569   \ifHy@colorlinks
7570     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
7571   \fi
7572 }

```

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.

```

7573 \expandafter\let\expandafter\keepPDF@SetupDoc
7574 \csname PDF@SetupDoc\endcsname
7575 \def\PDF@SetupDoc{%
7576 \ifx\@baseurl\@empty
7577 \else
7578 \special{html:<base href="\@baseurl">}%
7579 \fi
7580 \keepPDF@SetupDoc
7581 }
7582 \def\hyper@anchor#1{%
7583 \Hy@SaveLastskip
7584 \begingroup
7585 \let\protect=\string
7586 \special{html:<a name=\hyper@quote #1\hyper@quote>}%
7587 \endgroup
7588 \Hy@Activeanchortrue
7589 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7590 \special{html:</a>}%
7591 \Hy@Activeanchorfalse
7592 \Hy@RestoreLastskip
7593 }
7594 \def\hyper@anchorstart#1{%
7595 \Hy@SaveLastskip
7596 \begingroup
7597 \hyper@chars
7598 \special{html:<a name=\hyper@quote#1\hyper@quote>}%
7599 \endgroup
7600 \Hy@Activeanchortrue
7601 }
7602 \def\hyper@anchorend{%
7603 \special{html:</a>}%
7604 \Hy@Activeanchorfalse
7605 \Hy@RestoreLastskip
7606 }
7607 \def\@urlltype{url}
7608 \def\hyper@linkstart#1#2{%
7609 \expandafter\Hy@colorlink\csname @#1color\endcsname
7610 \def\Hy@tempa{#1}%
7611 \ifx\Hy@tempa\@urlltype
7612 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7613 \else
7614 \begingroup
7615 \hyper@chars
7616 \special{html:<a href=\hyper@quote\##2\hyper@quote>}%
7617 \endgroup
7618 \fi
7619 }
7620 \def\hyper@linkend{%
7621 \special{html:</a>}%
7622 \Hy@endcolorlink
7623 }
7624 \def\hyper@linkfile#1#2#3{%
7625 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi}%
7626 }
7627 \def\hyper@linkurl#1#2{%
7628 \leavevmode
7629 \ifHy@raiselinks

```



```

7630 \setbox\@tempboxa=\color@hbox #1\color@endbox
7631 \@linkdim\dp\@tempboxa
7632 \lower\@linkdim\hbox{%
7633 \hyper@chars
7634 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7635 }%
7636 \Hy@colorlink\@urlcolor#1%
7637 \@linkdim\ht\@tempboxa
7638 \advance\@linkdim by -6.5\p@
7639 \raise\@linkdim\hbox{\special{html:</a>}}%
7640 \Hy@endcolorlink
7641 \else
7642 \begingroup
7643 \hyper@chars
7644 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7645 \Hy@colorlink\@urlcolor#1%
7646 \special{html:</a>}}%
7647 \Hy@endcolorlink
7648 \endgroup
7649 \fi
7650 }
7651 \def\hyper@link#1#2#3{%
7652 \hyper@linkurl{#3}{\##2}%
7653 }
7654 \def\hyper@image#1#2{%
7655 \begingroup
7656 \hyper@chars
7657 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
7658 \endgroup
7659 }
7660 </textures>

```

45.12 dvipsone

```

7661 % \subsection{dvipsone driver}
7662 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
7663 % |\special| commands.
7664 < *dvipsone>
7665 \providecommand\@pdfborder{0 0 65781}
7666 \providecommand*\@pdfborderstyle{}
7667 \input{pdfmark.def}%
7668 \ifx\@pdfproducer\relax
7669 \def\@pdfproducer{dvipsone + Distiller}
7670 \fi
7671 \def\literalps@out#1{\special{ps:#1}}%
7672 \def\headerps@out#1{\special{! #1}}%
7673 \def\PDF@FinishDoc{%
7674 \Hy@UseMaketitleInfos
7675 \special{PDF: Keywords \@pdfkeywords}%
7676 \special{PDF: Title \@pdftitle}%
7677 \special{PDF: Creator \@pdfcreator}%
7678 \ifx\@pdfcreationdate\@empty
7679 \else
7680 \special{PDF: CreationDate \@pdfcreationdate}%
7681 \fi
7682 \ifx\@pdfmoddate\@empty
7683 \else

```

```

7684 \special{PDF: ModDate \@pdfmoddate}%
7685 \fi
7686 \special{PDF: Author \@pdfauthor}%
7687 \ifx\@pdfproducer\relax
7688 \else
7689 \special{PDF: Producer \@pdfproducer}%
7690 \fi
7691 \special{PDF: Subject \@pdfsubject}%
7692 \Hy@DisableOption{pdfauthor}%
7693 \Hy@DisableOption{pdftitle}%
7694 \Hy@DisableOption{pdfsubject}%
7695 \Hy@DisableOption{pdfcreator}%
7696 \Hy@DisableOption{pdfcreationdate}%
7697 \Hy@DisableOption{pdfmoddate}%
7698 \Hy@DisableOption{pdfproducer}%
7699 \Hy@DisableOption{pdfkeywords}%
7700 }
7701 \def\PDF@SetupDoc{%
7702 \pdfmark{%
7703 pdfmark=/DOCVIEW,
7704 Page=\@pdfstartpage,
7705 View=\@pdfstartview,
7706 PageMode=/\@pdfpagemode
7707 }%
7708 \ifx\@pdfpagescrop\@empty
7709 \else
7710 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7711 \fi
7712 \edef\Hy@temp{%
7713 \ifHy@toolbar\else /HideToolbar true\fi
7714 \ifHy@menubar\else /HideMenubar true\fi
7715 \ifHy>windowui\else /HideWindowUI true\fi
7716 \ifHy@fitwindow /FitWindow true\fi
7717 \ifHy@centerwindow /CenterWindow true\fi
7718 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7719 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7720 \Hy@UseNameKey{Direction}\@pdfdirection
7721 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7722 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7723 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7724 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7725 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7726 \Hy@UseNameKey{Duplex}\@pdfduplex
7727 \ifx\@pdfpicktraybypdfsize\@empty
7728 \else
7729 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7730 \fi
7731 \ifx\@pdfprintpagerange\@empty
7732 \else
7733 /PrintPageRange[\@pdfprintpagerange]%
7734 \fi
7735 \ifx\@pdfnumcopies\@empty
7736 \else
7737 /NumCopies \@pdfnumcopies
7738 \fi
7739 }%
7740 \Hy@pstringdef\Hy@pstringB{\@baseurl}%

```

```

7741 \pdfmark{%
7742   pdfmark=/PUT,%
7743   Raw={%
7744     \string{Catalog\string} <<
7745     \ifx\Hy@temp\@empty
7746     \else
7747       /ViewerPreferences<<\Hy@temp>>%
7748     \fi
7749     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7750     \ifx\@pdflang\@empty
7751     \else
7752       /Lang(\@pdflang)%
7753     \fi
7754     \ifx\@baseurl\@empty
7755     \else
7756       /URI << /Base (\Hy@pstringB) >>%
7757     \fi
7758   >>%
7759 }%
7760 }%
7761 }
7762 \providecommand\@pdfview{XYZ}
7763 \providecommand\@pdfviewparams{ %
7764   gsave revscl currentpoint grestore
7765   72 add exch pop null exch null
7766 }

```

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 .

```
7767 \special{headertext=
```

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

```

7768 /DvipsToPDF { 65781 div } def
7769 /PDFToDvips { 65781 mul } def
7770 /HyperBorder { 1 PDFToDvips } def
7771 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def
7772 /H.S {
7773   currentpoint
7774   HyperBorder add /pdf@lly exch def
7775   dup DvipsToPDF /pdf@hoff exch def
7776   HyperBorder sub /pdf@llx exch def
7777 } def
7778 /H.L {
7779   2 sub
7780   PDFToDvips /HyperBase exch def
7781   currentpoint
7782   HyperBase sub /pdf@ury exch def
7783   /pdf@urx exch def
7784 } def
7785 /H.A {
7786   H.L
7787   currentpoint exch pop
7788   HyperBase sub % baseline skip
7789   DvipsToPDF /pdf@voff exch def
7790 } def

```

```

7791 /H.R {
7792   currentpoint
7793   HyperBorder sub /pdf@ury exch def
7794   HyperBorder add /pdf@urx exch def
7795   currentpoint exch pop DvipsToPDF /pdf@voff exch def
7796 } def
7797 systemdict
7798 /pdfmark known
7799 {
7800   userdict /?pdfmark /exec load put
7801 }{
7802   userdict /?pdfmark /pop load put
7803   userdict /pdfmark systemdict /cleartomark get put
7804 }
7805 ifelse
7806 }
7807 </dvipsone>
7808 <*dvipdf>
7809 \def\literalps@out#1{\special{pdf: #1}}%
7810 \providecommand\@pdfborder{0 0 1}
7811 \providecommand*\@pdfborderstyle{}
7812 </dvipdf>

```

45.13 TeX4ht

```

7813 <*tex4ht>
7814 \ifpackageloaded{tex4ht}
7815   {\typeout{hyperref tex4ht: tex4ht already loaded}}%
7816   {\RequirePackage[hx4ht]{tex4ht}}
7817 \def\PDF@FinishDoc{}
7818 \def\PDF@SetupDoc{%
7819   \ifx\@baseurl\@empty
7820   \else
7821     \special{t4ht=<base href="\@baseurl">}%
7822   \fi
7823 }
7824 \def\hyper@anchor#1{%
7825   \Hy@SaveLastskip
7826   \begingroup
7827     \let\protect=\string
7828     \special{t4ht=<a name=\hyper@quote #1\hyper@quote>}%
7829   \endgroup
7830   \Hy@activeanchortrue
7831   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7832   \special{t4ht=</a>}%
7833   \Hy@activeanchorfalse
7834   \Hy@RestoreLastskip
7835 }
7836 \def\hyper@anchorstart#1{%
7837   \Hy@SaveLastskip
7838   \begingroup
7839     \hyper@chars\special{t4ht=<a name=\hyper@quote#1\hyper@quote>}%
7840   \endgroup
7841   \Hy@activeanchortrue
7842 }
7843 \def\hyper@anchorend{%
7844   \special{t4ht=</a>}%
7845   \Hy@activeanchorfalse

```

```

7846 \Hy@RestoreLastskip
7847 }
7848 \def\@urltype{url}
7849 \def\hyper@linkstart#1#2{%
7850 \expandafter\Hy@colorlink\csname @#1color\endcsname
7851 \def\Hy@tempa{#1}%
7852 \ifx\Hy@tempa\@urltype
7853 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
7854 \else
7855 {\hyper@chars\special{t4ht=<a href=\hyper@quote\##2\hyper@quote>}}%
7856 \fi
7857 }
7858 \def\hyper@linkend{%
7859 \special{t4ht=</a>}%
7860 \Hy@endcolorlink
7861 }
7862 \def\hyper@linkfile#1#2#3{%
7863 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
7864 }
7865 \def\hyper@linkurl#1#2{%
7866 \leavevmode
7867 \ifHy@raiselinks
7868 \setbox\@tempboxa=\color@hbox #1\color@endbox
7869 \@linkdim\dp\@tempboxa
7870 \lower\@linkdim\hbox{%
7871 \begingroup
7872 \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
7873 \endgroup
7874 }%
7875 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7876 \@linkdim\ht\@tempboxa
7877 \advance\@linkdim by -6.5\p@
7878 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
7879 \else
7880 \begingroup
7881 \hyper@chars
7882 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
7883 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7884 \special{t4ht=</a>}%
7885 \endgroup
7886 \fi
7887 }
7888 \def\hyper@link#1#2#3{%
7889 \hyper@linkurl{#3}{\##2}%
7890 }
7891 \def\hyper@image#1#2{%
7892 \begingroup
7893 \hyper@chars
7894 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
7895 \endgroup
7896 }
7897 \let\autoref\ref
7898 \ifx \rEfLiNK \UnDef
7899 \def\rEfLiNK #1#2{#2}%
7900 \fi
7901 \def\backref#1{}
7902 </tex4ht>

```

```

7903 <*tex4htcfg>
7904 \IfFileExists{\jobname.cfg}{\endinput}{}
7905 \Preamble{html}
7906   \begin{document}
7907 \EndPreamble
7908 \def\TeX{\TeX}
7909 \def\OMEGA{\Omega}
7910 \def\LaTeX{\LaTeX}
7911 \def\LaTeXe{\LaTeX2e}
7912 \def\TeX{e-\TeX}
7913 \def\MF{Metafont}
7914 \def\MP{Metapost}
7915 </tex4htcfg>

```

46 Driver-specific form support

46.1 pdfmarks

```

7916 <*pdfmark>
7917 \long\def\@Form[#1]{%
7918 \AtBeginDvi{%
7919   \headerps@out{%
7920 [ /_objdef {pdfDocEncoding}
7921 /type /dict
7922 /OBJ pdfmark
7923 [ {pdfDocEncoding}
7924 << /Type /Encoding
7925   /Differences [ 24 /breve /caron /circumflex /dotaccent
7926 /hungarumlaut /ogonek /ring /tilde 39 /quotesingle 96 /grave 128
7927 /bullet /dagger /daggerdbl /ellipsis /emdash /endash /florin /fraction
7928 /guilsinglleft /guilsinglright /minus /perthousand /quotedblbase
7929 /quotedblleft /quotedblright /quoteleft /quoteright /quotesinglbase
7930 /trademark /fi /fl /Lslash /OE /Scaron /Ydieresis /Zcaron /dotlessi
7931 /lslash /oe /scaron /zcaron 164 /currency 166 /brokenbar 168 /dieresis
7932 /copyright /ordfeminine 172 /logicalnot /.notdef /registered /macron
7933 /degree /plusminus /twosuperior /threesuperior /acute /mu 183
7934 /periodcentered /cedilla /onesuperior /ordmasculine 188 /onequarter
7935 /onehalf /threequarters 192 /Agrave /Aacute /Acircumflex /Atilde
7936 /Adieresis /Aring /AE /Ccedilla /Egrave /Eacute /Ecircumflex
7937 /Edieresis /Igrave /Iacute /Icircumflex /Idieresis /Eth /Ntilde
7938 /Ograve /Oacute /Ocircumflex /Otilde /Odieresis /multiply /Oslash
7939 /Ugrave /Uacute /Ucircumflex /Udieresis /Yacute /Thorn /germandbls
7940 /agrave /aacute /acircumflex /atilde /adieresis /aring /ae /ccedilla
7941 /egrave /eacute /ecircumflex /edieresis /igrave /iacute /icircumflex
7942 /idieresis /eth /ntilde /ograve /oacute /ocircumflex /otilde
7943 /odieresis /divide /oslash /ugrave /uacute /ucircumflex /udieresis
7944 /yacute /thorn /ydieresis ]
7945 >>
7946 /PUT pdfmark
7947 [ /_objdef {ZaDb}
7948 /type /dict
7949 /OBJ pdfmark
7950 [ {ZaDb}
7951 <<
7952 /Type /Font
7953 /Subtype /Type1
7954 /Name /ZaDb
7955 /BaseFont /ZapfDingbats

```

```

7956 >>
7957 /PUT pdfmark
7958 [ /_objdef {Helv}
7959   /type /dict
7960 /OBJ pdfmark
7961 [ {Helv}
7962 <<
7963   /Type /Font
7964   /Subtype /Type1
7965   /Name /Helv
7966   /BaseFont /Helvetica
7967   /Encoding {pdfDocEncoding}
7968 >>
7969 /PUT pdfmark
7970 [ /_objdef {aform}
7971   /type /dict
7972 /OBJ pdfmark
7973 [ /_objdef {afields}
7974   /type /array
7975 /OBJ pdfmark
7976 {
7977   [/BBox [0 0 100 100] /_objdef {Check} /BP pdfmark
7978   1 0 0 setrgbcolor /ZapfDingbats 80 selectfont 20 20 moveto (4) show
7979   [/EP pdfmark
7980   [/BBox [0 0 100 100] /_objdef {Cross} /BP pdfmark
7981   1 0 0 setrgbcolor /ZapfDingbats 80 selectfont 20 20 moveto (8) show
7982   [/EP pdfmark
7983   [/BBox [0 0 250 100] /_objdef {Submit} /BP pdfmark 0.6 setgray 0 0 250
7984   100 rectfill 1 setgray 2 2 moveto 2 98 lineto 248 98 lineto 246 96
7985   lineto 4 96 lineto 4 4 lineto fill 0.34 setgray 248 98 moveto 248 2
7986   lineto 2 2 lineto 4 4 lineto 246 4 lineto 246 96 lineto fill
7987   /Helvetica 76 selectfont 0 setgray 8 22.5 moveto (Submit) show
7988   [/EP pdfmark
7989   [/BBox [0 0 250 100] /_objdef {SubmitP} /BP pdfmark 0.6 setgray 0 0
7990   250 100 rectfill 0.34 setgray 2 2 moveto 2 98 lineto 248 98 lineto 246
7991   96 lineto 4 96 lineto 4 4 lineto fill 1 setgray 248 98 moveto 248 2
7992   lineto 2 2 lineto 4 4 lineto 246 4 lineto 246 96 lineto fill
7993   /Helvetica 76 selectfont 0 setgray 10 20.5 moveto (Submit) show
7994   [/EP pdfmark
7995 } ?pdfmark
7996 [ {aform}
7997 <<
7998   /Fields {afields}
7999   /DR << /Font << /ZaDb {ZaDb} /Helv {Helv} >> >>
8000   /DA (/Helv 10 Tf 0 g )
8001   /CO {corder}
8002   /NeedAppearances true
8003 >>
8004 /PUT pdfmark
8005 [ \string{Catalog\string}
8006 <<
8007   /AcroForm {aform}
8008 >>
8009 /PUT pdfmark
8010 [ /_objdef {corder} /type /array /OBJ pdfmark   % dps
8011 }}%
8012 \setkeys{Form}{#1}%

```

```

8013 }
8014 \def\@endForm{}
8015 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8016 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
8017 }
8018 \def\@TextField[#1]#2{% parameters, label
8019 \def\Fld@name{#2}%
8020 \def\Fld@default{}%
8021 \let\Fld@value\@empty
8022 \def\Fld@width{\DefaultWidthofText}%
8023 \def\Fld@height{\DefaultHeightofText}%
8024 \ifFld@multiline
8025 \begingroup
8026 \dimen@=\DefaultHeightofText
8027 \dimen@=4\dimen@
8028 \edef\x{\endgroup
8029 \def\noexpand\Fld@height{\the\dimen@}%
8030 }%
8031 \x
8032 \fi
8033 \bgroup
8034 \Field@toks={ }%
8035 \setkeys{Field}{#1}%
8036 \ifFld@hidden\def\Fld@width{1sp}\fi
8037 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
8038 \LayoutTextField{#2}{%
8039 \Hy@escapeform\PDFForm@Text
8040 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
8041 pdfmark=/ANN,Raw={\PDFForm@Text}%
8042 }%
8043 }%
8044 \egroup
8045 }
8046 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8047 \def\Fld@name{#2}%
8048 \let\Fld@default\relax
8049 \let\Fld@value\relax
8050 \def\Fld@width{\DefaultWidthofChoiceMenu}%
8051 \def\Fld@height{\DefaultHeightofChoiceMenu}%
8052 \bgroup
8053 \Fld@menulength=0
8054 \@tempdima\z@
8055 \@for\@curropt:=#3\do{%
8056 \expandafter\Fld@checkequals\@curropt==\%
8057 \Hy@StepCount\Fld@menulength
8058 \settowidth{\@tempdimb}{\@currDisplay}%
8059 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
8060 }%
8061 \advance\@tempdima by 15\p@
8062 \Field@toks={ }%
8063 \setkeys{Field}{#1}%
8064 \ifFld@hidden\def\Fld@width{1sp}\fi
8065 \LayoutChoiceField{#2}{%
8066 \ifFld@radio
8067 \@@Radio{#3}%
8068 \else
8069 {%

```



```

8070         \ifdim\Fld@width<\@tempdima
8071         \ifdim\@tempdima<1cm\@tempdima1cm\fi
8072         \edef\Fld@width{\the\@tempdima}%
8073     \fi
8074     \def\Fld@flags{}%
8075     \ifFld@combo\def\Fld@flags{/Ff 917504}\fi
8076     \ifFld@popdown\def\Fld@flags{/Ff 131072}\fi
8077     \ifx\Fld@flags\@empty
8078         \@tempdima=\the\Fld@menulength\Fld@charsize
8079         \advance\@tempdima by \Fld@borderwidth bp
8080         \advance\@tempdima by \Fld@borderwidth bp
8081         \edef\Fld@height{\the\@tempdima}%
8082     \fi
8083     \@@ListBox{#3}%
8084 }%
8085 \fi
8086 }%
8087 \egroup
8088 }
8089 \def\@@Radio#1{%
8090     \Fld@listcount=0
8091     \@for\@curropt:=#1\do{%
8092         \expandafter\Fld@checkequals\@curropt==\\%
8093         \Hy@StepCount\Fld@listcount
8094         \@currDisplay\space
8095         \Hy@escapeform\PDFForm@Radio
8096         \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
8097             pdfmark=/ANN,%
8098             Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
8099         } % deliberate space between radio buttons
8100     }%
8101 }
8102 \newcount\Fld@listcount
8103 \def\@@ListBox#1{%
8104     \Choice@toks={ }%
8105     \Fld@listcount=0
8106     \@for\@curropt:=#1\do{%
8107         \expandafter\Fld@checkequals\@curropt==\\%
8108         \Hy@StepCount\Fld@listcount
8109         \edef\@processme{%
8110             \Choice@toks{\the\Choice@toks [(\@currValue) (\@currDisplay)]}%
8111         }\@processme
8112     }%
8113     \Hy@escapeform\PDFForm@List
8114     \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
8115         pdfmark=/ANN,Raw={\PDFForm@List}%
8116     }%
8117 }
8118 \def\@PushButton[#1]#2{% parameters, label
8119     \def\Fld@name{#2}%
8120     \bgroup
8121         \Field@toks={ }%
8122         \setkeys{Field}{#1}%
8123         \ifFld@hidden\def\Fld@width{1sp}\fi
8124         \LayoutPushButtonField{%
8125             \Hy@escapeform\PDFForm@Push
8126             \pdfmark[\MakeButtonField{#2}]{%

```

```

8127         pdfmark=/ANN,Raw={\PDFForm@Push}%
8128     }%
8129 }%
8130 \egroup
8131 }
8132 \def\@Submit[#1]#2{%
8133     \Field@toks={ }%
8134     \def\Fld@width{\DefaultWidthofSubmit}%
8135     \def\Fld@height{\DefaultHeightofSubmit}%
8136     \bgroup
8137         \def\Fld@name{Submit}%
8138         \setkeys{Field}{#1}%
8139         \ifFld@hidden\def\Fld@width{1sp}\fi
8140         \Hy@escapeform\PDFForm@Submit
8141         \pdfmark[\MakeButtonField{#2}]{%
8142             pdfmark=/ANN,%
8143             Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
8144         }%
8145     \egroup
8146 }
8147 \def\@Reset[#1]#2{%
8148     \Field@toks={ }%
8149     \def\Fld@width{\DefaultWidthofReset}%
8150     \def\Fld@height{\DefaultHeightofReset}%
8151     \bgroup
8152         \def\Fld@name{Reset}%
8153         \setkeys{Field}{#1}%
8154         \ifFld@hidden\def\Fld@width{1sp}\fi
8155         \Hy@escapeform\PDFForm@Reset
8156         \pdfmark[\MakeButtonField{#2}]{%
8157             pdfmark=/ANN,Raw={\PDFForm@Reset}%
8158         }%
8159     \egroup
8160 }
8161 \def\@CheckBox[#1]#2{% parameters, label
8162     \def\Fld@name{#2}%
8163     \def\Fld@default{0}%
8164     \bgroup
8165         \def\Fld@width{\DefaultWidthofCheckBox}%
8166         \def\Fld@height{\DefaultHeightofCheckBox}%
8167         \Field@toks={ }%
8168         \setkeys{Field}{#1}%
8169         \ifFld@hidden\def\Fld@width{1sp}\fi
8170         \LayoutCheckField{#2}{%
8171             \Hy@escapeform\PDFForm@Check
8172             \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
8173                 pdfmark=/ANN,Raw={\PDFForm@Check}%
8174             }%
8175         }%
8176     \egroup
8177 }
8178 </pdfmark>

```

46.2 dvipdf

```

8179 <*dvipdf>
8180 \def\@Form[#1]{\typeout{Sorry, I do not support FORMs}}
8181 \def\@endForm{}

```

```

8182 \def \@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8183 \typeout{Sorry, dvipdf does not support FORM gauges}%
8184 }
8185 \def \@TextField[#1]#2{% parameters, label
8186 \typeout{Sorry, dvipdf does not support FORM text fields}%
8187 }
8188 \def \@CheckBox[#1]#2{% parameters, label
8189 \typeout{Sorry, dvipdf does not support FORM checkboxes}%
8190 }
8191 \def \@ChoiceMenu[#1]#2#3{% parameters, label, choices
8192 \typeout{Sorry, dvipdf does not support FORM choice menus}%
8193 }
8194 \def \@PushButton[#1]#2{% parameters, label
8195 \typeout{Sorry, dvipdf does not support FORM pushbuttons}%
8196 }
8197 \def \@Reset[#1]#2{\typeout{Sorry, dvipdf does not support FORMs}}
8198 \def \@Submit[#1]#2{\typeout{Sorry, dvipdf does not support FORMs}}
8199 </dvipdf>

```

46.3 HyperTeX

```

8200 <*hypertex>
8201 \def \@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
8202 \def \@endForm{}
8203 \def \@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8204 \typeout{Sorry, HyperTeX does not support FORM gauges}%
8205 }
8206 \def \@TextField[#1]#2{% parameters, label
8207 \typeout{Sorry, HyperTeX does not support FORM text fields}%
8208 }
8209 \def \@CheckBox[#1]#2{% parameters, label
8210 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
8211 }
8212 \def \@ChoiceMenu[#1]#2#3{% parameters, label, choices
8213 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
8214 }
8215 \def \@PushButton[#1]#2{% parameters, label
8216 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
8217 }
8218 \def \@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
8219 \def \@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
8220 </hypertex>

```

46.4 TeX4ht

```

8221 <*tex4ht>
8222 \def \@Form[#1]{%
8223 \setkeys{Form}{#1}%
8224 \HCode{<form action="\Form@action" method="\Form@method">}%
8225 }
8226 \def \@endForm{\HCode{</form>}}
8227 \def \@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8228 \typeout{Sorry, TeX4ht does not support gauges}%
8229 }
8230 \def \@TextField[#1]#2{% parameters, label
8231 \let\Hy@reserved@a\@empty
8232 \def\Fld@name{#2}%
8233 \def\Fld@default{}%
8234 \bgroup

```

```

8235 \Field@toks={ }%
8236 \setkeys{Field}{#1}%
8237 \HCode{<label for="\Fld@name">#2</label>}%
8238 \ifFld@password
8239 \@@PasswordField
8240 \else
8241 \@@TextField
8242 \fi
8243 \egroup
8244 }
8245 \def\@@PasswordField{%
8246 \HCode{%
8247 <input type="password"
8248 id="\Fld@name"
8249 name="\Fld@name"
8250 \ifFld@hidden type="hidden"\fi
8251 value="\Fld@default"
8252 \the\Field@toks
8253 >%
8254 }%
8255 }
8256 \def\@@TextField{%
8257 \ifFld@multiline
8258 \HCode{<textarea
8259 \ifFld@readonly readonly \fi
8260 id="\Fld@name"
8261 name="\Fld@name"
8262 \ifFld@hidden type="hidden"\fi
8263 \the\Field@toks>%
8264 }%
8265 \Fld@default
8266 \HCode{</textarea>}%
8267 \else
8268 \HCode{<input type="text"
8269 \ifFld@readonly readonly \fi
8270 id="\Fld@name"
8271 name="\Fld@name"
8272 \ifFld@hidden type="hidden"\fi
8273 value="\Fld@default" \the\Field@toks>
8274 }%
8275 \fi
8276 }
8277 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8278 \def\Fld@name{#2}%
8279 \def\Fld@default{}%
8280 \let\Hy@reserved@a\relax
8281 \bgroup
8282 \expandafter\Fld@findlength#3\\%
8283 \Field@toks={ }%
8284 \setkeys{Field}{#1}%
8285 #2%
8286 \ifFld@radio
8287 \expandafter\@@Radio#3\\%
8288 \else
8289 \expandafter\@@Menu#3\\%
8290 \fi
8291 \egroup

```

```

8292 }
8293 \def\Fld@findlength#1\{%
8294   \Fld@menulength=0
8295   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
8296 }
8297 \def\@@Menu#1\{%
8298   \HCode{<select size="\the\Fld@menulength"
8299     name="\Fld@name" \the\Field@toks>}%
8300   \@for\@curropt:=#1\do{%
8301     \expandafter\Fld@checkequals\@curropt==\%
8302     \HCode{<option
8303       \ifx\@curropt\Fld@default selected \fi
8304       value="\@currValue">\@currDisplay</option>%
8305     }%
8306   }%
8307   \HCode{</select>}%
8308 }
8309 \def\@@Radio#1\{%
8310   \@for\@curropt:=#1\do{%
8311     \expandafter\Fld@checkequals\@curropt==\%
8312     \HCode{<input type="radio"
8313       \ifx\@curropt\Fld@default checked \fi
8314       name="\Fld@name"
8315       value="\@currValue"
8316       \the\Field@toks>%
8317     }%
8318     \@currDisplay
8319   }%
8320 }
8321 \def\@PushButton[#1]#2{% parameters, label
8322   \def\Fld@name{#2}%
8323   \bgroup
8324     \Field@toks={ }%
8325     \setkeys{Field}{#1}%
8326     \HCode{<input type="button"
8327       name="\Fld@name"
8328       value="#2"
8329       \the\Field@toks>%
8330     }%
8331     \HCode{</button>}%
8332   \egroup
8333 }
8334 \def\@Submit[#1]#2{%
8335   \HCode{<button type="submit">#2</button>}%
8336 }
8337 \def\@Reset[#1]#2{%
8338   \HCode{<button type="reset">#2</button>}%
8339 }
8340 \def\@CheckBox[#1]#2{% parameters, label
8341   \let\Hy@reserved@a\@empty
8342   \def\Fld@name{#2}%
8343   \def\Fld@default{0}%
8344   \bgroup
8345     \Field@toks={ }%
8346     \setkeys{Field}{#1}%
8347     \HCode{<input type="checkbox"
8348       \ifFld@checked checked \fi

```

```

8349 \ifFld@disabled disabled \fi
8350 \ifFld@readonly readonly \fi
8351 name="\Fld@name"
8352 \ifFld@hidden type="hidden"\fi
8353 value="\Fld@default"
8354 \the\Field@toks>%
8355 #2%
8356 }%
8357 \egroup
8358 }
8359 </tex4ht>

```

46.5 pdfTeX

```

8360 <*pdfTeX>
8361 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8362 \typeout{Sorry, pdfTeX does not support FORM gauges}%
8363 }
8364 \def\MakeFieldObject#1#2{\sbox0{#1}%
8365 \immediate\pdfxform0 %
8366 \expandafter\edef\csname #2Object\endcsname{%
8367 \the\pdflastxform\space 0 R%
8368 }%
8369 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
8370 }%
8371 \def\@Form[#1]{%
8372 \ifundefined{textcolor}{\let\textcolor@gobble{}}%
8373 \setkeys{Form}{#1}%
8374 \ifnum\pdfTeXversion>13
8375 \pdfrefobj\OBJ@pdfdocencoding
8376 \pdfrefobj\OBJ@ZaDb
8377 \pdfrefobj\OBJ@Helv
8378 \pdfrefobj\OBJ@acroform
8379 \fi
8380 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
8381 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

8382 \begingroup
8383 \fontfamily{pzd}%
8384 \fontencoding{U}%
8385 \fontseries{m}%
8386 \fontshape{n}%
8387 \selectfont
8388 \char123 %
8389 \endgroup
8390 }{Ding}%
8391 \MakeFieldObject{\fbox{\textcolor{yellow}{\textsf{Submit}}}}{Submit}%
8392 \MakeFieldObject{\fbox{\textcolor{yellow}{\textsf{SubmitP}}}}{SubmitP}%
8393 }
8394 \def\@endForm{}
8395 \def\@TextField[#1]#2{% parameters, label
8396 \def\Fld@name{#2}%
8397 \def\Fld@default{}%
8398 \let\Fld@value@empty
8399 \def\Fld@width{\DefaultWidthofText}%
8400 \def\Fld@height{\DefaultHeightofText}%
8401 \ifFld@multiline
8402 \begingroup

```

```

8403     \dimen@=\DefaultHeightofText
8404     \dimen@=4\dimen@
8405     \edef\x{\endgroup
8406         \def\noexpand\Fld@height{\the\dimen@}%
8407     }%
8408     \x
8409 \fi
8410 \bgroup
8411     \Field@toks={ }%
8412     \setkeys{Field}{#1}%
8413     \ifFld@hidden\def\Fld@width{1sp}\fi
8414     \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
8415     \LayoutTextField{#2}{%
8416         \Hy@escapeform\PDFForm@Text
8417         \pdfstartlink user {\PDFForm@Text}\relax
8418         \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
8419     }%
8420 \egroup
8421 }
8422 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8423     \def\Fld@name{#2}%
8424     \let\Fld@default\relax
8425     \let\Fld@value\relax
8426     \def\Fld@width{\DefaultWidthofChoiceMenu}%
8427     \def\Fld@height{\DefaultHeightofChoiceMenu}%
8428     \bgroup
8429         \Fld@menulength=0
8430         \@tempdima\z@
8431         \@for\@curropt:=#3\do{%
8432             \expandafter\Fld@checkequals\@curropt==\%
8433             \Hy@StepCount\Fld@menulength
8434             \settowidth{\@tempdimb}{\@currDisplay}%
8435             \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
8436         }%
8437         \advance\@tempdima by 15\p@
8438         \Field@toks={ }%
8439         \setkeys{Field}{#1}%
8440         \ifFld@hidden\def\Fld@width{1sp}\fi
8441         \ifx\Fld@value\relax
8442             \let\Fld@value\Fld@default
8443         \fi
8444         \LayoutChoiceField{#2}{%
8445             \ifFld@radio
8446                 \@@Radio{#3}%
8447             \else
8448                 {%
8449                     \ifdim\Fld@width<\@tempdima
8450                         \ifdim\@tempdima<1cm\@tempdima1cm\fi
8451                         \edef\Fld@width{\the\@tempdima}%
8452                     \fi
8453                     \def\Fld@flags{}%
8454                     \ifFld@combo\def\Fld@flags{/Ff 917504}\fi
8455                     \ifFld@popdown\def\Fld@flags{/Ff 131072}\fi
8456                     \ifx\Fld@flags\empty
8457                         \@tempdima=\the\Fld@menulength\Fld@charsize
8458                         \advance\@tempdima by \Fld@borderwidth bp
8459                         \advance\@tempdima by \Fld@borderwidth bp

```

```

8460         \edef\Fld@height{\the\@tempdima}%
8461         \fi
8462         \@@Listbox{#3}%
8463     }%
8464     \fi
8465 }%
8466 \egroup
8467 }
8468 \def\@@Radio#1{%
8469     \Fld@listcount=0
8470     \@for\@curropt:=#1\do{%
8471         \expandafter\Fld@checkequals\@curropt==\%
8472         \Hy@StepCount\Fld@listcount
8473         \@currDisplay\space
8474         \leavevmode
8475         \Hy@escapeform\PDFForm@Radio
8476         \pdfstartlink user {%
8477             \PDFForm@Radio
8478             /AP <<
8479             /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.

```

8480         /\@currValue\space \DingObject
8481     >>
8482 >>
8483 }%
8484 \relax
8485 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
8486 \space% deliberate space between radio buttons
8487 }%
8488 }
8489 \newcount\Fld@listcount
8490 \def\@@Listbox#1{%
8491     \Choice@toks={ }%
8492     \Fld@listcount=0
8493     \@for\@curropt:=#1\do{%
8494         \expandafter\Fld@checkequals\@curropt==\%
8495         \Hy@StepCount\Fld@listcount
8496         \edef\@processme{%
8497             \Choice@toks{\the\Choice@toks [(\@currValue) (\@currDisplay)]}%
8498         }\@processme
8499     }%
8500     \leavevmode
8501     \Hy@escapeform\PDFForm@List
8502     \pdfstartlink user {\PDFForm@List}\relax
8503     \MakeChoiceField{\Fld@width}{\Fld@height}%
8504     \pdfendlink
8505 }
8506 \def\@PushButton[#1]#2{% parameters, label
8507     \def\Fld@name{#2}%
8508     \bgroup
8509         \Field@toks={ }%
8510         \setkeys{Field}{#1}%
8511         \ifFld@hidden\def\Fld@width{1sp}\fi
8512         \LayoutPushButtonField{%
8513             \leavevmode

```



```

8514      \Hy@escapeform\PDFForm@Push
8515      \pdfstartlink user {\PDFForm@Push}\relax
8516      \MakeButtonField{#2}%
8517      \pdfendlink
8518  }%
8519  \egroup
8520 }
8521 \def\@Submit[#1]#2{%
8522   \Field@toks={ }%
8523   \def\Fld@width{\DefaultWidthofSubmit}%
8524   \def\Fld@height{\DefaultHeightofSubmit}%
8525   \bgroup
8526     \def\Fld@name{Submit}%
8527     \setkeys{Field}{#1}%
8528     \ifFld@hidden\def\Fld@width{1sp}\fi
8529     \leavevmode
8530     \Hy@escapeform\PDFForm@Submit
8531     \pdfstartlink user {%
8532       \PDFForm@Submit
8533       /AP << /N \SubmitObject\space /D \SubmitPObject >>
8534     }%
8535     \relax
8536     \MakeButtonField{#2}%
8537     \pdfendlink
8538   \egroup
8539 }
8540 \def\@Reset[#1]#2{%
8541   \Field@toks={ }%
8542   \def\Fld@width{\DefaultWidthofReset}%
8543   \def\Fld@height{\DefaultHeightofReset}%
8544   \bgroup
8545     \def\Fld@name{Reset}%
8546     \setkeys{Field}{#1}%
8547     \ifFld@hidden\def\Fld@width{1sp}\fi
8548     \leavevmode
8549     \Hy@escapeform\PDFForm@Reset
8550     \pdfstartlink user {\PDFForm@Reset}\relax
8551     \MakeButtonField{#2}%
8552     \pdfendlink
8553   \egroup
8554 }
8555 \def\@CheckBox[#1]#2{% parameters, label
8556   \def\Fld@name{#2}%
8557   \def\Fld@default{0}%
8558   \bgroup
8559     \def\Fld@width{\DefaultWidthofCheckBox}%
8560     \def\Fld@height{\DefaultHeightofCheckBox}%
8561     \Field@toks={ }%
8562     \setkeys{Field}{#1}%
8563     \ifFld@hidden\def\Fld@width{1sp}\fi
8564     \LayoutCheckField{#2}{%
8565       \Hy@escapeform\PDFForm@Check
8566       \pdfstartlink user {\PDFForm@Check}\relax
8567       \MakeCheckField{\Fld@width}{\Fld@height}%
8568     }%
8569   }%
8570   \egroup

```

```

8571 }
8572 \pdfobj { << /Type /Encoding /Differences [ 24 /breve /caron
8573 /circumflex /dotaccent /hungarumlaut /ogonek /ring /tilde 39
8574 /quotesingle 96 /grave 128 /bullet /dagger /daggerdbl /ellipsis
8575 /emdash /endash /florin /fraction /guilsinglleft /guilsinglright
8576 /minus /perthousand /quotedblbase /quotedblleft /quotedblright
8577 /quoteleft /quoteright /quotesinglbase /trademark /fi /fl /Lslash /OE
8578 /Scaron /Ydieresis /Zcaron /dotlessi /lslash /oe /scaron /zcaron 164
8579 /currency 166 /brokenbar 168 /dieresis /copyright /ordfeminine 172
8580 /logicalnot /.notdef /registered /macron /degree /plusminus
8581 /twosuperior /threesuperior /acute /mu 183 /periodcentered /cedilla
8582 /onesuperior /ordmasculine 188 /onequarter /onehalf /threequarters 192
8583 /Agrave /Aacute /Acircumflex /Atilde /Adieresis /Aring /AE /Ccedilla
8584 /Egrave /Eacute /Ecircumflex /Edieresis /Igrave /Iacute /Icircumflex
8585 /Idieresis /Eth /Ntilde /Ograve /Oacute /Ocircumflex /Otilde
8586 /Odieresis /multiply /Oslash /Ugrave /Uacute /Ucircumflex /Udieresis
8587 /Yacute /Thorn /germandbls /agrave /aacute /acircumflex /atilde
8588 /adieresis /aring /ae /ccedilla /egrave /eacute /ecircumflex
8589 /edieresis /igrave /iacute /icircumflex /idieresis /eth /ntilde
8590 /ograde /oacute /ocircumflex /otilde /odieresis /divide /oslash
8591 /ugrave /uacute /ucircumflex /udieresis /yacute /thorn /ydieresis ] >>
8592 }
8593 \edef\OBJ@pdfdocencoding{\the\pdflastobj}
8594 \pdfobj {
8595   <<
8596     /Type /Font
8597     /Subtype /Type1
8598     /Name /ZaDb
8599     /BaseFont /ZapfDingbats
8600 >>
8601 }
8602 \edef\OBJ@ZaDb{\the\pdflastobj}
8603 \pdfobj { <<
8604   /Type /Font
8605   /Subtype /Type1
8606   /Name /Helv
8607   /BaseFont /Helvetica
8608   /Encoding \OBJ@pdfdocencoding\space 0 R
8609 >>
8610 }
8611 \edef\OBJ@Helv{\the\pdflastobj}
8612 \pdfobj {
8613   <<
8614     /Fields []
8615     /DR <<
8616       /Font << /ZaDb \OBJ@ZaDb\space 0 R /Helv \OBJ@Helv\space 0 R >>
8617     >>
8618     /DA (/Helv 10 Tf 0 g )
8619     /NeedAppearances true
8620 >>
8621 }
8622 \edef\OBJ@acroform{\the\pdflastobj}
8623 </pdftex>

```

46.6 dvipdfm

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

```

8624 <*dvipdfm>

\@Gauge
8625 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8626 \typeout{Sorry, dvipdfm does not support FORM gauges}%
8627 }

\@Form
8628 \def\@Form[#1]{%
8629 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
8630 \setkeys{Form}{#1}%
8631 \@pdfm@mark{obj @afields [ ]}%
8632 \@pdfm@mark{obj @corder [ ]}%
8633 \@pdfm@mark{%
8634 obj @aform <<
8635 /Fields @afields
8636 /DR << /Font << /ZaDb @OBJZaDb /Helv @OBJHelv >> >>
8637 /DA (/Helv 10 Tf 0 g )
8638 /CO @corder
8639 /NeedAppearances true
8640 >>%
8641 }%
8642 \@pdfm@mark{put @catalog << /AcroForm @aform >>}%
8643 }

\@endForm
8644 \def\@endForm{}

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
8645 \def\dvipdfm@setdim{%
8646 height \the\ht\pdfm@box\space
8647 width \the\wd\pdfm@box\space
8648 depth \the\dp\pdfm@box\space
8649 }

\@TextField
8650 \def\@TextField[#1]#2{% parameters, label
8651 \def\Fld@name{#2}%
8652 \def\Fld@default{}%
8653 \let\Fld@value\@empty
8654 \def\Fld@width{\DefaultWidthofText}%
8655 \def\Fld@height{\DefaultHeightofText}%
8656 \ifFld@multiline
8657 \begingroup
8658 \dimen@=\DefaultHeightofText
8659 \dimen@=4\dimen@
8660 \edef\x{\endgroup
8661 \def\noexpand\Fld@height{\the\dimen@}%
8662 }%
8663 \x
8664 \fi
8665 \bgroup
8666 \Field@toks={ }%
8667 \setkeys{Field}{#1}%
8668 \ifFld@hidden\def\Fld@width{1sp}\fi
8669 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi

```

```

8670 \setbox\pdfm@box=\hbox{%
8671 \MakeTextField{\Fld@width}{\Fld@height}%
8672 }%
8673 \LayoutTextField{#2}{%
8674 \Hy@escapeform\PDFForm@Text
8675 \@pdfm@mark{%
8676 ann @\Fld@name\space \dvipdfm@setdim << \PDFForm@Text >>%
8677 }%
8678 }%
8679 \unhbox\pdfm@box
8680 \@pdfm@mark{put @afields @\Fld@name}% record in @afields array
8681 \egroup
8682 }

```

\@ChoiceMenu

```

8683 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8684 \def\Fld@name{#2}%
8685 \let\Fld@default\relax
8686 \let\Fld@value\relax
8687 \def\Fld@width{\DefaultWidthofChoiceMenu}%
8688 \def\Fld@height{\DefaultHeightofChoiceMenu}%
8689 \bgroup
8690 \Fld@menulength=0
8691 \@tempdima\z@
8692 \@for\@curropt:=#3\do{%
8693 \expandafter\Fld@checkequals\@curropt==\%
8694 \Hy@StepCount\Fld@menulength
8695 \settowidth{\@tempdimb}{\@currDisplay}%
8696 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
8697 }%
8698 \advance\@tempdima by 15\p@
8699 \Field@toks={ }%
8700 \setkeys{Field}{#1}%
8701 \ifFld@hidden\def\Fld@width{1sp}\fi
8702 \LayoutChoiceField{#2}{%
8703 \ifFld@radio
8704 \@@Radio{#3}%
8705 \else
8706 {%
8707 \ifdim\Fld@width<\@tempdima
8708 \ifdim\@tempdima<1cm\@tempdima1cm\fi
8709 \edef\Fld@width{\the\@tempdima}%
8710 \fi
8711 \def\Fld@flags{}%
8712 \ifFld@combo\def\Fld@flags{/Ff 917504}\fi
8713 \ifFld@popdown\def\Fld@flags{/Ff 131072}\fi
8714 \ifx\Fld@flags\@empty
8715 \@tempdima=\the\Fld@menulength\Fld@charsize
8716 \advance\@tempdima by \Fld@borderwidth bp
8717 \advance\@tempdima by \Fld@borderwidth bp
8718 \edef\Fld@height{\the\@tempdima}%
8719 \fi
8720 \@@ListBox{#3}%
8721 }%
8722 \fi
8723 }%
8724 \egroup

```

```

8725 }

@@Radio
8726 \def\@@Radio#1{%
8727   \Fld@listcount=0
8728   \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
8729   \@for\@curropt:=#1\do{%
8730     \expandafter\Fld@checkequals\@curropt==\%
8731     \Hy@StepCount\Fld@listcount
8732     \@currDisplay\space
8733     \leavevmode
8734     \Hy@escapeform\PDFForm@Radio
8735     \@pdfm@mark{%
8736       ann \ifnum\Fld@listcount=1 @\Fld@name\space\fi
8737       \dvipdfm@setdim
8738       <<
8739       \PDFForm@Radio\space
8740       /AP << /N << /\@currValue /null >> >>
8741       >>%
8742     }%
8743     \unhcopy\pdfm@box\space% deliberate space between radio buttons
8744     \ifnum\Fld@listcount=1\@pdfm@mark{put @afields @\Fld@name}\fi
8745   }%
8746 }

\Fld@listcount
8747 \newcount\Fld@listcount

@@Listbox
8748 \def\@@Listbox#1{%
8749   \Choice@toks={ }%
8750   \Fld@listcount=0
8751   \@for\@curropt:=#1\do{%
8752     \expandafter\Fld@checkequals\@curropt==\%
8753     \Hy@StepCount\Fld@listcount
8754     \edef\@processme{%
8755       \Choice@toks{the\Choice@toks [(\@currValue) (\@currDisplay)]}%
8756     }\@processme
8757   }%
8758   \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
8759   \leavevmode
8760   \Hy@escapeform\PDFForm@List
8761   \@pdfm@mark{%
8762     ann @\Fld@name\space\dvipdfm@setdim
8763     << \PDFForm@List >>%
8764   }%
8765   \unhbox\pdfm@box
8766   \@pdfm@mark{put @afields @\Fld@name}%
8767 }

@PushButton
8768 \def\@PushButton[#1]#2{% parameters, label
8769   \def\Fld@name{#2}%
8770   \bgroup
8771   \Field@toks={ }%
8772   \setkeys{Field}{#1}%
8773   \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

8774 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
8775 \LayoutPushButtonField{%
8776 \leavevmode
8777 \Hy@escapeform\PDFForm@Push
8778 \@pdfm@mark{%
8779 ann @\Fld@name\space\dvipdfm@setdim
8780 << \PDFForm@Push >>%
8781 }%
8782 }%
8783 \unhbox\pdfm@box
8784 \@pdfm@mark{put @afields @\Fld@name}%
8785 \egroup
8786 }

```

\@Submit

```

8787 \def\@Submit[#1]#2{%
8788 \Field@toks={ }%
8789 \def\Fld@width{\DefaultWidthofSubmit}%
8790 \def\Fld@height{\DefaultHeightofSubmit}%
8791 \bgroup
8792 \def\Fld@name{Submit}%
8793 \setkeys{Field}{#1}%
8794 \ifFld@hidden\def\Fld@width{1sp}\fi
8795 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
8796 \leavevmode
8797 \Hy@escapeform\PDFForm@Submit
8798 \@pdfm@mark{%
8799 ann @\Fld@name\space\dvipdfm@setdim
8800 << \PDFForm@Submit >>%
8801 }%
8802 \unhbox\pdfm@box%
8803 \@pdfm@mark{put @afields @\Fld@name}%
8804 \egroup
8805 }

```

\@Reset

```

8806 \def\@Reset[#1]#2{%
8807 \Field@toks={ }%
8808 \def\Fld@width{\DefaultWidthofReset}%
8809 \def\Fld@height{\DefaultHeightofReset}%
8810 \bgroup
8811 \def\Fld@name{Reset}%
8812 \setkeys{Field}{#1}%
8813 \ifFld@hidden\def\Fld@width{1sp}\fi
8814 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
8815 \leavevmode
8816 \Hy@escapeform\PDFForm@Reset
8817 \@pdfm@mark{%
8818 ann @\Fld@name\space\dvipdfm@setdim
8819 << \PDFForm@Reset >>%
8820 }%
8821 \unhbox\pdfm@box
8822 \@pdfm@mark{put @afields @\Fld@name}%
8823 \egroup
8824 }

```

\@CheckBox

```

8825 \def\@CheckBox[#1]#2{% parameters, label
8826   \def\Fld@name{#2}%
8827   \def\Fld@default{0}%
8828   \bgroup
8829     \def\Fld@width{\DefaultWidthofCheckBox}%
8830     \def\Fld@height{\DefaultHeightofCheckBox}%
8831     \Field@toks={ }%
8832     \setkeys{Field}{#1}%
8833     \ifFld@hidden\def\Fld@width{1sp}\fi
8834     \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
8835     \LayoutCheckField{#2}{%
8836       \Hy@escapeform\PDFForm@Check
8837       \@pdfm@mark{%
8838         ann @\Fld@name\space\dvipdfm@setdim
8839         << \PDFForm@Check >>%
8840       }%
8841       \unhbox\pdfm@box
8842       \@pdfm@mark{put @afields @\Fld@name}%
8843     }%
8844   \egroup
8845 }

8846 \@pdfm@mark{obj @OBJpdfdocencoding << /Type /Encoding /Differences [%
8847   24 /breve /caron /circumflex /dotaccent /hungarumlaut /ogonek /ring
8848   /tilde
8849   39 /quotesingle
8850   96 /grave
8851   128 /bullet /dagger /daggerdbl /ellipsis /emdash /endash /florin
8852   /fraction /guilsinglleft /guilsinglright /minus /perthousand
8853   /quotedblbase /quotedblleft /quotedblright /quoteleft /quoteright
8854   /quotesinglbase /trademark /fi /fl /Lslash /OE /Scaron /Ydieresis
8855   /Zcaron /dotlessi /lslash /oe /scaron /zcaron
8856   164 /currency
8857   166 /brokenbar
8858   168 /dieresis /copyright /ordfeminine
8859   172 /logicalnot /.notdef /registered /macron /degree /plusminus
8860   /twosuperior /threesuperior /acute /mu
8861   183 /periodcentered /cedilla /onesuperior /ordmasculine
8862   188 /onequarter /onehalf /threequarters
8863   192 /Agrave /Aacute /Acircumflex /Atilde /Adieresis /Aring /AE
8864   /Ccedilla /Egrave /Eacute /Ecircumflex /Edieresis /Igrave /Iacute
8865   /Icircumflex /Idieresis /Eth /Ntilde /Ograve /Oacute /Ocircumflex
8866   /Otilde /Odieresis /multiply /Oslash /Ugrave /Uacute /Ucircumflex
8867   /Udieresis /Yacute /Thorn /germandbls /agrave /aacute /acircumflex
8868   /atilde /adieresis /aring /ae /ccedilla /egrave /eacute
8869   /ecircumflex /edieresis /igrave /iacute /icircumflex /idieresis
8870   /eth /ntilde /ograde /oacute /ocircumflex /otilde /odieresis
8871   /divide /oslash /ugrave /uacute /ucircumflex /udieresis /yacute
8872   /thorn /ydieresis%
8873 ] >>
8874 }

8875 \@pdfm@mark{obj @OBJZaDb
8876   <<
8877     /Type /Font
8878     /Subtype /Type1
8879     /Name /ZaDb
8880     /BaseFont /ZapfDingbats
8881   >>

```

```

8882 }
8883 \@pdfmark{obj @OBJHelv
8884   <<
8885     /Type /Font
8886     /Subtype /Type1
8887     /Name /Helv
8888     /BaseFont /Helvetica
8889     /Encoding @OBJpdfdocencoding
8890   >>
8891 }
8892 </dvipdfm>

```

46.7 Common forms part

```

8893 < *pdfform >

```

\Hy@escapestring

```

8894 \begingroup\expandafter\expandafter\expandafter\endgroup
8895 \expandafter\ifx\csname pdfescapestring\endcsname\relax
8896   \let\Hy@escapestring\@firstofone
8897   \def\Hy@escapeform#1{%
8898     \ifHy@escapeform
8899       \def\Hy@escapestring##1{%
8900         \noexpand\Hy@escapestring{\noexpand##1}%
8901       }%
8902       \edef\Hy@temp{#1}%
8903       \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
8904       \def\Hy@escapestring##1{%
8905         \@ifundefined{Hy@esc@\string##1}{%
8906           ##1%
8907           \ThisShouldNotHappen
8908         }{%
8909           \csname Hy@esc@\string##1\endcsname
8910         }%
8911       }%
8912     \else
8913       \let\Hy@escapestring\@firstofone
8914     \fi
8915   }%
8916   \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
8917     \ifx\#3\%
8918     \else
8919       \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
8920       \Hy@ReturnAfterFi{%
8921         \Hy@@escapeform#3\@nil
8922       }%
8923     \fi
8924   }%
8925 \else
8926   \def\Hy@escapeform#1{%
8927     \ifHy@escapeform
8928       \let\Hy@escapestring\pdfescapestring
8929     \else
8930       \let\Hy@escapestring\@firstofone
8931     \fi
8932   }%
8933   \Hy@escapeform{}%

```


8934 \fi

\PDFForm@Check

```
8935 \def\PDFForm@Check{%
8936   /Subtype /Widget
8937   \ifFld@hidden /F 6 \else /F 4 \fi
8938   /T (\Hy@escapestring{\Fld@name})
8939   /Q \Fld@align\space
8940   /BS << /W \Fld@borderwidth\space /S /\Fld@borderstyle\space >>
8941   /MK <<
8942     /BC [\Fld@bordercolor]
8943     \ifx\Fld@bcolor\empty
8944       \else
8945         /BG [\Fld@bcolor]
8946       \fi
8947     /CA (\Hy@escapestring{\Fld@cbsymbol})
8948   >>
8949   /DA (/ZaDb \strip@pt\Fld@charsize\space Tf \Fld@color\space rg)
8950   /FT /Btn
8951   /H /P
8952   \ifFld@checked /V /Yes \else /V /Off \fi
8953 }
```

\PDFForm@Push

```
8954 \def\PDFForm@Push{%
8955   /Subtype/Widget
8956   \ifFld@hidden /F 6\else /F 4\fi
8957   /T(\Hy@escapestring{\Fld@name})%
8958   /FT/Btn%
8959   /Ff 65540
8960   /H/P%
8961   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
8962   /MK<<%
8963     /BC[\Fld@bordercolor]%
8964   >>%
8965   /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick})>>%
8966 }
```

\Fld@additionalactions

```
8967 \def\Fld@additionalactions{%
8968   /AA <<
K input (keystroke) format
8969     \ifx\Fld@keystroke@code\empty
8970     \else
8971       /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
8972     \fi
F display format
8973     \ifx\Fld@format@code\empty
8974     \else
8975       /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
8976     \fi
V validation
8977     \ifx\Fld@validate@code\empty
8978     \else
8979       /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
8980     \fi
```

C calculation

```
8981 \ifx\Fld@calculate@code\@empty
8982 \else
8983 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
8984 \fi
```

Fo receiving the input focus

```
8985 \ifx\Fld@onfocus@code\@empty
8986 \else
8987 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
8988 \fi
```

Bl loosing the input focus (blurred)

```
8989 \ifx\Fld@onblur@code\@empty
8990 \else
8991 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
8992 \fi
```

D pressing the mouse button (down)

```
8993 \ifx\Fld@onmousedown@code\@empty
8994 \else
8995 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
8996 \fi
```

U releasing the mouse button (up)

```
8997 \ifx\Fld@onmouseup@code\@empty
8998 \else
8999 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
9000 \fi
```

E cursor enters the annotation's active area.

```
9001 \ifx\Fld@onenter@code\@empty
9002 \else
9003 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
9004 \fi
```

X cursor exits the annotation's active area.

```
9005 \ifx\Fld@onexit@code\@empty
9006 \else
9007 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
9008 \fi
9009 >>%
9010 }
```

\PDFForm@List

```
9011 \def\PDFForm@List{%
9012 /Subtype/Widget%
9013 \ifFld@hidden /F 6\else /F 4\fi
9014 /T(\Hy@escapestring{\Fld@name})%
9015 /FT/Ch%
9016 /Q \Fld@align
9017 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
9018 /MK<<%
9019 /BC[\Fld@bordercolor]%
9020 \ifx\Fld@bcolor\@empty
9021 \else
9022 /BG[\Fld@bcolor]%
9023 \fi
9024 >>%
```

```

9025 /DA(/Helv \strip@pt\Fld@charsize\space Tf \Fld@color\space rg)%
9026 /Opt[\the\Choice@toks]%
9027 \ifx\Fld@default\relax
9028 \else
9029 /DV(\Hy@escapestring{\Fld@default})%
9030 \fi
9031 \ifx\Fld@value\relax
9032 \else
9033 /V(\Hy@escapestring{\Fld@value})%
9034 \fi
9035 \Fld@additionalactions
9036 \Fld@flags
9037 }

```

\PDFForm@Radio

```

9038 \def\PDFForm@Radio{%
9039 /Subtype/Widget%
9040 \ifFld@hidden /F 6\else /F 4\fi
9041 /T(\Hy@escapestring{\Fld@name})%
9042 /FT/Btn%
9043 /Ff 49152%
9044 /H/P
9045 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
9046 /MK<<%
9047 /BC[\Fld@bordercolor]%
9048 \ifx\Fld@bcolor\empty
9049 \else
9050 /BG[\Fld@bcolor]%
9051 \fi
9052 /CA(H)%
9053 >>%
9054 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf \Fld@color\space rg)%
9055 \ifx\@currValue\Fld@default
9056 /V/\Fld@default
9057 \else
9058 /V/Off%
9059 \fi
9060 \Fld@additionalactions
9061 }

```

\PDFForm@Text

```

9062 \def\PDFForm@Text{%
9063 /Subtype/Widget%
9064 \ifFld@hidden /F 6\else /F 4\fi
9065 /T(\Hy@escapestring{\Fld@name})
9066 /Q \Fld@align
9067 /FT/Tx%
9068 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
9069 /MK<<%
9070 /BC[\Fld@bordercolor]%
9071 \ifx\Fld@bcolor\empty
9072 \else
9073 /BG[\Fld@bcolor]%
9074 \fi
9075 >>%
9076 /DA(/Helv \strip@pt\Fld@charsize\space Tf \Fld@color\space rg)%
9077 /DV(\Hy@escapestring{\Fld@default})%

```

```

9078 /V(\Hy@escapestring{\Fld@value})%
9079 \Fld@additionalactions
9080 \ifFld@multiline
9081   \ifFld@readonly /Ff 4097\else /Ff 4096\fi
9082 \else
9083   \ifFld@password
9084     \ifFld@readonly /Ff 8193\else /Ff 8192\fi
9085   \else
9086     \ifFld@readonly /Ff 1\fi
9087   \fi
9088 \fi
9089 \ifnum\Fld@maxlen>0/MaxLen \Fld@maxlen \fi
9090 }

```

\PDFForm@Submit

```

9091 \def\PDFForm@Submit{%
9092 /Subtype/Widget%
9093 \ifFld@hidden /F 6\else /F 4\fi
9094 /T(\Hy@escapestring{\Fld@name})%
9095 /FT/Btn%
9096 /Ff 65540%
9097 /H/P%
9098 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
9099 /MK<<%
9100   /BC[\Fld@bordercolor]%
9101 >>%
9102 /A<<%
9103   /S/SubmitForm%
9104   /F<<%
9105     /FS/URL%
9106     /F(\Hy@escapestring{\Form@action})%
9107   >>%
9108   \ifForm@html /Flags 4\fi
9109 >>%
9110 }

```

\PDFForm@Reset

```

9111 \def\PDFForm@Reset{%
9112 /Subtype/Widget%
9113 \ifFld@hidden /F 6\else /F 4\fi
9114 /T(\Hy@escapestring{\Fld@name})%
9115 /FT/Btn%
9116 /H/P%
9117 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
9118 /Ff 65540%
9119 /MK<<%
9120   /BC[\Fld@bordercolor]%
9121 %   /CA (Clear)
9122 %   /AC (Done)
9123 >>%
9124 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
9125 /A<</S/ResetForm>>%
9126 }

9127 </pdfform>
9128 <*package>

```

47 Bookmarks in the PDF file

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

```
9129 \def\phantomsection{%
9130   \Hy@GlobalStepCount\Hy@linkcounter
9131   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
9132   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
9133 }
9134 \</package>
```

47.1 Bookmarks

```
9135 \< *outlines>
```

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

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

```
9136 \def\Hy@writebookmark#1#2#3#4#5{% section number, text, label, level, file
9137   \ifx\WriteBookmarks\relax%
9138   \else
9139     \ifnum#4>\Hy@bookmarksdepth\relax
9140     \else
9141       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
9142     \fi
9143   \fi}
9144 \def\Hy@currentbookmarklevel{0}
9145 \def\Hy@numberline#1{#1 }
9146 \def\@@writetorep#1#2#3#4#5{%
9147   \begingroup
9148     \edef\Hy@tempa{#5}%
9149     \ifx\Hy@tempa\Hy@bookmarkstype
9150       \edef\Hy@level{#4}%
9151       \ifx\Hy@levelcheck Y%
9152         \@tempcnta\Hy@level\relax
9153         \advance\@tempcnta by -1
9154         \ifnum\Hy@currentbookmarklevel<\@tempcnta
9155           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
9156           \advance\@tempcnta by 1
9157           \Hy@Warning{%
9158             Difference (\the\@tempcnta) between bookmark levels is %
9159             greater \MessageBreak than one, level fixed%
9160           }%
9161           \@tempcnta\Hy@currentbookmarklevel
9162           \advance\@tempcnta by 1
9163           \edef\Hy@level{\the\@tempcnta}%
9164         \fi
9165       \else
```

```

9166      \global\let\Hy@levelcheck Y%
9167      \fi
9168      \global\let\Hy@currentbookmarklevel\Hy@level
9169      \@tempcnta\Hy@level\relax
9170      \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
9171      \advance\@tempcnta by -1
9172      \edef\Hy@tempa{#3}%
9173      \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
9174      \ifx\Hy@tempa\Hy@tempb
9175        \Hy@Warning{%
9176          The anchor of a bookmark and its parent's must not%
9177          \MessageBreak be the same. Added a new anchor%
9178        }%
9179        \phantomsection
9180      \fi
9181      \ifHy@bookmarksnumbered
9182        \let\numberline\Hy@numberline
9183        \let\partnumberline\Hy@numberline
9184        \let\chapternumberline\Hy@numberline
9185      \else
9186        \let\numberline\@gobble
9187        \let\partnumberline\@gobble
9188        \let\chapternumberline\@gobble
9189      \fi
9190      \pdfstringdef\Hy@tempa{#2}%
9191      \if@filesw
9192        \protected@write\@outlinefile{}{%
9193          \protect\BOOKMARK
9194            [\Hy@level] [\@bookmarkopenstatus{\Hy@level}] {#3}%
9195            {\Hy@tempa}{\Hy@tempb}%
9196        }%
9197      \fi
9198    \fi
9199  \endgroup
9200 }

```

In the call of `\BOOKMARK` the braces around #4 are omitted, because it is not likely, that the level number contains] .

```

9201 \newcommand{\currentpdfbookmark}{%
9202   \pdfbookmark[\Hy@currentbookmarklevel]%
9203 }
9204 \newcommand{\subpdfbookmark}{%
9205   \@tempcnta\Hy@currentbookmarklevel
9206   \Hy@StepCount\@tempcnta
9207   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
9208 }
9209 \newcommand{\belowpdfbookmark}[2]{%
9210   \@tempcnta\Hy@currentbookmarklevel
9211   \Hy@StepCount\@tempcnta
9212   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
9213   \advance\@tempcnta by -1
9214   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
9215 }

```

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.

```

9216 \renewcommand\pdfbookmark[3][0]{%

```

```

9217 \Hy@writebookmark{#{#2}{#3.#1}{#1}{toc}%
9218 \hyper@anchorstart{#3.#1}\hyper@anchorend
9219 }
9220 \def\BOOKMARK{\ifnextchar[{\@BOOKMARK}{\@BOOKMARK[1][-]}}
9221 \def\@BOOKMARK[#1]{\ifnextchar[{\@BOOKMARK[#1]}{\@BOOKMARK[#1][-]}}

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the texinfo pdf macros.

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.

```

9222 <*vtex>
9223 \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.

```

9224 \begingroup
9225 \catcode'\'=12
9226 \ifnum\Hy@VTeXversion<650 %
9227 \catcode\'=12
9228 \gdef\hv@pdf@char#1#2#3{%
9229 \char
9230 \ifcase'#1#2#3
9231 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
9232 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
9233 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
9234 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
9235 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
9236 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
9237 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
9238 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
9239 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
9240 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
9241 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
9242 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
9243 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
9244 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
9245 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
9246 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
9247 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
9248 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
9249 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
9250 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
9251 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
9252 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
9253 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
9254 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
9255 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
9256 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
9257 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
9258 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
9259 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
9260 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
9261 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
9262 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
9263 \fi

```

```

9264 }
9265 \else
9266 \gdef\hv@pdf@char{\char'}
9267 \fi
9268 \endgroup

```

\@@BOOKMARK

```

9269 \def\@@BOOKMARK[#1][#2]#3#4#5{%
9270 \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
9271 \edef\@mycount{\the\@serial@counter}%
9272 \Hy@StepCount\@serial@counter
9273 \edef\@parcount{%
9274 \expandafter\ifx\csname @count@#5\endcsname\relax
9275 0%
9276 \else
9277 \csname @count@#5\endcsname
9278 \fi
9279 }%
9280 \immediate\special{!outline #3;p=\@parcount,i=\@mycount,s=\ifx#2-c\else
9281 o\fi,t=#4}%
9282 }%

```

\ReadBookmarks

```

9283 \def\ReadBookmarks{%
9284 \begingroup
9285 \def\0{\hv@pdf@char 0}%
9286 \def\1{\hv@pdf@char 1}%
9287 \def\2{\hv@pdf@char 2}%
9288 \def\3{\hv@pdf@char 3}%
9289 \def\({}%
9290 \def\)}%
9291 \def\do##1{%
9292 \ifnum\the\catcode'##1=\active
9293 \makeoother##1%
9294 \fi
9295 }%
9296 \dospecials
9297 \InputIfFileExists{\jobname.out}{\fi}%
9298 \endgroup
9299 \ifx\WriteBookmarks\relax
9300 \else
9301 \if@files
9302 \newwrite\@outlinefile
9303 \immediate\openout\@outlinefile=\jobname.out
9304 \ifHy@typexml
9305 \immediate\write\@outlinefile{<relaxxml>\relax}%
9306 \fi
9307 \fi
9308 \fi
9309 }

9310 </vtx>
9311 <!*vtx>
9312 \def\ReadBookmarks{%
9313 \begingroup
9314 \escapechar='\\%
9315 \let\escapechar\@gobble %

```



```

9316 \def\@@BOOKMARK [##1][##2]##3##4##5{\calc@bm@number{##5}}%
9317 \InputIfFileExists{\jobname.out}{-}{-}%
9318 \ifx\WriteBookmarks\relax
9319 \global\let\WriteBookmarks\relax
9320 \fi
9321 \def\@@BOOKMARK [##1][##2]##3##4##5{%
9322 \def\Hy@temp{##4}%
9323 <*pdftex>
9324 \Hy@pstringdef\Hy@pstringName{##3}%
9325 \Hy@OutlineName{}\Hy@pstringName{%
9326 ##2\check@bm@number{##3}%
9327 }{%
9328 \expandafter\strip@prefix\meaning\Hy@temp
9329 }%
9330 </pdftex>
9331 <*pdfmark>
9332 \Hy@pstringdef\Hy@pstringName{##3}%
9333 \pdfmark{%
9334 pdfmark=/OUT,%
9335 Count={##2\check@bm@number{##3}},%
9336 Dest={\Hy@pstringName},%
9337 Title=\expandafter\strip@prefix\meaning\Hy@temp
9338 }%
9339 </pdfmark>
9340 <*dvi pdfm>
9341 \Hy@pstringdef\Hy@pstringName{##3}%
9342 \@pdfm@mark{%
9343 outline ##1 <<
9344 /Title (\expandafter\strip@prefix\meaning\Hy@temp)
9345 /A <<
9346 /S /GoTo
9347 /D (\Hy@pstringName)
9348 >>
9349 >>
9350 }%
9351 </dvi pdfm>
9352 }%
9353 {%
9354 \def\WriteBookmarks{0}%
9355 \InputIfFileExists{\jobname.out}{-}{-}%
9356 }%
9357 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
9358 \ifx\WriteBookmarks\relax
9359 \else
9360 \if@files
9361 \newwrite\@outlinefile
9362 \immediate\openout\@outlinefile=\jobname.out
9363 \ifHy@typexml
9364 \immediate\write\@outlinefile{<relaxxml>\relax}%
9365 \fi
9366 \fi
9367 \fi
9368 \endgroup
9369 }
9370 <*pdftex>
9371 \def\Hy@OutlineName#1#2#3#4{%
9372 \pdfoutline goto name{#2}count#3{#4}%

```

```

9373 }
9374 </pdfTeX>
9375 \def\check@bm@number#1{%
9376   \expandafter\ifx\csname B_#1\endcsname\relax
9377     0%
9378   \else
9379     \csname B_#1\endcsname
9380   \fi
9381 }
9382 \def\calc@bm@number#1{%
9383   \@tempcnta=\check@bm@number{#1}\relax
9384   \advance\@tempcnta by1
9385   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
9386 }
9387 </!vTeX>

```

This code is added, so that option ‘pdfpagenumbers’ works with option ‘implicit’ (suggestion of Sebastian Rahtz).

```

9388 \ifHy@implicit
9389 \else
9390   \def\@begindvi{%
9391     \unvbox\@begindvibox
9392     \HyPL@EveryPage
9393     \global\let\@begindvi\HyPL@EveryPage
9394   }%
9395   \expandafter\endinput
9396 \fi

9397 </outlines>
9398 <*outlines | hypertex>

9399 \let\H@old@ssect\@ssect
9400 \def\@ssect#1#2#3#4#5{%
9401   \H@old@ssect{#1}{#2}{#3}{#4}{#5}%
9402   \phantomsection
9403 }
9404 \let\H@old@schapter\@schapter
9405 \def\@schapter#1{%
9406   \H@old@schapter{#1}%
9407   \begingroup
9408     \let\@mkboth\@gobbletwo
9409     \Hy@GlobalStepCount\Hy@linkcounter
9410     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
9411     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
9412   \endgroup
9413 }

```

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:

```

9414 \@ifundefined{@chapter}{-}{%
9415   \let\Hy@org@chapter\@chapter
9416   \def\@chapter{%
9417     \def\Hy@next{%
9418       \Hy@GlobalStepCount\Hy@linkcounter
9419       \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
9420       \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
9421     }%
9422     \ifnum\c@secnumdepth>\m@ne

```

```

9423 \@ifundefined{if@mainmatter}%
9424 \iftrue{\csname if@mainmatter\endcsname}%
9425 \let\Hy@next\relax
9426 \fi
9427 \fi
9428 \Hy@next
9429 \Hy@org@chapter
9430 }%
9431 }

9432 \let\H@old@part\@part
9433 \begingroup\expandafter\expandafter\expandafter\endgroup
9434 \expandafter\ifx\csname chapter\endcsname\relax
9435 \let\Hy@secnum@part\z@
9436 \else
9437 \let\Hy@secnum@part\m@ne
9438 \fi
9439 \def\@part{%
9440 \ifnum\Hy@secnum@part>\c@secnumdepth
9441 \phantomsection
9442 \fi
9443 \H@old@part
9444 }

9445 \let\H@old@spart\@spart
9446 \def\@spart#1{%
9447 \H@old@spart{#1}%
9448 \Hy@GlobalStepCount\Hy@linkcounter
9449 \xdef\@currentHref{part*.\the\Hy@linkcounter}%
9450 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
9451 }

9452 \let\H@old@sect\@sect
9453 \def\@sect#1#2#3#4#5#6[#7]#8{%
9454 \ifnum #2>\c@secnumdepth
9455 \Hy@GlobalStepCount\Hy@linkcounter
9456 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
9457 \fi
9458 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%
9459 \ifnum #2>\c@secnumdepth
9460 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
9461 \fi
9462 }

9463 \</outlines | hypertex>
9464 \< *outlines>

9465 \expandafter\def\csname Parent-4\endcsname{}
9466 \expandafter\def\csname Parent-3\endcsname{}
9467 \expandafter\def\csname Parent-2\endcsname{}
9468 \expandafter\def\csname Parent-1\endcsname{}
9469 \expandafter\def\csname Parent0\endcsname{}
9470 \expandafter\def\csname Parent1\endcsname{}
9471 \expandafter\def\csname Parent2\endcsname{}
9472 \expandafter\def\csname Parent3\endcsname{}
9473 \expandafter\def\csname Parent4\endcsname{}
9474 \</outlines>

```

48 Compatibility with koma-script classes

9475 <*outlines | hypertex>

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias.Isenberg@gmx.de. With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for komascript versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```
9476 \def\Hy@tempa{%
9477   \def\@addchap[##1]##2{%
9478     \typeout{##2}%
9479     \if@twoside
9480       \mkboth{##1}{}%
9481     \else
9482       \mkboth{}{##1}%
9483     \fi
9484     \addtocontents{lof}{\protect\addvspace{10\p@}}%
9485     \addtocontents{lot}{\protect\addvspace{10\p@}}%
9486     \Hy@GlobalStepCount\Hy@linkcounter
9487     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
9488     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
9489     \if@twocolumn
9490       \topnewpage[\@makeschapterhead{##2}]%
9491     \else
9492       \@makeschapterhead{##2}%
9493       \afterheading
9494     \fi
9495     \addcontentsline{toc}{chapter}{##1}%
9496   }%
9497 }
9498 \@ifclassloaded{scrbook}{%
9499   \@ifclasslater{scrbook}{2001/01/01}{%
9500     \let\Hy@tempa\@empty
9501   }{}%
9502 }{%
9503   \@ifclassloaded{scrreprt}{%
9504     \@ifclasslater{scrreprt}{2001/01/01}{%
9505       \let\Hy@tempa\@empty
9506     }{}%
9507   }{%
9508     \let\Hy@tempa\@empty
9509   }%
9510 }%
9511 \Hy@tempa
9512 </outlines | hypertex>
```

49 Encoding definition files for encodings of PDF strings

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

49.1 PD1 encoding

```
9513 <*pd1enc>
9514 \DeclareFontEncoding{PD1}{}{}
```

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

```
9515 \DeclareTextCommand{\textLF}{PD1}{\012} % line feed
9516 \DeclareTextCommand{\textCR}{PD1}{\015} % carriage return
9517 \DeclareTextCommand{\textHT}{PD1}{\011} % horizontal tab
9518 \DeclareTextCommand{\textBS}{PD1}{\010} % backspace
9519 \DeclareTextCommand{\textFF}{PD1}{\014} % formfeed
```

Accents

```

9520 \DeclareTextAccent{'}{PD1}{\textgrave}
9521 \DeclareTextAccent{'\'}{PD1}{\textacute}
9522 \DeclareTextAccent{\^}{PD1}{\textcircumflex}
9523 \DeclareTextAccent{\~}{PD1}{\texttilde}
9524 \DeclareTextAccent{\"}{PD1}{\textdieresis}
9525 \DeclareTextAccent{\r}{PD1}{\textring}
9526 \DeclareTextAccent{\v}{PD1}{\textcaron}
9527 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
9528 \DeclareTextAccent{\c}{PD1}{\textcedilla}
9529 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textgrave}
9530 \DeclareTextCompositeCommand{'\'}{PD1}{\@empty}{\textacute}
9531 \DeclareTextCompositeCommand{\^}{PD1}{\@empty}{\textcircumflex}
9532 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
9533 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textdieresis}
9534 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
9535 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textcaron}
9536 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
9537 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
9538 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}

```

Accent glyph names

```

9539 \DeclareTextCommand{\textbreve}{PD1}{\030} % breve
9540 \DeclareTextCommand{\textcaron}{PD1}{\031} % caron
9541 \DeclareTextCommand{\textcircumflex}{PD1}{\032} % circumflex
9542 \DeclareTextCommand{\textdotaccent}{PD1}{\033} % dotaccent
9543 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034} % hungarumlaut
9544 \DeclareTextCommand{\textogonek}{PD1}{\035} % ogonek
9545 \DeclareTextCommand{\textring}{PD1}{\036} % ring
9546 \DeclareTextCommand{\texttilde}{PD1}{\037} % tilde

```

\040: space

\041: exclam

```

9547 \DeclareTextCommand{\textquotedbl}{PD1}{\string"} % quotedbl \042
9548 \DeclareTextCommand{\textnumbersign}{PD1}{\043} % numbersign
9549 \DeclareTextCommand{\textdollar}{PD1}{\044} % dollar
9550 \DeclareTextCommand{\textpercent}{PD1}{\045} % percent
9551 \DeclareTextCommand{\textampersand}{PD1}{\046} % ampersand

```

\047: quotesingle

```

9552 \DeclareTextCommand{\textparenleft}{PD1}{\string\({} % parenleft \050
9553 \DeclareTextCommand{\textparenright}{PD1}{\string\)} % parenright \051

```

\052: asterisk

\053: plus

\054: comma

\055: hyphen

\056: period

\057: slash

\060... \071: 0...9

\072: colon

\073: semicolon

```

9554 \DeclareTextCommand{\textless}{PD1}{<} % less \074

```

\075: equal

```

9555 \DeclareTextCommand{\textgreater}{PD1}{>} % greater \076

```

\077: question

\100: at

\101... \132: A...Z

\133: bracketleft

```

9556 \DeclareTextCommand{\textbackslash}{PD1}{\134} % backslash
\135: bracketright
9557 \DeclareTextCommand{\textasciicircum}{PD1}{\136} % asciicircum
9558 \DeclareTextCommand{\textunderscore}{PD1}{\137} % underscore
9559 \DeclareTextCommand{\textgrave}{PD1}{\140} % grave
\141... \172: a...z
9560 \DeclareTextCompositeCommand{\.}{PD1}{i}{i} % i
9561 \DeclareTextCommand{\textbraceleft}{PD1}{\173} % braceleft
9562 \DeclareTextCommand{\textbar}{PD1}{|} % bar
9563 \DeclareTextCommand{\textbraceright}{PD1}{\175} % braceright
9564 \DeclareTextCommand{\textasciitilde}{PD1}{\176} % asciitilde
No glyph \177 in PDFDocEncoding.
9565 \DeclareTextCommand{\textbullet}{PD1}{\200} % bullet
9566 \DeclareTextCommand{\textdagger}{PD1}{\201} % dagger
9567 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202} % daggerdbl
9568 \DeclareTextCommand{\textellipsis}{PD1}{\203} % ellipsis
9569 \DeclareTextCommand{\textemdash}{PD1}{\204} % emdash
9570 \DeclareTextCommand{\textendash}{PD1}{\205} % endash
9571 \DeclareTextCommand{\textflorin}{PD1}{\206} % florin
9572 \DeclareTextCommand{\textfractionmark}{PD1}{/} % fraction, \207
9573 \DeclareTextCommand{\guilsinglleft}{PD1}{\210} % guilsinglleft
9574 \DeclareTextCommand{\guilsinglright}{PD1}{\211} % guilsinglright
9575 \DeclareTextCommand{\textminus}{PD1}{-} % minus, \212
9576 \DeclareTextCommand{\textperthousand}{PD1}{\213} % perthousand
9577 \DeclareTextCommand{\quotedblbase}{PD1}{\214} % quotedblbase
9578 \DeclareTextCommand{\textquotedblleft}{PD1}{\215} % quotedblleft
9579 \DeclareTextCommand{\textquotedblright}{PD1}{\216} % quotedblright
9580 \DeclareTextCommand{\textquoteleft}{PD1}{\217} % quoteleft
9581 \DeclareTextCommand{\textquoteright}{PD1}{\220} % quoteright
9582 \DeclareTextCommand{\quotesinglbase}{PD1}{\221} % quotesinglbase
9583 \DeclareTextCommand{\texttrademark}{PD1}{\222} % trademark
9584 \DeclareTextCommand{\textfi}{PD1}{fi} % fi ?? \223
9585 \DeclareTextCommand{\textfl}{PD1}{fl} % fl ?? \224
9586 \DeclareTextCommand{\L}{PD1}{L} % Lslash, \225
9587 \DeclareTextCommand{\OE}{PD1}{\226} % OE
9588 \DeclareTextCompositeCommand{\v}{PD1}{S}{S} % Scaron
9589 \DeclareTextCompositeCommand{\Y}{PD1}{Y}{Y} % Ydieresis
9590 \DeclareTextCommand{\IJ}{PD1}{\230}
9591 \DeclareTextCompositeCommand{\v}{PD1}{Z}{Z} % Zcaron, \231
9592 \DeclareTextCommand{\i}{PD1}{i} % dotlessi, \232
9593 \DeclareTextCommand{\l}{PD1}{l} % lslash, \233
9594 \DeclareTextCommand{\oe}{PD1}{\234} % oe
9595 \DeclareTextCompositeCommand{\v}{PD1}{s}{s} % scaron
9596 \DeclareTextCompositeCommand{\v}{PD1}{z}{z} % zcaron, \236

```

No glyph \237 in PDFDocEncoding.

The euro \240 is inserted in version 1.3 of the pdf specification.

```

9597 \DeclareTextCommand{\texteuro}{PD1}{\240} % Euro
9598 \DeclareTextCommand{\textexclamdown}{PD1}{\241} % exclamdown
9599 \DeclareTextCommand{\textcent}{PD1}{\242} % cent
9600 \DeclareTextCommand{\textsterling}{PD1}{\243} % sterling
9601 \DeclareTextCommand{\textcurrency}{PD1}{\244} % currency
9602 \DeclareTextCommand{\textyen}{PD1}{\245} % yen
9603 \DeclareTextCommand{\textbrokenbar}{PD1}{\246} % brokenbar
9604 \DeclareTextCommand{\textsection}{PD1}{\247} % section
9605 \DeclareTextCommand{\textdieresis}{PD1}{\250} % dieresis
9606 \DeclareTextCommand{\textcopyright}{PD1}{\251} % copyright

```

9607 \DeclareTextCommand{\textordfeminine}{PD1}{\252} % ordfeminine
 9608 \DeclareTextCommand{\guillemotleft}{PD1}{\253} % guillemotleft
 9609 \DeclareTextCommand{\textlogicalnot}{PD1}{\254} % logicalnot

No glyph \255 in PDFDocEncoding.

9610 \DeclareTextCommand{\textregistered}{PD1}{\256} % registered
 9611 \DeclareTextCommand{\textmacron}{PD1}{\257} % macron
 9612 \DeclareTextCommand{\textdegree}{PD1}{\260} % degree
 9613 \DeclareTextCommand{\textplusminus}{PD1}{\261} % plusminus
 9614 \DeclareTextCommand{\texttwosuperior}{PD1}{\262} % twosuperior
 9615 \DeclareTextCommand{\textthreesuperior}{PD1}{\263} % threesuperior
 9616 \DeclareTextCommand{\textacute}{PD1}{\264} % acute
 9617 \DeclareTextCommand{\textmu}{PD1}{\265} % mu
 9618 \DeclareTextCommand{\textparagraph}{PD1}{\266} % paragraph
 9619 \DeclareTextCommand{\textperiodcentered}{PD1}{\267} % periodcentered
 9620 \DeclareTextCommand{\textcedilla}{PD1}{\270} % cedilla
 9621 \DeclareTextCommand{\textonesuperior}{PD1}{\271} % onesuperior
 9622 \DeclareTextCommand{\textordmasculine}{PD1}{\272} % ordmasculine
 9623 \DeclareTextCommand{\guillemotright}{PD1}{\273} % guillemotright
 9624 \DeclareTextCommand{\textonequarter}{PD1}{\274} % onequarter
 9625 \DeclareTextCommand{\textonehalf}{PD1}{\275} % onehalf
 9626 \DeclareTextCommand{\textthreequarters}{PD1}{\276} % threequarters
 9627 \DeclareTextCommand{\textquestiondown}{PD1}{\277} % questiondown
 9628 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300} % Agrave
 9629 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301} % Aacute
 9630 \DeclareTextCompositeCommand{\~}{PD1}{A}{\302} % Acircumflex
 9631 \DeclareTextCompositeCommand{\`}{PD1}{A}{\303} % Atilde
 9632 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304} % Adieresis
 9633 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305} % Aring
 9634 \DeclareTextCommand{\AE}{PD1}{\306} % AE
 9635 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307} % Ccedilla
 9636 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310} % Egrave
 9637 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311} % Eacute
 9638 \DeclareTextCompositeCommand{\~}{PD1}{E}{\312} % Ecircumflex
 9639 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313} % Edieresis
 9640 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314} % Igrave
 9641 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315} % Iacute
 9642 \DeclareTextCompositeCommand{\~}{PD1}{I}{\316} % Icircumflex
 9643 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317} % Idieresis
 9644 \DeclareTextCommand{\DH}{PD1}{\320} % Eth
 9645 \DeclareTextCommand{\DJ}{PD1}{\320} % Eth
 9646 \DeclareTextCompositeCommand{\`}{PD1}{N}{\321} % Ntilde
 9647 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322} % Ograve
 9648 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323} % Oacute
 9649 \DeclareTextCompositeCommand{\~}{PD1}{O}{\324} % Ocircumflex
 9650 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325} % Otilde
 9651 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326} % Odieresis
 9652 \DeclareTextCommand{\textmultiply}{PD1}{\327} % multiply
 9653 \DeclareTextCommand{\O}{PD1}{\330} % Oslash
 9654 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331} % Ugrave
 9655 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332} % Uacute
 9656 \DeclareTextCompositeCommand{\~}{PD1}{U}{\333} % Ucircumflex
 9657 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334} % Udieresis
 9658 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335} % Yacute
 9659 \DeclareTextCommand{\TH}{PD1}{\336} % Thorn
 9660 \DeclareTextCommand{\ss}{PD1}{\337} % germandbls
 9661 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340} % agrave
 9662 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341} % aacute

```

9663 \DeclareTextCompositeCommand{\`}{PD1}{a}{\342} % acircumflex
9664 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343} % atilde
9665 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344} % adieresis
9666 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345} % aring
9667 \DeclareTextCommand{\ae}{PD1}{\346} % ae
9668 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347} % ccedilla
9669 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350} % egrave
9670 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351} % eacute
9671 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352} % ecircumflex
9672 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353} % edieresis
9673 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354} % igrave
9674 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354} % igrave
9675 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355} % iacute
9676 \DeclareTextCompositeCommand{\~}{PD1}{i}{\355} % iacute
9677 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356} % icircumflex
9678 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356} % icircumflex
9679 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357} % idieresis
9680 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357} % idieresis
9681 \DeclareTextCommand{\dh}{PD1}{\360} % eth
9682 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361} % ntilde
9683 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362} % ograve
9684 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363} % oacute
9685 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364} % ocircumflex
9686 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365} % otilde
9687 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366} % odieresis
9688 \DeclareTextCommand{\textdivide}{PD1}{\367} % divide
9689 \DeclareTextCommand{\o}{PD1}{\370} % oslash
9690 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371} % ugrave
9691 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372} % uacute
9692 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373} % ucircumflex
9693 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374} % udieresis
9694 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375} % yacute
9695 \DeclareTextCommand{\th}{PD1}{\376} % thorn
9696 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377} % ydieresis
9697 \DeclareTextCommand{\ij}{PD1}{\377}

```

Glyphs that consist of several characters.

```

9698 \DeclareTextCommand{\SS}{PD1}{SS}
9699 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

9700 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
9701 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
9702 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
9703 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
9704 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
9705 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
9706 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
9707 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

9708 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
9709 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
9710 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
9711 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
9712 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
9713 \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;


```

9714 \DeclareTextCompositeCommand{\k}{PD1}{a}{a} % aogonek
9715 \DeclareTextCompositeCommand{\'}{PD1}{c}{c} % cacute
9716 \DeclareTextCompositeCommand{\k}{PD1}{e}{e} % eogonek
9717 \DeclareTextCompositeCommand{\'}{PD1}{n}{n} % nacute
9718 \DeclareTextCompositeCommand{\'}{PD1}{s}{s} % sacute
9719 \DeclareTextCompositeCommand{\'}{PD1}{z}{z} % zacute
9720 \DeclareTextCompositeCommand{\.}{PD1}{z}{z} % zdot
9721 \DeclareTextCompositeCommand{\k}{PD1}{A}{A} % Aogonek
9722 \DeclareTextCompositeCommand{\'}{PD1}{C}{C} % Cacute
9723 \DeclareTextCompositeCommand{\k}{PD1}{E}{E} % Eogonek
9724 \DeclareTextCompositeCommand{\'}{PD1}{N}{N} % Nacute
9725 \DeclareTextCompositeCommand{\'}{PD1}{S}{S} % Sacute
9726 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z} % Zacute
9727 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z} % Zdot
9728 </pdlenc>

```

49.2 PU encoding

```

9729 <*puenc>
9730 \DeclareFontEncoding{PU}{-}{-}

```

49.2.1 Basic Latin

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

```

9731 \DeclareTextCommand{\textLF}{PU}{\80\012} % line feed
9732 \DeclareTextCommand{\textCR}{PU}{\80\015} % carriage return
9733 \DeclareTextCommand{\textHT}{PU}{\80\011} % horizontal tab
9734 \DeclareTextCommand{\textBS}{PU}{\80\010} % backspace
9735 \DeclareTextCommand{\textFF}{PU}{\80\014} % formfeed

```

Accents

```

9736 \DeclareTextAccent{\'}{PU}{\textgrave}
9737 \DeclareTextAccent{\'}{PU}{\textacute}
9738 \DeclareTextAccent{\~}{PU}{\textcircumflex}
9739 \DeclareTextAccent{\~}{PU}{\texttilde}
9740 \DeclareTextAccent{"}{PU}{\textdieresis}
9741 \DeclareTextAccent{\r}{PU}{\textring}
9742 \DeclareTextAccent{\v}{PU}{\textcaron}
9743 \DeclareTextAccent{\.}{PU}{\textdotaccent}
9744 \DeclareTextAccent{\c}{PU}{\textcedilla}
9745 \DeclareTextAccent{\U}{PU}{\textbreve}
9746 \DeclareTextAccent{\C}{PU}{\textdoublegrave}
9747 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textgrave}
9748 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
9749 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textcircumflex}
9750 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
9751 \DeclareTextCompositeCommand{"}{PU}{\@empty}{\textdieresis}
9752 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
9753 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textcaron}
9754 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
9755 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
9756 \DeclareTextCompositeCommand{\U}{PU}{\@empty}{\textbreve}
9757 \DeclareTextCompositeCommand{\C}{PU}{\@empty}{\textdoublegrave}
9758 \DeclareTextCommand{\=}{PU}[1]{\TextSymbolUnavailable{\={#1}}#1}
9759 \DeclareTextCommand{\H}{PU}[1]{\TextSymbolUnavailable{\H{#1}}#1}
9760 \DeclareTextCommand{\k}{PU}[1]{\TextSymbolUnavailable{\k{#1}}#1}
9761 \DeclareTextCommand{\u}{PU}[1]{\TextSymbolUnavailable{\u{#1}}#1}

```

Accent glyph names

```

9762 \DeclareTextCommand{\textbreve}{PU}{\80\030} % breve
9763 \DeclareTextCommand{\textcaron}{PU}{\80\031} % caron
9764 \DeclareTextCommand{\textcirc{circumflex}}{PU}{\80\032} % circumflex
9765 \DeclareTextCommand{\textdotaccent}{PU}{\80\033} % dotaccent
9766 \DeclareTextCommand{\texthungarumlaut}{PU}{\80\034} % hungarumlaut
9767 \DeclareTextCommand{\textogonek}{PU}{\80\035} % ogonek
9768 \DeclareTextCommand{\textring}{PU}{\80\036} % ring
9769 \DeclareTextCommand{\texttilde}{PU}{\80\037} % tilde
9770 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017} % double grave

\040: space
\041: exclam

9771 \DeclareTextCommand{\textquotedbl}{PU}{\string"} % quotedbl \80\042
9772 \DeclareTextCommand{\textnumbersign}{PU}{\80\043} % numbersign
9773 \DeclareTextCommand{\textdollar}{PU}{\80\044} % dollar
9774 \DeclareTextCommand{\textpercent}{PU}{\80\045} % percent
9775 \DeclareTextCommand{\textampersand}{PU}{\80\046} % ampersand

\047: quotesingle

9776 \DeclareTextCommand{\textparenleft}{PU}{\80\050} % parenleft
9777 \DeclareTextCommand{\textparenright}{PU}{\80\051} % parenright

\052: asterisk
\053: plus
\054: comma
\055: hyphen
\056: period
\057: slash
\060... \071: 0...9
\072: colon
\073: semicolon

9778 \DeclareTextCommand{\textless}{PU}{<} % less \80\074

\075: equal

9779 \DeclareTextCommand{\textgreater}{PU}{>} % greater \80\076

\077: question
\100: at
\101... \132: A...Z
\133: bracketleft

9780 \DeclareTextCommand{\textbackslash}{PU}{\80\134} % backslash

\135: bracketright

9781 \DeclareTextCommand{\textasciicircum}{PU}{\80\136} % asciicircum
9782 \DeclareTextCommand{\textunderscore}{PU}{\80\137} % underscore
9783 \DeclareTextCommand{\textgrave}{PU}{\80\140} % grave

\141... \172: a...z

9784 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % i
9785 \DeclareTextCommand{\j}{PU}{j} % jdotless
9786 \DeclareTextCommand{\textbraceleft}{PU}{\80\173} % braceleft
9787 \DeclareTextCommand{\textbar}{PU}{|} % bar
9788 \DeclareTextCommand{\textbraceright}{PU}{\80\175} % braceright
9789 \DeclareTextCommand{\textasciitilde}{PU}{\80\176} % asciitilde

No glyph \177 in PDFDocEncoding.

```

49.2.2 Latin-1 Supplement

```
9790 \DeclareTextCommand{\textminus}{PU}{-} % minus, \80\212
9791 \DeclareTextCommand{\textfi}{PU}{fi} % fi ?? \80\223
9792 \DeclareTextCommand{\textfl}{PU}{fl} % fl ?? \80\224
```

There are two positions for the glyphs from \80\225 until \80\236. See the test files testbmoe., testbml, testbmisc, testbmzc, and testbmyi for details. Problematic are all positions, but especially \OE, \oe, and \i.

```
9793 %\DeclareTextCommand{\OE}{PU}{OE} % OE
9794 %\DeclareTextCommand{\oe}{PU}{oe} % oe
```

The euro \240 is inserted in version 1.3 of the pdf specification.

```
9795 \DeclareTextCommand{\textexclamdown}{PU}{\80\241} % exclamdown
9796 \DeclareTextCommand{\textcent}{PU}{\80\242} % cent
9797 \DeclareTextCommand{\textsterling}{PU}{\80\243} % sterling
9798 \DeclareTextCommand{\textcurrency}{PU}{\80\244} % currency
9799 \DeclareTextCommand{\textyen}{PU}{\80\245} % yen
9800 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246} % brokenbar
9801 \DeclareTextCommand{\textsection}{PU}{\80\247} % section
9802 \DeclareTextCommand{\textdieresis}{PU}{\80\250} % dieresis
9803 \DeclareTextCommand{\textcopyright}{PU}{\80\251} % copyright
9804 \DeclareTextCommand{\textordfeminine}{PU}{\80\252} % ordfeminine
9805 \DeclareTextCommand{\guillemotleft}{PU}{\80\253} % guillemotleft
9806 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254} % logicalnot
```

No glyph \255 in PDFDocEncoding.

```
9807 \DeclareTextCommand{\textregistered}{PU}{\80\256} % registered
9808 \DeclareTextCommand{\textmacron}{PU}{\80\257} % macron
9809 \DeclareTextCommand{\textdegree}{PU}{\80\260} % degree
9810 \DeclareTextCommand{\textplusminus}{PU}{\80\261} % plusminus
9811 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262} % twosuperior
9812 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263} % threesuperior
9813 \DeclareTextCommand{\textacute}{PU}{\80\264} % acute
9814 \DeclareTextCommand{\textmu}{PU}{\80\265} % mu
9815 \DeclareTextCommand{\textparagraph}{PU}{\80\266} % paragraph
9816 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267} % periodcentered
9817 \DeclareTextCommand{\textcedilla}{PU}{\80\270} % cedilla
9818 \DeclareTextCommand{\textonesuperior}{PU}{\80\271} % onesuperior
9819 \DeclareTextCommand{\textordmasculine}{PU}{\80\272} % ordmasculine
9820 \DeclareTextCommand{\guillemotright}{PU}{\80\273} % guillemotright
9821 \DeclareTextCommand{\textonequarter}{PU}{\80\274} % onequarter
9822 \DeclareTextCommand{\textonehalf}{PU}{\80\275} % onehalf
9823 \DeclareTextCommand{\textthreequarters}{PU}{\80\276} % threequarters
9824 \DeclareTextCommand{\textquestiondown}{PU}{\80\277} % questiondown
9825 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300} % Agrave
9826 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301} % Aacute
9827 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302} % Acircumflex
9828 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303} % Atilde
9829 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304} % Adieresis
9830 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305} % Aring
9831 \DeclareTextCommand{\AE}{PU}{\80\306} % AE
9832 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307} % Ccedilla
9833 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310} % Egrave
9834 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311} % Eacute
9835 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312} % Ecircumflex
9836 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313} % Edieresis
9837 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314} % Igrave
9838 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315} % Iacute
9839 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316} % Icircumflex
```

```

9840 \DeclareTextCompositeCommand{"}{PU}{I}{\80\317} % Idieresis
9841 \DeclareTextCommand{\DH}{PU}{\80\320} % Eth
9842 \DeclareTextCompositeCommand{~}{PU}{N}{\80\321} % Ntilde
9843 \DeclareTextCompositeCommand{'}{PU}{O}{\80\322} % Ograve
9844 \DeclareTextCompositeCommand{'}{PU}{O}{\80\323} % Oacute
9845 \DeclareTextCompositeCommand{^}{PU}{O}{\80\324} % Ocircumflex
9846 \DeclareTextCompositeCommand{~}{PU}{O}{\80\325} % Otilde
9847 \DeclareTextCompositeCommand{"}{PU}{O}{\80\326} % Odieresis
9848 \DeclareTextCommand{\textmultiply}{PU}{\80\327} % multiply
9849 \DeclareTextCommand{\O}{PU}{\80\330} % Oslash
9850 \DeclareTextCompositeCommand{'}{PU}{U}{\80\331} % Ugrave
9851 \DeclareTextCompositeCommand{'}{PU}{U}{\80\332} % Uacute
9852 \DeclareTextCompositeCommand{^}{PU}{U}{\80\333} % Ucircumflex
9853 \DeclareTextCompositeCommand{"}{PU}{U}{\80\334} % Udieresis
9854 \DeclareTextCompositeCommand{'}{PU}{Y}{\80\335} % Yacute
9855 \DeclareTextCommand{\TH}{PU}{\80\336} % Thorn
9856 \DeclareTextCommand{\ss}{PU}{\80\337} % germanbls
9857 \DeclareTextCompositeCommand{'}{PU}{a}{\80\340} % agrave
9858 \DeclareTextCompositeCommand{'}{PU}{a}{\80\341} % aacute
9859 \DeclareTextCompositeCommand{^}{PU}{a}{\80\342} % acircumflex
9860 \DeclareTextCompositeCommand{~}{PU}{a}{\80\343} % atilde
9861 \DeclareTextCompositeCommand{"}{PU}{a}{\80\344} % adieresis
9862 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345} % aring
9863 \DeclareTextCommand{\ae}{PU}{\80\346} % ae
9864 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347} % ccedilla
9865 \DeclareTextCompositeCommand{'}{PU}{e}{\80\350} % egrave
9866 \DeclareTextCompositeCommand{'}{PU}{e}{\80\351} % eacute
9867 \DeclareTextCompositeCommand{^}{PU}{e}{\80\352} % ecircumflex
9868 \DeclareTextCompositeCommand{"}{PU}{e}{\80\353} % edieresis
9869 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354} % igrave
9870 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354} % igrave
9871 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355} % iacute
9872 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355} % iacute
9873 \DeclareTextCompositeCommand{^}{PU}{i}{\80\356} % icircumflex
9874 \DeclareTextCompositeCommand{~}{PU}{i}{\80\356} % icircumflex
9875 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357} % idieresis
9876 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357} % idieresis
9877 \DeclareTextCommand{\dh}{PU}{\80\360} % eth
9878 \DeclareTextCompositeCommand{~}{PU}{n}{\80\361} % ntilde
9879 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362} % ograve
9880 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363} % oacute
9881 \DeclareTextCompositeCommand{^}{PU}{o}{\80\364} % ocircumflex
9882 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365} % otilde
9883 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366} % odieresis
9884 \DeclareTextCommand{\textdivide}{PU}{\80\367} % divide
9885 \DeclareTextCommand{\o}{PU}{\80\370} % oslash
9886 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371} % ugrave
9887 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372} % uacute
9888 \DeclareTextCompositeCommand{^}{PU}{u}{\80\373} % ucircumflex
9889 \DeclareTextCompositeCommand{"}{PU}{u}{\80\374} % udieresis
9890 \DeclareTextCompositeCommand{'}{PU}{y}{\80\375} % yacute
9891 \DeclareTextCommand{\th}{PU}{\80\376} % thorn
9892 \DeclareTextCompositeCommand{"}{PU}{y}{\80\377} % ydieresis
9893 \DeclareTextCommand{\ij}{PU}{\80\377}

```

Glyphs that consist of several characters.

```
9894 \DeclareTextCommand{\SS}{PU}{SS}
```

Aliases (german.sty)

```

9895 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
9896 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
9897 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
9898 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
9899 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
9900 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
9901 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
9902 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

9903 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
9904 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
9905 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
9906 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
9907 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}

```

49.2.3 Latin Extended-A

```

9908 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% Amacron
9909 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% amacron
9910 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% Abreve
9911 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% abreve
9912 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% Aogonek
9913 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% aogonek
9914 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% Cacute
9915 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% cacute
9916 \DeclareTextCompositeCommand{\~}{PU}{C}{\81\010}% Ccircumflex
9917 \DeclareTextCompositeCommand{\~}{PU}{c}{\81\011}% ccircumflex
9918 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% Cdot
9919 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% cdot
9920 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% Ccaron
9921 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% ccaron
9922 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% Dcaron
9923 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% dcaron
9924 \DeclareTextCommand{\DJ}{PU}{\81\020}% Dslash
9925 \DeclareTextCommand{\dj}{PU}{\81\021}% dslash
9926 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% Emacron
9927 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% emacron
9928 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% Ebreve
9929 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% ebreve
9930 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% Edot
9931 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% edot
9932 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% Eogonek
9933 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% eogonek
9934 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% Ecaron
9935 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% ecaron
9936 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% Gcircumflex
9937 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% gcircumflex
9938 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% Gbreve
9939 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% gbreve
9940 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% Gdot
9941 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% gdot
9942 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% Gcedilla
9943 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% gcedilla
9944 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% Hcircumflex
9945 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% hcircumflex
9946 \DeclareTextCommand{\textHslash}{PU}{\81\046}% Hslash
9947 \DeclareTextCommand{\texthslash}{PU}{\81\047}% hslash
9948 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% Itilde

```

```

9949 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051} % itilde
9950 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051} % itilde
9951 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052} % Imacron
9952 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053} % imacron
9953 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053} % imacron
9954 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054} % Ibreve
9955 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055} % ibreve
9956 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055} % ibreve
9957 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056} % Iogonek
9958 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057} % iogonek
9959 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057} % iogonek
9960 \DeclareTextCompositeCommand{.}{PU}{I}{\81\060} % Idot
9961 \DeclareTextCommand{\i}{PU}{\81\061} % idotless
9962 % IJlig
9963 % ijlig
9964 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064} % Jcircumflex
9965 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065} % jcircumflex
9966 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065} % jcircumflex
9967 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066} % Kcedilla
9968 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067} % kcedilla
9969 % kgreen
9970 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071} % Lacute
9971 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072} % lacute
9972 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073} % Lcedilla
9973 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074} % lcedilla
9974 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075} % Lcaron
9975 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076} % lcaron
9976 % L middle dot
9977 % l middle dot
9978 \DeclareTextCommand{\L}{PU}{\81\101} % Lslash
9979 \DeclareTextCommand{\l}{PU}{\81\102} % lslash
9980 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103} % Nacute
9981 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104} % nacute
9982 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105} % Ncedilla
9983 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106} % ncedilla
9984 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107} % Ncaron
9985 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110} % ncaron
9986 % n apostrophe
9987 \DeclareTextCommand{\NG}{PU}{\81\112} % NG
9988 \DeclareTextCommand{\ng}{PU}{\81\113} % ng
9989 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114} % Omacron
9990 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115} % omacron
9991 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116} % Obreve
9992 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117} % obreve
9993 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120} % Odoubleacute
9994 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121} % odoubleacute
9995 \DeclareTextCommand{\OE}{PU}{\81\122} % OE
9996 \DeclareTextCommand{\oe}{PU}{\81\123} % oe
9997 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124} % Racute
9998 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125} % racute
9999 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126} % Rcedilla
10000 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127} % rcedilla
10001 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130} % Rcaron
10002 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131} % rcaron
10003 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132} % Sacute
10004 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133} % sacute
10005 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134} % Scircumflex

```

```

10006 \DeclareTextCompositeCommand{\~}{PU}{s}{\81\135} % scircumflex
10007 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136} % Scedilla
10008 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137} % scedilla
10009 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140} % Scaron
10010 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141} % scaron
10011 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142} % Tcedilla
10012 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143} % tcedilla
10013 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144} % Tcaron
10014 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145} % tcaron
10015 \DeclareTextCommand{\textTslash}{PU}{\81\146} % Tslash
10016 \DeclareTextCommand{\texttslash}{PU}{\81\147} % tslash
10017 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150} % Utilde
10018 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151} % utilde
10019 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152} % Umacron
10020 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153} % umacron
10021 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154} % Ubreve
10022 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155} % ubreve
10023 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156} % Uring
10024 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157} % uring
10025 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160} % Udoubleacute
10026 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161} % udoubleacute
10027 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162} % Uogonek
10028 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163} % uogonek
10029 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164} % Wcircumflex
10030 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165} % wcircumflex
10031 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166} % Ycircumflex
10032 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167} % ycircumflex
10033 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170} % Ydieresis
10034 \DeclareTextCommand{\IJ}{PU}{\81\170}
10035 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171} % Zacute
10036 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172} % zacute
10037 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173} % Zdot
10038 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174} % zdot
10039 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175} % Zcaron
10040 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176} % zcaron

```

49.2.4 Latin Extended-B

```

10041 \DeclareTextCommand{\textflorin}{PU}{\81\222} % florin
10042 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315} % Acaron
10043 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316} % acaron
10044 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317} % Icaron
10045 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320} % icaron
10046 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320} % icaron
10047 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321} % Ocaron
10048 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322} % ocaron
10049 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323} % Ucaron
10050 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324} % ucaron
10051 \DeclareTextCommand{\textGslash}{PU}{\81\344} % Gslash
10052 \DeclareTextCommand{\textgslash}{PU}{\81\345} % gslash
10053 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346} % Gcaron
10054 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347} % gcaron
10055 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350} % Kcaron
10056 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351} % kcaron
10057 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352} % Oogonek
10058 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353} % oogonek

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49.2.5 Greek

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10059 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}
10060 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}
10061 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}
10062 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}
10063 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}
10064 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}
10065 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}
10066 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}
10067 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}
10068 \DeclareTextCommand{\textAlpha}{PU}{\83\221}
10069 \DeclareTextCommand{\textBeta}{PU}{\83\222}
10070 \DeclareTextCommand{\textGamma}{PU}{\83\223}
10071 \DeclareTextCommand{\textDelta}{PU}{\83\224}
10072 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}
10073 \DeclareTextCommand{\textZeta}{PU}{\83\226}
10074 \DeclareTextCommand{\textEta}{PU}{\83\227}
10075 \DeclareTextCommand{\textTheta}{PU}{\83\230}
10076 \DeclareTextCommand{\textIota}{PU}{\83\231}
10077 \DeclareTextCommand{\textKappa}{PU}{\83\232}
10078 \DeclareTextCommand{\textLambda}{PU}{\83\233}
10079 \DeclareTextCommand{\textMu}{PU}{\83\234}
10080 \DeclareTextCommand{\textNu}{PU}{\83\235}
10081 \DeclareTextCommand{\textXi}{PU}{\83\236}
10082 \DeclareTextCommand{\textOmicron}{PU}{\83\237}
10083 \DeclareTextCommand{\textPi}{PU}{\83\240}
10084 \DeclareTextCommand{\textRho}{PU}{\83\241}
10085 \DeclareTextCommand{\textSigma}{PU}{\83\243}
10086 \DeclareTextCommand{\textTau}{PU}{\83\244}
10087 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}
10088 \DeclareTextCommand{\textPhi}{PU}{\83\246}
10089 \DeclareTextCommand{\textChi}{PU}{\83\247}
10090 \DeclareTextCommand{\textPsi}{PU}{\83\250}
10091 \DeclareTextCommand{\textOmega}{PU}{\83\251}
10092 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}
10093 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}
10094 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}
10095 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}
10096 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}
10097 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}
10098 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}
10099 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}
10100 \DeclareTextCommand{\textalpha}{PU}{\83\261}
10101 \DeclareTextCommand{\textbeta}{PU}{\83\262}
10102 \DeclareTextCommand{\textgamma}{PU}{\83\263}
10103 \DeclareTextCommand{\textdelta}{PU}{\83\264}
10104 \DeclareTextCommand{\textepsilon}{PU}{\83\265}
10105 \DeclareTextCommand{\textzeta}{PU}{\83\266}
10106 \DeclareTextCommand{\texteta}{PU}{\83\267}
10107 \DeclareTextCommand{\texttheta}{PU}{\83\270}
10108 \DeclareTextCommand{\textiota}{PU}{\83\271}
10109 \DeclareTextCommand{\textkappa}{PU}{\83\272}
10110 \DeclareTextCommand{\textlambda}{PU}{\83\273}
10111 \DeclareTextCommand{\textmu}{PU}{\83\274}
10112 \DeclareTextCommand{\textnu}{PU}{\83\275}
10113 \DeclareTextCommand{\textxi}{PU}{\83\276}
10114 \DeclareTextCommand{\textomicron}{PU}{\83\277}
10115 \DeclareTextCommand{\textpi}{PU}{\83\300}

```



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10116 \DeclareTextCommand{\textrho}{PU}{\83\301}
10117 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}
10118 \DeclareTextCommand{\textsigma}{PU}{\83\303}
10119 \DeclareTextCommand{\texttau}{PU}{\83\304}
10120 \DeclareTextCommand{\textupsilon}{PU}{\83\305}
10121 \DeclareTextCommand{\textphi}{PU}{\83\306}
10122 \DeclareTextCommand{\textchi}{PU}{\83\307}
10123 \DeclareTextCommand{\textpsi}{PU}{\83\310}
10124 \DeclareTextCommand{\textomega}{PU}{\83\311}
10125 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}
10126 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}
10127 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}
10128 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}
10129 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}
10130 %\DeclareTextCommand{\textvartheta}{PU}{\83\321}
10131 %\DeclareTextCommand{\textvarphi}{PU}{\83\325}
10132 %\DeclareTextCommand{\textvarpi}{PU}{\83\326}
10133 %\DeclareTextCommand{\textdigamma}{PU}{\83\334}
10134 %\DeclareTextCommand{\textvarkappa}{PU}{\83\360}
10135 %\DeclareTextCommand{\textvarrho}{PU}{\83\361}

```

49.2.6 Cyrillic

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

```

10136 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% IO
10137 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}%
10138 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% DJE
10139 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% GJE
10140 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% ukrainian IE
10141 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% DZE
10142 \DeclareTextCommand{\CYRII}{PU}{\84\006}% byelorussian-ukrainian I
10143 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% YI
10144 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% JE
10145 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% LJE
10146 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% NJE
10147 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% TSHE
10148 \DeclareTextCompositeCommand{'}{PU}{\CYRK}{\84\014}% KJE
10149 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% short U
10150 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% DZHE
10151 \DeclareTextCommand{\CYRA}{PU}{\84\020}% A
10152 \DeclareTextCommand{\CYRB}{PU}{\84\021}% BE
10153 \DeclareTextCommand{\CYRV}{PU}{\84\022}% VE
10154 \DeclareTextCommand{\CYRG}{PU}{\84\023}% GHE
10155 \DeclareTextCommand{\CYRD}{PU}{\84\024}% DE
10156 \DeclareTextCommand{\CYRE}{PU}{\84\025}% IE
10157 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% ZHE
10158 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% ZE
10159 \DeclareTextCommand{\CYRI}{PU}{\84\030}% I
10160 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% short I
10161 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}%
10162 \DeclareTextCommand{\CYRK}{PU}{\84\032}% KA
10163 \DeclareTextCommand{\CYRL}{PU}{\84\033}% EL
10164 \DeclareTextCommand{\CYRM}{PU}{\84\034}% EM
10165 \DeclareTextCommand{\CYRN}{PU}{\84\035}% EN
10166 \DeclareTextCommand{\CYRO}{PU}{\84\036}% O
10167 \DeclareTextCommand{\CYRP}{PU}{\84\037}% PE
10168 \DeclareTextCommand{\CYRR}{PU}{\84\040}% ER

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10169 \DeclareTextCommand{\CYRS}{PU}{\84\041}% ES
10170 \DeclareTextCommand{\CYRT}{PU}{\84\042}% TE
10171 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U
10172 \DeclareTextCommand{\CYRF}{PU}{\84\044}% EF
10173 \DeclareTextCommand{\CYRH}{PU}{\84\045}% HA
10174 \DeclareTextCommand{\CYRC}{PU}{\84\046}% TSE
10175 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% CHE
10176 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% SHA
10177 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% SHCHA
10178 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% HARD SIGN
10179 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% YERU
10180 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% SOFT SIGN
10181 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% E
10182 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% YU
10183 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% YA
10184 \DeclareTextCommand{\cyra}{PU}{\84\060}% a
10185 \DeclareTextCommand{\cyrb}{PU}{\84\061}% be
10186 \DeclareTextCommand{\cyrv}{PU}{\84\062}% ve
10187 \DeclareTextCommand{\cyrg}{PU}{\84\063}% ghe
10188 \DeclareTextCommand{\cyrd}{PU}{\84\064}% de
10189 \DeclareTextCommand{\cyre}{PU}{\84\065}% ie
10190 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% zhe
10191 \DeclareTextCommand{\cyrz}{PU}{\84\067}% ze
10192 \DeclareTextCommand{\cyrj}{PU}{\84\070}% i
10193 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% short i
10194 \DeclareTextCompositeCommand{\U}{PU}{\cyrj}{\84\071}%
10195 \DeclareTextCommand{\cyrk}{PU}{\84\072}% ka
10196 \DeclareTextCommand{\cyrk}{PU}{\84\073}% el
10197 \DeclareTextCommand{\cyrml}{PU}{\84\074}% em
10198 \DeclareTextCommand{\cyrn}{PU}{\84\075}% en
10199 \DeclareTextCommand{\cyro}{PU}{\84\076}% o
10200 \DeclareTextCommand{\cyrp}{PU}{\84\077}% pe
10201 \DeclareTextCommand{\cyrr}{PU}{\84\100}% er
10202 \DeclareTextCommand{\cyrsl}{PU}{\84\101}% es
10203 \DeclareTextCommand{\cyrst}{PU}{\84\102}% te
10204 \DeclareTextCommand{\cyrut}{PU}{\84\103}% u
10205 \DeclareTextCommand{\cyrfl}{PU}{\84\104}% ef
10206 \DeclareTextCommand{\cyrhl}{PU}{\84\105}% ha
10207 \DeclareTextCommand{\cyrcl}{PU}{\84\106}% tse
10208 \DeclareTextCommand{\cyrchl}{PU}{\84\107}% che
10209 \DeclareTextCommand{\cyrshl}{PU}{\84\110}% sha
10210 \DeclareTextCommand{\cyrshchl}{PU}{\84\111}% shcha
10211 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% hard sign
10212 \DeclareTextCommand{\cyrery}{PU}{\84\113}% yeru
10213 \DeclareTextCommand{\cyrsltsn}{PU}{\84\114}% soft sign
10214 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% e
10215 \DeclareTextCommand{\cyrut}{PU}{\84\116}% yu
10216 \DeclareTextCommand{\cyrut}{PU}{\84\117}% ya
10217 \DeclareTextCommand{\cyrut}{PU}{\84\121}% io
10218 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}%
10219 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% dje
10220 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% gje
10221 \DeclareTextCommand{\cyrie}{PU}{\84\124}% ukrainian ie
10222 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% dze
10223 \DeclareTextCommand{\cyril}{PU}{\84\126}% byelorussian-ukrainian i
10224 \DeclareTextCommand{\cyril}{PU}{\84\127}% yi
10225 \DeclareTextCommand{\cyrje}{PU}{\84\130}% je

10226 \DeclareTextCommand{\cyrlje}{PU}{\84\131}%lje
10227 \DeclareTextCommand{\cyrnje}{PU}{\84\132}%nje
10228 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}%tshe
10229 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}%kje
10230 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}%shortu
10231 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}%dzhe
10232 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}%OMEGA
10233 \DeclareTextCommand{\cyromega}{PU}{\84\141}%omega
10234 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}%YAT
10235 \DeclareTextCommand{\cyryat}{PU}{\84\143}%yat
10236 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}%iotifiedE
10237 \DeclareTextCommand{\cyriote}{PU}{\84\145}%iotifiede
10238 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}%littleYUS
10239 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}%littleyus
10240 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}%iotifiedlittleYUS
10241 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}%iotifiedlittleyus
10242 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}%bigYUS
10243 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}%bigyus
10244 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}%iotifiedbigYUS
10245 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}%iotifiedbigyus
10246 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}%KSI
10247 \DeclareTextCommand{\cyrksi}{PU}{\84\157}%ksi
10248 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}%PSI
10249 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}%psi
10250 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}%FITA
10251 \DeclareTextCommand{\cyrfita}{PU}{\84\163}%fita
10252 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}%IZHITSA
10253 \DeclareTextCommand{\cyrizh}{PU}{\84\165}%izhitsa
10254 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}%IZHITSA doublegrave
10255 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}%izhitsa doublegrave
10256 \DeclareTextCommand{\CYRUK}{PU}{\84\170}%UK
10257 \DeclareTextCommand{\cyruk}{PU}{\84\171}%uk
10258 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}%roundOMEGA
10259 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}%roundomega
10260 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}%OMEGAtitlo
10261 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}%omegaititlo
10262 \DeclareTextCommand{\CYROT}{PU}{\84\176}%OT
10263 \DeclareTextCommand{\cyrot}{PU}{\84\177}%ot
10264 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}%KOPPA
10265 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}%koppa
10266 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}%thousands sign
10267 %\DeclareTextCommand{\COMBININGTITLO}{PU}{\84\203}%COMBININGTITLO
10268 %\DeclareTextCommand{\COMBININGPALATALIZATION}{PU}{\84\204}%COMBININGPALATALIZATION
10269 %\DeclareTextCommand{\COMBININGDASIA PNEUMATA}{PU}{\84\205}%COMBININGDASIA PNEUMATA
10270 %\DeclareTextCommand{\COMBININGPSILI PNEUMATA}{PU}{\84\206}%COMBININGPSILI PNEUMATA
10271 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}%GHEupturn
10272 \DeclareTextCommand{\cyrgup}{PU}{\84\221}%gheupturn
10273 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}%GHEstroke
10274 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}%ghestroke
10275 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}%GHEmiddlehook
10276 \DeclareTextCommand{\cyrghk}{PU}{\84\225}%ghemiddlehook
10277 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}%ZHEdescender
10278 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}%zhe descender
10279 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}%ZEdescender
10280 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}%ze descender
10281 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}%KAdescender
10282 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}%kadescender

10283 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% KA vertical stroke
10284 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% ka vertical stroke
10285 \DeclareTextCommand{\CYRKHCrs}{PU}{\84\236}% KA stroke
10286 \DeclareTextCommand{\cyrkhcrcs}{PU}{\84\237}% ka stroke
10287 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% bashkir KA
10288 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% bashkir ka
10289 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% EN descender
10290 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% en descender
10291 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% ligature EN GHE
10292 \DeclareTextCommand{\cyrng}{PU}{\84\245}% ligature en ghe
10293 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% PE middle hook
10294 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% pe middle hook
10295 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% abkhasian HA
10296 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% abkhasian ha
10297 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% ES descender
10298 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% es descender
10299 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% TE descender
10300 \DeclareTextCommand{\cyrtldsc}{PU}{\84\255}% te descender
10301 \DeclareTextCommand{\CYRY}{PU}{\84\256}% straight U
10302 \DeclareTextCommand{\cyry}{PU}{\84\257}% straight u
10303 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% straight U stroke
10304 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% straight u stroke
10305 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% HA descender
10306 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% ha descender
10307 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% ligature TE TSE
10308 \DeclareTextCommand{\cyrtdtse}{PU}{\84\265}% ligature te tse
10309 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% CHE descender
10310 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% che descender
10311 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% CHE vertical stroke
10312 \DeclareTextCommand{\cyrchvcrcs}{PU}{\84\271}% che vertical stroke
10313 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% SHHA
10314 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% shha
10315 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% abkhasian CHE
10316 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% abkhasian che
10317 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% abkhasian CHE descender
10318 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% abkhasian che descender
10319 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% palochka
10320 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% ZHE breve
10321 \DeclareTextCompositeCommand{\u}{PU}{\cyrrzh}{\84\302}% zhe breve
10322 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% KA hook
10323 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% ka hook
10324 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% EN hook
10325 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% en hook
10326 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% khakassian CHE
10327 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% khakassian che
10328 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% A breve
10329 \DeclareTextCompositeCommand{\u}{PU}{\cyra}{\84\321}% a breve
10330 \DeclareTextCompositeCommand{\"}{PU}{\CYRA}{\84\322}% A diaeresis
10331 \DeclareTextCompositeCommand{\"}{PU}{\cyra}{\84\323}% a diaeresis
10332 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% ligature A IE
10333 \DeclareTextCommand{\cyrae}{PU}{\84\325}% ligature a ie
10334 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% IE breve
10335 \DeclareTextCompositeCommand{\u}{PU}{\cyre}{\84\327}% ie breve
10336 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% SCHWA
10337 \DeclareTextCommand{\cyrschw}{PU}{\84\331}% schwa
10338 \DeclareTextCompositeCommand{\"}{PU}{\CYRSCHWA}{\84\332}% SCHWA diaeresis
10339 \DeclareTextCompositeCommand{\"}{PU}{\cyrschw}{\84\333}% schwa diaeresis

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10340 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% ZHE diaeresis
10341 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% zhe diaeresis
10342 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% ZE diaeresis
10343 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% ze diaeresis
10344 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% abkhasian DZE
10345 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% abkhasian dze
10346 \DeclareTextCompositeCommand{=}{PU}{\CYRI}{\84\342}% I macron
10347 \DeclareTextCompositeCommand{=}{PU}{\cyri}{\84\343}% i macron
10348 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% I diaeresis
10349 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% i diaeresis
10350 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% O diaeresis
10351 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% o diaeresis
10352 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% barred O
10353 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% barred o
10354 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% barred O diaeresis
10355 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% barred o diaeresis
10356 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U macron
10357 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% u macron
10358 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U diaeresis
10359 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% u diaeresis
10360 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U double acute
10361 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% u double acute
10362 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% CHE diaeresis
10363 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% che diaeresis
10364 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% YERU diaeresis
10365 \DeclareTextCompositeCommand{"}{PU}{\cyrery}{\84\371}% yeru diaeresis

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49.2.7 Symbols

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10366 \DeclareTextCommand{\textendash}{PU}{\9040\023} % endash
10367 \DeclareTextCommand{\textemdash}{PU}{\9040\024} % emdash
10368 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030} % quoteleft
10369 \DeclareTextCommand{\textquoteright}{PU}{\9040\031} % quoteright
10370 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032} % quotesinglbase
10371 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034} % quotedblleft
10372 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035} % quotedblright
10373 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036} % quotedblbase
10374 \DeclareTextCommand{\textdagger}{PU}{\9040\040} % dagger
10375 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041} % daggerdbl
10376 \DeclareTextCommand{\textbullet}{PU}{\9040\042} % bullet
10377 \DeclareTextCommand{\textellipsis}{PU}{\9040\046} % ellipsis
10378 \DeclareTextCommand{\textperthousand}{PU}{\9040\060} % perthousand
10379 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061} % pertenthousand
10380 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071} % guilsinglleft
10381 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072} % guilsinglright
10382 \DeclareTextCommand{\textfractionmark}{PU}{\9040\104} % fraction slash
10383 \DeclareTextCommand{\texteuro}{PU}{\9040\254} % Euro
10384 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}
10385 \DeclareTextCommand{\textnumero}{PU}{\9041\026}
10386 \DeclareTextCommand{\texttrademark}{PU}{\9041\042} % trademark
10387 % \DeclareTextCommand{\cyrlangle}{PU}{\9043\051}
10388 % \DeclareTextCommand{\cyrrangle}{PU}{\9043\052}

10389 </puenc>

```

49.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

10390 <*puvnc>
10391 \DeclareTextCommand{\abreve}{PU}{\81\003}
10392 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
10393 \DeclareTextCommand{\dj}{PU}{\81\021}
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10397 \DeclareTextCommand{\uhorn}{PU}{\81\260}
10398 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
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10400 \DeclareTextCommand{\DJ}{PU}{\81\020}
10401 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
10402 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
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10404 \DeclareTextCommand{\UHORN}{PU}{\81\257}

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10445 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
10446 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}

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10447 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}
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10503 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}

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10515 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
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10523 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
10524 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
10525 </puvnenc>

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49.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

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10526 <*puarenc>
10527 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
10528 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA A
10529 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA A
10530 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA AE
10531 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HA
10532 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
10533 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
10534 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
10535 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
10536 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
10537 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
10538 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
10539 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
10540 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
10541 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
10542 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
10543 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
10544 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
10545 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
10546 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
10547 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
10548 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
10549 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
10550 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
10551 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
10552 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN
10553 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
10554 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
10555 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF

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10556 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
10557 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
10558 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
10559 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
10560 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
10561 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
10562 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA
10563 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH

10564 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
10565 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
10566 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
10567 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
10568 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
10569 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
10570 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA
10571 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

Farsi

10572 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
10573 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
10574 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
10575 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii????;FARSI LETTER KAF
10576 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
10577 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii????;FARSI LETTER YEH

10578 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
10579 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

10580 </puarenc>

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50 End of file hycheck.tex

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10581 < *check>
10582 \typeout{}
10583 \begin{document}
10584 \end{document}
10585 </check>

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