

Hypertext marks in \LaTeX

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1 Documentation overview for `hyperref`

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

Manual The user 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.}%
156 }

```

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

```

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

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

```

4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```
231 \Hy@SetCatcodes
```

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

```

232 \RequirePackage{keyval}[1997/11/10]
233 \RequirePackage{hycolor}
234 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
235 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
236 \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`.

```

237 \@ifundefined{AfterBeginDocument}{%
238   \def\AfterBeginDocument{\AtBeginDocument}%
239 }{}%

```

4.3 Switches

```

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

```

```

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

```

Defaults for the switches are now set.

```

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

```

```

312 \Hy@usetitlefalse
313 \Hy@verbosefalse
314 \Hy>windowuitrue
315 \Hy@displaydoctitlefalse

```

5 Common help macros

`\Hy@StepCount`

```

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

```

`\Hy@GlobalStepCount`

```

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

318 \newdimen\@linkdim
319 \let\Hy@driver\@empty
320 \let\MaybeStopEarly\relax
321 \newcount\Hy@linkcounter
322 \newcount\Hy@pagecounter
323 \Hy@linkcounter0
324 \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.

```

325 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
326 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

327 \let\Hy@ReturnEnd\@empty
328 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
329 \long\def\Hy@ReturnAfterElseFiFiEnd#1\else#2\Hy@ReturnEnd{\fi\fi#1}

```

5.2 Babel's protection of shorthand characters

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

```

330 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
331 \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 `\hypercalcbpdef` (currently only `pdfstartview`).
- For calculations package `calc` has to be loaded.
- The expansion of the argument is done at definition time.

Example (T_EX):

```

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

\hypercalcbp
332 \begingroup\expandafter\expandafter\expandafter\endgroup
333 \expandafter\ifx\csname dimexpr\endcsname\relax
334   \def\hypercalcbpdef#1#2{%
335     \begingroup
336       \toks@{}%
337       \HyCal@scan#2\hypercalcbp\@nil
338       \expandafter\endgroup
339       \expandafter\def\expandafter#1\expandafter{\the\toks@}%
340   }%
341   \def\HyCal@scan#1\hypercalcbp#2\@nil{%
342     \toks@\expandafter{\the\toks@ #1}%
343     \ifx\#2\%
344       \else
345         \Hy@ReturnAfterFi{%
346           \HyCal@do#2\@nil
347         }%
348       \fi
349     }%
350     \def\HyCal@do#1#2\@nil{%
351       \@ifpackageloaded{calc}{}{%
352         \Hy@Warning{%
353           For calculations \string\hypercalcbp\space needs\MessageBreak
354           package calc or e-TeX%
355         }%
356       }%
357       \setlength{\dimen@}{#1}%
358       \setlength{\dimen@}{0.99626401\dimen@}%
359       \edef\x{%
360         \toks@{%
361           \the\toks@
362           \strip@pt\dimen@
363         }%
364       }\x
365       \HyCal@scan#2\@nil
366     }%
367   \else
368     \def\hypercalcbp#1{%
369       \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
370     }%
371     \def\hypercalcbpdef{\def}%
372   \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 ISO Latin1 and is compatible with Unicode with character codes below 256, or in Unicode.

6.2 Definition of `\pdfstringdef`

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

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

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

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

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

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

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

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

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

```
374 \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.

```
375 \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.

```
376 \edef\0{\string\0}%
377 \edef\1{\string\1}%
378 \edef\2{\string\2}%
379 \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.

```
380 \ifHy@unicode
381 \edef\8{\string\8}%
382 \edef\9{\string\9}%
383 \fontencoding{PU}%
384 \HyPsd@UTFviii
385 \else
386 \fontencoding{PD1}%
387 \fi
388 \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).

```
389 \@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).

```
390 \let\@inmathwarn\HyPsd@inmathwarn
```


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

```
391 \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.

```
392 \let\{\textbraceleft
393 \let\}\textbraceright
394 \let\\\textbackslash
395 \let\#\textnumbersign
396 \let\$\textdollar
397 \let\%\textpercent
398 \let\&\textampersand
399 % \let\~\textasciitilde
400 \let\_ \textunderscore
401 \let\P\textparagraph
402 \let\ldots\textellipsis
403 \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.

```
404 \def\{\pdfstringdefWarn\\}%
405 \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.

```
406 \def\TeX{\TeX}%
407 \def\LaTeX{La\TeX}%
408 \def\LaTeXe{LaTeX2e}%
409 \def\eTeX{e-\TeX}%
410 \def\MF{Metafont}%
411 \def\MP{Metapost}%
```

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

```
412 \let\emph\@firstofone
413 \let\textbf\@firstofone
414 \let\textit\@firstofone
415 \let\textmd\@firstofone
416 \let\textnormal\@firstofone
417 \let\textrm\@firstofone
418 \let\textsc\@firstofone
419 \let\textsf\@firstofone
420 \let\textsl\@firstofone
```

```

421 \let\texttt\@firstofone
422 \let\textup\@firstofone
423 \let\ttfamily\@empty
424 \let\sffamily\@empty
425 \let\itshape\@empty
426 \let\upshape\@empty
427 \let\bfseries\@empty
428 \let\rm\@empty
429 \let\Huge\@empty
430 \let\LARGE\@empty
431 \let\Large\@empty
432 \let\footnotesize\@empty
433 \let\huge\@empty
434 \let\large\@empty
435 \let\normalsize\@empty
436 \let\scriptsize\@empty
437 \let\small\@empty
438 \let\tiny\@empty

```

Package color.

```

439 \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).

```

440 \let\textlatin\@firstofone
441 \@ifundefined{language@group}{-}{%
442   \csname HyPsd@babel@language@group\endcsname
443 }%
444 \HyPsd@GreekPatch
445 \let\@safe@activetrue\relax
446 \let\@safe@activesfalse\relax

```

Disable \cyr, used in russianb.ldf.

```

447 \let\cyr\relax

```

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

```

448 \let\es@roman\@Roman

```

Package german.

```

449 \let\glqq\textglqq
450 \let\grqq\textgrqq
451 \let\glq\textglq
452 \let\grq\textgrq
453 \let\flqq\textflqq
454 \let\frqq\textfrqq
455 \let\flq\textflq
456 \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}
457 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```
458 \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.

```
459 \let\hspace\HyPsd@hspace
```

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

```
460 \let\label\@gobble
461 \let\index\@gobble
462 \let\glossary\@gobble
463 \let\href\@secondoftwo
```

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

```
464 \let\ref\HyPsd@ref
465 \let\pageref\HyPsd@pageref
466 \let\autoref\HyPsd@autoref
```

Miscellaneous commands.

```
467 \let\leavevmode\@empty
468 \let\mbox\@empty
```

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

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

Patch for `cjk` bookmarks.

```
470 \ifHy@CJKbookmarks
471 \HyPsd@CJKhook
472 \fi
```

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

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

```
473 \Hy@pdfstringtrue
474 \pdfstringdefPreHook
```

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

```
475 \HyPsd@LetUnexpandableSpace\space
476 \HyPsd@LetUnexpandableSpace\%
477 \HyPsd@LetUnexpandableSpace~%
478 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package xspace.

```
479 \ifundefined{xspace}{%
480 \let\xspace\HyPsd@ITALCORR
481 }{%
482 \let\xspace\HyPsd@XSPACE
483 }%
484 \let\/\HyPsd@ITALCORR
485 \let\bgroup\/%
486 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
487 \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 expandible 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:

```
488 \let\@ifnextchar\HyPsd@ifnextchar
489 \let\@ifnextchar\HyPsd@new@ifnextchar
490 \let\@protected@testopt\HyPsd@protected@testopt
```

6.2.2 Expansion

There are several possibilities to expand tokens within L^AT_EX:

\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 T_EX 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. T_EX provides no way to catch the error caused by \csname or allows to support the user with a descriptive error message. Therefore the experienced user had to enable this behaviour by an option exactdef in previous versions less or equal 6.50.

\edef This version uses this standard form for expansion. It is stronger than L^AT_EX's \protected@edef. So the font encoding mechanism works and the glyph commands are converted to the correct tokens for PDF strings with the definitions of the PD1 encoding. Because the protecting mechanism of L^AT_EX doesn't work within an \edef, there are situations thinkable where code can break. For example, assignments and definitions aren't performed and so undefined command errors or argument parsing errors can occur. But this is only a compatibility problem with old texts. Now there are possibilities to write code that gives correct PDF strings (see \texorpdfstring). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don't cause an error like with

`\csname`. However a PDF reader isn't \TeX , so these tokens are viewed verbatim. So this version detects them now, and removes them with an descriptive warning for the user. As additional features xspace support is possible and grouping characters can be used without problems, because they are removed silently.

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

```
491 \begingroup
492 \let\GenericError\@gobblefour
493 \let\GenericWarning\@gobbletwo
494 \let\GenericInfo\@gobbletwo
```

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

```
495 \ifx\nofrenchguillemets\undefined
496 \else
497 \nofrenchguillemets
498 \fi
```

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

```
499 \let\Hy@temp\xdef
500 \let\def\HyPsd@DefCommand
501 \let\gdef\HyPsd@DefCommand
502 \let\edef\HyPsd@DefCommand
503 \let\xdef\HyPsd@DefCommand
504 \let\futurelet\HyPsd@LetCommand
505 \let\let\HyPsd@LetCommand
506 \Hy@temp#1{#2}%
507 \endgroup
```

6.2.3 Postprocessing

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

```
508 \ifx#1\@empty
509 \else
```

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

- \TeX does not accept a space as an undelimited argument, it cancels space tokens while looking for an undelimited argument. Therefore we must protect the spaces now.
- An argument can be a single token or a group of many tokens. And within curly braces tokens aren't found by \TeX 's argument scanning process. Third curly braces as grouping characters cannot be expanded further, so they don't vanish by the string expansion above. So these characters with catcode 1 and 2 are removed in the following and replaced by a marker for the xspace support.

- \TeX silently removes the outmost pair of braces of an argument. To prevent this on unwanted places, in the following the character | is appended to the string to make an outer brace to an inner one.

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

```

510      \HyPsd@ProtectSpaces#1%
511      \let\HyPsd@String\@empty
512      \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
513      \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.

```

514      \let\HyPsd@SPACEOPTI\relax
515      {%
516          \let\HyPsd@String\@empty
517          \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
518          \global\let#1\HyPsd@String
519      }%
520      \expandafter\HyPsd@RemoveMask\expandafter
521          \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.

```

522      \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
523      \let\HyPsd@String\@empty
524      \expandafter\HyPsd@GlyphProcess#1\relax\@empty
525      \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.

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

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

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

```

527 \ifHy@unicode
528 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
529 \HyPsd@SPACEOPTI#1%
530 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
531 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
532 {\HyPsd@SPACEOPTI\80\273}#1%
533 \else
534 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
535 \expandafter\HyPsd@Subst\expandafter{%
536 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
537 \string\273}\HyPsd@SPACEOPTI\273}#1%
538 \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.

```

539 \ifHy@unicode
540 \HyPsd@StringSubst{\}){\80\051}#1%
541 \HyPsd@Subst){\80\051}#1%
542 \let\HyPsd@empty\relax
543 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
544 {\HyPsd@empty\80\051}#1%
545 \else
546 \HyPsd@StringSubst{\}){\051}#1%
547 \HyPsd@Subst){\051}#1%
548 \let\HyPsd@empty\relax
549 \HyPsd@StringSubst{\051}\HyPsd@empty\string\})#1%
550 \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`.

```

551 \expandafter\HyPsd@Subst\expandafter{\//}\HyPsd@empty#1%
552 \@ifundefined{xspace}{%
553 }{%
554 \let\HyPsd@xspace\relax

```

```

555         \expandafter\HyPsd@Subst\expandafter
556         {\HyPsd@XSPACE}\HyPsd@xspace#1%
557         \let\HyPsd@xspace\HyPsd@doxspace
558     }%
559     \xdef#1{#1\HyPsd@empty}%

```

Ligatures. T_EX forms ligatures in its stomach, but the PDF strings are treated only by T_EX'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.

```

560 %     \HyPsd@Subst{---}\textemdash#1%
561 %     \HyPsd@Subst{--}\textendash#1%
562 %     \HyPsd@Subst{fi}\textfi#1%
563 %     \HyPsd@Subst{fl}\textfl#1%
564     \HyPsd@Subst{!'}\textexclamdown#1%
565     \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

566     \let\HyPsd@empty\@empty

```

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

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

```

567     \ifHy@unicode
568         \HyPsd@StringSubst\(\textparenleft#1%
569         \HyPsd@Subst(\textparenleft#1%
570     \else
571         \HyPsd@StringSubst\({\050}#1%
572         \HyPsd@Subst({\050}#1%
573         \HyPsd@StringSubst{\050}\string\{}#1%
574     \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.

```

575     \ifHy@unicode
576         \edef\HyPsd@SPACEOPTI{\80\040}%
577     \else
578         \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
579     \fi
580     \xdef#1{#1\@empty}%
581 \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.

```

582 \endgroup
583 \begingroup

```



```

584 \ifHy@unicode
585 \HyPsd@ConvertToUnicode#1%

```

Try conversion back to PDFDocEncoding.

```

586 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
587 \ifundefined{StringEncodingConvertTest}{%
588 }{%
589 \EdefUnescapeString\HyPsd@temp#1%
590 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
591 {utf16be}{pdfdoc}{%
592 \EdefEscapeString\HyPsd@temp\HyPsd@temp
593 \global\let#1\HyPsd@temp
594 \Hy@unicodefalse
595 }{}%
596 }%
597 \fi
598 \fi

```

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

```

599 \pdfstringdefPostHook#1%
600 \endgroup
601 }

```

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.

```

602 \@ifundefined{T@PD1}{\input{pd1enc.def}}{}
603 \DeclareFontFamily{PD1}{pdf}{}
604 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
605 \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`.

```

606 \def\HyPsd@InitUnicode{%
607 \ifundefined{T@PU}{\input{puenc.def}}{}%
608 \DeclareFontFamily{PU}{pdf}{}%
609 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
610 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
611 \let\HyPsd@InitUnicode\relax
612 }

```

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 expandible 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.

```

613 \newcommand*{\texorpdfstring}{%
614   \ifHy@pdfstring
615     \expandafter\@secondoftwo
616   \else
617     \expandafter\@firstoftwo
618   \fi
619 }
```

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`.

```

620 \@ifundefined{pdfstringdefPreHook}{%
621   \let\pdfstringdefPreHook\@empty
622 }{}
623 \@ifundefined{pdfstringdefPostHook}{%
624   \let\pdfstringdefPostHook\@gobble
625 }{}
```

`\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`.

```

626 \def\pdfstringdefDisableCommands{%
627   \begingroup
628     \makeatletter
629     \HyPsd@DisableCommands
630 }
```

`\HyPsd@DisableCommands`

```

631 \long\def\HyPsd@DisableCommands#1{%
632   \toks0=\expandafter{\pdfstringdefPreHook}%
633   \toks1={#1}%
634   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
635 \endgroup
636 }
```

`\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`.

```
637 \def\pdfstringdefWarn#1{%
638   \expandafter\noexpand\csname<>-string#1\endcsname
639 }
```

6.5 Help macros for expansion

6.5.1 Babel languages

```
640 \newif\ifHy@next

  Nothing to do for english.
641 \@ifundefined{danish@sh@"@sel}{-}{%
642   \def\HyPsd@babel@danish{%
643     \declare@shorthand{danish}{-}{-}%
644     \declare@shorthand{danish}{-}{-}%
645   }%
646 }
647 \@ifundefined{dutch@sh@"@sel}{-}{%
648   \def\HyPsd@babel@dutch{%
649     \declare@shorthand{dutch}{-}{-}%
650     \declare@shorthand{dutch}{-}{-}%
651   }%
652 }
653 \@ifundefined{finnish@sh@"@sel}{-}{%
654   \def\HyPsd@babel@finnish{%
655     \declare@shorthand{finnish}{-}{-}%
656   }%
657 }
658 \@ifundefined{french@sh@"@sel}{-}{%
659   \def\HyPsd@babel@frenchb{%
660     \def\guill@spacing{ }%
661   }%
662 }
663 \@ifundefined{german@sh@"@sel}{-}{%
664   \def\HyPsd@babel@german{%
665     \declare@shorthand{german}{f}{f}%
666     \declare@shorthand{german}{-}{-}%
667     \declare@shorthand{german}{-}{-}%
668   }%
669 }
670 \@ifundefined{macedonian@sh@"@sel}{-}{%
671   \def\HyPsd@babel@macedonian{%
672     \declare@shorthand{macedonian}{-}{-}%
673     \declare@shorthand{macedonian}{-}{-}%
674   }%
675 }{-}
676 \@ifundefined{ngerman@sh@"@sel}{-}{%
677   \def\HyPsd@babel@ngerman{%
678     \declare@shorthand{ngerman}{-}{-}%
679   }%
680 }
```

```

679 \declare@shorthand{ngerman}{~}{-}%
680 }%
681 }
682 \@ifundefined{portuges@sh@"@sel}{~}{-}%
683 \def\HyPsd@babel@portuges{%
684 \declare@shorthand{portuges}{~}{-}%
685 }%
686 }
687 \@ifundefined{russian@sh@"@sel}{~}{-}%
688 \def\HyPsd@babel@russian{%
689 \declare@shorthand{russian}{~}{-}%
690 \declare@shorthand{russian}{~}{-}%
691 }%
692 }
693 \@ifundefined{slovene@sh@"@sel}{~}{-}%
694 \def\HyPsd@babel@slovene{%
695 \declare@shorthand{slovene}{~}{-}%
696 }%
697 }

```

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

```

698 \@ifundefined{spanish@sh@>@sel}{~}{-}%
699 \def\HyPsd@babel@spanish{%
700 \declare@shorthand{spanish}{<<}{\guillemotleft}%
701 \declare@shorthand{spanish}{>>}{\guillemotright}%
702 \declare@shorthand{spanish}{=}{-}%
703 \declare@shorthand{spanish}{~}{-}%
704 \declare@shorthand{spanish}{!}{\textexclamdown}%
705 \declare@shorthand{spanish}{?}{\textquestiondown}%
706 }%
707 }
708 \@ifundefined{swedish@sh@"@sel}{~}{-}%
709 \def\HyPsd@babel@swedish{%
710 \declare@shorthand{swedish}{~}{-}%
711 \declare@shorthand{swedish}{~}{-}%
712 }%
713 }
714 \@ifundefined{ukrainian@sh@"@sel}{~}{-}%
715 \def\HyPsd@babel@ukrainian{%
716 \declare@shorthand{ukrainian}{~}{-}%
717 \declare@shorthand{ukrainian}{~}{-}%
718 }%
719 }
720 \@ifundefined{usorbian@sh@"@sel}{~}{-}%
721 \def\HyPsd@babel@usorbian{%
722 \declare@shorthand{usorbian}{f}{f}%
723 \declare@shorthand{usorbian}{~}{-}%
724 }%
725 }
726 \@ifundefined{greek@sh@\string~@sel}{~}{-}%
727 \let\HyPsd@GreekPatch\@empty
728 }%
729 \def\HyPsd@GreekPatch{%
730 \let\greeknumeral\HyPsd@greeknumeral
731 \let\Greeknnumeral\HyPsd@Greeknnumeral
732 }%
733 }
734 \def\HyPsd@greeknumeral#1{%

```

```

735 \HyPsd@GreekNum\@firstoftwo{#1}%
736 }
737 \def\HyPsd@Greeknumeral#1{%
738 \HyPsd@GreekNum\@secondoftwo{#1}%
739 }
740 \def\HyPsd@GreekNum#1#2{%
741 \ifHy@unicode
742 \ifnum#2<\@ne
743 \@arabic{#2}%
744 \else
745 \ifnum#2<1000000 %
746 \HyPsd@@GreekNum#1{#2}%
747 \else
748 \@arabic{#2}%
749 \fi
750 \fi
751 \else
752 \@arabic{#2}%
753 \fi
754 }
755 \def\HyPsd@@GreekNum#1#2{%
756 \ifnum#2<\@m
757 \ifnum#2<10 %
758 \expandafter\HyPsd@GreekNumI
759 \expandafter\@gobble\expandafter#1\number#2%
760 \else
761 \ifnum#2<100 %
762 \expandafter\HyPsd@GreekNumII
763 \expandafter\@gobble\expandafter#1\number#2%
764 \else
765 \expandafter\HyPsd@GreekNumIII
766 \expandafter\@gobble\expandafter#1\number#2%
767 \fi
768 \fi
769 \ifnum#2>\z@
770 \textnumeralsigngreek
771 \fi
772 \else
773 \ifnum#2<\@M
774 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
775 \else
776 \ifnum#2<100000 %
777 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
778 \else
779 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
780 \fi
781 \fi
782 \fi
783 }
784 \def\HyPsd@GreekNumI#1#2#3{%
785 #1{%
786 \ifnum#3>\z@
787 \textnumeralsignlowergreek
788 \fi
789 }%
790 \expandafter#2%
791 \ifcase#3 %

```

```

792     {}{}%
793 \or\textalpha\textAlpha
794 \or\textbeta\textBeta
795 \or\textgamma\textGamma
796 \or\textdelta\textDelta
797 \or\textepsilon\textEpsilon
798 \or\textstigmagreek\textStigmagreek
799 \or\textzeta\textZeta
800 \or\texteta\textEta
801 \or\texttheta\textTheta
802 \else
803     {}{}%
804 \fi
805 }
806 \def\HyPsd@GreeNumII#1#2#3#4{%
807     #1{%
808         \ifnum#3>\z@
809             \textnumeralsignlowergreek
810         \fi
811     }%
812 \expandafter#2%
813 \ifcase#3 %
814     {}{}%
815 \or\textiota\textIota
816 \or\textkappa\textKappa
817 \or\textlambda\textLambda
818 \or\textmu\textMu
819 \or\textnu\textNu
820 \or\textxi\textXi
821 \or\textomicron\textOmicron
822 \or\textpi\textPi
823 \or\textkoppagreek\textKoppagreek
824 \else
825     {}{}%
826 \fi
827 \HyPsd@GreeNumI#1#2#4%
828 }
829 \def\HyPsd@GreeNumIII#1#2#3#4#5{%
830     #1{%
831         \ifnum#3>\z@
832             \textnumeralsignlowergreek
833         \fi
834     }%
835 \expandafter#2%
836 \ifcase#3 %
837     {}{}%
838 \or\textrho\textRho
839 \or\textsigma\textSigma
840 \or\texttau\textTau
841 \or\textupsilon\textUpsilon
842 \or\textphi\textPhi
843 \or\textchi\textChi
844 \or\textpsi\textPsi
845 \or\textomega\textOmega
846 \or\textsampigreek\textSampigreek
847 \else
848     {}{}%

```

```

849 \fi
850 \HyPsd@GreekNumII#1#2#4#5%
851 }
852 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
853 \HyPsd@GreekNumI\@firstofone#1#2%
854 \HyPsd@@GreekNum#1{#3#4#5}%
855 }
856 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
857 \HyPsd@GreekNumII\@firstofone#1#2#3%
858 \HyPsd@@GreekNum#1{#4#5#6}%
859 }
860 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
861 \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
862 \HyPsd@@GreekNum#1{#5#6#7}%
863 }

```

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 ($\geq 0x40$).

```

864 \begingroup
865 \catcode"7F=\active
866 \toks@{%
867 \let\CJK@ignorespaces\empty
868 \def\CJK@char#1{\@gobbletwo}%
869 \let\CJK@charx\@gobblefour
870 \let\CJK@punctchar\@gobblefour
871 \def\CJK@punctcharx#1{\@gobblefour}%
872 \catcode"7F=\active
873 \def^^7f#1^^7f#2^^7f{%
874 \string #1\HyPsd@DecimalToOctal{#2}%
875 }%
876 % ... ?
877 \ifHy@unicode
878 \def\Hy@cjkpu{\80}%
879 \else
880 \let\Hy@cjkpu\@empty
881 \fi
882 \HyPsd@CJKActiveChars
883 }%
884 \count@=127 %
885 \@whilenum\count@<255 \do{%
886 \advance\count@ by 1 %
887 \lccode'\~= \count@
888 \lowercase{%
889 \toks@\expandafter{\the\toks@ ~}%
890 }%
891 }%
892 \toks@\expandafter{\the\toks@ !}%
893 \xdef\HyPsd@CJKhook{\the\toks@}%
894 \endgroup

```

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

```

895 \def\HyPsd@CJKActiveChars#1{%
896   \ifx#1!%
897     \let\HyPsd@CJKActiveChars\relax
898   \else
899     \edef#1{\noexpand\Hy@cjkpu\string#1}%
900   \fi
901   \HyPsd@CJKActiveChars
902 }
```

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

```

903 \def\HyPsd@DecimalToOctal#1{%
904   \ifcase #1 %
905     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
906     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
907     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
908     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
909     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
910     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
911     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
912     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
913     \or @\or A\or B\or C\or D\or E\or F\or G%
914     \or H\or I\or J\or K\or L\or M\or N\or O%
915     \or P\or Q\or R\or S\or T\or U\or V\or W%
916     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
917     \or \140\or a\or b\or c\or d\or e\or f\or g%
918     \or h\or i\or j\or k\or l\or m\or n\or o%
919     \or p\or q\or r\or s\or t\or u\or v\or w%
920     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
921     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
922     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
923     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
924     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
925     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
926     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
927     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
928     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
929     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
930     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
931     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
932     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
933     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
934     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
935     \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
936     \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
937   \fi
938 }
```

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\@currentcmd#1{%
  \ifx\protect\@typesetprotect
    \inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble
  \fi}
\def\@changedcmd#1#2{%
  \ifx\protect\@typesetprotect
    \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{%
  \@latexerror{%
    Command \protect#1 unavailable in encoding \cf@encoding%
  }\@eha}
\def\inmathwarn#1{%
  \ifmmode
    \@latexwarning{Command \protect#1 invalid in math mode}%
  \fi}

939 \def\HyPsdinmathwarn#1#2{%
940   \ifx#2\expandafter
941     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
942       \HyPsd@GLYPHERR
943     \expandafter\@gobble\string#1%
944     >%
945     \expandafter\expandafter\expandafter\HyPsd@EndWithElse
946   \else
947     \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
948   \fi
949 \else
950   \expandafter#2%
951 \fi
952 }
953 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
954 \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`

```
955 \def\HyPsd@add@accent#1#2{%
956   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
957   #2%
958 }%
```

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`.

```
959 \def\HyPsd@LetUnexpandableSpace#1{%
960   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
961 }
```

`\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.

```
962 \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`

```
963 \edef\HyPsd@XSPACE{\string#\string X}
964 \edef\HyPsd@ITALCORR{\string#\string I}
965 \edef\HyPsd@GLYPHERR{\string#\string G}
```

6.5.7 \hspace fix

`\HyPsd@hspace`

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

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

```
967 \def\HyPsd@@hspace#1*#2\END{%
968   \ifx\#2\%
969     \HyPsd@hspacetest{#1}%
970   \else
971     \expandafter\HyPsd@hspacetest
972   \fi
973 }
```

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

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

6.5.8 Fix for AMS classes

```

975 \@ifundefined{tocsection}{%
976   \let\HyPSD@AMSclassfix\relax
977 }{%
978   \def\HyPSD@AMSclassfix{%
979     \let\tocpart\HyPSD@tocsection
980     \let\tocchapter\HyPSD@tocsection
981     \let\tocappendix\HyPSD@tocsection
982     \let\tocsection\HyPSD@tocsection
983     \let\tocsubsection\HyPSD@tocsection
984     \let\tocsubsubsection\HyPSD@tocsection
985     \let\tocparagraph\HyPSD@tocsection
986   }%
987   \def\HyPSD@tocsection#1#2#3{%
988     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
989     #3%
990   }%
991 }

```

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.

```

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

```

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

```

993 \def\HyPsd@@ref#1*#2\END{%
994   \ifx\#2\%
995     \HyPsd@@@ref{#1}%
996   \else
997     \expandafter\HyPsd@@@ref
998   \fi
999 }%

```

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

```

1000 \def\HyPsd@@@ref#1{%
1001   \expandafter\ifx\csname r@#1\endcsname\relax
1002     ??%
1003   \else
1004     \expandafter\expandafter\expandafter\@car\csname r@#1\endcsname\@nil
1005   \fi
1006 }

```

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

```

1007 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

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

```

1008 \def\HyPsd@@pageref#1*#2\END{%
1009   \ifx\#2\%
1010     \HyPsd@@@pageref{#1}%
1011   \else
1012     \expandafter\HyPsd@@@pageref
1013   \fi
1014 }

```

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

```

1015 \def\HyPsd@@pageref#1{%
1016   \expandafter\ifx\csname r@#1\endcsname\relax
1017     ??%
1018   \else
1019     \expandafter\expandafter\expandafter\expandafter
1020     \expandafter\expandafter\expandafter\@car
1021     \expandafter\expandafter\expandafter\@gobble
1022     \csname r@#1\endcsname\@nil
1023   \fi
1024 }
```

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

```

1025 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```

1026 \def\HyPsd@@autoref#1*#2\END{%
1027   \ifx\#2\%
1028     \HyPsd@@autoref{#1}%
1029   \else
1030     \expandafter\HyPsd@@autoref
1031   \fi
1032 }
```

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

```

1033 \def\HyPsd@@@autoref#1{%
1034   \expandafter\ifx\csname r@#1\endcsname\relax
1035     ??%
1036   \else
1037     \expandafter\expandafter\expandafter\HyPsd@autorefname
1038     \csname r@#1\endcsname{}{}{}{}@nil
1039     \expandafter\expandafter\expandafter\@car\csname r@#1\endcsname\@nil
1040   \fi
1041 }
```

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

```

1042 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1043   \ifx\#4\%
1044   \else
1045     \HyPsd@@autorefname#4.\@nil
1046   \fi
1047 }
```

`\HyPsd@@autorefname`

```

1048 \def\HyPsd@@autorefname#1.#2\@nil{%
1049   \@ifundefined{#1autorefname}{%
1050     \@ifundefined{#1name}{%
1051       }{%
1052         \csname#1name\endcsname\space
1053       }%
1054     }{%
1055       \csname#1autorefname\endcsname\space
1056     }%
1057 }
```

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
1058 \begingroup
1059   \def\x#1#2{%
1060     \endgroup
1061     \let#1\def
1062     \def\HyPsd@DefCommand##1##2##{%
1063       #1%
1064       \expandafter\noexpand
1065       \csname\expandafter\@gobble\string##1\@empty\endcsname
1066       \@gobble
1067     }%
1068     \let#2\let
1069     \def\HyPsd@@LetCommand##1{%
1070       \expandafter\ifx\csname##1\expandafter\endcsname
1071         \csname iftrue\endcsname
1072       \pdfstringdefWarn\let
1073       \expandafter\@gobble
1074     \else
1075       \expandafter\ifx\csname##1\expandafter\endcsname
1076         \csname iffalse\endcsname
1077       \pdfstringdefWarn\let
1078       \expandafter\expandafter\expandafter\@gobble
1079     \else
1080       #2%
1081       \expandafter\noexpand
1082       \csname##1\expandafter\expandafter\expandafter\endcsname

```

```

1083         \fi
1084     \fi
1085 }%
1086 }%
1087 \expandafter\x\csname <def>-command\expandafter\endcsname
1088         \csname <let>-command\endcsname
1089 \def\HyPsd@LetCommand#1{%
1090     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1091     \expandafter\expandafter\expandafter{%
1092     \expandafter\@gobble\string#1\@empty
1093 }%
1094 }

```

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.

```

1095 \def\HyPsd@ifnextchar{%
1096     \pdfstringdefWarn\@ifnextchar
1097     \expandafter\@gobbletwo\@gobble
1098 }

```

`\HyPsd@new@ifnextchar` Package `amsgen.sty` redefines `\@ifstar` using `\new@ifnextchar` instead of `\@ifnextchar`. See bug report [latex/3662](https://tex.stackexchange.com/questions/3662).

```

1099 \def\HyPsd@new@ifnextchar{%
1100     \pdfstringdefWarn\new@ifnextchar
1101     \expandafter\@gobbletwo\@gobble
1102 }

```

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`.

```

1103 \def\HyPsd@protected@testopt#1{%
1104     \pdfstringdefWarn#1%
1105     \@gobbletwo
1106 }

```

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:

```

1107 \def\HyPsd@Warning#1{%
1108     \begingroup
1109     \def\space{ }%
1110     \Hy@Warning{#1}%
1111 \endgroup
1112 }

```

6.6.2 Protecting spaces

```

1113 \RequirePackage{etexcmds}
1114 \ifetex@unexpanded
1115   \expandafter\@secondoftwo
1116 \else
1117   \expandafter\@firstoftwo
1118 \fi
1119 {%

```

`\HyPsd@ProtectSpaces` `\HyPsd@ProtectSpaces` calls with the expanded string `\HyPsd@@ProtectSpacesFi`. The expanded string is protected by `|` at the beginning and end of the expanded string. Because of this there can be no group at the beginning or end of the string and grouping characters are not removed by the call of `\HyPsd@@ProtectSpacesFi`.

```

1120   \def\HyPsd@ProtectSpaces#1{%
1121     \iftrue
1122       \expandafter\HyPsd@@ProtectSpacesFi
1123       \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1124     \fi
1125   }%

```

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

```

1126   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1127     \fi
1128     \ifx\scrollmode#2\scrollmode
1129       \HyPsd@RemoveMask#1\HyPsd@End#3%
1130     \else
1131       \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1132       \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1133     \fi
1134   }%

```

Remove mask.

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

```

1135   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1136     \toks@\expandafter{#1}%
1137     \xdef#2{\the\toks@}%
1138   }%

1139 }{%
1140   \let\HyPsd@fi\fi
1141   \def\HyPsd@ProtectSpaces#1{%
1142     \xdef#1{%
1143       \iftrue
1144         \expandafter\HyPsd@@ProtectSpacesFi
1145         \expandafter|\expandafter\@empty#1| %
1146       \HyPsd@fi
1147     }%
1148     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1149   }%
1150   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1151     \fi
1152     \etex@unexpanded{#1}%
1153     \ifx\scrollmode#2\scrollmode
1154     \else
1155       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%

```

```

1156 \HyPsd@fi
1157 }%
1158 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1159 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1160 }%
1161 }

```

6.6.3 Remove grouping braces

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

```

1162 \def\HyPsd@RemoveBraces#1{%
1163 \ifx\scrollmode#1\scrollmode
1164 \else
1165 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1166 \fi
1167 }

```

`\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`.

```

1168 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1169 \fi
1170 \def\Hy@temp@A{#1#2}%
1171 \def\Hy@temp@B{#3}%
1172 \ifx\Hy@temp@A\Hy@temp@B
1173 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1174 \HyPsd@String#1%
1175 }%
1176 \ifx\scrollmode#2\scrollmode
1177 \else
1178 \Hy@ReturnAfterFiFiEnd{%
1179 \HyPsd@RemoveBraces{#2}%
1180 }%
1181 \fi
1182 \else
1183 \def\Hy@temp@A{#1}%
1184 \HyPsd@AppendItalcorr\HyPsd@String
1185 \ifx\Hy@temp@A\empty
1186 \Hy@ReturnAfterElseFiFiEnd{%
1187 \HyPsd@RemoveBraces{#2}%
1188 }%
1189 \else
1190 \HyPsd@ProtectSpaces\Hy@temp@A
1191 \HyPsd@AppendItalcorr\Hy@temp@A
1192 \Hy@ReturnAfterFiFiEnd{%
1193 \expandafter\HyPsd@RemoveBraces\expandafter
1194 {\Hy@temp@A#2}%
1195 }%
1196 \fi
1197 \fi

```



```

1198 \Hy@ReturnEnd
1199 }

```

\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.

```

1200 \def\HyPsd@AppendItalcorr#1{%
1201 \expandafter\HyPsd@@AppendItalcorr\expandafter{/}#1%
1202 }
1203 \def\HyPsd@@AppendItalcorr#1#2{%
1204 \expandafter\def\expandafter#2\expandafter{#2#1}%
1205 }

```

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).

```

1206 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1207 \global\let\HyPsd@Rest\relax
1208 \ifcat\relax\noexpand#1\relax
1209 \ifx#1\protect
1210 \else
1211 \ifx#1\penalty
1212 \setbox\z@=\hbox{%
1213 \afterassignment\HyPsd@AfterCountRemove
1214 \count@=#2\HyPsd@End
1215 }%
1216 \else
1217 \ifx#1\kern
1218 \setbox\z@=\hbox{%
1219 \afterassignment\HyPsd@AfterDimenRemove
1220 \dimen@=#2\HyPsd@End
1221 }%
1222 \else
1223 \ifx#1\hskip
1224 \setbox\z@=\hbox{%
1225 \afterassignment\HyPsd@AfterSkipRemove
1226 \skip@=#2\HyPsd@End
1227 }%
1228 \else
1229 \HyPsd@CatcodeWarning{#1}%
1230 \fi
1231 \fi
1232 \fi
1233 \fi
1234 \else
1235 \ifcat#1A% letter
1236 \expandafter\def\expandafter\HyPsd@String\expandafter{%

```

```

1237     \HyPsd@String#1%
1238   }%
1239   \else
1240     \ifcat#1 % SPACE
1241       \expandafter\def\expandafter\HyPsd@String\expandafter{%
1242         \HyPsd@String\HyPsd@SPACEOPTI
1243       }%
1244   \else
1245     \ifcat$#1%
1246       \HyPsd@CatcodeWarning{math shift}%
1247   \else
1248     \ifcat&#1%
1249       \HyPsd@CatcodeWarning{alignment tab}%
1250   \else
1251     \ifcat^#1%
1252       \HyPsd@CatcodeWarning{superscript}%
1253   \else
1254     \ifcat_#1%
1255       \HyPsd@CatcodeWarning{subscript}%
1256   \else
1257     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1258       \HyPsd@String#1%
1259     }%
1260   \fi
1261 \fi
1262 \fi
1263 \fi
1264 \fi
1265 \fi
1266 \fi
1267 \ifx\HyPsd@Rest\relax
1268   \ifx\scrollmode#2\scrollmode
1269   \else
1270     \Hy@ReturnAfterFiFiEnd{%
1271       \HyPsd@CheckCatcodes#2\HyPsd@End
1272     }%
1273   \fi
1274 \else
1275   \ifx\HyPsd@Rest\@empty
1276   \else
1277     \Hy@ReturnAfterFiFiEnd{%
1278       \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1279     }%
1280   \fi
1281 \fi
1282 \Hy@ReturnEnd
1283 }

```

Remove counts, dimens, skips.

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

```

1284 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1285   \gdef\HyPsd@Rest{#1}%
1286 }

```

\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.

```

1287 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
1288   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@ \fi>1ex %
1289     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1290     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1291   \else
1292     \ifdim\dimen@=\z@
1293     \else
1294       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1295     \fi
1296     \gdef\HyPsd@Rest{#1}%
1297   \fi
1298 }

```

`\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).

```

1299 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1300   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@ \fi>1ex %
1301     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1302     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1303   \else
1304     \ifdim\skip@=\z@
1305     \else
1306       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1307     \fi
1308     \gdef\HyPsd@Rest{#1}%
1309   \fi
1310 }

```

Catcode warnings.

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

```

1311 \def\HyPsd@CatcodeWarning#1{%
1312   \HyPsd@Warning{%
1313     Token not allowed in a PDFDocEncoded string,%
1314     \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1315   }%
1316 }
1317 \begingroup
1318   \catcode‘\|=0 %
1319   \catcode‘\|=12 %
1320   \gdef\HyPsd@RemoveCmdPrefix#1{%
1321     \expandafter\HyPsd@@RemoveCmdPrefix
1322     \string#1\@empty\<>-|\@empty|\@empty
1323   }%
1324   \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|\@empty#3|\@empty{#1#2}%
1325 \endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

1326 \def\HyPsd@RemoveSpaceWarning#1{%
1327   \HyPsd@Warning{%
1328     Token not allowed in a PDFDocEncoded string:%
1329     \MessageBreak #1\MessageBreak
1330     removed%
1331   }%
1332 }

```

\HyPsd@ReplaceSpaceWarning

```
1333 \def\HyPsd@ReplaceSpaceWarning#1{%
1334   \HyPsd@Warning{%
1335     Token not allowed in a PDFDocEncoded string:%
1336     \MessageBreak #1\MessageBreak
1337     replaced by space%
1338   }%
1339 }
```

6.6.5 Check for wrong glyphs

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

```
1340 \def\HyPsd@GlyphProcess#1\relax#2\empty{%
1341   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1342     \HyPsd@String#1%
1343   }%
1344   \ifx\#2\%
1345   \else
1346     \Hy@ReturnAfterFi{%
1347       \HyPsd@GlyphProcessWarning#2\empty
1348     }%
1349   \fi
1350 }
1351 \def\HyPsd@GlyphProcessWarning#1>#2\empty{%
1352   \HyPsd@Warning{%
1353     Glyph not defined in %
1354     P\ifHy@unicode U\else D\fi\space encoding,\MessageBreak
1355     removing '@backslashchar#1'%
1356   }%
1357   \HyPsd@GlyphProcess#2\empty
1358 }
```

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.

```
1359 \def\HyPsd@spaceopti#1{ % first space
1360   \ifx\HyPsd@spaceopti#1%
1361     \040%
1362   \else
1363     #1%
1364   \fi
1365 }
```

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.

```
1366 \def\HyPsd@Subst#1#2#3{%
1367   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
```

```

1368 \fi
1369 ##1%
1370 \ifx\scrollmode##2\scrollmode
1371 \else
1372 #2%
1373 \HyPsd@@ReplaceFi##2\END
1374 \fi
1375 }%
1376 \xdef#3{%
1377 \iftrue
1378 \expandafter\HyPsd@@ReplaceFi#3#1\END
1379 \fi
1380 }%
1381 }

```

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

```

1382 \def\HyPsd@StringSubst#1{%
1383 \expandafter\HyPsd@Subst\expandafter{\string#1}%
1384 }

```

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.

```

1385 \def\HyPsd@doxspace#1{%
1386 \ifx#1\relax\else
1387 \ifx#1.\else
1388 \ifx#1:\else
1389 \ifx#1,\else
1390 \ifx#1;\else
1391 \ifx#1!\else
1392 \ifx#1?\else
1393 \ifx#1/\else
1394 \ifx#1-\else
1395 \ifx#1'\else
1396 \HyPsd@SPACEOPTI
1397 \fi
1398 \fi
1399 \fi
1400 \fi
1401 \fi
1402 \fi
1403 \fi
1404 \fi
1405 \fi
1406 \fi
1407 #1%
1408 }%

```

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.

```

1409 \beginingroup
1410 \catcode'\|=0 %
1411 \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

1412 |gdef|HyPsd@ConvertToUnicode#1{%
1413 |xdef#1{%
1414 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1415 }%
1416 |ifx#1|@empty
1417 |else
1418 |xdef#1{%
1419 \376\377%
1420 #1%
1421 }%
1422 |fi
1423 }%

```

\HyPsd@DoConvert

```

1424 |gdef|HyPsd@DoConvert#1{%
1425 |ifx#1|@empty
1426 |else
1427 |Hy@ReturnAfterFi{%
1428 |ifx#1\%%
1429 \%%
1430 |expandafter|HyPsd@DoEscape
1431 |else
1432 \000#1%
1433 |expandafter|HyPsd@DoConvert
1434 |fi
1435 }%
1436 |fi
1437 }%

```

\HyPsd@DoEscape

```

1438 |gdef|HyPsd@DoEscape#1{%
1439 |ifx#19%
1440 |expandafter|HyPsd@GetTwoBytes
1441 |else
1442 |Hy@ReturnAfterFi{%
1443 |ifx#18%
1444 00%
1445 |expandafter|HyPsd@GetTwoBytes
1446 |else
1447 #1%
1448 |expandafter|HyPsd@GetOneByte
1449 |fi
1450 }%
1451 |fi
1452 }%

```

\HyPsd@GetTwoBytes

```

1453 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1454 #1\#2#3#4%
1455 |HyPsd@DoConvert
1456 }%

```

\HyPsd@GetOneByte

```

1457 |gdef|HyPsd@GetOneByte#1#2{%
1458   #1#2%
1459   |HyPsd@DoConvert
1460   }%
1461 |endgroup

```

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

```

1462 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1463   \xdef#4{#4#1#2}%
1464   \HyPsd@@ConvertToUnicode#3\END#4%
1465 }

```

6.6.9 Support for UTF-8 input encoding

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

This calculation must be done in an expandable context, so we use e_T_EXhere 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`

```

1466 \begingroup\expandafter\expandafter\expandafter\endgroup
1467 \expandafter\ifx\csname numexpr\endcsname\relax
1468   \let\HyPsd@UTFviii\relax
1469 \else
1470   \def\HyPsd@UTFviii{%
1471     \let\UTFviii@two@octets\HyPsd@UTFviii@two
1472     \let\UTFviii@three@octets\HyPsd@UTFviii@three
1473     \let\unichar\HyPsd@unichar
1474   }%

```

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.

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

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

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

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

$$(5)$$

```

1475 \def\HyPsd@UTFviii@two#1#2{%
1476   \expandafter\HyPsd@UTFviii@two
1477   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|%
1478   \number'#1\expandafter|%
1479   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|%
1480   \number'#2 \@nil
1481 }%
1482 \def\HyPsd@UTFviii@two#1|#2|#3|#4\@nil{%
1483   \expandafter\8%
1484   \number\numexpr #1-48\expandafter\relax

```

```

1485 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1486 \number\numexpr #3-8*%
1487 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1488 \number\numexpr #4-8*#3\relax
1489 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1490 \def\HyPsd@UTFviii@three#1#2#3{%
1491 \expandafter\HyPsd@UTFviii@three
1492 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|%
1493 \number'#1\expandafter|%
1494 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|%
1495 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|%
1496 \number'#2\expandafter|%
1497 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|%
1498 \number'#3 \@nil
1499 }%
1500 \def\HyPsd@UTFviii@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1501 \expandafter\9%
1502 \number\numexpr #1-56\expandafter\relax
1503 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1504 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1505 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1506 \number\numexpr #6-16\expandafter\relax
1507 \number\numexpr #7-8*#6\relax
1508 }%

```

Four octet form: 11110aab (A), 10bccdd (B), 10deefff (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:

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

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

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

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

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

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

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

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

$$(21)$$

```

1509 \def\HyPsd@UTFviii@four#1{%
1510 \expandafter\HyPsd@UTFviii@four\number'#1|%
1511 }%

```



```

1512 \def\HyPsd@UTFviii@@four#1|#2|#3|#4{%
1513   \expandafter\HyPsd@UTFviii@@@four\number#1\expandafter|{%
1514     \number'#2\expandafter|{%
1515       \number\dimexpr.03125\dimexpr'#2sp\expandafter|{%
1516         \number'#3\expandafter|{%
1517           \number\dimexpr.03125\dimexpr'#3sp\expandafter|{%
1518             \number'#4\expandafter|{%
1519               \number\dimexpr.125\dimexpr'#4|{%
1520             }%
1521   \def\HyPsd@UTFviii@@@four#1|#2|#3|#4|#5|#6|#7|{%
1522     \931%
1523     \number\numexpr\dimexpr.5\dimexpr#1sp\relax\relax -120\relax
1524     \csname\number\numexpr\ifodd#1 2\else 0\fi +#3-4\relax\endcsname
1525     \number\dimexpr.25\dimexpr #2sp - 32\dimexpr#3sp\relax\relax\relax
1526     % ...
1527   }%

```

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

```

1528 \def\HyPsd@unichar#1{%
1529   \ifHy@unicode
1530     \ifnum#1>"10FFFF %
1531       \HyPsd@UnicodeReplacementCharacter % illegal
1532     \else
1533       \ifnum#1>"FFFF %

```

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

```

1534   \expandafter\HyPsd@unichar\expandafter{%
1535     \number\numexpr 55296+{%
1536       \dimexpr.0009765625\dimexpr\number#1sp-\p@
1537       \relax\relax\relax
1538     }%

```

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

```

1539   \expandafter\HyPsd@unichar\expandafter{%
1540     \number\numexpr#1-9216%
1541     -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1542     \relax\relax\relax
1543   }%
1544   \else
1545     \ifnum#1>"7FF %
1546       \9%
1547       \expandafter\HyPsd@unichar@first@byte\expandafter{%
1548         \number
1549         \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1550       }%
1551     \else
1552       \8%
1553       \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1554       \fi
1555       \expandafter\HyPsd@unichar@second@byte\expandafter{%
1556         \number
1557         \numexpr#1-256*\number
1558         \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1559       }%
1560     \fi
1561   \fi
1562   \else
1563     .% unsupported (Unicode -> PDF Doc Encoding)

```

```

1564 \fi
1565 }%
1566 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1567 \def\HyPsd@unichar@first@byte#1{%
1568 \number\dimexpr.015625\dimexpr#1sp\relax\relax
1569 \expandafter\HyPsd@unichar@octtwo\expandafter{%
1570 \number
1571 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp\relax\relax\relax
1572 }%
1573 }%
1574 \def\HyPsd@unichar@second@byte#1{%
1575 \csize\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsize
1576 \expandafter\HyPsd@unichar@octtwo\expandafter{%
1577 \number
1578 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp\relax\relax\relax
1579 }%
1580 }%
1581 \def\HyPsd@unichar@octtwo#1{%
1582 \number\dimexpr.125\dimexpr#1sp\relax\relax
1583 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp\relax\relax\relax
1584 }%
1585 \fi

```

7 Support of other packages

7.1 Class memoir

```

1586 \@ifclassloaded{memoir}{%
1587 \AtEndOfPackage{\RequirePackage{memhfixc}}%
1588 }{}

```

7.2 Package subfigure

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

```

1589 \@ifpackageloaded{subfigure}{%
1590 \@ifundefined{sub@label}{%
1591 \Hy@hypertextnamesfalse
1592 }{%
1593 \renewcommand*{\sub@label}[1]{%
1594 \@bsphack
1595 \subfig@oldlabel{#1}%
1596 \if@files
1597 \begingroup
1598 \edef\@currentlabstr{%
1599 \expandafter\strip@prefix\meaning\@currentlabelname
1600 }%
1601 \protected@write\@auxout{}{%
1602 \string\newlabel{sub@#1}{%
1603 {\@nameuse{@@thesub\@capytype}}%
1604 {\thepage}%
1605 {\expandafter\strip@period\@currentlabstr\relax.\relax\@@@}%
1606 {\@currentHref}%
1607 }%
1608 }%
1609 }%
1610 \endgroup
1611 \fi

```

```

1612     \@esphack
1613   }%
1614   \@ifpackagelater{subfigure}{2002/03/26}{}%
1615     \providecommand*{\toclevel@subfigure}{1}%
1616     \providecommand*{\toclevel@subtable}{1}%
1617   }%
1618 }%
1619 {}

```

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:

```

1620 \@ifundefined{XR@addURL}{%
1621 }{%

```

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.

```

1622   \def\XR@addURL#1{\XR@dURL#1{}{}{}\\}%
1623   \def\XR@dURL#1#2#3#4#5\\{%
1624     {#1}{#2}%
1625     \if!#4!%
1626     \else
1627       {#3}{#4}{\XR@URL}%
1628     \fi
1629   }%
1630 }

1631 \def\Hy@true{true}
1632 \def\Hy@false{false}

```

Providing dummy definitions.

```

1633 \let\literalps@out@gobble
1634 \newcommand\pdfbookmark[3][]{ }
1635 \let\Acrobatmenu@gobble
1636 \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

```

1637 \let\HyperRaiseLinkLength\@tempdima
1638 \let\HyperRaiseLinkHook\@empty
1639 \def\HyperRaiseLinkDefault{\baselineskip}

```

\HyperRaiseLinkHook allows the user to reassign \HyperRaiseLinkLength.

```

1640 \def\Hy@raisedlink#1{%

```

```

1641 \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1642 \HyperRaiseLinkHook
1643 \ifvmode
1644   #1%
1645 \else
1646   \penalty\@M
1647   \smash{\raise\HyperRaiseLinkLength\hbox{#1}}%
1648 \fi
1649 }

```

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

```

1650 \def\Hy@SaveLastskip{%
1651   \let\Hy@RestoreLastskip\relax
1652   \ifvmode
1653     \ifdim\lastskip=\z@
1654       \let\Hy@RestoreLastskip\nobreak
1655     \else
1656       \begingroup
1657         \skip@=-\lastskip
1658         \edef\x{%
1659           \endgroup
1660           \def\noexpand\Hy@RestoreLastskip{%
1661             \noexpand\ifvmode
1662               \noexpand\nobreak
1663               \vskip\the\skip@
1664               \vskip\the\lastskip\relax
1665             \noexpand\fi
1666           }%
1667         }%
1668       \x
1669     \fi
1670   \else
1671     \ifhmode
1672       \ifdim\lastskip=\z@
1673         \let\Hy@RestoreLastskip\nobreak
1674       \else
1675         \begingroup
1676         \skip@=-\lastskip
1677         \edef\x{%
1678           \endgroup
1679           \def\noexpand\Hy@RestoreLastskip{%
1680             \noexpand\ifhmode
1681               \noexpand\nobreak
1682               \hskip\the\skip@
1683               \hskip\the\lastskip\relax
1684             \noexpand\fi
1685           }%
1686         }%
1687       \x
1688     \fi
1689   \fi
1690 \fi
1691 }%

```

9 Options

9.1 Help macros

`\Hy@boolkey`

```
1692 \def\Hy@boolkey{\@dblarg\Hy@boolkey}
1693 \def\Hy@boolkey[#1]#2#3{%
1694   \lowercase{\def\Hy@tempa{#3}}%
1695   \ifx\Hy@tempa\@empty
1696     \let\Hy@tempa\Hy@true
1697   \fi
1698   \ifx\Hy@tempa\Hy@true
1699   \else
1700     \ifx\Hy@tempa\Hy@false
1701     \else
1702       \let\Hy@tempa\relax
1703     \fi
1704   \fi
1705   \ifx\Hy@tempa\relax
1706     \Hy@WarnOptionValue{#3}-{#1}{'true' or 'false'}%
1707   \else
1708     \Hy@Info{Option '#1' set '\Hy@tempa'}%
1709     \csname Hy@#2\Hy@tempa\endcsname
1710   \fi
1711 }
```

`\Hy@WarnOptionValue`

```
1712 \def\Hy@WarnOptionValue#1#2#3{%
1713   \Hy@Warning{%
1714     Unexpected value '#1'\MessageBreak
1715     of option '#2' instead of\MessageBreak
1716     #3%
1717   }%
1718 }
```

`\Hy@DisableOption`

```
1719 \def\Hy@DisableOption#1{%
1720   \@ifundefined{KV@Hyp@#1@default}{%
1721     \define@key{Hyp}{#1}%
1722   }{%
1723     \define@key{Hyp}{#1}[]%
1724   }%
1725   {\Hy@WarnOptionDisabled{#1}}%
1726 }
```

`\Hy@WarnOptionDisabled`

```
1727 \def\Hy@WarnOptionDisabled#1{%
1728   \Hy@Warning{%
1729     Option '#1' has already been used,\MessageBreak
1730     setting the option has no effect%
1731   }%
1732 }
```

`\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.

```
1733 \def\Hy@CheckOptionValue#1#2#3{%
```

```

1734 \begingroup
1735   \edef\x{#1}%
1736   \@onelevel@sanitize\x
1737   \let\y=y%
1738   \def\do##1##2{%
1739     \def\z{##1}%
1740     \@onelevel@sanitize\z
1741     \ifx\x\z
1742       \let\y=n%
1743       \let\do\@gobbletwo
1744     \fi
1745   }%
1746   #3%
1747   \ifx\y y%
1748     \def\do##1##2{%
1749       * '##1'%
1750       \ifx\\##2\\else\space(##2)\fi
1751       \MessageBreak
1752     }%
1753     \Hy@Warning{%
1754       Values of option '#2':\MessageBreak
1755       #3%
1756       * An empty value disables the option.\MessageBreak
1757       Unknown value '\x'%
1758     }%
1759   \fi
1760 \endgroup
1761 }

```

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

```

1762 \def\Hy@DefNameKey#1{%
1763   \expandafter\Hy@DefNameKey\csname @#1\endcsname{#1}%
1764 }

```

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

```

1765 \def\Hy@@DefNameKey#1#2#3{%
1766   \define@key{Hyp}{#2}{%
1767     \edef#1{##1}%
1768     \ifx#1\@empty
1769     \else
1770       \Hy@CheckOptionValue{##1}{#2}{#3}%
1771     \fi
1772   }%
1773   \let#1\@empty
1774 }

```

`\Hy@UseNameKey`

```

1775 \def\Hy@UseNameKey#1#2{%
1776   \ifx#2\@empty
1777   \else
1778     /#1/#2%
1779   \fi
1780 }

```

9.2 Defining the options

```
1781 \define@key{Hyp}{implicit}[true]{%
1782   \Hy@boolkey{implicit}{#1}%
1783 }
1784 \define@key{Hyp}{draft}[true]{%
1785   \Hy@boolkey{draft}{#1}%
1786 }
1787 \define@key{Hyp}{final}[true]{%
1788   \Hy@boolkey{final}{#1}%
1789 }
1790 \let\KV@Hyp@nolinks\KV@Hyp@draft
1791 \define@key{Hyp}{a4paper}[true]{%
1792   \def\special@paper{210mm,297mm}%
1793   \def\Hy@pageheight{842}%
1794 }
1795 \define@key{Hyp}{a5paper}[true]{%
1796   \def\special@paper{148mm,210mm}%
1797   \def\Hy@pageheight{595}%
1798 }
1799 \define@key{Hyp}{b5paper}[true]{%
1800   \def\special@paper{176mm,250mm}%
1801   \def\Hy@pageheight{709}%
1802 }
1803 \define@key{Hyp}{letterpaper}[true]{%
1804   \def\special@paper{8.5in,11in}%
1805   \def\Hy@pageheight{792}%
1806 }
1807 \define@key{Hyp}{legalpaper}[true]{%
1808   \def\special@paper{8.5in,14in}%
1809   \def\Hy@pageheight{1008}%
1810 }
1811 \define@key{Hyp}{executivepaper}[true]{%
1812   \def\special@paper{7.25in,10.5in}%
1813   \def\Hy@pageheight{720}%
1814 }
1815 \define@key{Hyp}{setpagesize}[true]{%
1816   \Hy@boolkey{setpagesize}{#1}%
1817 }
1818 \define@key{Hyp}{debug}[true]{%
1819   \Hy@boolkey{debug}{verbose}{#1}%
1820 }
1821 \define@key{Hyp}{linktopage}[true]{%
1822   \Hy@boolkey{linktopage}{#1}%
1823 }
1824 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
1825 \def\XR@ext{dvi}
1826 \define@key{Hyp}{verbose}[true]{%
1827   \Hy@boolkey{verbose}{#1}%
1828 }
1829 \define@key{Hyp}{typexml}[true]{%
1830   \Hy@boolkey{typexml}{#1}%
1831 }
```

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.

```

1832 \define@key{Hyp}{raiselinks}[true]{%
1833   \Hy@boolkey{raiselinks}{#1}%
1834 }

```

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

```

1835 \define@key{Hyp}{breaklinks}[true]{%
1836   \Hy@boolkey{breaklinks}{#1}%
1837 }

```

Determines whether an automatic anchor is put on each page

```

1838 \define@key{Hyp}{pageanchor}[true]{%
1839   \Hy@boolkey{pageanchor}{#1}%
1840 }

```

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.

```

1841 \define@key{Hyp}{plainpages}[true]{%
1842   \Hy@boolkey{plainpages}{#1}%
1843 }

```

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

```

1844 \define@key{Hyp}{naturalnames}[true]{%
1845   \Hy@boolkey{naturalnames}{#1}%
1846 }

```

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

```

1847 \define@key{Hyp}{hypertexnames}[true]{%
1848   \Hy@boolkey{hypertexnames}{#1}%
1849 }

```

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

```

1850 \define@key{Hyp}{nesting}[true]{%
1851   \Hy@boolkey{nesting}{#1}%
1852 }

```

```

1853 \define@key{Hyp}{unicode}[true]{%
1854   \Hy@boolkey{unicode}{#1}%
1855   \ifHy@unicode
1856     \def\HyPsd@pdfencoding{unicode}%
1857   \else
1858     \def\HyPsd@pdfencoding{pdfdoc}%
1859   \fi
1860   \HyPsd@LoadUnicode
1861 }
1862 \def\HyPsd@LoadUnicode{%
1863   \@ifundefined{T@PU}{\input{puenc.def}}{}%
1864   \DeclareFontFamily{PU}{pdf}{}%
1865   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
1866   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
1867   \global\let\HyPsd@LoadUnicode\relax
1868 }
1869 \AtBeginDocument{%
1870   \ifx\HyPsd@LoadUnicode\relax
1871   \else
1872     \def\HyPsd@LoadUnicode{%
1873       \PackageError{hyperref}{%
1874         Unicode support for bookmarks is not available.\MessageBreak
1875         Activate unicode support by using one of the options\MessageBreak
1876         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
1877         in the preamble%

```



```

1878     }\@ehc
1879     \global\let\HyPsd@LoadUnicode\relax
1880     \global\Hy@unicodedefalse
1881     \global\let\Hy@unicodetrue\Hy@unicodedefalse
1882   }%
1883 \fi
1884 }

1885 \define@key{Hyp}{pdfencoding}{%
1886   \edef\HyPsd@temp{#1}%
1887   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
1888     \let\HyPsd@pdfencoding\HyPsd@temp
1889     \Hy@unicodedefalse
1890   \else
1891     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
1892       \z@
1893     \else
1894       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
1895         \z@
1896       \else
1897         \@ne
1898       \fi
1899     \fi
1900     \let\HyPsd@pdfencoding\HyPsd@temp
1901     \hypersetup{unicode}%
1902     \ifHy@unicode
1903       \def\HyPsd@pdfencoding{#1}%
1904       \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
1905         \HyPsd@LoadStringEnc
1906       \fi
1907     \else
1908       \Hy@Warning{Cannot switch to unicode bookmarks}%
1909       \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
1910     \fi
1911   \else
1912     \@onelevel@sanitize\HyPsd@temp
1913     \Hy@Warning{%
1914       Values of option 'pdfencoding':\MessageBreak
1915       'pdfdoc', 'unicode', 'auto'.\MessageBreak
1916       Ignoring unknown value '\HyPsd@temp'%
1917     }%
1918   \fi
1919 \fi
1920 }

1921 \def\HyPsd@pdfencoding@auto{auto}
1922 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
1923 \def\HyPsd@pdfencoding@unicode{unicode}
1924 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
1925 \def\HyPsd@LoadStringEnc{%
1926   \RequirePackage{stringenc}[2007/06/14]
1927   \let\HyPsd@LoadStringEnc\relax
1928 }

1929 \AtBeginDocument{%
1930   \@ifpackageloaded{stringenc}{%
1931     \let\HyPsd@LoadStringEnc\relax
1932   }{%
1933     \def\HyPsd@LoadStringEnc{%
1934       \Hy@WarningNoLine{%

```

```

1935         Missing package ‘stringenc’. Use ‘pdfencoding=auto’\MessageBreak
1936         in the preamble or load the package there%
1937     }%
1938 }%
1939 }%
1940 }

```

10 Options for different drivers

```

1941 \define@key{Hyp}{hyperref}[true]{}
1942 \define@key{Hyp}{tex4ht}[true]{}%
1943 \def\XR@ext{html}%
1944 \Hy@texhttrue
1945 \def\Hy@raisedlink{}%
1946 \setkeys{Hyp}{colorlinks=true}%
1947 \def\BeforeTeXIVht{\usepackage{color}}%
1948 \def\Hy@driver{htex4ht}%
1949 \def\MaybeStopEarly{%
1950     \typeout{Hyperref stopped early}%
1951     \AfterBeginDocument{\PDF@FinishDoc}%
1952     \endinput
1953 }%
1954 }
1955 \define@key{Hyp}{pdftex}[true]{}%
1956 \def\Hy@driver{hpdftex}%
1957 \def\XR@ext{pdf}%
1958 \PassOptionsToPackage{pdftex}{color}%
1959 \Hy@breaklinkstrue
1960 }
1961 \define@key{Hyp}{dvipdf}[true]{}%
1962 \Hy@WarningNoLine{%
1963     Option ‘dvipdf’ is deprecated.\MessageBreak
1964     See the user manual for available driver options%
1965 }%
1966 }
1967 \define@key{Hyp}{nativepdf}[true]{}%
1968 \def\Hy@driver{hdvips}%
1969 \def\Hy@raisedlink{}%
1970 \def\XR@ext{pdf}%
1971 }
1972 \define@key{Hyp}{dvipdfm}[true]{}%
1973 \def\Hy@driver{hdvipdfm}%
1974 \def\XR@ext{pdf}%
1975 \Hy@breaklinkstrue
1976 }
1977 \define@key{Hyp}{dvipdfmx}[true]{}%
1978 \def\Hy@driver{hdvipdfm}%
1979 \def\XR@ext{pdf}%
1980 \Hy@breaklinkstrue
1981 }
1982 \define@key{Hyp}{dvipdfmx-outline-open}[true]{}%
1983 \expandafter\ifx\csname if#1\expandafter\endcsname
1984     \csname iftrue\endcsname
1985     \chardef\SpecialDvipdfmxOutlineOpen@ne
1986 \else
1987     \chardef\SpecialDvipdfmxOutlineOpen@z@
1988 \fi

```

```

1989 }
1990 \define@key{Hyp}{xetex}[true]{%
1991   \def\Hy@driver{hdvipdfm}%
1992   \def\XR@ext{pdf}%
1993   \Hy@breaklinkstrue
1994 }
1995 \define@key{Hyp}{pdfmark}[true]{%
1996   \def\Hy@driver{hdvips}%
1997   \def\Hy@raisedlink{}%
1998   \def\XR@ext{pdf}%
1999 }
2000 \define@key{Hyp}{dvips}[true]{%
2001   \def\Hy@driver{hdvips}%
2002   \def\Hy@raisedlink{}%
2003   \def\XR@ext{pdf}%
2004 }
2005 \define@key{Hyp}{hypertex}[true]{%
2006   \def\Hy@driver{hypertex}%
2007 }
2008 \let\Hy@MaybeStopNow\relax
2009 \define@key{Hyp}{vtex}[true]{%
2010   \begingroup\expandafter\expandafter\expandafter\endgroup
2011   \expandafter\ifx\csname OpMode\endcsname\relax
2012     \@latex@error{Non-VTeX processor}{}%
2013     \global\let\Hy@MaybeStopNow\endinput
2014     \endinput
2015   \else
2016     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2017       \def\XR@ext{pdf}%
2018       \def\Hy@driver{hvtex}%
2019     \else
2020       \ifnum\OpMode=10\relax
2021         \def\XR@ext{htm}%
2022         \def\Hy@driver{hvtexhtm}%
2023         \def\MaybeStopEarly{%
2024           \typeout{Hyperref stopped early}%
2025           \AfterBeginDocument{\PDF@FinishDoc}%
2026           \endinput
2027         }%
2028       \else
2029         \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2030         \global\let\Hy@MaybeStopNow\endinput
2031         \endinput
2032       \fi
2033     \fi
2034   \fi
2035 }
2036 \define@key{Hyp}{vtexpdfmark}[true]{%
2037   \begingroup\expandafter\expandafter\expandafter\endgroup
2038   \expandafter\ifx\csname OpMode\endcsname\relax
2039     \@latex@error{Non-VTeX processor}{}%
2040     \let\Hy@MaybeStopNow\endinput
2041     \endinput
2042   \else
2043     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2044       \def\XR@ext{pdf}%
2045       \def\Hy@driver{hvtexmrk}%

```

```

2046     \def\Hy@raisedlink{}%
2047     \else
2048       \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2049       \let\Hy@MaybeStopNow\endinput
2050       \endinput
2051     \fi
2052   \fi
2053 }
2054 \define@key{Hyp}{dviwindo}[true]{%
2055   \def\Hy@driver{hdvwind}%
2056   \setkeys{Hyp}{colorlinks}%
2057   \PassOptionsToPackage{dviwindo}{color}%
2058 }
2059 \define@key{Hyp}{dvipsone}[true]{%
2060   \def\XR@ext{pdf}%
2061   \def\Hy@driver{hdvipson}%
2062   \def\Hy@raisedlink{}%
2063 }
2064 \define@key{Hyp}{textures}[true]{%
2065   \def\XR@ext{pdf}%
2066   \def\Hy@driver{htexture}%
2067 }
2068 \define@key{Hyp}{latex2html}[true]{%
2069   \AtBeginDocument{\@@latextohtmlX}%
2070 }

```

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

```

2071 \define@key{Hyp}{ps2pdf}[true]{%
2072   \def\Hy@driver{hdvips}%
2073   \def\Hy@raisedlink{}%
2074   \providecommand*\@pdfborder{0 0 1}%
2075 }

```

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.

```

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

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

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

```

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

```

2082 \def\back@none{none}
2083 \def\back@section{section}
2084 \def\back@page{page}
2085 \def\back@slide{slide}
2086 \define@key{Hyp}{backref}[section]{%
2087   \lowercase{\def\Hy@tempa{#1}}%
2088   \ifx\Hy@tempa\@empty
2089     \let\Hy@tempa\back@section
2090   \fi
2091   \ifx\Hy@tempa\Hy@false
2092     \let\Hy@tempa\back@none

```

```

2093 \fi
2094 \ifx\Hy@tempa\back@slide
2095   \let\Hy@tempa\back@section
2096 \fi
2097 \ifx\Hy@tempa\back@page
2098   \PassOptionsToPackage{hyperpageref}{backref}%
2099   \Hy@backreftrue
2100 \else
2101   \ifx\Hy@tempa\back@section
2102     \PassOptionsToPackage{hyperref}{backref}%
2103     \Hy@backreftrue
2104   \else
2105     \ifx\Hy@tempa\back@none
2106       \Hy@backreffalse
2107     \else
2108       \Hy@WarnOptionValue{#1}{backref}{%
2109         'section', 'slide', 'page', 'none', \MessageBreak
2110         or 'false'}%
2111     \fi
2112   \fi
2113 \fi
2114 }
2115 \define@key{Hyp}{pagebackref}[true]{%
2116   \lowercase{\def\Hy@tempa{#1}}%
2117   \ifx\Hy@tempa\@empty
2118     \let\Hy@tempa\Hy@true
2119   \fi
2120   \ifx\Hy@tempa\Hy@true
2121     \PassOptionsToPackage{hyperpageref}{backref}%
2122     \Hy@backreftrue
2123   \else
2124     \ifx\Hy@tempa\Hy@false
2125       \Hy@backreffalse
2126     \else
2127       \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
2128     \fi
2129   \fi
2130 }

```

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

```

2131 \define@key{Hyp}{hyperindex}[true]{%
2132   \Hy@boolkey{hyperindex}{#1}%
2133 }

```

Configuration of encap char.

```

2134 \define@key{Hyp}{encap}[|]{%
2135   \def\HyInd@EncapChar{#1}%
2136 }

```

12 Language options

The `\autoref` feature depends on the language.

```

2137 \def\HyLang@afrikaans{%
2138   \def\equationautorefname{Vergelyking}%
2139   \def\footnoteautorefname{Voetnota}%
2140   \def\itemautorefname{Item}%

```

```

2141 \def\figureautorefname{Figuur}%
2142 \def\tableautorefname{Tabel}%
2143 \def\partautorefname{Deel}%
2144 \def\appendixautorefname{Bylae}%
2145 \def\chapterautorefname{Hoofstuk}%
2146 \def\sectionautorefname{Afdeling}%
2147 \def\subsectionautorefname{Subafdeling}%
2148 \def\subsubsectionautorefname{Subsubafdeling}%
2149 \def\paragraphautorefname{Paragraaf}%
2150 \def\subparagraphautorefname{Subparagraaf}%
2151 \def\FancyVerbLineautorefname{Lyn}%
2152 \def\theoremautorefname{Teorema}%
2153 \def\pageautorefname{Bladsy}%
2154 }
2155 \def\HyLang@english{%
2156 \def\equationautorefname{Equation}%
2157 \def\footnoteautorefname{footnote}%
2158 \def\itemautorefname{item}%
2159 \def\figureautorefname{Figure}%
2160 \def\tableautorefname{Table}%
2161 \def\partautorefname{Part}%
2162 \def\appendixautorefname{Appendix}%
2163 \def\chapterautorefname{chapter}%
2164 \def\sectionautorefname{section}%
2165 \def\subsectionautorefname{subsection}%
2166 \def\subsubsectionautorefname{subsubsection}%
2167 \def\paragraphautorefname{paragraph}%
2168 \def\subparagraphautorefname{subparagraph}%
2169 \def\FancyVerbLineautorefname{line}%
2170 \def\theoremautorefname{Theorem}%
2171 \def\pageautorefname{page}%
2172 }
2173 \def\HyLang@french{%
2174 \def\equationautorefname{\ 'Equation}%
2175 \def\footnoteautorefname{note}%
2176 \def\itemautorefname{item}%
2177 \def\figureautorefname{Figure}%
2178 \def\tableautorefname{Tableau}%
2179 \def\partautorefname{Partie}%
2180 \def\appendixautorefname{Appendice}%
2181 \def\chapterautorefname{chapitre}%
2182 \def\sectionautorefname{section}%
2183 \def\subsectionautorefname{sous-section}%
2184 \def\subsubsectionautorefname{sous-sous-section}%
2185 \def\paragraphautorefname{paragraphe}%
2186 \def\subparagraphautorefname{sous-paragraphe}%
2187 \def\FancyVerbLineautorefname{ligne}%
2188 \def\theoremautorefname{Th\ 'eor\ 'eme}%
2189 \def\pageautorefname{page}%
2190 }
2191 \def\HyLang@german{%
2192 \def\equationautorefname{Gleichung}%
2193 \def\footnoteautorefname{Fu\ss note}%
2194 \def\itemautorefname{Punkt}%
2195 \def\figureautorefname{Abbildung}%
2196 \def\tableautorefname{Tabelle}%
2197 \def\partautorefname{Teil}%

```

```

2198 \def\appendixautorefname{Anhang}%
2199 \def\chapterautorefname{Kapitel}%
2200 \def\sectionautorefname{Abschnitt}%
2201 \def\subsectionautorefname{Unterabschnitt}%
2202 \def\subsubsectionautorefname{Unterunterabschnitt}%
2203 \def\paragraphautorefname{Absatz}%
2204 \def\subparagraphautorefname{Unterabsatz}%
2205 \def\FancyVerbLineautorefname{Zeile}%
2206 \def\theoremautorefname{Theorem}%
2207 \def\pageautorefname{Seite}%
2208 }
2209 \def\HyLang@italian{%
2210 \def\equationautorefname{Equazione}%
2211 \def\footnoteautorefname{nota}%
2212 \def\itemautorefname{punto}%
2213 \def\figureautorefname{Figura}%
2214 \def\tableautorefname{Tabella}%
2215 \def\partautorefname{Parte}%
2216 \def\appendixautorefname{Appendice}%
2217 \def\chapterautorefname{Capitolo}%
2218 \def\sectionautorefname{sezione}%
2219 \def\subsectionautorefname{sottosezione}%
2220 \def\subsubsectionautorefname{sottosottosezione}%
2221 \def\paragraphautorefname{paragrafo}%
2222 \def\subparagraphautorefname{sottoparagrafo}%
2223 \def\FancyVerbLineautorefname{linea}%
2224 \def\theoremautorefname{Teorema}%
2225 \def\pageautorefname{Pag.\@}%
2226 }
2227 \def\HyLang@portuges{%
2228 \def\equationautorefname{Equa\c c\~ao}%
2229 \def\footnoteautorefname{Nota de rodap'e}%
2230 \def\itemautorefname{Item}%
2231 \def\figureautorefname{Figura}%
2232 \def\tableautorefname{Tabela}%
2233 \def\partautorefname{Parte}%
2234 \def\appendixautorefname{Ap\~endice}%
2235 \def\chapterautorefname{Cap\~itolo}%
2236 \def\sectionautorefname{Se\c c\~ao}%
2237 \def\subsectionautorefname{Subse\c c\~ao}%
2238 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2239 \def\paragraphautorefname{par\~agrafo}%
2240 \def\subparagraphautorefname{subpar\~agrafo}%
2241 \def\FancyVerbLineautorefname{linha}%
2242 \def\theoremautorefname{Teorema}%
2243 \def\pageautorefname{P\~agina}%
2244 }
2245 \def\HyLang@spanish{%
2246 \def\equationautorefname{Ecuaci\~on}%
2247 \def\footnoteautorefname{Nota a pie de p\~agina}%
2248 \def\itemautorefname{Elemento}%
2249 \def\figureautorefname{Figura}%
2250 \def\tableautorefname{Tabla}%
2251 \def\partautorefname{Parte}%
2252 \def\appendixautorefname{Ap\~endice}%
2253 \def\chapterautorefname{Cap\~itolo}%
2254 \def\sectionautorefname{Secci\~on}%

```

```

2255 \def\subsectionautorefname{Subsecci\'on}%
2256 \def\subsubsectionautorefname{Subsubsecci\'on}%
2257 \def\paragraphautorefname{P\'arrafo}%
2258 \def\subparagraphautorefname{Subp\'arrafo}%
2259 \def\FancyVerbLineautorefname{L\'inea}%
2260 \def\theoremautorefname{Teorema}%
2261 \def\pageautorefname{P\'agina}%
2262 }
2263 \def\HyLang@vietnamese{%
2264 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr\'inh}%
2265 \def\footnoteautorefname{Ch\'u th\'ich}%
2266 \def\itemautorefname{m\du{c}}%
2267 \def\figureautorefname{H\'inh}%
2268 \def\tableautorefname{B\h{a}ng}%
2269 \def\partautorefname{Ph\`acircumflex{}n}%
2270 \def\appendixautorefname{Ph\du{ }l\du{c}}%
2271 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
2272 \def\sectionautorefname{m\du{c}}%
2273 \def\subsectionautorefname{m\du{c}}%
2274 \def\subsubsectionautorefname{m\du{c}}%
2275 \def\paragraphautorefname{\dj{}o\da{n}}%
2276 \def\subparagraphautorefname{\dj{}o\da{n}}%
2277 \def\FancyVerbLineautorefname{d\'ong}%
2278 \def\theoremautorefname{DJ{}\di{nh} l\'y}%
2279 \def\pageautorefname{Trang}%
2280 }

```

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

```

2281 \def\HyLang@addto#1#2{%
2282 #2%
2283 \@temptokena{#2}%
2284 \ifx#1\relax
2285 \let#1\@empty
2286 \fi
2287 \ifx#1\undefined
2288 \edef#1{\the\@temptokena}%
2289 \else
2290 \toks@\expandafter{#1}%
2291 \edef#1{\the\toks@\the\@temptokena}%
2292 \fi
2293 \@temptokena{}\toks@\@temptokena
2294 }
2295 \def\HyLang@DeclareLang#1#2{%
2296 \begingroup
2297 \edef\x##1##2{%
2298 \noexpand\ifx##2\relax
2299 \errmessage{No definitions for language #2' found!}%
2300 \noexpand\fi
2301 \endgroup
2302 \noexpand\define@key{Hyp}{#1}[]{%
2303 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2304 }%
2305 }%
2306 \expandafter\x\csname extras#1\expandafter\endcsname
2307 \csname HyLang@#2\endcsname
2308 }

```



```

2309 \HyLang@DeclareLang{english}{english}
2310 \HyLang@DeclareLang{UKenglish}{english}
2311 \HyLang@DeclareLang{british}{english}
2312 \HyLang@DeclareLang{USenglish}{english}
2313 \HyLang@DeclareLang{american}{english}
2314 \HyLang@DeclareLang{german}{german}
2315 \HyLang@DeclareLang{austrian}{german}
2316 \HyLang@DeclareLang{ngerman}{german}
2317 \HyLang@DeclareLang{naustrian}{german}
2318 \HyLang@DeclareLang{brazil}{portuges}
2319 \HyLang@DeclareLang{brazilian}{portuges}
2320 \HyLang@DeclareLang{portuguese}{portuges}
2321 \HyLang@DeclareLang{spanish}{spanish}
2322 \HyLang@DeclareLang{afrikaans}{afrikaans}
2323 \HyLang@DeclareLang{french}{french}
2324 \HyLang@DeclareLang{frenchb}{french}
2325 \HyLang@DeclareLang{francais}{french}
2326 \HyLang@DeclareLang{acadian}{french}
2327 \HyLang@DeclareLang{canadien}{french}
2328 \HyLang@DeclareLang{italian}{italian}

```

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

```

2329 \define@key{Hyp}{vietnamese}[]{}%
2330 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2331 \AtEndOfPackage{%
2332   \ifundefined{T@PU}{}%
2333     \input{puvnenc.def}%
2334   }%
2335 }%
2336 }
2337 \define@key{Hyp}{vietnam}[]{}%
2338 \HyLang@addto\extravietnam\HyLang@vietnamese
2339 \AtEndOfPackage{%
2340   \ifundefined{T@PU}{}%
2341     \input{pvnenc.def}%
2342   }%
2343 }%
2344 }

```

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

```

2345 \define@key{Hyp}{arabic}[]{}%
2346 \AtEndOfPackage{%
2347   \ifundefined{T@PU}{}%
2348     \input{puarenc.def}%
2349   }%
2350 }%
2351 }

```

13 Options to change appearance of links

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

```

2352 \define@key{Hyp}{colorlinks}[true]{}%
2353 \Hy@boolkey{colorlinks}{#1}%
2354 \ifHy@colorlinks
2355   \def\pdfborder{0 0 0}%
2356   \let\pdfborderstyle\@empty
2357 \fi

```

```

2358 }
2359 \define@key{Hyp}{frenchlinks}[true]{%
2360   \Hy@boolkey{frenchlinks}{#1}%
2361 }

```

14 Bookmarking

```

2362 \define@key{Hyp}{bookmarks}[true]{%
2363   \Hy@boolkey{bookmarks}{#1}%
2364 }

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

```

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.

```

2368 \let\Hy@bookmarksdepth\c@tocdepth
2369 \define@key{Hyp}{bookmarksdepth}[]{%
2370   \begingroup
2371     \edef\x{#1}%
2372     \ifx\x\empty
2373       \global\let\Hy@bookmarksdepth\c@tocdepth
2374     \else
2375       \@ifundefined{toclevel@\x}{%
2376         \@onelevel@sanitize\x
2377         \edef\y{\expandafter\@car\x\@nil}%
2378         \ifcase 0\expandafter\ifx\y-1\fi
2379           \expandafter\ifnum\expandafter'\y>47 %
2380             \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
2381           \Hy@Warning{Unknown document division name (\x)}%
2382         \else
2383           \setbox\z@=\hbox{%
2384             \count@=\x
2385             \xdef\Hy@bookmarksdepth{\the\count@}%
2386           }%
2387         \fi
2388       }{%
2389         \setbox\z@=\hbox{%
2390           \count@=\csname toclevel@\x\endcsname
2391           \xdef\Hy@bookmarksdepth{\the\count@}%
2392         }%
2393       }%
2394     \fi
2395   \endgroup
2396 }

```

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

```

2397 \define@key{Hyp}{bookmarksopenlevel}{%

```

```

2398 \def\@bookmarksoopenlevel{#1}%
2399 }
2400 \def\@bookmarksoopenlevel{\maxdimen}
2401 % 'bookmarkstype' to specify which 'toc' file to mimic
2402 \define@key{Hyp}{bookmarkstype}{%
2403   \def\Hy@bookmarkstype{#1}%
2404 }
2405 \def\Hy@bookmarkstype{toc}

```

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

```

2406 \define@key{Hyp}{bookmarksnumbered}[true]{%
2407   \Hy@boolkey{bookmarksnumbered}{#1}%
2408 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

2409 \define@key{Hyp}{CJKbookmarks}[true]{%
2410   \Hy@boolkey{CJKbookmarks}{#1}%
2411 }

2412 \def\Hy@temp#1{%
2413   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2414 }
2415 \def\Hy@@temp#1#2#3{%
2416   \define@key{Hyp}{#2color}{%
2417     \HyColor@HyperrefColor{##1}#1%
2418   }%
2419   \def#1{#3}%
2420 }
2421 \Hy@temp{link}{red}
2422 \Hy@temp{anchor}{black}
2423 \Hy@temp{cite}{green}
2424 \Hy@temp{file}{cyan}
2425 \Hy@temp{url}{magenta}
2426 \Hy@temp{menu}{red}
2427 \Hy@temp{run}{\@filecolor}
2428 \define@key{Hyp}{pagecolor}{%
2429   \Hy@WarningPageColor
2430 }
2431 \def\Hy@WarningPageColor{%
2432   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
2433   \global\let\Hy@WarningPageColor\relax
2434 }

2435 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2436 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2437 \let\@baseurl\@empty
2438 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2439 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2440 \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.

```

2441 \let\pdfpagetransition\relax
2442 \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.

```
2443 \let\pdfpageduration\relax
2444 \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.

```
2445 \newif\ifHy@useHidKey
2446 \Hy@useHidKeyfalse
2447 \define@key{Hyp}{pdfpagehidden}[true]{%
2448   \Hy@boolkey{pdfpagehidden}{#1}%
2449   \ifHy@pdfpagehidden
2450     \global\Hy@useHidKeytrue
2451   \fi
2452 }
```

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).

```
2453 \def\Hy@ColorList{cite,file,link,menu,run,url}
2454 \@for\Hy@temp:=\Hy@ColorList\do{%
2455   \edef\Hy@temp{%
2456     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2457       \noexpand\HyColor@HyperrefBordercolor
2458       {##1}%
2459       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2460       {hyperref}%
2461       {\Hy@temp bordercolor}%
2462     }%
2463   }%
2464   \Hy@temp
2465 }
2466 \define@key{Hyp}{pagebordercolor}{%
2467   \Hy@WarningPageBordercolor
2468 }
2469 \def\Hy@WarningPageBordercolor{%
2470   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2471   \global\let\Hy@WarningPageBordercolor\relax
2472 }
2473 \define@key{Hyp}{pdfhighlight}{\def\pdfhighlight{#1}}
2474 \Hy@DefNameKey{pdfhighlight}{%
2475   \do{/I}{Invert}%
2476   \do{/N}{None}%
2477   \do{/O}{Outline}%
2478   \do{/P}{Push}%
2479 }
2480 \define@key{Hyp}{pdfborder}{\def\pdfborder{#1}}
2481 \define@key{Hyp}{pdfborderstyle}{\def\pdfborderstyle{#1}}
2482 \def\Hy@setpdfborder{%
2483   \ifx\pdfborder\empty
```

```

2484 \else
2485     /Border[\@pdfborder]%
2486 \fi
2487 \ifx\@pdfborderstyle\@empty
2488 \else
2489     /BS<<\@pdfborderstyle>>%
2490 \fi
2491 }
2492 \Hy@DefNameKey{pdfpagemode}{%
2493     \do{UseNone}{}%
2494     \do{UseOutlines}{}%
2495     \do{UseThumbs}{}%
2496     \do{FullScreen}{}%
2497     \do{UseOC}{PDF 1.5}%
2498     \do{UseAttachments}{PDF 1.6}%
2499 }
2500 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2501     \do{UseNone}{}%
2502     \do{UseOutlines}{}%
2503     \do{UseThumbs}{}%
2504     \do{FullScreen}{}%
2505     \do{UseOC}{PDF 1.5}%
2506     \do{UseAttachments}{PDF 1.6}%
2507 }
2508 \Hy@DefNameKey{pdfdirection}{%
2509     \do{L2R}{Left to right}%
2510     \do{R2L}{Right to left}%
2511 }
2512 \Hy@DefNameKey{pdfviewarea}{%
2513     \do{MediaBox}{}%
2514     \do{CropBox}{}%
2515     \do{BleedBox}{}%
2516     \do{TrimBox}{}%
2517     \do{ArtBox}{}%
2518 }
2519 \Hy@DefNameKey{pdfviewclip}{%
2520     \do{MediaBox}{}%
2521     \do{CropBox}{}%
2522     \do{BleedBox}{}%
2523     \do{TrimBox}{}%
2524     \do{ArtBox}{}%
2525 }
2526 \Hy@DefNameKey{pdfprintarea}{%
2527     \do{MediaBox}{}%
2528     \do{CropBox}{}%
2529     \do{BleedBox}{}%
2530     \do{TrimBox}{}%
2531     \do{ArtBox}{}%
2532 }
2533 \Hy@DefNameKey{pdfprintclip}{%
2534     \do{MediaBox}{}%
2535     \do{CropBox}{}%
2536     \do{BleedBox}{}%
2537     \do{TrimBox}{}%
2538     \do{ArtBox}{}%
2539 }
2540 \Hy@DefNameKey{pdfprintscaling}{%

```

```

2541 \do{AppDefault}{}%
2542 \do{None}{}%
2543 }
2544 \Hy@DefNameKey{pdfduplex}{%
2545 \do{Simplex}{}%
2546 \do{DuplexFlipShortEdge}{}%
2547 \do{DuplexFlipLongEdge}{}%
2548 }
2549 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
2550 \do{true}{}%
2551 \do{false}{}%
2552 }
2553 \define@key{Hyp}{pdfprintpagerange}{%
2554 \def\@pdfprintpagerange{#1}%
2555 }
2556 \Hy@DefNameKey{pdfnumcopies}{%
2557 \do{2}{two copies}%
2558 \do{3}{three copies}%
2559 \do{4}{four copies}%
2560 \do{5}{five copies}%
2561 }
2562 \define@key{Hyp}{pdfusetitle}[true]{%
2563 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
2564 }
2565 \define@key{Hyp}{pdftitle}{\pdfstringdef\@pdftitle{#1}}
2566 \define@key{Hyp}{pdfauthor}{\pdfstringdef\@pdfauthor{#1}}
2567 \define@key{Hyp}{pdfproducer}{\pdfstringdef\@pdfproducer{#1}}
2568 \define@key{Hyp}{pdfcreator}{\pdfstringdef\@pdfcreator{#1}}
2569 \define@key{Hyp}{pdfcreationdate}{\pdfstringdef\@pdfcreationdate{#1}}
2570 \define@key{Hyp}{pdfmoddate}{\pdfstringdef\@pdfmoddate{#1}}
2571 \define@key{Hyp}{pdfsubject}{\pdfstringdef\@pdfsubject{#1}}
2572 \define@key{Hyp}{pdfkeywords}{\pdfstringdef\@pdfkeywords{#1}}
2573 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
2574 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
2575 \let\setpdflinkmargin\gobble
2576 \def\calculate@pdfview#1 #2\\{%
2577 \def\@pdfview{#1}%
2578 \ifx\@#2\\%
2579 \def\@pdfviewparams{-32768}%
2580 \else
2581 \def\@pdfviewparams{ #2}%
2582 \fi
2583 }
2584 \define@key{Hyp}{pdfstartpage}{\def\@pdfstartpage{#1}}
2585 \define@key{Hyp}{pdfstartview}{%
2586 \ifx\@#1\\%
2587 \def\@pdfstartview{}%
2588 \else
2589 \hypercalcbpdef\@pdfstartview{ /#1 }%
2590 \fi
2591 }
2592 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
2593 \define@key{Hyp}{pdftoolbar}[true]{%
2594 \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
2595 }
2596 \define@key{Hyp}{pdfmenubar}[true]{%
2597 \Hy@boolkey[pdfmenubar]{menubar}{#1}%

```

```

2598 }
2599 \define@key{Hyp}{pdfwindowui}[true]{%
2600   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
2601 }
2602 \define@key{Hyp}{pdffitwindow}[true]{%
2603   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
2604 }
2605 \define@key{Hyp}{pdfcenterwindow}[true]{%
2606   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
2607 }
2608 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
2609   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
2610 }
2611 \define@key{Hyp}{pdfnewwindow}[true]{%
2612   \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
2613 }
2614 \Hy@DefNameKey{pdfpagelayout}{%
2615   \do{SinglePage}{}%
2616   \do{OneColumn}{}%
2617   \do{TwoColumnLeft}{}%
2618   \do{TwoColumnRight}{}%
2619   \do{TwoPageLeft}{PDF 1.5}%
2620   \do{TwoPageRight}{PDF 1.5}%
2621 }
2622 \define@key{Hyp}{pdflang}{%
2623   \def\@pdflang{#1}%
2624 }
2625 \define@key{Hyp}{pdfpagelabels}[true]{%
2626   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
2627 }
2628 \define@key{Hyp}{pdfescapeform}[true]{%
2629   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
2630 }

```

Default values:

```

2631 \def\@linkbordercolor{1 0 0}
2632 \def\@urlbordercolor{0 1 1}
2633 \def\@menubordercolor{1 0 0}
2634 \def\@filebordercolor{0 .5 .5}
2635 \def\@runbordercolor{0 .7 .7}
2636 \def\@citebordercolor{0 1 0}
2637 \def\@pdfhighlight{/I}
2638 \def\@pdftitle{}
2639 \def\@pdfauthor{}
2640 \let\@pdfproducer\relax
2641 \def\@pdfcreator{LaTeX with hyperref package}
2642 \def\@pdfcreationdate{}
2643 \def\@pdfmoddate{}
2644 \def\@pdfsubject{}
2645 \def\@pdfkeywords{}
2646 \def\@pdfpagescrop{}
2647 \def\@pdfstartview{ /Fit }
2648 \def\@pdfstartpage{1}
2649 \def\@pdfprintpagerange{}
2650 \def\@pdflang{}
2651 \let\PDF@SetupDoc\@empty
2652 \let\PDF@FinishDoc\@empty
2653 \let\phantomsection\@empty

```

```

2654 \@ifundefined{stockwidth}{%
2655   \edef\special@paper{\the\paperwidth,\the\paperheight}%
2656 }{%
2657   \edef\special@paper{\the\stockwidth,\the\stockheight}%
2658 }
2659 \begingroup
2660   \dimen@=\@ifundefined{stockheight}{\paperheight}{\stockheight}\relax
2661   \dimen@=0.99626401\dimen@
2662   \xdef\Hy@pageheight{\strip@pt\dimen@}%
2663 \endgroup
2664 \def\HyInd@EncapChar{||}
2665 \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.

```

2666 \let\hyper@normalise\ExecuteOptions
2667 \let\ExecuteOptions\hypersetup
2668 \Hy@RestoreCatcodes
2669 \InputIfFileExists{hyperref.cfg}{-}{-}
2670 \Hy@SetCatcodes
2671 \let\ExecuteOptions\hyper@normalise
2672 \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`.

```

2673 \RequirePackage{kvoptions}[2006/08/17]
2674
2675 Add option tex4ht if package tex4ht is loaded.
2676
2677 \@ifpackageloaded{tex4ht}{%
2678   \ifpackagewith{hyperref}{tex4ht}{-}{-}%
2679   \PassOptionsToPackage{tex4ht}{hyperref}%
2680 }{%
2681 }
2682
2683 \let\ReadBookmarks\relax
2684 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

2681 \AtBeginDocument{%
2682   \ifHy@draft
2683     \let\hyper@@anchor@gobble
2684     \gdef\hyper@link#1#2#3{#3}%
2685     \let\hyper@anchorstart@gobble
2686     \let\hyper@anchorend@empty
2687     \let\hyper@linkstart@gobbletwo
2688     \let\hyper@linkend@empty
2689     \def\hyper@linkurl#1#2{#1}%
2690     \def\hyper@linkfile#1#2#3{#1}%
2691     \def\Acrobatmenu#1#2{#2}%
2692     \let\PDF@SetupDoc@empty
2693     \let\PDF@FinishDoc@empty
2694     \let\@fifthoffive@secondoftwo
2695     \let\@secondoffive@secondoftwo
2696     \let\ReadBookmarks\relax
2697     \let\WriteBookmarks\relax

```



```

2698 \Hy@WarningNoLine{ draft mode on}%
2699 \fi
2700 \Hy@DisableOption{draft}%
2701 \Hy@DisableOption{nolinks}%
2702 \Hy@DisableOption{final}%
2703 }%

```

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.

```

2704 \Hy@nextfalse
2705 \@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
2706 \@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
2707 \@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
2708 \ifHy@next
2709 \let\texttilde\~%
2710 \fi

2711 \ifHy@figures
2712 \Hy@Info{Hyper figures ON}%
2713 \else
2714 \Hy@Info{Hyper figures OFF}%
2715 \fi

2716 \ifHy@nesting
2717 \Hy@Info{Link nesting ON}%
2718 \else
2719 \Hy@Info{Link nesting OFF}%
2720 \fi

2721 \ifHy@hyperindex
2722 \Hy@Info{Hyper index ON}%
2723 \else
2724 \Hy@Info{Hyper index OFF}%
2725 \fi

2726 \ifHy@plainpages
2727 \Hy@Info{Plain pages ON}%
2728 \else
2729 \Hy@Info{Plain pages OFF}%
2730 \fi

2731 \ifHy@backref
2732 \Hy@Info{Backreferencing ON}%
2733 \else
2734 \Hy@Info{Backreferencing OFF}%
2735 \fi

2736 \ifHy@typexml
2737 \AtEndOfPackage{%
2738 \RequirePackage{color}%
2739 \RequirePackage{nameref}%
2740 }%
2741 \fi

2742 \Hy@DisableOption{typexml}
2743 \ifHy@implicit
2744 \typeout{Implicit mode ON; LaTeX internals redefined}%
2745 \else
2746 \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
2747 \def\MaybeStopEarly{%
2748 \typeout{Hyperref stopped early}%

```

```

2749 \AfterBeginDocument{\PDF@FinishDoc}%
2750 \endinput
2751 }%
2752 \AtBeginDocument{%
2753 \let\autoref\ref
2754 \let\autopageref\pageref
2755 \ifx\@pdfpagemode\@empty
2756 \gdef\@pdfpagemode{UseNone}%
2757 \fi
2758 \global\Hy@backreffalse
2759 }%
2760 \AtEndOfPackage{%
2761 \global\let\ReadBookmarks\relax
2762 \global\let\WriteBookmarks\relax
2763 }%
2764 \fi
2765 \Hy@DisableOption{implicit}

```

15.1.1 Driver loading

```

2766 \AtEndOfPackage{%
2767 \ifpackageloaded{tex4ht}{%
2768 \def\Hy@driver{htex4ht}%
2769 \Hy@texhttrue
2770 }{}%
2771 \ifx\Hy@driver\@empty
2772 \providecommand*{\Hy@defaultdriver}{hypertex}%
2773 \begingroup\expandafter\expandafter\expandafter\endgroup
2774 \expandafter\ifx\csname pdfoutput\endcsname\relax
2775 \begingroup\expandafter\expandafter\expandafter\endgroup
2776 \expandafter\ifx\csname OpMode\endcsname\relax
2777 \begingroup\expandafter\expandafter\expandafter\endgroup
2778 \expandafter\ifx\csname XeTeXversion\endcsname\relax
2779 \let\Hy@driver\Hy@defaultdriver
2780 \else
2781 \def\Hy@driver{hdvipdfm}%
2782 \fi
2783 \else
2784 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2785 \def\Hy@driver{hvtex}%
2786 \def\XR@ext{pdf}%
2787 \else
2788 \ifnum\OpMode=10\relax
2789 \def\XR@ext{htm}%
2790 \def\Hy@driver{hvtexhtm}%
2791 \def\MaybeStopEarly{%
2792 \typeout{Hyperref stopped early}%
2793 \AfterBeginDocument{\PDF@FinishDoc}%
2794 \endinput
2795 }%
2796 \else
2797 \let\Hy@driver\Hy@defaultdriver
2798 \fi
2799 \fi
2800 \fi
2801 \else
2802 \ifnum\pdfoutput<1 %

```

```

2803     \let\Hy@driver\Hy@defaultdriver
2804   \else
2805     \def\Hy@driver{hpdftex}%
2806     \def\XR@ext{pdf}%
2807     \PassOptionsToPackage{pdftex}{color}%
2808     \Hy@breaklinkstrue
2809   \fi
2810 \fi
2811 \ifx\Hy@driver\Hy@defaultdriver
2812   \def\Hy@temp{hdvips}%
2813   \ifx\Hy@temp\Hy@driver
2814     \def\Hy@raisedlink{}%
2815     \def\XR@ext{pdf}%
2816   \fi
2817   \def\Hy@temp{hdvipdfm}%
2818   \ifx\Hy@temp\Hy@driver
2819     \def\XR@ext{pdf}%
2820     \Hy@breaklinkstrue
2821   \fi
2822   \def\Hy@temp{hdviwind}%
2823   \ifx\Hy@temp\Hy@driver
2824     \setkeys{Hyp}{colorlinks}%
2825     \PassOptionsToPackage{dviwindo}{color}%
2826   \fi
2827   \def\Hy@temp{hdvipson}%
2828   \ifx\Hy@temp\Hy@driver
2829     \def\XR@ext{pdf}%
2830     \def\Hy@raisedlink{}%
2831   \fi
2832   \def\Hy@temp{textures}%
2833   \ifx\Hy@temp\Hy@driver
2834     \def\XR@ext{pdf}%
2835   \fi
2836 \fi
2837 \typeout{*hyperref using default driver \Hy@driver*}%
2838 \else
2839   \typeout{*hyperref using driver \Hy@driver*}%
2840 \fi
2841 \input{\Hy@driver.def}%
2842 \let\@unprocessedoptions\relax
2843 \Hy@RestoreCatcodes
2844 }
2845 \newif\ifHy@DvipdfmxOutlineOpen
2846 \begingroup\expandafter\expandafter\expandafter\endgroup
2847 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
2848 \else
2849   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
2850     \Hy@DvipdfmxOutlineOpen>true
2851   \fi
2852 \fi
2853 \Hy@DisableOption{tex4ht}
2854 \Hy@DisableOption{pdftex}
2855 \Hy@DisableOption{dvipdf}
2856 \Hy@DisableOption{nativepdf}
2857 \Hy@DisableOption{dvipdfm}
2858 \Hy@DisableOption{dvipdfmx}
2859 \Hy@DisableOption{dvipdfmx-outline-open}

```

```

2860 \Hy@DisableOption{pdfmark}
2861 \Hy@DisableOption{dvips}
2862 \Hy@DisableOption{hypertex}
2863 \Hy@DisableOption{vtex}
2864 \Hy@DisableOption{vtexpdfmark}
2865 \Hy@DisableOption{dviwindo}
2866 \Hy@DisableOption{dvipsone}
2867 \Hy@DisableOption{textures}
2868 \Hy@DisableOption{latex2html}
2869 \Hy@DisableOption{ps2pdf}
2870 \Hy@DisableOption{xetex}

```

15.1.2 Bookmarks

```

2871 \def\WriteBookmarks{0}
2872 \def\@bookmarkopenstatus#1{%
2873   \ifHy@bookmarksopen

```

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

```

2874   \ifnum#1<\expandafter\@firstofone\expandafter
2875       {\number\@bookmarkopenlevel} % explicit space
2876   \else
2877       -%
2878   \fi
2879 \else
2880   -%
2881 \fi
2882 }
2883 \ifHy@bookmarks
2884   \Hy@Info{Bookmarks ON}%
2885   \ifx\@pdfpagemode\@empty
2886     \def\@pdfpagemode{UseOutlines}%
2887   \fi
2888 \else
2889   \def\@bookmarkopenstatus#1{%
2890     \Hy@Info{Bookmarks OFF}%
2891     \AtEndOfPackage{%
2892       \global\let\ReadBookmarks\relax
2893       \global\let\WriteBookmarks\relax
2894     }%
2895     \ifx\@pdfpagemode\@empty
2896       \def\@pdfpagemode{UseNone}%
2897     \fi
2898 \fi
2899 \Hy@DisableOption{bookmarks}

```

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

```

2900 \AtBeginDocument{%
2901   \ifHy@colorlinks
2902     \ifHy@typexml
2903     \else
2904       \RequirePackage{color}%
2905     \fi
2906     \def\Hy@colorlink#1{%
2907       \begingroup
2908         \HyColor@UseColor#1%
2909     }%

```

```

2910 \def\Hy@endcolorlink{\endgroup}%
2911 \Hy@Info{Link coloring ON}%
2912 \else
2913 \ifHy@frenchlinks
2914 \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
2915 \def\Hy@endcolorlink{\endgroup}%
2916 \Hy@Info{French linking ON}%
2917 \else
for grouping consistency:
2918 \def\Hy@colorlink#1{\begingroup}%
2919 \def\Hy@endcolorlink{\endgroup}%
2920 \Hy@Info{Link coloring OFF}%
2921 \fi
2922 \fi
2923 \Hy@DisableOption{colorlinks}%
2924 \Hy@DisableOption{frenchlinks}%
2925 \ifHy@texht
2926 \long\def\@firstoffive#1#2#3#4#5{#1}%
2927 \long\def\@secondoffive#1#2#3#4#5{#2}%
2928 \long\def\@thirdoffive#1#2#3#4#5{#3}%
2929 \long\def\@fourthoffive#1#2#3#4#5{#4}%
2930 \long\def\@fifthoffive#1#2#3#4#5{#5}%
2931 \providecommand*\@safe@activetrue{}%
2932 \providecommand*\@safe@activesfalse{}%
2933 \def\T@ref#1{%
2934 \Hy@safe@activetrue
2935 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
2936 \Hy@safe@activesfalse
2937 }%
2938 \def\T@pageref#1{%
2939 \Hy@safe@activetrue
2940 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
2941 \Hy@safe@activesfalse
2942 }%
2943 \else
2944 \ifHy@typexml\else\RequirePackage{nameref}\fi
2945 \fi
2946 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
2947 \DeclareRobustCommand\pageref{%
2948 \@ifstar\@pagerefstar\T@pageref
2949 }%
2950 }
2951 \AfterBeginDocument{%
2952 \ifHy@texht
2953 \else
2954 \ReadBookmarks
2955 \fi
2956 }
2957 \ifHy@backref
2958 \RequirePackage{backref}%
2959 \else
2960 \let\Hy@backout\@gobble
2961 \fi
2962 \Hy@DisableOption{backref}
2963 \Hy@DisableOption{pagebackref}
2964 \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.

```
2965 \begingroup
2966   \endlinechar=-1 %
2967   \catcode'\^^A=14 %
2968   \catcode'\^^M\active
2969   \catcode'\%\active
2970   \catcode'\#\active
2971   \catcode'\_\active
2972   \catcode'\$\active
2973   \gdef\hyper@normalise{^^A
2974     \begingroup
2975     \catcode'\^^M\active
2976     \def^^M{ }^^A
2977     \catcode'\%\active
2978     \let%\@percentchar
2979     \let\%\@percentchar
2980     \catcode'\#\active
2981     \def#{\hyper@hash}^^A
2982     \def\#{\hyper@hash}^^A
2983     \@makeother\&^^A
2984     \edef\textunderscore{\string_}^^A
2985     \let\_ \textunderscore
2986     \catcode'\_\active
2987     \let\_ \textunderscore
2988     \let~\hyper@tilde
2989     \let~\hyper@tilde
2990     \let\textasciitilde\hyper@tilde
2991     \let\\\@backslashchar
2992     \edef$\string$}^^A
2993     \Hy@safe@activetrue
2994     \hyper@n@rmalise
2995   }^^A
2996   \catcode'\#=6 ^^A
2997   \gdef\Hy@ActiveCarriageReturn{^^M}^^A
2998   \gdef\hyper@n@rmalise#1#2{^^A
2999     \def\Hy@tempa{#2}^^A
3000     \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3001       \Hy@ReturnAfterElseFi{^^A
3002         \hyper@@normalise{#1}^^A
3003       }^^A
3004     \else
3005       \Hy@ReturnAfterFi{^^A
3006         \hyper@@normalise{#1}{#2}^^A
3007       }^^A
3008     \fi
3009   }^^A
3010   \gdef\hyper@@normalise#1#2{^^A
3011     \edef\Hy@tempa{^^A
3012       \endgroup
3013       \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
```

```

3014 }^^A
3015 \Hy@tempa
3016 }^^A
3017 \gdef\Hy@RemovePercentCr#1%^M#2\@nil{^^A
3018 #1^^A
3019 \ifx\limits#2\limits
3020 \else
3021 \Hy@ReturnAfterFi{^^A
3022 \Hy@RemovePercentCr #2\@nil
3023 }^^A
3024 \fi
3025 }^^A
3026 \endgroup
3027 \providecommand*\hyper@chars{%
3028 \let\#\hyper@hash
3029 \let%\@percentchar
3030 }
3031 \def\hyperlink#1#2{%
3032 \hyper@@link{#1}{#2}%
3033 }
3034 \DeclareRobustCommand*\href{%
3035 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3036 }
3037 \def\Hy@href#1{%
3038 \hyper@normalise\href@
3039 }
3040 \begingroup
3041 \catcode'\$=6 %
3042 \catcode'\#=12 %
3043 \gdef\href@#1{\expandafter\href@split$1#\}%
3044 \gdef\href@split$1#$2#$3\{%
3045 \hyper@@link{$1}{$2}%
3046 }%
3047 \endgroup

```

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

```

3048 \RequirePackage{url}
3049 \let\HyOrg@url\url
3050 \def\Hurl{\begingroup \Url}
3051 \let\nolinkurl\Hurl
3052 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3053 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
3054 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3055 \providecommand\hyper@image[2]{#2}
3056 \def\hypertarget#1#2{%
3057 \ifHy@nesting
3058 \hyper@@anchor{#1}{#2}%
3059 \else
3060 \hyper@@anchor{#1}{\relax}#2%
3061 \fi
3062 }

```

`\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.

```

3063 \DeclareRobustCommand*\hyperref{%
3064   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3065 }
3066 \def\Hy@babelnormalise#1[#2]{%
3067   \begingroup
3068     \Hy@safe@activestrue
3069     \edef\Hy@tempa{%
3070       \endgroup
3071       \noexpand#1[#2]}%
3072   }%
3073   \Hy@tempa
3074 }
3075 \def\@hyperref{\hyper@normalise\@hyperref}
3076 \def\@hyperref#1#2#3{%
3077   \edef\ref@one{\ifx\#2\else#2.\fi#3}%
3078   \expandafter\tryhyper@link\ref@one\{#1}%
3079 }
3080 \def\tryhyper@link#1\#2{%
3081   \hyper@@link{#2}{#1}%
3082 }
3083 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}}
3084 \def\@hyperdef#1#2#3{%, category, name, text
3085   \ifHy@nesting
3086     \hyper@@anchor{#1.#2}{#3}%
3087   \else
3088     \hyper@@anchor{#1.#2}{\relax}#3%
3089   \fi
3090 }

```

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

```

3091 \def\label@hyperref[#1]{%
3092   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
3093 }%
3094 \def\label@@hyperref#1#2#3{%
3095   \ifx#1\relax
3096     \protect\G@refundefinedtrue
3097     \@latex@warning{%
3098       Hyper reference ‘#2’ on page \thepage \space undefined%
3099     }%
3100     \hyper@@link{}{??}{#3}%
3101   \else
3102     \hyper@@link{\expandafter\@fifthoffive#1}%
3103     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3104   \fi
3105 }
3106 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3107                               % anchor text
3108   \@bsphack
3109   \if@files@w
3110     \protected@write\@auxout{%
3111       {\string\newlabel{#1}{-}{-}\@#2.#3}}%
3112   \fi
3113   \@esphack
3114   \ifHy@nesting

```



```

3115 \hyper@@anchor{#2.#3}{#4}%
3116 \else
3117 \hyper@@anchor{#2.#3}{\relax}#4%
3118 \fi
3119 }

```

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.

```

3120 \def\hyper@@link{\let\Hy@reserved@a\relax
3121 \@ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
3122 }
3123 \def\hyper@link@[#1]#2#3#4{%
3124 \begingroup
3125 \protected@edef\Hy@tempa{#2}%
3126 \Hy@safe@activestrue
3127 \edef\x{#3}%
3128 \ifx\Hy@tempa\@empty
3129 \toks0{\hyper@link{#1}}%
3130 \else
3131 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3132 \fi
3133 \toks2{#4}%
3134 \edef\Hy@tempa{\the\toks2}%
3135 \edef\x{\endgroup
3136 \ifx\Hy@tempa\@empty
3137 \noexpand\Hy@Warning{Suppressing empty link}%
3138 \else
3139 \the\toks0 {\x}{\the\toks2}}%
3140 \fi
3141 }%
3142 \x
3143 }

```

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.

```

3144 \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.

```

3145 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
3146 }

```

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

```
3147 \def\@pdftempwordfile{file}%
3148 \def\@pdftempwordrun{run}%
3149 \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 :

```
3150 \ifx\\#6\\%
3151 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3152 \else
3153 \ifx\\#4\\%
3154 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3155 \else
```

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

```
3156 \def\@pdftempa{#4}%
3157 \ifx\@pdftempa\@pdftempwordfile
3158 \expandafter\@hyper@linkfile#7\\{#3}{#2}%
3159 \else
```

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

```
3160 \ifx\@pdftempa\@pdftempwordrun
3161 \expandafter\@hyper@launch#7\\{#3}{#2}%
3162 \else
```

otherwise its a URL

```
3163 \hyper@linkurl{#3}{#7\ifx\\#2\\%else\hyper@hash#2\fi}%
3164 \fi
3165 \fi
3166 \fi
3167 \fi
3168 }
```

By default, turn run: into file:

```
3169 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
3170 \hyper@linkurl{#2}{\Hy@linkfileprefix#1\ifx\\#3\\%else\hyper@hash#3\fi}%
3171 }
```

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

```
3172 \def\@hyper@linkfile file:#1\\#2#3{%
3173 %file url,link string, name
3174 \filename@parse{#1}%
3175 \ifx\filename@ext\relax
3176 \edef\filename@ext{\XR@ext}%
3177 \fi
3178 \def\use@file{\filename@area\filename@base.\filename@ext}%
3179 \ifx\filename@ext\XR@ext
3180 \hyper@linkfile{#2}{\use@file}{#3}%
3181 \else
3182 \ifx\@baseurl\@empty
3183 \hyper@linkurl{#2}{%
3184 \Hy@linkfileprefix\use@file\ifx\\#3\\%else\hyper@hash#3\fi
3185 }%
3186 \else
```

```

3187      \hyper@linkurl{#2}{\use@file\ifx\\#3\\\else\hyper@hash#3\fi}%
3188      \fi
3189  \fi
3190 }

```

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.

```

3191 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3192 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3193   \ifx\\#1\\%
3194     #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3195   \else
3196     \def\anchor@spot{#2#3}%
3197     \let\put@me@back\@empty
3198     \ifx\relax#2\relax
3199     \else
3200       \ifHy@nesting
3201       \else
3202         \ifcat a\noexpand#2\relax
3203         \else
3204           \ifcat 0\noexpand#2 \relax
3205           \else
3206             \typeout{Anchor start is not alphanumeric %
3207             on input line\the\inputlineno%
3208             }%
3209             \let\anchor@spot\@empty
3210             \def\put@me@back{#2#3}%
3211           \fi
3212         \fi
3213       \fi
3214     \fi
3215     \ifHy@activeanchor
3216       \anchor@spot
3217     \else
3218       \hyper@anchor{#1}%
3219     \fi
3220     \expandafter\put@me@back
3221   \fi
3222   \let\anchor@spot\@empty
3223 }

```

18 Compatibility with the *LaTeX2html* 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.

```

3224 \let\htmladding\hyperimage

```

```

3225 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3226 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3227 \def\htmlref#1#2{% anchor text, label
3228   \label@hyperref[{#2}]{#1}%
3229 }

```

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

```

3230 \def\@latexhtmlX{%
3231   \let\hyperref\hyperref
3232   \def\hyperref##1##2##3##4{% anchor text for HTML
3233     % text to print before label in print
3234     % label
3235     % post-label text in print
3236     ##2\ref{##4}##3%
3237   }%
3238 }

```

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.

```

3239 \newif\ifFld@checked
3240 \newif\ifFld@hidden
3241 \newif\ifFld@multiline
3242 \newif\ifFld@readonly
3243 \newif\ifFld@disabled
3244 \newif\ifFld@password
3245 \newif\ifFld@radio
3246 \newif\ifFld@combo
3247 \newif\ifFld@popdown
3248 \Fld@multilinefalse
3249 \Fld@checkedfalse
3250 \Fld@hiddenfalse
3251 \Fld@readonlyfalse
3252 \Fld@disabledfalse
3253 \Fld@radiofalse
3254 \Fld@combofalse
3255 \Fld@popdownfalse
3256 \Fld@passwordfalse
3257 \newcount\Fld@menulength
3258 \newdimen\Fld@Width
3259 \newdimen\Fld@charsize
3260 \Fld@charsize=10\p@
3261 \def\Fld@maxlen{0}
3262 \def\Fld@align{0}
3263 \def\Fld@color{0 0 0 rg}
3264 \def\Fld@bcolor{1 1 1}
3265 \def\Fld@bordercolor{1 0 0}
3266 \def\Fld@bordersep{1\p@}
3267 \def\Fld@borderwidth{1}
3268 \def\Fld@borderstyle{S}
3269 \def\Fld@cbsymbol{4}

```

```

3270 \def\Fld@rotation{0}
3271 \newtoks\Choice@toks
3272 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
3273 \def\endForm{\@endForm}
3274 \newif\ifForm@html
3275 \Form@htmlfalse
3276 \def\Form@boolkey#1#2{%
3277   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
3278 }
3279 \define@key{Form}{action}{%
3280   \hyper@normalise\Hy@DefFormAction{#1}%
3281 }
3282 \def\Hy@DefFormAction{\def\Form@action}
3283 \def\enc@html{html}
3284 \define@key{Form}{encoding}{%
3285   \def\Hy@tempa{#1}%
3286   \ifx\Hy@tempa\enc@html
3287     \Form@htmltrue
3288   \else
3289     \typeout{hyperref: form 'encoding' key set to #1 %
3290       -- unknown type%
3291   }%
3292   \Form@htmlfalse
3293 \fi
3294 }
3295 \define@key{Form}{method}{%
3296   \def\Form@method{#1}%
3297 }
3298 \def\Form@method{}
3299 \def\Field@boolkey#1#2{%
3300   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
3301 }
3302 \newtoks\Field@toks
3303 \Field@toks={ }%
3304 \def\Field@addtoks#1#2{%
3305   \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
3306   \@processme
3307 }
3308 \def\Fld@checkequals#1=#2=#3\{\%
3309   \def\@currDisplay{#1}%
3310   \ifx\@#2\%
3311     \def\@currValue{#1}%
3312   \else
3313     \def\@currValue{#2}%
3314   \fi
3315 }
3316 \define@key{Field}{loc}{%
3317   \def\Fld@loc{#1}%
3318 }
3319 \define@key{Field}{multiline}[true]{%
3320   \lowercase{\Field@boolkey{#1}}{multiline}%
3321 }
3322 \define@key{Field}{checked}[true]{%
3323   \lowercase{\Field@boolkey{#1}}{checked}%
3324 }
3325 \define@key{Field}{hidden}[true]{%
3326   \lowercase{\Field@boolkey{#1}}{hidden}%

```

```

3327 }
3328 \define@key{Field}{readonly}[true]{%
3329   \lowercase{\Field@boolkey{#1}}{readonly}%
3330 }
3331 \define@key{Field}{disabled}[true]{%
3332   \lowercase{\Field@boolkey{#1}}{disabled}%
3333 }
3334 \define@key{Field}{password}[true]{%
3335   \lowercase{\Field@boolkey{#1}}{password}%
3336 }
3337 \define@key{Field}{radio}[true]{%
3338   \lowercase{\Field@boolkey{#1}}{radio}%
3339 }
3340 \define@key{Field}{combo}[true]{%
3341   \lowercase{\Field@boolkey{#1}}{combo}%
3342 }
3343 \define@key{Field}{popdown}[true]{%
3344   \lowercase{\Field@boolkey{#1}}{popdown}%
3345 }
3346 \define@key{Field}{accesskey}{%
3347   \Field@addtoks{accesskey}{#1}%
3348 }
3349 \define@key{Field}{tabkey}{%
3350   \Field@addtoks{tabkey}{#1}%
3351 }
3352 \define@key{Field}{name}{%
3353   \def\Fld@name{#1}%
3354 }
3355 \define@key{Field}{width}{%
3356   \def\Fld@width{#1}%
3357   \Field@Width#1\setbox0=\hbox{m}%
3358 }
3359 \define@key{Field}{maxlen}{%
3360   \def\Fld@maxlen{#1}%
3361 }
3362 \define@key{Field}{menulength}{%
3363   \Fld@menulength=#1\relax
3364 }
3365 \define@key{Field}{height}{%
3366   \def\Fld@height{#1}%
3367 }
3368 \define@key{Field}{charsize}{%
3369   \Fld@charsize#1%
3370 }
3371 \define@key{Field}{borderwidth}{%
3372   \def\Fld@borderwidth{#1}%
3373 }
3374 \define@key{Field}{borderstyle}{%
3375   \def\Fld@borderstyle{#1}%
3376 }
3377 \define@key{Field}{bordersep}{%
3378   \def\Fld@bordersep{#1}%
3379 }
3380 \define@key{Field}{default}{%
3381   \def\Fld@default{#1}%
3382 }
3383 \define@key{Field}{align}{%

```

```

3384 \def\Fld@align{#1}%
3385 }
3386 \define@key{Field}{value}{%
3387 \def\Fld@value{#1}%
3388 }
3389 \define@key{Field}{checkboxsymbol}{%
3390 \def\Fld@cbsymbol{#1}%
3391 }

3392 \define@key{Field}{rotation}{%
3393 \def\Fld@rotation{#1}%
3394 }

3395 \define@key{Field}{backgroundcolor}{%
3396 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
3397 }
3398 \define@key{Field}{bordercolor}{%
3399 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
3400 }
3401 \define@key{Field}{color}{%
3402 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
3403 }

3404 \def\Fld@format@code{}
3405 \def\Fld@validate@code{}
3406 \def\Fld@calculate@code{}
3407 \def\Fld@keystroke@code{}
3408 \def\Fld@onfocus@code{}
3409 \def\Fld@onblur@code{}
3410 \def\Fld@onmousedown@code{}
3411 \def\Fld@onmouseup@code{}
3412 \def\Fld@onenter@code{}
3413 \def\Fld@onexit@code{}
3414 \define@key{Field}{keystroke}{%
3415 \def\Fld@keystroke@code{#1}%
3416 }
3417 \define@key{Field}{format}{%
3418 \def\Fld@format@code{#1}%
3419 }
3420 \define@key{Field}{validate}{%
3421 \def\Fld@validate@code{#1}%
3422 }
3423 \define@key{Field}{calculate}{%
3424 \def\Fld@calculate@code{#1}%
3425 }
3426 \define@key{Field}{onfocus}{%
3427 \def\Fld@onfocus@code{#1}%
3428 }
3429 \define@key{Field}{onblur}{%
3430 \def\Fld@onblur@code{#1}%
3431 }
3432 \define@key{Field}{onenter}{%
3433 \def\Fld@onenter@code{#1}%
3434 }
3435 \define@key{Field}{onexit}{%
3436 \def\Fld@onexit@code{#1}%
3437 }
3438 \define@key{Field}{onselect}{%
3439 \Fld@addtoks{onselect}{#1}%

```

```

3440 }
3441 \define@key{Field}{onchange}{%
3442   \Field@addtoks{onchange}{#1}%
3443 }
3444 \define@key{Field}{onclick}{%
3445   \def\Fld@onclick{#1}%
3446   \Field@addtoks{onclick}{#1}%
3447 }
3448 \define@key{Field}{ondblclick}{%
3449   \Field@addtoks{ondblclick}{#1}%
3450 }
3451 \define@key{Field}{onmousedown}{%
3452   \Field@addtoks{onmousedown}{#1}%
3453 }
3454 \define@key{Field}{onmouseup}{%
3455   \Field@addtoks{onmouseup}{#1}%
3456 }
3457 \define@key{Field}{onmouseover}{%
3458   \Field@addtoks{onmouseover}{#1}%
3459 }
3460 \define@key{Field}{onmousemove}{%
3461   \Field@addtoks{onmousemove}{#1}%
3462 }
3463 \define@key{Field}{onmouseout}{%
3464   \Field@addtoks{onmouseout}{#1}%
3465 }
3466 \define@key{Field}{onkeypress}{%
3467   \Field@addtoks{onkeypress}{#1}%
3468 }
3469 \define@key{Field}{onkeydown}{%
3470   \Field@addtoks{onkeydown}{#1}%
3471 }
3472 \define@key{Field}{onkeyup}{%
3473   \Field@addtoks{onkeyup}{#1}%
3474 }
3475 %
3476 \DeclareRobustCommand\TextField{%
3477   \@ifnextchar[{\@TextField}{\@TextField[]}%
3478 }
3479 \DeclareRobustCommand\ChoiceMenu{%
3480   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
3481 }
3482 \DeclareRobustCommand\CheckBox{%
3483   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
3484 }
3485 \DeclareRobustCommand\PushButton{%
3486   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
3487 }
3488 \DeclareRobustCommand\Gauge{%
3489   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
3490 }
3491 \DeclareRobustCommand\Submit{%
3492   \@ifnextchar[{\@Submit}{\@Submit[]}%
3493 }
3494 \DeclareRobustCommand\Reset{%
3495   \@ifnextchar[{\@Reset}{\@Reset[]}%
3496 }

```



```

3497 \def\LayoutTextField#1#2{% label, field
3498   #1 #2%
3499 }
3500 \def\LayoutChoiceField#1#2{% label, field
3501   #1 #2%
3502 }
3503 \def\LayoutCheckField#1#2{% label, field
3504   #1 #2%
3505 }
3506 \def\LayoutPushButtonField#1{% button
3507   #1%
3508 }
3509 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
3510 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
3511 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
3512 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
3513 \def\MakeButtonField#1{%
3514   \sbox0{%
3515     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
3516   }%
3517   \@tempdima\ht0 %
3518   \advance\@tempdima by \Fld@borderwidth bp %
3519   \advance\@tempdima by \Fld@borderwidth bp %
3520   \ht0\@tempdima
3521   \@tempdima\dp0 %
3522   \advance\@tempdima by \Fld@borderwidth bp %
3523   \advance\@tempdima by \Fld@borderwidth bp %
3524   \dp0\@tempdima
3525   \box0\relax
3526 }
3527 \def\DefaultHeightofSubmit{14pt}
3528 \def\DefaultWidthofSubmit{2cm}
3529 \def\DefaultHeightofReset{14pt}
3530 \def\DefaultWidthofReset{2cm}
3531 \def\DefaultHeightofCheckBox{\baselineskip}
3532 \def\DefaultWidthofCheckBox{\baselineskip}
3533 \def\DefaultHeightofChoiceMenu{\baselineskip}
3534 \def\DefaultWidthofChoiceMenu{\baselineskip}
3535 \def\DefaultHeightofText{\baselineskip}
3536 \def\DefaultWidthofText{3cm}

```

20 Setup

```

3537 \ifHy@figures
3538   \Hy@Info{Hyper figures ON}%
3539 \else
3540   \Hy@Info{Hyper figures OFF}%
3541 \fi
3542 \ifHy@nesting
3543   \Hy@Info{Link nesting ON}%
3544 \else
3545   \Hy@Info{Link nesting OFF}%
3546 \fi
3547 \ifHy@hyperindex
3548   \Hy@Info{Hyper index ON}%
3549 \else

```

```

3550 \Hy@Info{Hyper index OFF}%
3551 \fi
3552 \ifHy@backref
3553 \Hy@Info{backreferencing ON}%
3554 \else
3555 \Hy@Info{backreferencing OFF}%
3556 \fi
3557 \ifHy@colorlinks
3558 \Hy@Info{Link coloring ON}%
3559 \else
3560 \Hy@Info{Link coloring OFF}%
3561 \fi

```

21 Low-level utility macros

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

```

3562 \edef\hyper@hash{\string#}
3563 \edef\hyper@tilde{\string~}
3564 \edef\hyper@quote{\string"}
3565 \let\@currentHref\@empty
3566 \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.

```

3567 \AfterBeginDocument{%
3568   \Hy@pdfstringtrue
3569   \PDF@SetupDoc
3570   \let\PDF@SetupDoc\@empty
3571   \Hy@DisableOption{pdfpagescrop}%
3572   \Hy@DisableOption{pdfpagemode}%
3573   \Hy@DisableOption{pdfnonfullscreenpagemode}%
3574   \Hy@DisableOption{pdfdirection}%
3575   \Hy@DisableOption{pdfviewarea}%
3576   \Hy@DisableOption{pdfviewclip}%
3577   \Hy@DisableOption{pdfprintarea}%
3578   \Hy@DisableOption{pdfprintclip}%
3579   \Hy@DisableOption{pdfprintscaling}%
3580   \Hy@DisableOption{pdfduplex}%
3581   \Hy@DisableOption{pdfpicktraybypdfsize}%
3582   \Hy@DisableOption{pdfprintpagerange}%
3583   \Hy@DisableOption{pdfnumcopies}%
3584   \Hy@DisableOption{pdfstartview}%
3585   \Hy@DisableOption{pdfstartpage}%
3586   \Hy@DisableOption{pdftoolbar}%
3587   \Hy@DisableOption{pdfmenubar}%
3588   \Hy@DisableOption{pdfwindowui}%
3589   \Hy@DisableOption{pdfwindow}%
3590   \Hy@DisableOption{pdfcenterwindow}%
3591   \Hy@DisableOption{pdfdisplaydoctitle}%
3592   \Hy@DisableOption{pdfpagelayout}%
3593   \Hy@DisableOption{pdflang}%
3594   \Hy@DisableOption{baseurl}%
3595   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
3596   \Hy@pdfstringfalse
3597 }

```

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.

```
3598 \def\NoHyper{%
3599   \def\hyper@link@{##1}##2##3##4{##4}%
3600   \def\hyper@@anchor##1{%
3601     \global\let\hyper@livelink\hyper@link
3602     \gdef\hyper@link##1##2##3{##3}%
3603     \def\hyper@anchorstart##1{%
3604       \let\hyper@anchorend\@empty
3605       \def\hyper@linkstart##1##2{%
3606         \let\hyper@linkend\@empty
3607         \def\hyper@linkurl##1##2{##1}%
3608         \def\hyper@linkfile##1##2##3{##1}%
3609         \let\Hy@backout\@gobble
3610       }
3611     \def\stop@hyper{%
3612       \def\hyper@link@{##1}##2##3##4{##4}%
3613       \let\Hy@backout\@gobble
3614       \def\hyper@@anchor##1{%
3615         \def\hyper@link##1##2##3{##3}%
3616         \def\hyper@anchorstart##1{%
3617           \let\hyper@anchorend\@empty
3618           \def\hyper@linkstart##1##2{%
3619             \let\hyper@linkend\@empty
3620             \def\hyper@linkurl##1##2{##1}%
3621             \def\hyper@linkfile##1##2##3{##1}%
3622           }
3623         \def\endNoHyper{%
3624           \global\let\hyper@link\hyper@livelink
3625         }
3626       }
3627     }
3628   }
3629 }
```

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:

```
3627 \def\*nohyperref{
3628   \let\hyper@@anchor\@gobble
3629   \def\hyper@link#1#2#3{#3}%
3630   \let\hyper@anchorstart\@gobble
3631   \let\hyper@anchorend\@empty
3632   \let\hyper@linkstart\@gobbletwo
3633   \let\hyper@linkend\@empty
3634   \def\hyper@linkurl#1#2{#1}%
3635   \def\hyper@linkfile#1#2#3{#1}%
3636   \let\PDF@SetupDoc\@empty
3637   \let\PDF@FinishDoc\@empty
3638 }
```

Some top-level commands:

```

3638 \let\Acrobatmenu\@gobble
3639 \let\pdfstringdefDisableCommands\@gobbletwo
3640 \let\texorpdfstring\@firstoftwo
3641 \let\pdfbookmark\@undefined
3642 \newcommand\pdfbookmark[3] [] {}
3643 \let\phantomsection\@empty
3644 \let\hypersetup\@gobble
3645 \let\hyperbaseurl\@gobble
3646 \let\href\@gobble
3647 \let\hyperdef\@gobbletwo
3648 \let\hyperlink\@gobble
3649 \let\hypertarget\@gobble
3650 \def\hyperref{\@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}}
3651 \long\def\@gobbleopt[#1]{}
3652 \let\hyperpage\@empty
3653 \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}`

```

3654 \*package
3655 \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.

```

3656 \if@filesw
3657   \ifHy@typexml
3658     \immediate\closeout\@mainaux
3659     \immediate\openout\@mainaux\jobname.aux\relax
3660     \immediate\write\@auxout{<relaxxml>\relax}%
3661   \fi
3662   \immediate\write\@auxout{%
3663     \string\ifx\string\hyper@anchor\string\@undefined^^J%
3664     \global\let\string\oldcontentsline\string\contentsline^^J%
3665     \gdef\string\contentsline%
3666       \string#1\string#2\string#3\string#4{%
3667       \string\oldcontentsline%
3668       {\string#1}{\string#2}{\string#3}}^^J%
3669     \global\let\string\oldnewlabel\string\newlabel^^J%
3670     \gdef\string\newlabel\string#1\string#2{%
3671     \string\newlabelxx{\string#1}\string#2}^^J%
3672     \gdef\string\newlabelxx%
3673       \string#1\string#2\string#3\string#4\string#5\string#6{%
3674       \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.

```

3675   \string\AtEndDocument{%
3676     \let\string\contentsline\string\oldcontentsline^^J%
3677     \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.

```

3678      \string\else^^J%
3679      \global\let\string\hyper@last\relax^^J%
3680      \string\fi^^J%
3681    }%
3682  \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.

```

3683  \ifx\hyper@last\@undefined
3684    \def\@starttoc#1{%
3685      \begingroup
3686        \makeatletter
3687        \IfFileExists{\jobname.#1}{%
3688          \Hy@WarningNoLine{%
3689            old #1 file detected, not used; run LaTeX again%
3690          }%
3691        }{}%
3692        \if@filesw
3693          \expandafter\newwrite\csname tf@#1\endcsname
3694          \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
3695        \fi
3696        \@nobreakfalse
3697      \endgroup
3698    }%
3699    \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
3700  \fi
3701 }

```

25 Title strings

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

```

3702 \ifHy@usetitle
3703   \let\HyOrg@title\title
3704   \let\HyOrg@author\author
3705   \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
3706   \def\Hy@scanopttitle[#1]{%
3707     \gdef\Hy@title{#1}%
3708     \HyOrg@title[{#1}]%
3709   }%
3710   \def\Hy@scantitle#1{%
3711     \gdef\Hy@title{#1}%
3712     \HyOrg@title{#1}%
3713   }%
3714   \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
3715   \def\Hy@scanoptauthor[#1]{%
3716     \gdef\Hy@author{#1}%
3717     \HyOrg@author[{#1}]%
3718   }%
3719   \def\Hy@scanauthor#1{%
3720     \gdef\Hy@author{#1}%

```

```

3721 \HyOrg@author{#1}%
3722 }%

```

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.

```

3723 \begingroup
3724 \def\process@me#1\@nil#2{%
3725 \expandafter\let\expandafter\x\csname @#2\endcsname
3726 \edef\y{\expandafter\strip@prefix\meaning\x}%
3727 \def\c##1##2\@nil{%
3728 \ifx\\##1\\%
3729 \else
3730 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
3731 \expandafter{\x}%
3732 \fi
3733 }%
3734 \expandafter\c\y\relax#1\@nil
3735 }%
3736 \expandafter\process@me\string\@latex@\@nil{title}%
3737 \expandafter\process@me\string\@latex@\@nil{author}%
3738 \endgroup
3739 \fi
3740 \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.

```

3741 \def\Hy@UseMaketitleString#1{%
3742 \@ifundefined{Hy@#1}{-}{%
3743 \begingroup
3744 \let\Hy@saved@hook\pdfstringdefPreHook
3745 \pdfstringdefDisableCommands{%
3746 \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
3747 \let\newline\\%
3748 }%
3749 \expandafter\ifx\csname @pdf#1\endcsname\@empty
3750 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
3751 \csname Hy@#1\endcsname\@empty
3752 }%
3753 \fi
3754 \global\let\pdfstringdefPreHook\Hy@saved@hook
3755 \endgroup
3756 }%
3757 }
3758 \def\Hy@newline@title#1{ #1}
3759 \def\Hy@newline@author#1{, #1}
3760 \def\Hy@UseMaketitleInfos{%
3761 \Hy@UseMaketitleString{title}%
3762 \Hy@UseMaketitleString{author}%
3763 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

26.1 PDF /PageLabels

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

```
3764 \ifHy@pagelabels
3765   \begingroup\expandafter\expandafter\expandafter\endgroup
3766   \expandafter\ifx\csname thepage\endcsname\relax
3767     \Hy@pagelabelsfalse
3768     \Hy@WarningNoLine{%
3769       Option 'pdfpagelabels' is turned off\MessageBreak
3770       because \string\thepage\space is undefined%
3771     }%
3772     \csname fi\endcsname
3773     \csname iffalse\expandafter\endcsname
3774   \fi
```

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

```
3775 \def\thispdfpagelabel#1{%
3776   \gdef\HyPL@thisLabel{#1}%
3777 }%
3778 \global\let\HyPL@thisLabel\relax
```

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

```
3779 \def\HyPL@Labels{}%
```

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

```
3780 \newcount\Hy@abspage
3781 \Hy@abspage=0 %
```

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

```
3782 \def\HyPL@LastType{init}%
3783 \def\HyPL@LastNumber{0}%
3784 \def\HyPL@LastPrefix{}%
```

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

```
3785 \def\HyPL@arabic{D}%
3786 \def\HyPL@Roman{R}%
3787 \def\HyPL@roman{r}%
3788 \def\HyPL@Alph{A}%
3789 \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.

```
3790 \def\HyPL@EveryPage{%
3791   \begingroup
3792   \ifx\HyPL@thisLabel\relax
3793     \let\HyPL@page\thepage
3794   \else
3795     \let\HyPL@page\HyPL@thisLabel
3796     \global\let\HyPL@thisLabel\relax
3797   \fi
3798   \let\HyPL@Type\relax
```

```

3799 \ifnum\the\c@page>0 %
3800 \expandafter\HyPL@CheckThePage\HyPL@page\@nil
3801 \fi
3802 \let\Hy@temp Y%
3803 \ifx\HyPL@Type\HyPL@LastType
3804 \else
3805 \let\Hy@temp N%
3806 \fi
3807 \ifx\HyPL@Type\relax
3808 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
3809 \else
3810 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
3811 \fi
3812 \ifx\HyPL@Prefix\HyPL@LastPrefix
3813 \else
3814 \let\Hy@temp N%
3815 \fi
3816 \if Y\Hy@temp
3817 \advance\c@page by -1 %
3818 \ifnum\HyPL@LastNumber=\the\c@page\relax
3819 \else
3820 \let\Hy@temp N%
3821 \fi
3822 \Hy@StepCount\c@page
3823 \fi
3824 \if N\Hy@temp
3825 \ifx\HyPL@Type\relax
3826 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
3827 \else
3828 \HyPL@StorePageLabel{%
3829 \ifx\HyPL@Prefix\@empty
3830 \else
3831 /P(\HyPL@Prefix)%
3832 \fi
3833 /S/\csname HyPL\HyPL@Type\endcsname
3834 \ifnum\the\c@page=1 %
3835 \else
3836 \space/St \the\c@page
3837 \fi
3838 }%
3839 \fi
3840 \fi
3841 \xdef\HyPL@LastNumber{\the\c@page}%
3842 \global\let\HyPL@LastType\HyPL@Type
3843 \global\let\HyPL@LastPrefix\HyPL@Prefix
3844 \endgroup
3845 \Hy@GlobalStepCount\Hy@abspage
3846 }%

```

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

```

3847 \def\HyPL@CheckThePage#1\@nil{%
3848 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
3849 }%

```

`\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.
3850 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
3851 \def\Hy@tempa{#4}%
3852 \def\Hy@tempb{\csname\endcsname\c@page}%
3853 \ifx\Hy@tempa\Hy@tempb
3854 \expandafter\ifx\csname HyPL#3\endcsname\relax
3855 \else
3856 \def\HyPL@Type{#3}%
3857 \def\HyPL@Prefix{#2}%
3858 \fi
3859 \else
3860 \begingroup
3861 \let\Hy@next\endgroup
3862 \let\HyPL@found\@undefined
3863 \def\arabic{\HyPL@Format{arabic}}%
3864 \def\Roman{\HyPL@Format{Roman}}%
3865 \def\roman{\HyPL@Format{roman}}%
3866 \def\Alph{\HyPL@Format{Alph}}%
3867 \def\alph{\HyPL@Format{alph}}%
3868 \protected@edef\Hy@temp{#1}%
3869 \ifx\HyPL@found\relax
3870 \toks@\expandafter{\Hy@temp}%
3871 \edef\Hy@next{\endgroup
3872 \noexpand\HyPL@@@CheckThePage\the\toks@
3873 \noexpand\HyPL@found\relax\noexpand\@nil
3874 }%
3875 \fi
3876 \Hy@next
3877 \fi
3878 }%

```

\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`.

```

3879 \def\HyPL@Format#1#2{%
3880 \ifx\HyPL@found\@undefined
3881 \expandafter\ifx\csname c@#2\endcsname\c@page
3882 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
3883 \else
3884 \expandafter\noexpand\csname#1\endcsname{#2}%
3885 \fi
3886 \else
3887 \expandafter\noexpand\csname#1\endcsname{#2}%
3888 \fi
3889 }%

```

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

```

3890 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
3891 \def\Hy@tempa{#3}%
3892 \def\Hy@tempb{\HyPL@found\relax}%
3893 \ifx\Hy@tempa\Hy@tempb
3894 \def\HyPL@Type{#2}%
3895 \def\HyPL@Prefix{#1}%
3896 \fi
3897 }%

```

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

```

3898 \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`.

```

3899 \def\HyPL@Useless{0<</S/D>>}%
3900 \@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.

```

3901 \def\HyPL@SetPageLabels{%
3902   \@onelevel@sanitize\HyPL@Labels
3903   \ifx\HyPL@Labels\@empty
3904   \else
3905     \ifx\HyPL@Labels\HyPL@Useless
3906     \else
3907       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
3908     \fi
3909   \fi
3910 }%

```

`\HyPL@EveryPage` Without option ‘`pdfpagelabels`’ we need a dummy for `\HyPL@EveryPage`.

```

3911 \else
3912 \let\HyPL@EveryPage\@empty
3913 \fi

```

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

```

3914 \Hy@DisableOption{pdfpagelabels}
3915 </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`

```

3916 <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.

```

3917 <*vTeX>
3918 \edef\Hy@VTeXversion{%
3919   \ifx\VTeXversion\@undefined
3920     \z@
3921   \else
3922     \ifx\VTeXversion\relax
3923     \z@
3924   \else
3925     \VTeXversion
3926   \fi
3927 \fi
3928 }
3929 \begingroup

```

```

3930 \ifnum\Hy@VTeXversion<660 %
3931   \gdef\Hy@PutCatalog#1{%
3932     \Hy@WarningNoLine{%
3933       VTeX 6.59g or above required for pdfpagelabels%
3934     }%
3935   }%
3936 \else
3937   \gdef\Hy@PutCatalog#1{%
3938     \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
3939   }%
3940   \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
3941     \ifx\#2\%
3942       \else
3943         \immediate\special{!pdfpagelabels #2}%
3944       \fi
3945     }%
3946   \fi
3947 \endgroup
3948 \</vtex>

3949 \<*pdfTeX | vtex>

```

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

```

3950 \ifHy@pagelabels
3951   \def\HyPL@StorePageLabel#1{%
3952     \toks@{\expandafter{\HyPL@Labels}}%
3953     \xdef\HyPL@Labels{%
3954       \the\toks@
3955       \the\Hy@abspage<<#1>>%
3956     }%
3957   }%

```

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.

```

3958 \AtEndDocument{\clearpage\HyPL@SetPageLabels}%
3959 \fi
3960 \</pdfTeX | vtex>

```

26.1.2 pdfmarkbase, dvipdfm

`\Hy@PutCatalog`

```

3961 \<dvipdfm>\def\Hy@PutCatalog#1{\@pdfmark{docview << #1 >>}}
3962 \<*pdfmarkbase>
3963 \def\Hy@PutCatalog#1{%
3964   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
3965 }
3966 \</pdfmarkbase>

3967 \<*pdfmarkbase | dvipdfm>
3968 \ifHy@pagelabels

```

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

```

3969 \def\HyPL@StorePageLabel#1{%
3970   \if@filesw
3971     \begingroup
3972     \edef\Hy@tempa{\the\Hy@abspage<<#1>>%

```

```

3973         \immediate\write\@mainaux{%
3974             \string\HyPL@Entry{\Hy@tempa}%
3975         }%
3976     \endgroup
3977 \fi
3978 }%

```

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.

```

3979 \AfterBeginDocument{%
3980     \if@filesw
3981         \immediate\write\@mainaux{%
3982             \string\providecommand\string*\string\HyPL@Entry[1]{}%
3983         }%
3984     \fi
3985     \ifx\HyPL@Labels\@empty
3986         \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
3987     \else
3988         \HyPL@SetPageLabels
3989     \fi
3990     \let\HyPL@Entry\@gobble
3991 }%

```

`\HyPL@Entry`

```

3992 \def\HyPL@Entry#1{%
3993     \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
3994         \HyPL@Labels
3995         #1%
3996     }%
3997 }%

3998 \fi
3999 </pdfmarkbase | dvipdfm>

4000 <*package>

4001 \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

```

4002 \def\Hy@CounterExists#1{%
4003   \begingroup\expandafter\expandafter\expandafter\endgroup
4004   \expandafter\ifx\csname c@#1\endcsname\relax
4005     \expandafter\@gobble
4006   \else
4007     \begingroup\expandafter\expandafter\expandafter\endgroup
4008     \expandafter\ifx\csname the#1\endcsname\relax
4009       \expandafter\expandafter\expandafter\@gobble
4010     \else
4011       \expandafter\expandafter\expandafter\@firstofone
4012     \fi
4013   \fi
4014 }
4015 \Hy@CounterExists{section}{%
4016   \newcommand\theHequation{\theHsection.\arabic{equation}}%
4017 }
4018 \Hy@CounterExists{part}{%
4019   \newcommand\theHpart{\arabic{part}}%
4020 }
4021 \@ifundefined{thechapter}{%
4022   \newcommand\theHsection    {\arabic{section}}%
4023   \newcommand\theHfigure     {\arabic{figure}}%
4024   \newcommand\theHtable      {\arabic{table}}%
4025 }{%
4026   \newcommand\theHchapter    {\arabic{chapter}}%
4027   \newcommand\theHfigure     {\theHchapter.\arabic{figure}}%
4028   \newcommand\theHtable      {\theHchapter.\arabic{table}}%
4029   \newcommand\theHsection    {\theHchapter.\arabic{section}}%
4030 }
4031 \newcommand\theHsubsection   {\theHsection.\arabic{subsection}}
4032 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
4033 \newcommand\theHparagraph    {\theHsubsubsection.\arabic{paragraph}}
4034 \newcommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}
4035 \newcommand\theHtheorem      {\theHsection.\arabic{theorem}}
4036 \newcommand\theHthm          {\theHsection.\arabic{thm}}

4037 \let\H@item\item
4038 \newcounter{Item}
4039 \def\theHItem{\arabic{Item}}
4040 \def\item{%
4041   \@hyper@itemfalse
4042   \if@nmbrrlist\@hyper@itemtrue\fi
4043   \H@item
4044 }

4045 \newcommand\theHenumi       {\theHItem}
4046 \newcommand\theHenumii      {\theHItem}
4047 \newcommand\theHenumiii     {\theHItem}
4048 \newcommand\theHenumiv      {\theHItem}
4049 \newcommand\theHHfootnote   {\arabic{Hfootnote}}
4050 \newcommand\theHmpfootnote {\arabic{mpfootnote}}
4051 \let\theHHmpfootnote\theHHfootnote

```

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.

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.

```
4052 \let\H@refstepcounter\refstepcounter
4053 \edef\name@of@eq{equation}%
4054 \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.

```
4055 \newif\if@hyper@item
4056 \newif\if@skiphyperref
4057 \@hyper@itemfalse
4058 \@skiphyperreffalse
4059 \def\refstepcounter#1{%
4060   \ifHy@pdfstring
4061   \else
4062     \H@refstepcounter{#1}%
4063     \edef\This@name{#1}%
4064     \ifx\This@name\name@of@slide
4065     \else
4066       \if@skiphyperref
4067       \else
4068         \if@hyper@item
4069         \stepcounter{Item}%
4070         \hyper@refstepcounter{Item}%
4071         \else
4072         \hyper@refstepcounter{#1}%
4073         \fi
4074       \fi
4075     \fi
4076   \fi
4077 }
```

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.

```
4078 \@ifpackageloaded{amsmath}{-}\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

```
4079 \def\hyper@refstepcounter#1{%
4080   \edef\This@name{#1}%
4081   \ifx\This@name\name@of@eq
4082     \@ifundefined{theHequation}{%
4083       \make@stripped@name{\theequation}%
4084       \let\theHequation\newname
4085     }{}%
4086   \fi
4087   \@ifundefined{theH#1}{%
4088     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
4089   }{}%
4090   \hyper@makecurrent{#1}%
4091   \ifmeasuring@
4092   \else
4093     \Hy@raisedlink{%
4094       \hyper@anchorstart{\@currentHref}\hyper@anchorend
4095     }%
4096   \fi
4097 }
```

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`.

```

4098 \begingroup\expandafter\expandafter\expandafter\endgroup
4099 \expandafter\ifx\csname chapter\endcsname\relax
4100   \def\Hy@chapterstring{section}%
4101 \else
4102   \def\Hy@chapterstring{chapter}%
4103 \fi
4104 \def\Hy@appendixstring{appendix}
4105 \def\Hy@chapapp{\Hy@chapterstring}
4106 \let\HyOrg@appendix\appendix
4107 \def\appendix{%
4108   \@ifundefined{chapter}%
4109     {\gdef\theHsection{\Alph{section}}}%
4110     {\gdef\theHchapter{\Alph{chapter}}}%
4111   \xdef\Hy@chapapp{\Hy@appendixstring}%
4112   \HyOrg@appendix
4113 }
```

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

```

4114 \def\hyper@makecurrent#1{%
4115   \begingroup
4116     \edef\Hy@param{#1}%
4117     \ifx\Hy@param\Hy@chapterstring
4118       \let\Hy@param\Hy@chapapp
4119     \fi
4120     \ifHy@hypertextnames
4121       \let\@number\@firstofone
4122       \@ifundefined{latin@Alph}{}{%
4123         \ifx\@Alph\greek@Alph
4124           \def\@Alph{Alph\@arabic}%
4125         \fi
4126       }%
4127     \ifHy@naturalnames
4128       \let\textlatin\@firstofone
4129       \xdef\@currentHlabel{\csname the#1\endcsname}%
4130     \else
4131       \xdef\@currentHlabel{\csname theH#1\endcsname}%
4132     \fi
4133     \xdef\@currentHref{%
4134       \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
4135     }%
4136   \else
4137     \Hy@GlobalStepCount\Hy@linkcounter
4138     \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
4139   \fi
4140 \endgroup
4141 }

4142 \@ifpackageloaded{fancyvrb}{%
4143   \def\FV@StepLineNo{%
4144     \FV@SetLineNo
```

```

4145 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
4146 \FV@StepLineNo
4147 }%
4148 }{}

```

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 hyperxnames 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`

```

4149 \AtBeginDocument{%
4150 \ifpackageloaded{lastpage}{%
4151 \ifHy@pageanchor
4152 \else
4153 \Hy@WarningNoLine{%
4154 The \string\pageref{LastPage} link doesn't work\MessageBreak
4155 with disabled option 'pageanchor'%
4156 }%
4157 \fi
4158 \def\lastpage@putlabel{%
4159 \addtocounter{page}{-1}%
4160 \if@filesw
4161 \begingroup
4162 \let\@number\@firstofone
4163 \ifHy@pageanchor
4164 \ifHy@hypertextnames
4165 \ifHy@plainpages
4166 \def\Hy@temp{\arabic{page}}%
4167 \else
4168 \Hy@unicodefalse
4169 \pdfstringdef\Hy@temp{\thepage}%
4170 \fi
4171 \else
4172 \def\Hy@temp{\the\Hy@pagecounter}%
4173 \fi
4174 \fi
4175 \immediate\write\@auxout{%
4176 \string\newlabel
4177 {LastPage}{}{\thepage}{}{%
4178 \ifHy@pageanchor page.\Hy@temp\fi}{}%
4179 }%
4180 \endgroup
4181 \fi
4182 \addtocounter{page}{1}%
4183 }%
4184 }{}%
4185 }
4186 \</package>
4187 \< *check>
4188 \checkpackage{lastpage}[1994/06/25]
4189 \checkcommand\def\lastpage@putlabel{%

```



```

4190 \addtocounter{page}{-1}%
4191 \immediate\write\@auxout{%
4192   \string\newlabel{LastPage}{\thepage}%
4193 }%
4194 \addtocounter{page}{1}%
4195 }
4196 </check>
4197 <*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.

```

4198 \def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
4199 \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:

```

4200 \@ifpackageloaded{titlesec}{%
4201   \def\ttl@Hy@steplink#1{%
4202     \Hy@GlobalStepCount\Hy@linkcounter
4203     \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
4204     \def\ttl@Hy@saveanchor{%
4205       \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
4206     }%
4207   }%
4208   \def\ttl@Hy@refstepcounter#1{%
4209     \let\ttl@b\Hy@raisedlink
4210     \def\Hy@raisedlink##1{\def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}}%
4211     \refstepcounter{#1}%
4212     \let\Hy@raisedlink\ttl@b
4213   }%
4214 }{}

```

Package titletoc support:

```

4215 \@ifpackageloaded{titletoc}{%
4216   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
4217 }{}

```

31 Package varioref support

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

```

4218 \def\Hy@varioref@undefined{??}{?}{-}{-}
4219 \@ifpackageloaded{varioref}{%
4220   \def\vref#1#2{%
4221     \@ifundefined{r@#2}{%
4222       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
4223     }{}%
4224     \edef#1{\getpagerefnumber{#2}}%

```

```

4225 }%
4226 }{}

```

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

```

4227 \@ifpackageloaded{longtable}{%
4228   \begingroup
4229     \def\y{\LT@array}%
4230     \@ifundefined{scr@LT@array}{}{\def\y{\scr@LT@array}}%
4231     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
4232       \expandafter\endgroup
4233       \expandafter\def\y[##1]##2{%
4234         \H@refstepcounter{#1}%
4235         \hyper@makecurrent{table}%
4236         #2\@sharp####4%
4237       }%
4238     }%
4239     \expandafter\expandafter\expandafter\x\y[##1][##2]\@nil

```

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

```

4240   \begingroup
4241     \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
4242       \endgroup
4243       \def\LT@start{%
4244         #1%
4245         \hyper@refstepcounter{table}%
4246         \ifvoid\LT@firsthead\copy
4247         #2%
4248       }%
4249     }%
4250     \expandafter\x\LT@start\@nil
4251 }{}

```

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.

```

4252 \let\new@refstepcounter\refstepcounter
4253 \let\H@equation\equation
4254 \let\H@endequation\endequation
4255 \@ifpackageloaded{amsmath}{%
4256   \long\def\Hy@temp{%
4257     \incr@eqnum
4258     \mathdisplay@push
4259     \st@rrredfalse \global\@eqnswtrue
4260     \mathdisplay{equation}%

```

```

4261 }%
4262 \ifx\Hy@temp\equation
4263   \expandafter\ifx\csname if@fleqn\expandafter\endcsname
4264     \csname iftrue\endcsname
4265   \else
4266     \long\def\equation{%
4267       \mathdisplay@push
4268       \st@rredfalse \global\@eqnswtrue
4269       \mathdisplay{equation}%
4270       \incr@eqnum
4271     }%
4272   \fi
4273 \fi
4274 }{%
4275 \def\equation{%
4276   \let\refstepcounter\H@refstepcounter
4277   \H@equation
4278   \@ifundefined{theHequation}{%
4279     \make@stripped@name{\theequation}%
4280     \let\theHequation\newname
4281   }{%
4282     \hyper@makecurrent{equation}%
4283     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
4284     \let\refstepcounter\new@refstepcounter
4285   }%
4286 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
4287 }

```

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.

```

4288 \newif@if@eqnstar
4289 \@eqnstarfalse
4290 \let\H@eqnarray\eqnarray
4291 \let\H@endeqnarray\endeqnarray
4292 \def\eqnarray{%
4293   \let\Hy@reserved@a\relax
4294   \def\@currentHref{}%
4295   \H@eqnarray
4296   \if@eqnstar
4297   \else
4298     \ifx\\\@currentHref\\%
4299     \else
4300       \@ifundefined{theHequation}{%
4301         \make@stripped@name{\theequation}%
4302         \let\theHequation\newname
4303       }{%
4304         \hyper@makecurrent{equation}%
4305         \hyper@anchorstart{\@currentHref}{\hyper@anchorend
4306       \fi
4307     \fi
4308 }
4309 \def\endeqnarray{%
4310   \H@endeqnarray
4311 }

```

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.

```

4312 \@namedef{eqnarray*}{%
4313   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
4314 }
4315 \@namedef{endeqnarray*}{%
4316   \nonumber\endeqnarray\@eqnstarfalse
4317 }

```

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

```

4318 \@ifundefined{subeqnarray}{}{%
4319   \let\H@subeqnarray\subeqnarray
4320   \let\H@endsubeqnarray\endsubeqnarray
4321   \def\subeqnarray{%
4322     \let\Hy@reserved@a\relax
4323     \H@subeqnarray
4324     \@ifundefined{theHequation}{%
4325       \make@stripped@name{\theequation}%
4326       \let\theHequation\newname
4327     }{}%
4328     \hyper@makecurrent{equation}%
4329     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
4330 }%
4331   \def\endsubeqnarray{%
4332     \H@endsubeqnarray
4333   }%
4334   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
4335 }

```

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

```

4336 \def\make@stripped@name#1{%
4337   \begingroup
4338     \escapechar\m@ne
4339     \global\let\newname\@empty
4340     \protected@edef\Hy@tempa{#1}%
4341     \edef\@tempb{%
4342       \noexpand\@tfor\noexpand\Hy@tempa:=%
4343       \expandafter\strip@prefix\meaning\Hy@tempa
4344     }%
4345     \@tempb\do{%
4346       \if\Hy@tempa\else
4347         \if\Hy@tempa\else
4348           \xdef\newname{\newname\Hy@tempa}%
4349         \fi
4350       \fi
4351     }%
4352   \endgroup
4353 }

```

Support for amsmath's subequations:

```

4354 \begingroup\expandafter\expandafter\expandafter\endgroup
4355 \expandafter\ifx\csname subequations\endcsname\relax
4356 \else
4357   \let\HyOrg@subequations\subequations
4358   \def\subequations{%
4359     \stepcounter{equation}%
4360     \protected@edef\theHparentequation{%

```

```

4361 \ifundefined{theHequation}\theequation\theHequation
4362 }%
4363 \addtocounter{equation}{-1}%
4364 \HyOrg@subequations
4365 \def\theHequation{\theHparentequation\alph{equation}}%
4366 \ignorespaces
4367 }%
4368 \fi

```

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.

```

4369 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
4370 \ifHy@hyperfootnotes
4371 \newcounter{Hfootnote}%
4372 \let\H@@footnotetext\@footnotetext
4373 \let\H@@footnotemark\@footnotemark
4374 \def\@xfootnotenext[#1]{%
4375 \begingroup
4376 \csname c@\mpfn\endcsname #1\relax
4377 \unrestored@protected@xdef\@thefnmark{\thempfn}%
4378 \endgroup
4379 \ifx\@footnotetext\@mpfootnotetext
4380 \expandafter\H@@mpfootnotetext
4381 \else
4382 \expandafter\H@@footnotetext
4383 \fi
4384 }%
4385 \def\@xfootnotemark[#1]{%
4386 \begingroup
4387 \c@footnote #1\relax
4388 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
4389 \endgroup
4390 \H@@footnotemark
4391 }%
4392 \let\H@@mpfootnotetext\@mpfootnotetext
4393 \long\def\@mpfootnotetext#1{%
4394 \H@@mpfootnotetext{%
4395 \ifHy@nesting
4396 \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
4397 \else
4398 \Hy@raisedlink{%
4399 \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
4400 }#1%
4401 \fi
4402 }%
4403 }%
4404 \long\def\@footnotetext#1{%
4405 \H@@footnotetext{%
4406 \ifHy@nesting
4407 \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
4408 \else

```

```

4409     \Hy@raisedlink{%
4410         \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
4411     }%
4412     \let\@currentHlabel\Hy@footnote@currentHlabel
4413     \let\@currentHref\Hy@footnote@currentHref
4414     \let\@currentlabelname\@empty
4415     #1%
4416     \fi
4417 }%
4418 }%

```

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.

```

4419 \def\@footnotemark{%
4420     \leavevmode
4421     \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
4422     \stepcounter{Hfootnote}%
4423     \global\let\Hy@saved@currentHlabel\@currentHlabel
4424     \global\let\Hy@saved@currentHref\@currentHref
4425     \hyper@makecurrent{Hfootnote}%
4426     \global\let\Hy@footnote@currentHlabel\@currentHlabel
4427     \global\let\Hy@footnote@currentHref\@currentHref
4428     \global\let\@currentHlabel\Hy@saved@currentHlabel
4429     \global\let\@currentHref\Hy@saved@currentHref
4430     \hyper@linkstart{link}{\Hy@footnote@currentHref}%
4431     \@makefnmark
4432     \hyper@linkend
4433     \ifhmode\spacefactor\x@sf\fi
4434     \relax
4435 }%

```

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.

```

4436 \@ifpackageloaded{longtable}{%
4437     \CheckCommand*\LT@p@ftntext}[1]{%
4438         \edef\@tempa{%
4439             \the\LT@p@ftn
4440             \noexpand\footnotetext[\the\c@footnote]%
4441         }%
4442         \global\LT@p@ftn\expandafter{\@tempa{#1}}%
4443     }%
4444     \long\def\LT@p@ftntext#1{%
4445         \edef\@tempa{%
4446             \the\LT@p@ftn
4447             \begingroup
4448             \noexpand\c@footnote=\the\c@footnote\relax
4449             \noexpand\protected@xdef
4450             \noexpand\@thefnmark{\noexpand\thempfn}%
4451             \noexpand\protected@xdef\noexpand\@thefnmark{%
4452                 \noexpand\thempfn
4453             }%
4454             \expandafter\expandafter\expandafter\noexpand
4455             \expandafter\expandafter\expandafter\Hy@LT@footnotetext
4456             \expandafter\expandafter\expandafter{%

```

```

4457         \expandafter\Hy@footnote@currentHref\expandafter
4458         }\expandafter{\Hy@footnote@currentHlabel}%
4459     }%
4460     \global\LT@p@ftn\expandafter{%
4461         \@tempa{#1}%
4462     \endgroup
4463     }%
4464 }%
4465 \long\def\Hy@LT@footnotetext#1#2#3{%
4466     \H@@footnotetext{%
4467         \ifHy@nesting
4468             \hyper@@anchor{#1}{#3}%
4469         \else
4470             \Hy@raisedlink{%
4471                 \hyper@@anchor{#1}{\relax}%
4472             }%
4473             \def\@currentHlabel{#2}%
4474             \def\@currentHref{#1}%
4475             \let\@currentlabelname\@empty
4476             #3%
4477         \fi
4478     }%
4479 }%
4480 }{}%

```

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.

```

4481 \let\HyOrg@maketitle\maketitle
4482 \def\maketitle{%
4483     \let\Hy@saved@footnotemark\@footnotemark
4484     \let\Hy@saved@footnotetext\@footnotetext
4485     \let\@footnotemark\H@@footnotemark
4486     \let\@footnotetext\H@@footnotetext
4487     \@ifnextchar[\Hy@maketitle@optarg{% ]
4488         \HyOrg@maketitle
4489         \Hy@maketitle@end
4490     }%
4491 }%
4492 \def\Hy@maketitle@optarg[#1]{%
4493     \HyOrg@maketitle[#{#1}]%
4494     \Hy@maketitle@end
4495 }%
4496 \def\Hy@maketitle@end{%
4497     \ifx\@footnotemark\H@@footnotemark
4498         \let\@footnotemark\Hy@saved@footnotemark
4499     \fi
4500     \ifx\@footnotetext\H@@footnotetext
4501         \let\@footnotetext\Hy@saved@footnotetext
4502     \fi
4503 }%

```

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

```

4504 \def\realfootnote{%
4505     \@ifnextchar[\@xfootnote{%
4506         \stepcounter{\@mpfn}%
4507         \protected@xdef\@thefnmark{\thempfn}%
4508         \H@@footnotemark\H@@footnotetext

```

```

4509     }%
4510 }%

4511 \fi
4512 \Hy@DisableOption{hyperfootnotes}

4513 </package>
4514 <*check>
4515 \checklatex
4516 \checkcommand\def\xfootnotenext[#1]{%
4517   \begingroup
4518     \csname c@\mpfn\endcsname #1\relax
4519     \unrestored@protected@xdef\thefnmark{\thempfn}%
4520   \endgroup
4521   \@footnotetext
4522 }
4523 \checkcommand\def\xfootnotemark[#1]{%
4524   \begingroup
4525     \c@footnote #1\relax
4526     \unrestored@protected@xdef\thefnmark{\thefootnote}%
4527   \endgroup
4528   \@footnotemark
4529 }
4530 \checkcommand\def\@footnotemark{%
4531   \leavevmode
4532   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
4533   \@makefnmark
4534   \ifhmode\spacefactor\x@sf\fi
4535   \relax
4536 }
4537 </check>
4538 <*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.

```

4539 \def\caption{%
4540   \ifx\@captive\@undefined
4541     \@latex@error{\noexpand\caption outside float}\@ehd
4542     \expandafter\@gobble
4543   \else
4544     \H@refstepcounter\@captive
4545     \@ifundefined{fst@\@captive}{%
4546       \let\Hy@tempa\@caption
4547     }{%
4548       \let\Hy@tempa\Hy@float@caption
4549     }%
4550     \expandafter\@firstofone
4551   \fi
4552   {\@dblarg{\Hy@tempa\@captive}}%
4553 }
4554 \long\def\@caption#1[#2]#3{%
4555   \expandafter\ifx\csname if@capstart\expandafter\endcsname
4556     \csname iftrue\endcsname
4557     \global\let\@currentHref\hc@currentHref
4558   \else

```



```

4559 \hyper@makecurrent{\@capytype}%
4560 \fi
4561 \def\@currentlabelname{#2}%
4562 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
4563 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
4564 }%
4565 \begingroup
4566 \@parboxrestore
4567 \if@minipage
4568 \setminipage
4569 \fi
4570 \normalsize
4571 \expandafter\ifx\csname if@capstart\expandafter\endcsname
4572 \csname iftrue\endcsname
4573 \global\@capstartfalse
4574 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
4575 \else
4576 \@makecaption{\csname fnum@#1\endcsname}{%
4577 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

4578 \ifHy@nesting
4579 \hyper@@anchor{\@currentHref}{#3}%
4580 \else
4581 \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%
4582 \fi
4583 }%
4584 \fi
4585 \par
4586 \endgroup
4587 }

```

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.

```

4588 \let\Hy@float@caption\@caption
4589 \ifpackageloaded{float}{%
4590 \def\Hy@float@caption{%
4591 \hyper@makecurrent{\@capytype}%
4592 \float@caption
4593 }%
4594 \let\HyOrg@float@makebox\float@makebox
4595 \renewcommand{\float@makebox}[1]{%
4596 \HyOrg@float@makebox{%
4597 #1\relax
4598 \begingroup
4599 \hyper@makecurrent{\@capytype}%
4600 \hyper@@anchor{\@currentHref}{\relax}%
4601 \endgroup
4602 }%
4603 }%
4604 }{}
4605 \end{package}
4606 \ifcheck
4607 \checklatex[1999/06/01 - 2000/06/01]
4608 \checkcommand\def\caption{%
4609 \ifx\@capytype\undefined
4610 \latexerror{\noexpand\caption outside float}\@ehd
4611 \expandafter\@gobble

```

```

4612 \else
4613   \refstepcounter\@capttype
4614   \expandafter\@firstofone
4615   \fi
4616   {\@dblarg{\@caption\@capttype}}}%
4617 }
4618 \checkcommand\long\def\@caption#1[#2]#3{%
4619   \par
4620   \addcontentsline{\csname ext@#1\endcsname}{#1}%
4621     {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}}%
4622   \begingroup
4623     \@parboxrestore
4624     \if@minipage
4625       \setminipage
4626     \fi
4627     \normalsize
4628     \makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
4629   \endgroup
4630 }
4631 \</check>
4632 \<*package>

```

36 Bibliographic references

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

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

```

4633 \def\hyper@natlinkstart#1{%
4634   \Hy@backout{#1}%
4635   \hyper@linkstart{cite}{cite.#1}%
4636   \def\hyper@nat@current{#1}%
4637 }
4638 \def\hyper@natlinkend{%
4639   \hyper@linkend
4640 }
4641 \def\hyper@natlinkbreak#1#2{%
4642   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
4643 }
4644 \def\hyper@natanchorstart#1{%
4645   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
4646 }
4647 \def\hyper@natanchorend{\hyper@anchorend}

```

Do not play games if we have *natbib* support. Macro `extra@binfo` added for chapterbib support. Chapterbib also wants `\@extra@binfo` in the hyper-link, but since the link tag is not expanded immediately, we use `\@extra@b@citeb`, so cites in a chapter will link to the bibliography in that chapter.

```

4648 \ifundefined{NAT@parse}{%
4649   \providecommand*\@extra@binfo{}%
4650   \providecommand*\@extra@b@citeb{}%
4651   \def\bibcite#1#2{%

```

```

4652 \newl@bel{b}{#1\@extra@binfo}{%
4653 \hyper@link[cite]{cite.#1\@extra@b@citeb}{#2}%
4654 }%
4655 }%
4656 \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.”.

```

4657 \let\Hy@bibcite\bibcite
4658 \begingroup
4659 \ifundefined{bbl@cite@choice}{}%
4660 \g@addto@macro\bbl@cite@choice{%
4661 \let\bibcite\Hy@bibcite
4662 }%
4663 }%
4664 \endgroup

```

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

```

4665 \providecommand*\@BIBLABEL{\@biblabel}%
4666 \def\@bibitem[#1]#2{%
4667 \skiphyperreftrue
4668 \H@item[%
4669 \ifx\Hy@raisedlink\@empty
4670 \hyper@anchorstart{cite.#2\@extra@b@citeb}%
4671 \@BIBLABEL{#1}%
4672 \hyper@anchorend
4673 \else
4674 \Hy@raisedlink{%
4675 \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
4676 }%
4677 \@BIBLABEL{#1}%
4678 \fi
4679 \hfill
4680 ]%
4681 \skiphyperreffalse
4682 \if@filesw
4683 \begingroup
4684 \let\protect\noexpand
4685 \immediate\write\@auxout{%
4686 \string\bibcite{#2}{#1}%
4687 }%
4688 \endgroup
4689 \fi
4690 \ignorespaces
4691 }%

```

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

```

4692 \def\@bibitem#1{%
4693 \skiphyperreftrue\H@item\skiphyperreffalse
4694 \Hy@raisedlink{%
4695 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
4696 }%
4697 \if@filesw
4698 \begingroup
4699 \let\protect\noexpand
4700 \immediate\write\@auxout{%
4701 \string\bibcite{#1}{\the\value{\@listctr}}%
4702 }%

```

```

4703     \endgroup
4704     \fi
4705     \ignorespaces
4706 }%
4707 }{}

4708 </package>
4709 <*check>
4710 \checklatex
4711 \checkcommand\def\@lbibitem[#1]#2{%
4712   \item[\@biblabel{#1}\hfill]%
4713   \if@filesw
4714     {%
4715       \let\protect\noexpand
4716       \immediate\write\@auxout{%
4717         \string\bibcite{#2}{#1}%
4718       }%
4719     }%
4720   \fi
4721   \ignorespaces
4722 }
4723 \checkcommand\def\@bibitem#1{%
4724   \item
4725   \if@filesw
4726     \immediate\write\@auxout{%
4727       \string\bibcite{#1}{\the\value{\@listctr}}%
4728     }%
4729   \fi
4730   \ignorespaces
4731 }
4732 </check>
4733 <*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.

```

4734 \@ifclassloaded{revtex}{%
4735   \Hy@Info{*** compatibility with revtex **** }%
4736   \def\revtex@checking#1#2{%
4737     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
4738     \expandafter\def\csname b@#1\endcsname{#2}%
4739     \@SetMaxRnhefLabel{#1}%
4740     \expandafter\let\csname b@#1\endcsname\T@temp
4741   }%

```

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

```

4742   \@ifundefined{CITE}{\def\CITE{\@cite}}{}%
4743   \providecommand*\@extra@b@citeb{}%
4744   \def\CITE[#1]#2{%
4745     \let\@citea\@empty
4746     \leavevmode
4747     \unskip
4748     $^{}%
4749     \scriptstyle
4750     \CITE{%
4751       \@for\@citeb:=#2\do{%
4752         \@citea

```

```

4753 \def\@citea{,\penalty\@m\ }%
4754 \edef\@citeb{\expandafter\@firstofone\@citeb}%
4755 \if@filesw
4756 \immediate\write\@auxout{\string\citation{\@citeb}}%
4757 \fi
4758 \@ifundefined{b@\@citeb\extra@b@citeb}{%
4759 \mbox{\reset@font\bfseries ?}%
4760 \G@refundefinedtrue
4761 \@latex@warning{%
4762 Citation '\@citeb' on page \thepage \space undefined%
4763 }%
4764 }{%
4765 {\csname b@\@citeb\extra@b@citeb\endcsname}%
4766 }%
4767 }%
4768 }{#1}%
4769 }$%
4770 }%

```

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.

```

4771 \def\@citex[#1]#2{%
4772 \let\@citea\@empty
4773 \@cite{%
4774 \@for\@citeb:=#2\do{%
4775 \@citea
4776 \def\@citea{,\penalty\@m\ }%
4777 \edef\@citeb{\expandafter\@firstofone\@citeb}%
4778 \if@filesw
4779 \immediate\write\@auxout{\string\citation{\@citeb}}%
4780 \fi
4781 \@ifundefined{b@\@citeb\extra@b@citeb}{%
4782 \mbox{\reset@font\bfseries ?}%
4783 \G@refundefinedtrue
4784 \@latex@warning{%
4785 Citation '\@citeb' on page \thepage \space undefined%
4786 }%
4787 }{%
4788 \hbox{\csname b@\@citeb\extra@b@citeb\endcsname}%
4789 }%
4790 }%
4791 }{#1}%
4792 }%
4793 }{}

```

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 pdf \TeX , then `hyperref` is already loaded at the begin of `harvard.sty`, and the `\newcommand` macros causes error messages.

```

4794 \@ifpackageloaded{harvard}{%
4795 \AtBeginDocument{%
4796 \Hy@Info{*** compatibility with harvard ***}%
4797 \Hy@raiselinksfalse

```

```

4798 \def\harvardcite#1#2#3#4{%
4799 \global\@namedef{HAR@fn@#1}{\hyper@@link[cite]{\cite.#1}{#2}}%
4800 \global\@namedef{HAR@an@#1}{\hyper@@link[cite]{\cite.#1}{#3}}%
4801 \global\@namedef{HAR@yr@#1}{\hyper@@link[cite]{\cite.#1}{#4}}%
4802 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
4803 }%
4804 \def\HAR@citetoaux#1{%
4805 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
4806 \ifHy@backref
4807 \ifx\@empty\@currentlabel
4808 \else
4809 \@bsphack
4810 \if@filesw
4811 \protected@write\@auxout{}{%
4812 \string\writefile{brf}{%
4813 \string\backcite{#1}{%
4814 {\thepage}{\@currentlabel}{\@currentHref}}%
4815 }%
4816 }%
4817 }%
4818 \fi
4819 \@esphack
4820 \fi
4821 \fi
4822 }%
4823 \def\harvarditem{%
4824 \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}}%
4825 }%
4826 \def\@harvarditem[#1]#2#3#4#5\par{%
4827 \item[]%
4828 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
4829 \if@filesw
4830 \begingroup
4831 \def\protect##1{\string ##1\space}%
4832 \ifthenelse{\equal{#1}{\null}}{%
4833 {\def\next{{#4}{#2}{#3}}}%
4834 {\def\next{{#4}{#2}{#1}{#3}}}%
4835 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
4836 \endgroup
4837 \fi
4838 \protect\hspace*{-\labelwidth}%
4839 \protect\hspace*{-\labelsep}%
4840 \ignorespaces
4841 #5%
4842 \ifHy@backref
4843 \newblock
4844 \backref{\csname br@#4\endcsname}%
4845 \fi
4846 \par
4847 }%

```

`\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`:

```

4848 \long\def\HAR@checkcitations#1#2#3#4{%
4849 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
4850 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa

```

```

4851         \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
4852         \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
4853         \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
4854         \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
4855         \else
4856         \@tempwattrue
4857         \fi
4858         \else
4859         \@tempwattrue
4860         \fi
4861         \else
4862         \@tempwattrue
4863         \fi
4864     }%
4865 }%

4866 }{}

```

36.2 Package chicago

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

```

4867 \ifpackageloaded{chicago}{%

```

`\citeN`

```

4868 \def\citeN{%
4869     \def\@citesep{-1000}%
4870     \def\@cite##1##2{##1}%
4871     \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
4872     \@citedata@opt
4873 }%

```

`\shortciteN`

```

4874 \def\shortciteN{%
4875     \def\@citesep{-1000}%
4876     \def\@cite##1##2{##1}%
4877     \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
4878     \@citedata@opt
4879 }%

```

`\@citedata@opt`

```

4880 \def\@citedata@opt{%
4881     \let\@cite@opt\@empty
4882     \ifnextchar [{%
4883         \@tempwattrue
4884         \@citedatax@opt
4885     }{%
4886         \@tempwafalse
4887         \@citedatax[]%
4888     }%
4889 }%

```

`\@citedatax@opt`

```

4890 \def\@citedatax@opt[#1]{%
4891     \def\@cite@opt{, #1}%
4892     \@citedatax[{#1}]%
4893 }%

4894 }{}

```

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.

```

4895 \def\@begindvi{%
4896   \unvbox \@begindvibox
4897   \Hy@begindvi
4898   \global\let\@begindvi\Hy@begindvi
4899 }
4900 \def\Hy@begindvi{%
4901   \@hyperfixhead
4902   \HyPL@EveryPage
4903 }
4904 \def\pagenumbering#1{%
4905   \global\c@page \@ne
4906   \gdef\thepage{\csname @#1\endcsname\c@page}%
4907 }
```

This is needed for some unremembered reason...

```

4908 \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`.

```

4909 \providecommand*\hyper@pagetransition{}
4910 \providecommand*\hyper@pageduration{}
4911 \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`

```

4912 \def\@hyperfixhead{%
4913   \Hy@DistillerDestFix
4914   \ifHy@pageanchor
4915     \ifHy@hypertextnames
4916       \ifHy@plainpages
4917         \gdef\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
4918       \else
4919         \begingroup
4920           \let\@number\@firstofone
4921           \Hy@unicodedefalse
4922           \pdfstringdef\@the@H@page{\thepage}%
4923         \endgroup
4924         \gdef\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
4925       \fi
4926     \else
4927       \Hy@GlobalStepCount\Hy@pagecounter
4928       \gdef\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
4929     \fi
4930   \else
4931     \let\Hy@TempPageAnchor\@empty
4932   \fi
```



```

4933 \let\H@old@thehead\@thehead
4934 \if^@\thehead~%
4935   \def\H@old@thehead{\hfil}%
4936 \fi
4937 \ifHy@texht
4938   \def\@thehead{%
4939 \else
4940   \ifHy@seminarslides
4941     \begingroup
4942       \let\leavevmode\relax
4943       \Hy@TempPageAnchor\relax
4944       \hyper@pagetransition
4945       \hyper@pageduration
4946       \hyper@pagehidden
4947     \endgroup
4948   \else
4949     \def\@thehead{%
4950       \Hy@TempPageAnchor\relax
4951       \hyper@pagetransition
4952       \hyper@pageduration
4953       \hyper@pagehidden
4954       \H@old@thehead
4955     }%
4956   \fi
4957 \fi
4958 \ifx\PDF@FinishDoc\@empty
4959 \else
4960   \PDF@FinishDoc
4961   \gdef\PDF@FinishDoc{%
4962 \fi
4963 }

```

37.1 Package fancybox

Fix for fancybox 2000/09/19 v1.3. Several commands are redefined to get \@beginndvi at a better place and putting page anchor and transition macros in \fb@outputpage.

```

4964 \@ifpackageloaded{fancybox}{%
4965   \def\fb@outputpage{%
4966     \begingroup
4967       \catcode'\ =10 %
4968       \let\-\@dischyp
4969       \let\'\@acci
4970       \let\'\@accii
4971       \let\=\@acciii
4972       \if@specialpage
4973         \global\@specialpagefalse\@nameuse{ps@\@specialstyle}%
4974       \fi
4975       \if@twoside
4976         \ifodd\count\z@
4977           \let\@thehead\@oddhead
4978           \let\@thefoot\@oddfoot
4979           \let\@themargin\oddsidemargin
4980         \else
4981           \let\@thehead\@evenhead
4982           \let\@thefoot\@evenfoot
4983           \let\@themargin\evensidemargin
4984         \fi

```

```

4985 \fi
4986 \csname reset@font\endcsname
4987 \normalsize
4988 \baselineskip\z@
4989 \lineskip\z@
4990 \let\par\@par
4991 \ifx\this@fancy\empty\else
4992 \this@fancy
4993 \gdef\this@fancy{}%
4994 \fi
4995 \ifx\the@fancy\empty\else
4996 \setbox\@outputbox\hbox{\the@fancy\box\@outputbox}%
4997 \fi
4998 \ifx\fb@rotate\empty\else
4999 \setbox\@outputbox\hbox{\fb@rotate\box\@outputbox}%
5000 \fi
5001 \setbox\@outputbox\vbox{%
5002 \@tempdima=\wd\@outputbox
5003 \setbox\@tempboxa=\hbox to\@tempdima{%
5004 \let\label\gobble
5005 \let\index\gobble
5006 \let\glossary\gobble
5007 \thehead
5008 }%
5009 \ht\@tempboxa\headheight
5010 \dp\@tempboxa\z@
5011 \box\@tempboxa
5012 \vskip\headsep
5013 \box\@outputbox
5014 \baselineskip\footskip
5015 \hbox to\@tempdima{%
5016 \let\label\gobble
5017 \let\index\gobble
5018 \let\glossary\gobble
5019 \theftot
5020 }%
5021 }%
5022 \ifx\the@@fancy\empty\else
5023 \setbox\@outputbox\hbox{\the@@fancy\box\@outputbox}%
5024 \fi
5025 \setbox\@outputbox\vbox{%
5026 \ifnum\fancyput@flag>-1 \do@fancyput\fi
5027 \beginvi
5028 \Hy@TempPageAnchor\relax
5029 \hyper@pagetransition
5030 \hyper@pageduration
5031 \hyper@pagehidden
5032 \vskip\topmargin
5033 \moveright\themargin\box\@outputbox
5034 }%
5035 \ifx\fb@rotate\empty\else
5036 \setbox\@outputbox\hbox{\lower\ht\@outputbox\box\@outputbox}%
5037 \dp\@outputbox\z@
5038 \wd\@outputbox\z@
5039 \setbox\@outputbox\hbox{\fb@rotate\box\@outputbox}%
5040 \expandafter\fb@setoffsets\fb@theoffsets
5041 \fi

```

```

5042     \let\protect\noexpand
5043     \shipout\box\@outputbox
5044     \global\@colht\textheight
5045   \endgroup
5046   \stepcounter{page}%
5047   \let\firstmark\botmark
5048 }%
5049 \def\fancypage#1#2{%
5050   \def\the@fancypage{#1}%
5051   \def\the@@fancypage{#2}%
5052   \def\@outputpage{\fb@outputpage}%
5053 }%
5054 \def\thisfancypage#1#2{%
5055   \gdef\@outputpage{\fb@outputpage}%
5056   \gdef\this@fancypage{\def\the@fancypage{#1}\def\the@@fancypage{#2}}%
5057 }%
5058 \def\fancyput{%
5059   \def\@outputpage{\fb@outputpage}%
5060   \@ifstar{\@testtrue\@fancyput}{\@testfalse\@fancyput}%
5061 }%
5062 \def\thisfancyput{%
5063   \gdef\@outputpage{\fb@outputpage}%
5064   \@ifstar{\@testtrue\@thisfancyput}{\@testfalse\@thisfancyput}%
5065 }%
5066 \def\LandScape#1{%
5067   \clearpage
5068   \def\fb@@rotatepage{#1}%
5069   \def\@outputpage{\fb@outputpage}%
5070   \@tempdima\textheight
5071   \textheight\textwidth
5072   \textwidth\@tempdima
5073   \UsePageParameters
5074 }%
5075 }{}

```

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.

```

5076 \begingroup\expandafter\expandafter\expandafter\endgroup
5077 \expandafter\ifx\csname chapter\endcsname\relax
5078   \def\toclevel@part{0}%
5079 \else
5080   \def\toclevel@part{-1}%
5081 \fi
5082 \def\toclevel@chapter{0}
5083 \def\toclevel@section{1}
5084 \def\toclevel@subsection{2}
5085 \def\toclevel@subsubsection{3}
5086 \def\toclevel@paragraph{4}
5087 \def\toclevel@subparagraph{5}
5088 \def\toclevel@figure{0}
5089 \def\toclevel@table{0}
5090 \@ifpackageloaded{listings}{%
5091   \providecommand*\theHlstlisting{\thelstlisting}%

```

```

5092 \providecommand*\toclevel@lstlisting{0}%
5093 }{}
5094 \@ifpackageloaded{listing}{%
5095   \providecommand*\theHlisting{\thelisting}%
5096   \providecommand*\toclevel@listing{0}%
5097 }{}
5098 \def\addcontentsline#1#2#3{% toc extension, type, tag
5099   \begingroup
5100     \let\label\@gobble
5101     \let\textlatin\@firstofone
5102     \ifx\@currentHref\@empty
5103       \Hy@Warning{%
5104         No destination for bookmark of \string\addcontentsline,%
5105         \MessageBreak destination is added%
5106       }%
5107     \phantomsection
5108   \fi
5109   \expandafter\ifx\csname toclevel@#2\endcsname\relax
5110     \begingroup
5111       \def\Hy@tempa{#1}%
5112       \ifx\Hy@tempa\Hy@bookmarkstype
5113         \Hy@WarningNoLine{bookmark level for unknown #2 defaults to 0}%
5114       \else
5115         \Hy@Info{bookmark level for unknown #2 defaults to 0}%
5116       \fi
5117     \endgroup
5118     \expandafter\gdef\csname toclevel@#2\endcsname{0}%
5119   \fi
5120   \edef\Hy@toclevel{\csname toclevel@#2\endcsname}%
5121   \Hy@writebookmark{\csname the#2\endcsname}%
5122     {#3}%
5123     {\@currentHref}%
5124     {\Hy@toclevel}%
5125     {#1}%
5126   \ifHy@verbose
5127     \def\Hy@tempa{#3}%
5128     \@onelevel@sanitize\Hy@tempa
5129     \typeout{pdfTeX: bookmark at \the\inputlineno: %
5130       {\csname the#2\endcsname}%
5131       {\Hy@tempa}%
5132       {\@currentHref}%
5133       {\Hy@toclevel}%
5134       {#1}%
5135     }%
5136   \fi
5137   \addtocontents{#1}{%
5138     \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
5139   }%
5140 \endgroup
5141 }
5142 \def\contentsline#1#2#3#4{%
5143   \ifx\#4\%
5144     \csname l@#1\endcsname{#2}{#3}%
5145   \else
5146     \ifHy@linktocpage
5147       \csname l@#1\endcsname{#2}{#3}%
5148       \hyper@linkstart{link}{#4}{#3}\hyper@linkend

```

```

5149     }%
5150     \else
5151         \csname l@#1\endcsname{%
5152             \hyper@linkstart{link}{#4}{#2}\hyper@linkend
5153             }{#3}%
5154     \fi
5155     \fi
5156 }

5157 </package>
5158 <*check>
5159 \checklatex
5160 \checkcommand\def\addcontentsline#1#2#3{%
5161     \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}}%
5162 }
5163 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
5164 </check>
5165 <*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.

```

5166 \let\H@definecounter\@definecounter
5167 \def\@definecounter#1{%
5168     \H@definecounter{#1}%
5169     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5170 }

```

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.

```

5171 \let\H@newctr\@newctr
5172 \def\@newctr#1[#2]{%
5173     \H@newctr#1[{#2}]%
5174     \expandafter\def\csname theH#1\endcsname{%
5175         \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
5176     }%
5177 }

```

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.

```

5178 \let\Hmake@df@tag@@\make@df@tag@@
5179 \def\make@df@tag@@#1{%
5180     \Hmake@df@tag@@{#1}%
5181     \Hy@GlobalStepCount\Hy@linkcounter
5182     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
5183     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
5184 }
5185 \let\Hmake@df@tag@@@\make@df@tag@@@
5186 \def\make@df@tag@@@#1{%

```

```

5187 \Hmake@df@tag@@@{#1}%
5188 \Hy@GlobalStepCount\Hy@linkcounter
5189 \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
5190 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
5191 }

```

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

```

5192 \@ifpackagewith{hyperref}{pdfTeX}{%
5193   \let\H@seteqlabel\@seteqlabel
5194   \def\@seteqlabel#1{%
5195     \H@seteqlabel{#1}%
5196     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
5197     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
5198   }%
5199 }{}

```

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.

```

5200 \let\HyOrg@addtoreset \@addtoreset
5201 \def\@addtoreset#1#2{%
5202   \HyOrg@addtoreset{#1}{#2}%
5203   \expandafter\xdef\csname theH#1\endcsname{%
5204     \expandafter\noexpand
5205       \csname the\@ifundefined{theH#2}{H#2}\endcsname
5206     .\noexpand\the\noexpand\value{#1}%
5207   }%
5208 }

```

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

```

5209 </package>
5210 <*check>
5211 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
5212 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
5213   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
5214     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
5215       \@addtoreset{#2}{#3}%
5216       \@xp\xdef\csname the#2\endcsname{%
5217         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
5218       }%
5219     }%
5220   }%
5221 }%
5222 </check>

```

```

5223 <*package>
5224 \ifpackageloaded{amsmath}{%
5225   \ifpackagelater{amsmath}{1999/12/14}{%
5226     \renewcommand*{\numberwithin}[3][\arabic]{%
5227       \ifundefined{c@#2}{\nocounterr{#2}}{%
5228         \ifundefined{c@#3}{\nocnterr{#3}}{%
5229           \HyOrg@addtoreset{#2}{#3}%
5230           \xp\xdef\csname the#2\endcsname{%
5231             \xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
5232           }%
5233           \xp\xdef\csname theH#2\endcsname{%
5234             \xp\@nx
5235             \csname the\ifundefined{theH#3}{H#3\endcsname
5236               .\@nx#1{#2}%
5237           }%
5238         }%
5239       }%
5240     }%
5241   }{%
5242     \Hy@WarningNoLine{%
5243       \string\numberwithin\space of package ‘amsmath’ %
5244       only fixed\MessageBreak
5245       for version 2000/06/06 v2.12 or newer%
5246     }%
5247   }%
5248 }{}

```

41 Included figures

Simply intercept the low level graphics package macro.

```

5249 \ifHy@figures
5250   \let\Hy@Gin@setfile\Gin@setfile
5251   \def\Gin@setfile#1#2#3{%
5252     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
5253   }%
5254 \fi
5255 \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.

```

5256 \ifHy@hyperindex
5257   \def\HyInd@ParenLeft{({}%
5258   \def\HyInd@ParenRight{)}}%
5259   \Hy@nextfalse
5260   \ifpackageloaded{multind}{\Hy@nexttrue}{}%

```

```

5261 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
5262 \begingroup
5263   \lccode'\l=\expandafter'\HyInd@EncapChar\relax
5264 \lowercase{\endgroup
5265   \ifHy@next
5266     \let\HyInd@org@wrindex\@wrindex
5267     \def\@wrindex#1#2{\HyInd@wrindex{#1}#2||\}%
5268     \def\HyInd@wrindex#1#2|#3|#4\{\%
5269       \ifx\#3\%
5270         \HyInd@org@wrindex{#1}{#2|hyperpage}%
5271       \else
5272         \def\Hy@temp@A{#3}%
5273         \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
5274           \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
5275           \relax
5276           \HyInd@org@wrindex{#1}{#2|#3}%
5277         \else
5278           \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
5279         \fi
5280       \fi
5281     }%
5282   \else
5283     \def\@wrindex#1{\@@wrindex#1||\}%
5284     \def\@@wrindex#1|#2|#3\{\%
5285       \if@filesw
5286         \ifx\#2\%
5287           \protected@write\@indexfile{}\%
5288             \string\indexentry{#1|hyperpage}{\thepage}%
5289           }%
5290         \else
5291           \def\Hy@temp@A{#2}%
5292           \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
5293             \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
5294             \relax
5295             \protected@write\@indexfile{}\%
5296               \string\indexentry{#1|#2}{\thepage}%
5297             }%
5298           \else
5299             \protected@write\@indexfile{}\%
5300               \string\indexentry{#1|#2hyperpage}{\thepage}%
5301             }%
5302           \fi
5303         \fi
5304       \fi
5305     \endgroup
5306     \@esphack
5307   }%
5308 \fi
5309 }%
5310 \fi
5311 \Hy@DisableOption{hyperindex}
5312 \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.

```

5313 \def\hyperpage#1{\@hyperpage#1----\}
5314 \def\@hyperpage#1--#2--#3\{\%
5315   \ifx\#2\%

```



```

5316 \commahyperpage{#1}%
5317 \else
5318 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
5319 \fi
5320 }
5321 \def\commahyperpage#1{\commahyperpage#1, ,\}
5322 \def\commahyperpage#1, #2,#3\{\%
5323 \ifx\#2\%
5324 \HyInd@pagelink{#1}%
5325 \else
5326 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
5327 \fi
5328 }

```

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

```

5329 \def\HyInd@pagelink#1{%
5330 \begingroup
5331 \toks@={}%
5332 \HyInd@removespaces#1 \@nil
5333 \endgroup
5334 }
5335 \def\HyInd@removespaces#1 #2\@nil{%
5336 \toks@=\expandafter{\the\toks@#1}%
5337 \ifx\#2\%
5338 \edef\x{\the\toks@}%
5339 \ifx\x\@empty
5340 \else
5341 \hyperlink{page.\the\toks@}{\the\toks@}%
5342 \fi
5343 \else
5344 \Hy@ReturnAfterFi{%
5345 \HyInd@removespaces#2\@nil
5346 }%
5347 \fi
5348 }

```

43 Compatibility with foiltex

```

5349 \@ifclassloaded{foils}{%
5350 \providecommand*\ext@table{lot}%
5351 \providecommand*\ext@figure{lof}%
5352 }{}

```

44 Compatibility with seminar slide package

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

```

5353 \@ifclassloaded{seminar}{%
5354 \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}%
5355 }{%
5356 \Hy@seminarslidesfalse
5357 }
5358 \@ifpackageloaded{slidesec}{%
5359 \newcommand\theHslidesection {\arabic{slidesection}}%
5360 \newcommand\theHslidesubsection{%

```

```

5361 \theHslide\section.\arabic{slidesubsection}%
5362 }%
5363 \def\slide@heading[#1]#2{%
5364 \H@refstepcounter{slide\section}%
5365 \addtoreset{slidesubsection}{slide\section}%
5366 \addtocontents{los}{%
5367 \protect\l@slide{\the\c@slide\section}{\ignorespaces#1}%
5368 {\@SCTR}{slideheading.\theslide\section}%
5369 }%
5370 \def\Hy@tempa{#2}%
5371 \ifx\Hy@tempa\@empty
5372 \else
5373 {%
5374 \edef\@currentlabel{%
5375 \csname p@slide\section\endcsname\theslide\section
5376 }%
5377 \makeslideheading{#2}%
5378 }%
5379 \fi
5380 \gdef\theslideheading{#1}%
5381 \gdef\theslidesubheading{}%
5382 \ifHy@bookmarksnumbered
5383 \def\Hy@slidetitle{\theslide\section\space #1}%
5384 \else
5385 \def\Hy@slidetitle{#1}%
5386 \fi
5387 \ifHy@hypertextnames
5388 \ifHy@naturalnames
5389 \hyper@@anchor{slideheading.\theslide\section}{\relax}%
5390 \Hy@writebookmark
5391 {\theslide\section}%
5392 {\Hy@slidetitle}%
5393 {slideheading.\theslide\section}%
5394 {1}%
5395 {toc}%
5396 \else
5397 \hyper@@anchor{slideheading.\theHslide\section}{\relax}%
5398 \Hy@writebookmark
5399 {\theslide\section}%
5400 {\Hy@slidetitle}%
5401 {slideheading.\theHslide\section}%
5402 {1}%
5403 {toc}%
5404 \fi
5405 \else
5406 \Hy@GlobalStepCount\Hy@linkcounter
5407 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
5408 \Hy@writebookmark
5409 {\theslide\section}%
5410 {\Hy@slidetitle}%
5411 {slideheading.\the\Hy@linkcounter}%
5412 {1}%
5413 {toc}%
5414 \fi
5415 }%
5416 \def\slide@subheading[#1]#2{%
5417 \H@refstepcounter{slidesubsection}%

```

```

5418 \addtocontents{los}{%
5419 \protect\l@subslide{\the\c@slidessubsection}{\ignorespaces#1}%
5420 {\@SCTR}{slideheading.\theslidessubsection}%
5421 }%
5422 \def\Hy@tempa{#2}%
5423 \ifx\Hy@tempa\@empty
5424 \else
5425 {%
5426 \edef\@currentlabel{%
5427 \csname p@slidessubsection\endcsname\theslidessubsection
5428 }%
5429 \makeslidesubheading{#2}%
5430 }%
5431 \fi
5432 \gdef\theslidesubheading{#1}%
5433 \ifHy@bookmarksnumbered
5434 \def\Hy@slidetitle{\theslidessubsection\space #1}%
5435 \else
5436 \def\Hy@slidetitle{#1}%
5437 \fi
5438 \ifHy@hypertextnames
5439 \ifHy@naturalnames
5440 \hyper@@anchor{slideheading.\theslidessubsection}{\relax}%
5441 \Hy@writebookmark
5442 {\theslidessubsection}%
5443 {\Hy@slidetitle}%
5444 {slideheading.\theslidessubsection}%
5445 {2}%
5446 {toc}%
5447 \else
5448 \hyper@@anchor{slideheading.\theHslidessubsection}{\relax}%
5449 \Hy@writebookmark
5450 {\theslidessubsection}%
5451 {\Hy@slidetitle}%
5452 {slideheading.\theHslidessubsection}%
5453 {2}%
5454 {toc}%
5455 \fi
5456 \else
5457 \Hy@GlobalStepCount\Hy@linkcounter
5458 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
5459 \Hy@writebookmark
5460 {\theslidessubsection}%
5461 {\Hy@slidetitle}%
5462 {slideheading.\the\Hy@linkcounter}%
5463 {1}%
5464 {toc}%
5465 \fi
5466 }%
5467 \providecommand*\listslidenamelist{List of Slides}%
5468 \def\listofslides{%
5469 \section*{%
5470 \listslidenamelist
5471 \@mkboth{%
5472 \expandafter\MakeUppercase\listslidenamelist
5473 }{%
5474 \expandafter\MakeUppercase\listslidenamelist

```

```

5475     }%
5476 }%
5477 \def\l@slide##1##2##3##4{%
5478   \slide@undottedcline{%
5479     \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
5480   }{}%
5481 }%
5482 \let\l@subslide\l@slide
5483 \@startlos
5484 }%
5485 \def\slide@contents{%
5486   \def\l@slide##1##2##3##4{%
5487     \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
5488   }%
5489   \let\l@subslide\@gobblefour
5490   \@startlos
5491 }%
5492 \def\Slide@contents{%
5493   \def\l@slide##1##2##3##4{%
5494     \ifcase\lslide@flag
5495       \message{##1 ** \the\c@slidesection}%
5496       \ifnum##1>\c@slidesection
5497         \def\lslide@flag{1}%
5498         {%
5499           \large
5500           \slide@ccline{%
5501             \slidenumberline{$\rightarrow\bullet$}%
5502             {\hyperlink{##4}{##2}}}%
5503           }{##3}%
5504         }%
5505       \else
5506         {%
5507           \large
5508           \slide@ccline{%
5509             \slidenumberline{$\surd\;\bullet$}%
5510             {\hyperlink{##4}{##2}}}%
5511           }{##3}%
5512         }%
5513       \fi
5514     \or
5515       \def\lslide@flag{2}%
5516       {%
5517         \large
5518         \slide@ccline{%
5519           \slidenumberline{$\bullet$}%
5520           {\hyperlink{##4}{##2}}}%
5521         }{##3}%
5522       }%
5523     \or
5524       {%
5525         \large
5526         \slide@ccline{%
5527           \slidenumberline{$\bullet$}%
5528           {\hyperlink{##4}{##2}}}%
5529         }{##3}%
5530       }%
5531     \fi

```

```

5532 }%
5533 \def\l@subslide##1##2##3##4{%
5534   \ifnum\lslide@flag=1 %
5535     \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
5536   \fi
5537 }%
5538 \def\lslide@flag{0}%
5539 \@startlos
5540 }%
5541 }{}

```

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.)

```

5542 \ifHy@texht
5543   \expandafter\endinput
5544 \fi
5545 \let\real@setref\@setref
5546 \def\@setref#1#2#3{% csname, extract group, refname
5547   \ifx#1\relax
5548     \protect\G@refundefinedtrue
5549     \nfss@text{\reset@font\bfseries ??}%
5550     \@latex@warning{%
5551       Reference ‘#3’ on page \thepage \space undefined%
5552     }%
5553   \else
5554     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
5555   \fi
5556 }

```

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

```

5557 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
5558   \begingroup
5559     \toks0={\hyper@@link{#5}{#4}}%
5560     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
5561     \edef\x{\endgroup
5562       \the\toks0 {\the\toks1 }%
5563     }%
5564   \x
5565 }
5566 \def\@pagesetref#1#2#3{% csname, extract macro, ref
5567   \ifx#1\relax
5568     \protect\G@refundefinedtrue
5569     \nfss@text{\reset@font\bfseries ??}%
5570     \@latex@warning{%
5571       Reference ‘#3’ on page \thepage \space undefined%
5572     }%
5573   \else
5574     \protect\hyper@@link
5575     {\expandafter\@fifthoffive#1}%
5576     {page.\expandafter\@secondoffive#1}%
5577     {\expandafter\@secondoffive#1}%
5578   \fi
5579 }
5580 \</package>
5581 \<check>
5582 \checklatex

```

```

5583 \checkcommand\def\@setref#1#2#3{%
5584   \ifx#1\relax
5585     \protect\G@refundefinedtrue
5586     \nfss@text{\reset@font\bfseries ??}%
5587     \@latex@warning{%
5588       Reference ‘#3’ on page \thepage\space undefined%
5589     }%
5590   \else
5591     \expandafter#2#1\null
5592   \fi
5593 }
5594 \</check>
5595 \<package>

```

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

```

5596 \def\HyRef@StarSetRef#1{%
5597   \begingroup
5598   \Hy@safe@activestrue
5599   \edef\x{#1}%
5600   \@onelevel@sanitize\x
5601   \edef\x{\endgroup
5602     \noexpand\HyRef@@StarSetRef
5603     \expandafter\noexpand\csname r@\x\endcsname{\x}%
5604   }%
5605   \x
5606 }
5607 \def\HyRef@@StarSetRef#1#2#3{%
5608   \ifx#1\undefined
5609     \let#1\relax
5610   \fi
5611   \real@setref#1#3{#2}%
5612 }
5613 \def\@refstar#1{%
5614   \HyRef@StarSetRef{#1}\@firstoffive
5615 }
5616 \def\@pagerefstar#1{%
5617   \HyRef@StarSetRef{#1}\@secondoffive
5618 }
5619 \AtBeginDocument{%
5620   \@ifpackageloaded{varioref}{%
5621     \def\@Refstar#1{%
5622       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
5623     }%
5624     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
5625       \MakeUppercase#1%
5626     }%
5627     \DeclareRobustCommand*\Ref}{%
5628       \@ifstar\@Refstar\HyRef@Ref
5629     }%
5630     \def\HyRef@Ref#1{%
5631       \hyperref[#{1}]{\Ref*{#1}}%
5632     }%
5633     \def\Vr@f#1{%
5634       \leavevmode\unskip\vref@space
5635       \hyperref[#{1}]{%
5636         \Ref*{#1}%
5637         \let\vref@space\nobreakspace

```

```

5638     \vpageref[\unskip]{#1}%
5639   }%
5640 }%
5641 \def\vr@f#1{%
5642   \leavevmode\unskip\vref@space
5643   \begingroup
5644     \let\T@pageref\@pagerefstar
5645     \hyperref[{#1}]{%
5646       \ref*{#1}%
5647       \vpageref[\unskip]{#1}%
5648     }%
5649   \endgroup
5650 }%
5651 }{}%
5652 }
5653 \DeclareRobustCommand*\autopageref{%
5654   \@ifstar{%
5655     \HyRef@autopagerefname\pageref*%
5656   }\HyRef@autopageref
5657 }
5658 \def\HyRef@autopageref#1{%
5659   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
5660 }
5661 \def\HyRef@autopagerefname{%
5662   \@ifundefined{pageautorefname}{%
5663     \@ifundefined{pagename}{%
5664       \Hy@Warning{No autoref name for 'page'}%
5665     }{%
5666       \pagename\nobreakspace
5667     }%
5668   }{%
5669     \pageautorefname\nobreakspace
5670   }%
5671 }
5672 \DeclareRobustCommand*\autoref{%
5673   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@link}%
5674 }
5675 \def\HyRef@autoref#1#2{%
5676   \begingroup
5677     \Hy@safe@activetrue
5678     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
5679   \endgroup
5680 }
5681 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
5682   \HyRef@ShowKeysRef{#2}%
5683   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
5684     \edef\HyRef@thisref{\expandafter\@fourthoffive#1\@empty\@empty\@empty}%
5685     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
5686     \Hy@safe@activesfalse
5687     #3{%
5688       \expandafter\@fifthoffive#1\@empty\@empty\@empty
5689     }{%
5690       \expandafter\@fourthoffive#1\@empty\@empty\@empty
5691     }{%
5692       \HyRef@currentHtag
5693       \expandafter\@firstoffive#1\@empty\@empty\@empty
5694       \null

```

```

5695 }%
5696 \else
5697   \protect\G@refundefinedtrue
5698   \nfss@text{\reset@font\bfseries ??}%
5699   \@latex@warning{%
5700     Reference ‘#2’ on page \thepage\space undefined%
5701   }%
5702 \fi
5703 }
5704 \def\HyRef@testreftype#1.#2\\{%
5705   \@ifundefined{#1autorefname}{%
5706     \@ifundefined{#1name}{%
5707       \HyRef@StripStar#1\\*\\@nil{#1}%
5708       \@ifundefined{\HyRef@name autorefname}{%
5709         \@ifundefined{\HyRef@name name}{%
5710           \def\HyRef@currentHtag{%
5711             \Hy@Warning{No autoref name for ‘#1’}%
5712           }{%
5713             \edef\HyRef@currentHtag{%
5714               \expandafter\noexpand\csname\HyRef@name name\endcsname
5715               \noexpand~%
5716             }%
5717           }%
5718         }{%
5719           \edef\HyRef@currentHtag{%
5720             \expandafter\noexpand\csname\HyRef@name autorefname\endcsname
5721             \noexpand~%
5722           }%
5723         }%
5724       }{%
5725         \edef\HyRef@currentHtag{%
5726           \expandafter\noexpand\csname#1name\endcsname
5727           \noexpand~%
5728         }%
5729       }%
5730     }{%
5731       \edef\HyRef@currentHtag{%
5732         \expandafter\noexpand\csname#1autorefname\endcsname
5733         \noexpand~%
5734       }%
5735     }%
5736   }
5737 \def\HyRef@StripStar#1*\\#2\@nil#3{%
5738   \def\HyRef@name{#2}%
5739   \ifx\HyRef@name\HyRef@CaseStar
5740     \def\HyRef@name{#1}%
5741   \else
5742     \def\HyRef@name{#3}%
5743   \fi
5744 }
5745 \def\HyRef@CaseStar{*\\}
5746 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

5747 \let\HyRef@ShowKeysRef\@gobble
5748 \def\HyRef@ShowKeysInit{%

```



```

5749 \begingroup\expandafter\expandafter\expandafter\endgroup
5750 \expandafter\ifx\csname SK@@label\endcsname\relax
5751 \else
5752   \ifx\SK@ref\@empty
5753   \else
5754     \def\HyRef@ShowKeysRef{%
5755       \SK@\SK@@ref
5756     }%
5757   \fi
5758 \fi
5759 }
5760 \@ifpackageloaded{showkeys}{%
5761   \HyRef@ShowKeysInit
5762 }{%
5763   \AtBeginDocument{%
5764     \@ifpackageloaded{showkeys}{%
5765       \HyRef@ShowKeysInit
5766     }{}%
5767   }%
5768 }

```

Defaults for the names that `\autoref` uses.

```

5769 \providecommand*\AMSautorefname{\equationautorefname}
5770 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
5771 \providecommand*\Itemautorefname{\itemautorefname}
5772 \providecommand*\itemautorefname{item}
5773 \providecommand*\equationautorefname{Equation}
5774 \providecommand*\footnoteautorefname{footnote}
5775 \providecommand*\itemautorefname{item}
5776 \providecommand*\figureautorefname{Figure}
5777 \providecommand*\tableautorefname{Table}
5778 \providecommand*\partautorefname{Part}
5779 \providecommand*\appendixautorefname{Appendix}
5780 \providecommand*\chapterautorefname{chapter}
5781 \providecommand*\sectionautorefname{section}
5782 \providecommand*\subsectionautorefname{subsection}
5783 \providecommand*\subsubsectionautorefname{subsubsection}
5784 \providecommand*\paragraphautorefname{paragraph}
5785 \providecommand*\subparagraphautorefname{subparagraph}
5786 \providecommand*\FancyVerbLineautorefname{line}
5787 \providecommand*\theoremautorefname{Theorem}
5788 \providecommand*\pageautorefname{page}
5789 </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`.

```

5790 <*pdfTeX | dvipdfm | vtex | pdfmarkbase | dviwindo>

```

```

5791 \begingroup\expandafter\expandafter\expandafter\endgroup
5792 \expandafter\ifx\csname pdfescapestring\endcsname\relax
5793   \begingroup
5794     \catcode'\|=0 %
5795     \@makeother\|%
5796   \@firstofone{\endgroup
5797     |def|Hy@pstringdef#1#2{%
5798       |edef#1{#2}%
5799       |@onelevel@sanitize#1%
5800       |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
5801       |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
5802       |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
5803     }%
5804     |def|Hy@ExchangeBackslash#1\#2|@nil{%
5805       #1%
5806       |ifx|\#2|\|%
5807       |else
5808         \|%
5809         |Hy@ReturnAfterFi{%
5810           |Hy@ExchangeBackslash#2|@nil
5811         }%
5812       |fi
5813     }%
5814   }%
5815   \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
5816     #1%
5817     \ifx\#2\|%
5818     \else
5819       \@backslashchar(%
5820       \Hy@ReturnAfterFi{%
5821         \Hy@ExchangeLeftParenthesis#2\@nil
5822       }%
5823     \fi
5824   }%
5825   \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
5826     #1%
5827     \ifx\#2\|%
5828     \else
5829       \@backslashchar)%
5830       \Hy@ReturnAfterFi{%
5831         \Hy@ExchangeRightParenthesis#2\@nil
5832       }%
5833     \fi
5834   }%
5835 \else
5836   \def\Hy@pstringdef#1#2{%
5837     \edef#1{\pdfescapestring{#2}}%
5838   }%
5839 \fi
5840 </pdfTeX | dvipdfm | vtex | pdfmarkbase | dviwindo>

```

45.2 pdfTeX

5841 <*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:

```
5842 \def\setpdflinkmargin#1{\pdflinkmargin#1}
5843 \ifx\pdfstartlink\@undefined% less than version 14
5844   \let\pdfstartlink\pdfannotlink
5845   \let\pdflinkmargin\@tempdima
5846   \let\pdfxform\pdfform
5847   \let\pdflastxform\pdflastform
5848   \let\pdfrefxform\pdfrefform
5849 \else
5850   \pdflinkmargin1pt %
5851 \fi
```

First set up the default linking

```
5852 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```
5853 \def\new@pdflink#1{%
5854   \ifHy@verbose
5855     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
5856   \fi
5857   \Hy@SaveLastskip
5858   \Hy@pstringdef\Hy@pstringDest{#1}%
5859   \Hy@DestName\Hy@pstringDest\@pdfview
5860   \Hy@RestoreLastskip
5861 }
5862 \let\pdf@endanchor\@empty
```

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

```
5863 \def\Hy@DestName#1#2{%
5864   \pdfdest name{#1}#2\relax
5865 }
```

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.

```
5866 \providecommand*\@pdfborder{0 0 1}
5867 \providecommand*\@pdfborderstyle{}
5868 \def\Hy@undefinedname{UNDEFINED}
5869 \def\find@pdflink#1#2{%
5870   \leavevmode
5871   \protected@edef\Hy@testname{#2}%
5872   \ifx\Hy@testname\@empty
5873     \let\Hy@testname\Hy@undefinedname
5874   \else
5875     \Hy@pstringdef\Hy@testname\Hy@testname
5876   \fi
5877   \Hy@StartlinkName{%
5878     \Hy@setpdfborder
5879     \ifx\@pdfhighlight\@empty
5880       \else
5881         /H\@pdfhighlight
5882       \fi
5883     \ifx\CurrentBorderColor\relax
5884       \else
5885         /C[\CurrentBorderColor]%
5886       \fi
5887   }\Hy@testname
```

```

5888 \expandafter\Hy@colorlink\csname @#1color\endcsname
5889 }
5890 \def\Hy@StartlinkName#1#2{%
5891 \pdfstartlink attr{#1}goto name{#2}\relax
5892 }
5893 \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
5894 \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
5895 \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
5896 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
5897 \def\hyper@linkstart#1#2{%
5898 \ifundefined{#@#1bordercolor}{%
5899 \let\CurrentBorderColor\relax
5900 }{%
5901 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
5902 }%
5903 \find@pdflink{#1}{#2}%
5904 }
5905 \def\hyper@linkend{\close@pdflink}
5906 \def\hyper@link#1#2#3{%
5907 \ifundefined{#@#1bordercolor}{%
5908 \let\CurrentBorderColor\relax
5909 }{%
5910 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
5911 }%
5912 \find@pdflink{#1}{#2}#3\close@pdflink
5913 }
5914 \let\CurrentBorderColor\@linkbordercolor
5915 \def\hyper@linkurl#1#2{%
5916 \begingroup
5917 \Hy@pstringdef\Hy@pstringURI{#2}%
5918 \hyper@chars
5919 \leavevmode
5920 \pdfstartlink
5921 attr{%
5922 \Hy@setpdfborder
5923 \ifx\@pdfhighlight\@empty
5924 \else
5925 /H\@pdfhighlight
5926 \fi
5927 \ifx\@urlbordercolor\relax
5928 \else
5929 /C[\@urlbordercolor]%
5930 \fi
5931 }%
5932 user{%
5933 /Subtype/Link%
5934 /A<<%
5935 /Type/Action%
5936 /S/URI%
5937 /URI(\Hy@pstringURI)%
5938 >>%
5939 }%
5940 \relax
5941 \Hy@colorlink\@urlcolor#1%
5942 \close@pdflink
5943 \endgroup
5944 }

```

```

5945 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
5946   \begingroup
5947     \Hy@pstringdef\Hy@pstringF{#2}%
5948     \Hy@pstringdef\Hy@pstringD{#3}%
5949     \leavevmode
5950     \pdfstartlink
5951     attr{%
5952       \Hy@setpdfborder
5953       \ifx\@pdfhighlight\@empty
5954       \else
5955         /H\@pdfhighlight
5956       \fi
5957       \ifx\@filebordercolor\relax
5958       \else
5959         /C[\@filebordercolor]%
5960       \fi
5961     }%
5962     user {%
5963       /Subtype/Link%
5964       /A<<%
5965         /F(\Hy@pstringF)%
5966         /S/GoToR%
5967         \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}

```

```

5968     \ifx\#3\%
5969       /D[0 \@pdfstartview]%
5970     \else
5971       /D(\Hy@pstringD)%
5972     \fi
5973   >>%
5974  }%
5975   \relax
5976   \Hy@colorlink\@filecolor#1%
5977   \close@pdflink
5978 \endgroup
5979 }
5980 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
5981   \begingroup
5982     \Hy@pstringdef\Hy@pstringF{#1}%
5983     \Hy@pstringdef\Hy@pstringP{#3}%
5984     \leavevmode
5985     \pdfstartlink
5986     attr{%
5987       \Hy@setpdfborder
5988       \ifx\@pdfhighlight\@empty
5989       \else
5990         /H\@pdfhighlight

```

```

5991      \fi
5992      \ifx\@runbordercolor\relax
5993      \else
5994          /C[\@runbordercolor]%
5995      \fi
5996  }%
5997  user {%
5998      /Subtype/Link%
5999      /A<<%
6000          /F(\Hy@pstringF)%
6001          /S/Launch%
6002          \ifHy@newwindow /NewWindow true\fi
6003          \ifx\#3\%
6004          \else
6005              /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
6006          \fi
6007      >>%
6008  }%
6009  \relax
6010  \Hy@colorlink\@runcolor#2%
6011  \close@pdflink
6012  \endgroup
6013 }

```

\@pdfproducer

```

6014 \ifx\@pdfproducer\relax
6015 \def\@pdfproducer{pdfTeX}%
6016 \ifx\@pdfproducer\@undefined
6017 \else
6018     \ifx\@pdfproducer\relax
6019     \else
6020         \ifnum\@pdfproducer>0 %
6021             \def\@pdfproducer{pdfTeX}%
6022         \fi
6023     \fi
6024 \fi
6025 \ifx\pdfversion\@undefined
6026 \else
6027     \ifnum\pdfversion<100 %
6028         \edef\@pdfproducer{%
6029             \@pdfproducer
6030             \the\pdfversion.\pdfversion
6031         }%
6032     \else
6033         \ifnum\pdfversion<130 %
6034             \edef\@pdfproducer{%
6035                 \@pdfproducer-
6036                 \expandafter\@car\the\pdfversion\@empty\@nil.%
6037                 \expandafter\@cdr\the\pdfversion\@empty\@nil
6038                 \pdfversion
6039             }%
6040         \else
6041             \ifnum\pdfversion<140 %
6042             \else
6043                 \def\@pdfproducer{pdfTeX}%
6044             \fi
6045             \edef\@pdfproducer{%

```

```

6046         \@pdfproducer-%
6047         \expandafter\@car\the\pdfTEXversion\@empty\@nil.%
6048         \expandafter\@cdr\the\pdfTEXversion\@empty\@nil.%
6049         \pdfTEXrevision
6050     }%
6051 \fi
6052 \fi
6053 \fi
6054 \fi

```

\PDF@SetupDox

```

6055 \def\PDF@SetupDoc{%
6056 \ifx\@pdfpagescrop\@empty
6057 \else
6058 \edef\process@me{%
6059 \pdfpagesattr={%
6060 /CropBox[\@pdfpagescrop]%
6061 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
6062 \else
6063 ^^J\the\pdfpagesattr
6064 \fi
6065 }%
6066 }%
6067 \process@me
6068 \fi
6069 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
6070 \pdfcatalog{%
6071 /PageMode/\@pdfpagemode
6072 \ifx\@baseurl\@empty
6073 \else
6074 /URI<</Base(\Hy@pstringB)>>%
6075 \fi
6076 }%
6077 \ifx\@pdfstartview\@empty
6078 \else
6079 openaction goto page \@pdfstartpage {\@pdfstartview}%
6080 \fi
6081 \edef\Hy@temp{%
6082 \ifHy@toolbar\else /HideToolbar true\fi
6083 \ifHy@menubar\else /HideMenubar true\fi
6084 \ifHy@windowui\else /HideWindowUI true\fi
6085 \ifHy@fitwindow /FitWindow true\fi
6086 \ifHy@centerwindow /CenterWindow true\fi
6087 \ifHy@displaydoctitle /DisplayDocTitle true\fi
6088 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
6089 \Hy@UseNameKey{Direction}\@pdfdirection
6090 \Hy@UseNameKey{ViewArea}\@pdfviewarea
6091 \Hy@UseNameKey{ViewClip}\@pdfviewclip
6092 \Hy@UseNameKey{PrintArea}\@pdfprintarea
6093 \Hy@UseNameKey{PrintClip}\@pdfprintclip
6094 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
6095 \Hy@UseNameKey{Duplex}\@pdfduplex
6096 \ifx\@pdfpicktraybypdfsize\@empty
6097 \else
6098 /PickTrayByPDFSize \@pdfpicktraybypdfsize
6099 \fi
6100 \ifx\@pdfprintpagerange\@empty

```

```

6101     \else
6102         /PrintPageRange[\@pdfprintpagerange]%
6103     \fi
6104     \ifx\@pdfnumcopies\@empty
6105     \else
6106         /NumCopies \@pdfnumcopies
6107     \fi
6108 }%
6109 \pdfcatalog{%
6110     \ifx\Hy@temp\@empty
6111     \else
6112         /ViewerPreferences<<\Hy@temp>>%
6113     \fi
6114     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
6115     \ifx\@pdflang\@empty
6116     \else
6117         /Lang(\@pdflang)%
6118     \fi
6119 }%
6120 }

```

\PDF@FinishDoc

```

6121 \def\PDF@FinishDoc{%
6122     \Hy@UseMaketitleInfos
6123     \pdfinfo{%
6124         /Author(\@pdfauthor)%
6125         /Title(\@pdftitle)%
6126         /Subject(\@pdfsubject)%
6127         /Creator(\@pdfcreator)%
6128         \ifx\@pdfcreationdate\@empty
6129         \else
6130             /CreationDate(\@pdfcreationdate)%
6131         \fi
6132         \ifx\@pdfmoddate\@empty
6133         \else
6134             /ModDate(\@pdfmoddate)%
6135         \fi
6136         \ifx\@pdfproducer\relax
6137         \else
6138             /Producer(\@pdfproducer)%
6139         \fi
6140         /Keywords(\@pdfkeywords)%
6141     }%
6142     \Hy@DisableOption{pdfauthor}%
6143     \Hy@DisableOption{pdftitle}%
6144     \Hy@DisableOption{pdfsubject}%
6145     \Hy@DisableOption{pdfcreator}%
6146     \Hy@DisableOption{pdfcreationdate}%
6147     \Hy@DisableOption{pdfmoddate}%
6148     \Hy@DisableOption{pdfproducer}%
6149     \Hy@DisableOption{pdfkeywords}%
6150 }

```

\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.

```

6151 \def\hyper@pagetransition{%

```



```

6152 \ifx\@pdfpagetransition\relax
6153 \else
6154 \expandafter\Hy@RemoveTransPageAttr\the\pdfpageattr^^J/Trans{}}>>\END
6155 \ifx\@pdfpagetransition\empty
6156 \else
6157 \edef\@processme{%
6158 \global\pdfpageattr{%
6159 \the\pdfpageattr
6160 ^^J/Trans << /S /\@pdfpagetransition\space >>%
6161 }%
6162 }%
6163 \@processme
6164 \fi
6165 \fi
6166 }

```

\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.

```

6167 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
6168 \ifx\#2\%
6169 \global\pdfpageattr{#1}%
6170 \else
6171 \Hy@RemoveTransPageAttr#1#4\END
6172 \fi
6173 }

```

\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.

```

6174 \def\hyper@pageduration{%
6175 \ifx\@pdfpageduration\relax
6176 \else
6177 \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
6178 \ifx\@pdfpageduration\empty
6179 \else
6180 \edef\@processme{%
6181 \global\pdfpageattr{%
6182 \the\pdfpageattr
6183 ^^J/Dur \@pdfpageduration\space
6184 }%
6185 }%
6186 \@processme
6187 \fi
6188 \fi
6189 }

```

\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.

```

6190 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
6191 \ifx\#2\%
6192 \global\pdfpageattr{#1}%
6193 \else

```

```

6194 \Hy@RemoveDurPageAttr#1#4\END
6195 \fi
6196 }

```

`\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).

```

6197 \def\hyper@pagehidden{%
6198 \ifHy@useHidKey
6199 \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
6200 \ifHy@pdfpagehidden
6201 \edef\@processme{%
6202 \global\pdfpageattr{%
6203 \the\pdfpageattr
6204 ^^J/Hid true % SPACE
6205 }%
6206 }%
6207 \@processme
6208 \fi
6209 \fi
6210 }

```

`\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.

```

6211 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
6212 \ifx\#2\%
6213 \global\pdfpageattr{#1}%
6214 \else
6215 \Hy@RemoveHidPageAttr#1#4\END
6216 \fi
6217 }

```

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.

```

6218 \pdfoutput=1
6219 \pdfcompresslevel=9
6220 \AtBeginDocument{%
6221 \ifHy@setpagesize
6222 \expandafter\@firstofone
6223 \else
6224 \expandafter\@gobble
6225 \fi
6226 {%
6227 \@ifclassloaded{seminar}{%
6228 \setlength{\pdfhorigin}{1truein}%
6229 \setlength{\pdfvorigin}{1truein}%
6230 \ifportrait
6231 \ifdim\paperwidth=\z@
6232 \else
6233 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
6234 \fi
6235 \ifdim\paperheight=\z@
6236 \else
6237 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
6238 \fi

```

```

6239     \else
6240         \ifdim\paperheight=\z@
6241         \else
6242             \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
6243         \fi
6244         \ifdim\paperwidth=\z@
6245         \else
6246             \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
6247         \fi
6248     \fi
6249 }{%
6250     \@ifundefined{stockwidth}{%
6251         \ifdim\paperwidth=\z@
6252         \else
6253             \setlength{\pdfpagewidth}{\paperwidth}%
6254         \fi
6255         \ifdim\paperheight=\z@
6256         \else
6257             \setlength{\pdfpageheight}{\paperheight}%
6258         \fi
6259     }{%
6260         \ifdim\stockwidth=\z@
6261         \else
6262             \setlength{\pdfpagewidth}{\stockwidth}%
6263         \fi
6264         \ifdim\stockheight=\z@
6265         \else
6266             \setlength{\pdfpageheight}{\stockheight}%
6267         \fi
6268     }%
6269 }%
6270 }%
6271 \Hy@DisableOption{setpagesize}%
6272 }
6273 \def\Acrobatmenu#1#2{%
6274     \leavevmode
6275     \pdfstartlink
6276     attr{%
6277         \Hy@setpdfborder
6278         \ifx\@pdfhighlight\@empty
6279         \else
6280             /H\@pdfhighlight
6281         \fi
6282         \ifx\@menubordercolor\relax
6283         \else
6284             /C[\@menubordercolor]%
6285         \fi
6286     }%
6287     user{%
6288         /Subtype/Link%
6289         /A<<%
6290         /S/Named/N/#1%
6291     >>%
6292     }%
6293     \relax
6294     \Hy@colorlink\@menucolor#2\close@pdflink
6295 }

```

```
6296 </pdfTeX>
6297 <*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.

```
6298 \def\PDF@FinishDoc{}
6299 \def\PDF@SetupDoc{%
6300   \ifx\@baseurl\@empty
6301     \else
6302       \special{html:<base href="\@baseurl">}%
6303     \fi
6304 }
6305 \def\hyper@anchor#1{%
6306   \Hy@SaveLastskip
6307   \begingroup
6308     \let\protect=\string
6309     \hyper@chars
6310     \special{html:<a name=\hyper@quote #1\hyper@quote>}%
6311   \endgroup
6312   \Hy@activeanchortrue
6313   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
6314   \special{html:</a>}%
6315   \Hy@activeanchorfalse
6316   \Hy@RestoreLastskip
6317 }
```

```

6318 \def\hyper@anchorstart#1{%
6319   \Hy@SaveLastskip
6320   \begingroup
6321     \hyper@chars
6322     \special{html:<a name=\hyper@quote#1\hyper@quote>}%
6323   \endgroup
6324   \Hy@activeanchortrue
6325 }
6326 \def\hyper@anchorend{%
6327   \special{html:</a>}%
6328   \Hy@activeanchorfalse
6329   \Hy@RestoreLastskip
6330 }
6331 \def\@urlltype{url}
6332 \def\hyper@linkstart#1#2{%
6333   \expandafter\Hy@colorlink\csname @#1color\endcsname
6334   \def\Hy@tempa{#1}%
6335   \ifx\Hy@tempa\@urlltype
6336     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
6337   \else
6338     \begingroup
6339       \hyper@chars
6340       \special{html:<a href=\hyper@quote\##2\hyper@quote>}%
6341     \endgroup
6342   \fi
6343 }
6344 \def\hyper@linkend{%
6345   \special{html:</a>}%
6346   \Hy@endcolorlink
6347 }
6348 \def\hyper@linkfile#1#2#3{%
6349   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
6350 }
6351 \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.

```

6352 \leavevmode
6353 \ifHy@raiselinks
6354   \setbox\@tempboxa=\color@hbox #1\color@endbox
6355   \@linkdim\dp\@tempboxa
6356   \lower\@linkdim\hbox{%
6357     \hyper@chars
6358     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
6359   }%
6360   \Hy@colorlink\@urlcolor#1%
6361   \@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).

```

6362   \advance\@linkdim by -6.5\p@
6363   \raise\@linkdim\hbox{\special{html:</a>}}%
6364   \Hy@endcolorlink
6365 \else
6366   \begingroup
6367     \hyper@chars

```

```

6368     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
6369     \Hy@colorlink\@urlcolor#1%
6370     \special{html:</a>}}%
6371     \Hy@endcolorlink
6372   \endgroup
6373 \fi
6374 }
6375 \def\hyper@link#1#2#3{%
6376   \hyper@linkurl{#3}{\##2}%
6377 }

6378 \def\hyper@image#1#2{%
6379   \begingroup
6380     \hyper@chars
6381     \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
6382   \endgroup
6383 }
6384 </hypertex>
6385 <*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.

```

6386 \providecommand* \wwwbrowser{c:\string\netscape\string\netscape}
6387 \def\hyper@anchor#1{%
6388   \Hy@SaveLastskip
6389   \begingroup
6390     \let\protect=\string
6391     \special{mark: #1}%
6392   \endgroup
6393   \Hy@activeanchortrue
6394   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
6395   \Hy@activeanchorfalse
6396   \Hy@RestoreLastskip
6397 }
6398 \def\hyper@anchorstart#1{%
6399   \Hy@SaveLastskip
6400   \special{mark: #1}%
6401   \Hy@activeanchortrue
6402 }
6403 \def\hyper@anchorend{%
6404   \Hy@activeanchorfalse
6405   \Hy@RestoreLastskip
6406 }
6407 \def\hyper@linkstart#1#2{%
6408   \expandafter\Hy@colorlink\csname @#1color\endcsname
6409   \special{button: %
6410     10000000 %

```

```

6411 \number\baselineskip\space
6412 #2%
6413 }%
6414 }
6415 \def\hyper@linkend{%
6416 \Hy@endcolorlink
6417 }
6418 \def\hyper@link#1#2#3{%
6419 \setbox\@tempboxa=\color@hbox #3\color@endbox
6420 \leavevmode
6421 \ifHy@raiselinks
6422 \@linkdim\dp\@tempboxa
6423 \lower\@linkdim\hbox{%
6424 \special{button: %
6425 \number\wd\@tempboxa\space
6426 \number\ht\@tempboxa\space
6427 #2%
6428 }%
6429 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
6430 \Hy@endcolorlink
6431 }%
6432 \@linkdim\ht\@tempboxa
6433 \advance\@linkdim by -6.5\p@
6434 \raise\@linkdim\hbox{}}%
6435 \else
6436 \special{button: %
6437 \number\wd\@tempboxa\space
6438 \number\ht\@tempboxa\space
6439 #2%
6440 }%
6441 \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
6442 \fi
6443 }
6444 \def\hyper@linkurl#1#2{%
6445 \begingroup
6446 \hyper@chars
6447 \leavevmode
6448 \setbox\@tempboxa=\color@hbox #1\color@endbox
6449 \ifHy@raiselinks
6450 \@linkdim\dp\@tempboxa
6451 \lower\@linkdim\hbox{%
6452 \special{button: %
6453 \number\wd\@tempboxa\space
6454 \number\ht\@tempboxa\space
6455 launch: \wwwbrowser\space
6456 #2%
6457 }%
6458 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
6459 }%
6460 \@linkdim\ht\@tempboxa
6461 \advance\@linkdim by -6.5\p@
6462 \raise\@linkdim\hbox{}}%
6463 \else
6464 \special{button: %
6465 \number\wd\@tempboxa\space
6466 \number\ht\@tempboxa\space
6467 launch: \wwwbrowser\space

```

```

6468         #2%
6469     }%
6470     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
6471 \fi
6472 \endgroup
6473 }
6474 \def\hyper@linkfile#1#2#3{%
6475 \begingroup
6476 \hyper@chars
6477 \leavevmode
6478 \setbox\@tempboxa=\color@hbox #1\color@endbox
6479 \ifHy@raiselinks
6480 \@linkdim\dp\@tempboxa
6481 \lower\@linkdim\hbox{%
6482 \special{button: %
6483 \number\wd\@tempboxa\space
6484 \number\ht\@tempboxa\space
6485 #3,%
6486 file: #2%
6487 }%
6488 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
6489 }%
6490 \@linkdim\ht\@tempboxa
6491 \advance\@linkdim by -6.5\p@
6492 \raise\@linkdim\hbox{}}%
6493 \else
6494 \special{button: %
6495 \number\wd\@tempboxa\space
6496 \number\ht\@tempboxa\space
6497 #3,%
6498 file: #2%
6499 }%
6500 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
6501 \fi
6502 \endgroup
6503 }
6504 \ifx\@pdfproducer\relax
6505 \def\@pdfproducer{dviwindo + Distiller}%
6506 \fi
6507 \def\PDF@FinishDoc{%
6508 \Hy@UseMaketitleInfos
6509 \special{PDF: Keywords \@pdfkeywords}%
6510 \special{PDF: Title \@pdftitle}%
6511 \special{PDF: Creator \@pdfcreator}%
6512 \ifx\@pdfcreationdate\@empty
6513 \else
6514 \special{PDF: CreationDate \@pdfcreationdate}%
6515 \fi
6516 \ifx\@pdfmoddate\@empty
6517 \else
6518 \special{PDF: ModDate \@pdfmoddate}%
6519 \fi
6520 \special{PDF: Author \@pdfauthor}%
6521 \ifx\@pdfproducer\relax
6522 \else
6523 \special{PDF: Producer \@pdfproducer}%
6524 \fi

```



```

6525 \special{PDF: Subject \@pdfsubject}%
6526 \Hy@DisableOption{pdfauthor}%
6527 \Hy@DisableOption{pdftitle}%
6528 \Hy@DisableOption{pdfsubject}%
6529 \Hy@DisableOption{pdfcreator}%
6530 \Hy@DisableOption{pdfcreationdate}%
6531 \Hy@DisableOption{pdfmoddate}%
6532 \Hy@DisableOption{pdfproducer}%
6533 \Hy@DisableOption{pdfkeywords}%
6534 }
6535 \def\PDF@SetupDoc{%
6536 \ifx\@baseurl\@empty
6537 \else
6538 \special{PDF: Base \@baseurl}%
6539 \fi
6540 \ifx\@pdfpagescrop\@empty\else
6541 \special{PDF: BBox \@pdfpagescrop}%
6542 \fi
6543 \pdfmark{pdfmark=/DOCVIEW,%
6544 Page=\@pdfstartpage,%
6545 View=\@pdfstartview,%
6546 PageMode=/\@pdfpagemode
6547 }%
6548 \ifx\@pdfpagescrop\@empty
6549 \else
6550 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
6551 \fi
6552 \edef\Hy@temp{%
6553 \ifHy@toolbar\else /HideToolbar true\fi
6554 \ifHy@menubar\else /HideMenubar true\fi
6555 \ifHy@windowui\else /HideWindowUI true\fi
6556 \ifHy@fitwindow /FitWindow true\fi
6557 \ifHy@centerwindow /CenterWindow true\fi
6558 \ifHy@displaydoctitle /DisplayDocTitle true\fi
6559 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
6560 \Hy@UseNameKey{Direction}\@pdfdirection
6561 \Hy@UseNameKey{ViewArea}\@pdfviewarea
6562 \Hy@UseNameKey{ViewClip}\@pdfviewclip
6563 \Hy@UseNameKey{PrintArea}\@pdfprintarea
6564 \Hy@UseNameKey{PrintClip}\@pdfprintclip
6565 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
6566 \Hy@UseNameKey{Duplex}\@pdfduplex
6567 \ifx\@pdfpicktraybypdfsize\@empty
6568 \else
6569 /PickTrayByPDFSize \@pdfpicktraybypdfsize
6570 \fi
6571 \ifx\@pdfprintpagerange\@empty
6572 \else
6573 /PrintPageRange[\@pdfprintpagerange]%
6574 \fi
6575 \ifx\@pdfnumcopies\@empty
6576 \else
6577 /NumCopies \@pdfnumcopies
6578 \fi
6579 }%
6580 \pdfmark{pdfmark=/PUT,%
6581 Raw={%

```

```

6582 \string{Catalog\string}<<%
6583 \ifx\Hy@temp\@empty
6584 \else
6585 /ViewerPreferences<<\Hy@temp>>%
6586 \fi
6587 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
6588 \ifx\@pdflang\@empty
6589 \else
6590 /Lang(\@pdflang)%
6591 \fi
6592 >>%
6593 }%
6594 }%
6595 }
6596 </dviwindo>
6597 <*dvipdfm>

```

45.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

6598 \newsavebox{\pdfm@box}
6599 \def\@pdfm@mark#1{\special{pdf:#1}}
6600 \def\@pdfm@dest#1{%
6601 \Hy@SaveLastskip
6602 \beginingroup
6603 \Hy@pstringdef\Hy@pstringDest{#1}%
6604 \def\x{XYZ}%
6605 \ifx\x\@pdfview
6606 \def\x{XYZ @xpos @ypos null}%
6607 \else
6608 \def\x{FitH}%
6609 \ifx\x\@pdfview
6610 \def\x{FitH @ypos}%
6611 \else
6612 \def\x{FitBH}%
6613 \ifx\x\@pdfview
6614 \def\x{FitBH @ypos}%
6615 \else
6616 \def\x{FitV}%
6617 \ifx\x\@pdfview
6618 \def\x{FitV @xpos}%
6619 \else
6620 \def\x{FitBV}%
6621 \ifx\x\@pdfview
6622 \def\x{FitBV @xpos}%
6623 \else
6624 \def\x{Fit}%
6625 \ifx\x\@pdfview
6626 \let\x\@pdfview
6627 \else
6628 \def\x{FitB}%
6629 \ifx\x\@pdfview
6630 \let\x\@pdfview
6631 \else
6632 \def\x{FitR}%
6633 \ifx\x\@pdfview
6634 \Hy@Warning{'pdfview=FitR' is not supported}%

```

```

6635         \def\x{XYZ @xpos @ypos null}%
6636     \else
6637         \@onelevel@sanitize\@pdfview
6638         \Hy@Warning{Unknown value '\@pdfview' for pdfview}%
6639         \def\x{XYZ @xpos @ypos null}%
6640     \fi
6641 \fi
6642 \fi
6643 \fi
6644 \fi
6645 \fi
6646 \fi
6647 \fi
6648 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
6649 \endgroup
6650 \Hy@RestoreLastskip
6651 }
6652 \providecommand*\@pdfview{XYZ}
6653 \providecommand*\@pdfborder{0 0 1}
6654 \providecommand*\@pdfborderstyle{}
6655 \def\hyper@anchor#1{%
6656     \@pdfm@dest{#1}%
6657 }
6658 \def\hyper@anchorstart#1{%
6659     \Hy@activeanchortrue
6660     \@pdfm@dest{#1}%
6661 }
6662 \def\hyper@anchorend{%
6663     \Hy@activeanchorfalse
6664 }
6665 \def\Hy@undefinedname{UNDEFINED}
6666 \def\hyper@linkstart#1#2{%
6667     \protected@edef\Hy@testname{#2}%
6668     \ifx\Hy@testname\@empty
6669         \let\Hy@testname\Hy@undefinedname
6670     \else
6671         \Hy@pstringdef\Hy@testname\Hy@testname
6672     \fi
6673     \@pdfm@mark{%
6674         bann<<%
6675         /Type/Annot%
6676         /Subtype/Link%
6677         \Hy@setpdfborder
6678         \expandafter\ifx\csname @#1bordercolor\endcsname\relax
6679         \else
6680             /C[\csname @#1bordercolor\endcsname]%
6681         \fi
6682         /A<<%
6683         /S/GoTo%
6684         /D(\Hy@testname)%
6685         >>%
6686         >>%
6687     }%
6688     \expandafter\Hy@colorlink\csname @#1color\endcsname
6689 }
6690 \def\hyper@linkend{%
6691     \Hy@endcolorlink

```

```

6692 \pdfmark{eann}%
6693 }
6694 \def\hyper@link#1#2#3{%
6695 \hyper@linkstart{#1}{#2}#3\hyper@linkend
6696 }
6697 \def\hyper@linkfile#1#2#3{%
6698 \Hy@pstringdef\Hy@pstringF{#2}%
6699 \Hy@pstringdef\Hy@pstringD{#3}%
6700 \leavevmode
6701 \pdfmark{%
6702   bann<<%
6703   /Type/Annot%
6704   /Subtype/Link%
6705   \Hy@setpdfborder
6706   \ifx\@filebordercolor\relax
6707   \else
6708     /C[\@filebordercolor]%
6709   \fi
6710   /A<<%
6711   /S/GoToR%
6712   /F(\Hy@pstringF)%
6713   /D\ifx\@#3\@0 \pdfstartview\else(\Hy@pstringD)\fi
6714   \ifHy@newwindow /NewWindow true\fi
6715   >>%
6716   >>%
6717 }%
6718 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
6719 \pdfmark{eann}%
6720 }
6721 \def\hyper@launch run:#1\@#2#3{% filename, anchor text linkname
6722 \Hy@pstringdef\Hy@pstringF{#1}%
6723 \Hy@pstringdef\Hy@pstringP{#3}%
6724 \leavevmode
6725 \pdfmark{%
6726   bann<<%
6727   /Type/Annot%
6728   /Subtype/Link%
6729   \Hy@setpdfborder
6730   \ifx\@runbordercolor\relax
6731   \else
6732     /C[\@runbordercolor]%
6733   \fi
6734   /A<<%
6735   /S/Launch%
6736   /F(\Hy@pstringF)%
6737   \ifHy@newwindow /NewWindow true\fi
6738   \ifx\@#3\@%
6739   \else
6740     /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
6741   \fi
6742   >>%
6743   >>%
6744 }%
6745 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
6746 \pdfmark{eann}%
6747 }
6748 \def\hyper@linkurl#1#2{%

```

```

6749 \Hy@pstringdef\Hy@pstringURI{#2}%
6750 \leavevmode
6751 \@pdfm@mark{%
6752   bann<<%
6753   /Type/Annot%
6754   /Subtype/Link%
6755   \Hy@setpdfborder
6756   \ifx\@urlbordercolor\relax
6757   \else
6758     /C[\@urlbordercolor]%
6759   \fi
6760   /A<<%
6761   /S/URI%
6762   /URI(\Hy@pstringURI)%
6763   >>%
6764   >>%
6765 }%
6766 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
6767 \@pdfm@mark{eann}%
6768 }
6769 \def\Acrobatmenu#1#2{%
6770 \leavevmode
6771 \@pdfm@mark{%
6772   bann<<%
6773   /Type/Annot%
6774   /Subtype/Link%
6775   /A<<%
6776   /S/Named%
6777   /N/#1%
6778   >>%
6779   \Hy@setpdfborder
6780   \ifx\@menubordercolor\relax
6781   \relax
6782   /C[\@menubordercolor]%
6783   \fi
6784   >>%
6785 }%
6786 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
6787 \@pdfm@mark{eann}%
6788 }
6789 \ifx\@pdfproducer\relax
6790 \def\@pdfproducer{dvipdfm}%
6791 \fi
6792 \def\PDF@FinishDoc{%
6793 \Hy@UseMaketitleInfos
6794 \@pdfm@mark{%
6795   docinfo<<%
6796   /Title(\@pdftitle)%
6797   /Subject(\@pdfsubject)%
6798   /Creator(\@pdfcreator)%
6799   \ifx\@pdfcreationdate\empty
6800   \else
6801     /CreationDate(\@pdfcreationdate)%
6802   \fi
6803   \ifx\@pdfmoddate\empty
6804   \else
6805     /ModDate(\@pdfmoddate)%

```

```

6806     \fi
6807     /Author(\@pdfauthor)%
6808     \ifx\@pdfproducer\relax
6809     \else
6810     /Producer(\@pdfproducer)%
6811     \fi
6812     /Keywords(\@pdfkeywords)%
6813     >>%
6814 }%
6815 \Hy@DisableOption{pdfauthor}%
6816 \Hy@DisableOption{pdftitle}%
6817 \Hy@DisableOption{pdfsubject}%
6818 \Hy@DisableOption{pdfcreator}%
6819 \Hy@DisableOption{pdfcreationdate}%
6820 \Hy@DisableOption{pdfmoddate}%
6821 \Hy@DisableOption{pdfproducer}%
6822 \Hy@DisableOption{pdfkeywords}%
6823 }

6824 \def\PDF@SetupDoc{%
6825   \edef\Hy@temp{%
6826     \ifHy@toolbar\else /HideToolbar true\fi
6827     \ifHy@menubar\else /HideMenubar true\fi
6828     \ifHy>windowui\else /HideWindowUI true\fi
6829     \ifHy@fitwindow /FitWindow true\fi
6830     \ifHy@centerwindow /CenterWindow true\fi
6831     \ifHy@displaydoctitle /DisplayDocTitle true\fi
6832     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
6833     \Hy@UseNameKey{Direction}\@pdfdirection
6834     \Hy@UseNameKey{ViewArea}\@pdfviewarea
6835     \Hy@UseNameKey{ViewClip}\@pdfviewclip
6836     \Hy@UseNameKey{PrintArea}\@pdfprintarea
6837     \Hy@UseNameKey{PrintClip}\@pdfprintclip
6838     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
6839     \Hy@UseNameKey{Duplex}\@pdfduplex
6840     \ifx\@pdfpicktraybypdfsize\@empty
6841     \else
6842     /PickTrayByPDFSize \@pdfpicktraybypdfsize
6843     \fi
6844     \ifx\@pdfprintpagerange\@empty
6845     \else
6846     /PrintPageRange[\@pdfprintpagerange]%
6847     \fi
6848     \ifx\@pdfnumcopies\@empty
6849     \else
6850     /NumCopies \@pdfnumcopies
6851     \fi
6852   }%
6853   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
6854   \@pdfm@mark{%
6855     docview<<%
6856     \ifx\@pdfstartview\@empty
6857     \else
6858     /OpenAction[@page\@pdfstartpage\@pdfstartview]%
6859     \fi
6860     \ifx\@baseurl\@empty
6861     \else
6862     /URI<</Base(\Hy@pstringB)>>%

```

```

6863 \fi
6864 /PageMode/\@pdfpagemode
6865 \ifx\Hy@temp\@empty
6866 \else
6867 /ViewerPreferences<<\Hy@temp>>%
6868 \fi
6869 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
6870 \ifx\@pdflang\@empty
6871 \else
6872 /Lang(\@pdflang)%
6873 \fi
6874 >>%
6875 }%
6876 \ifx\@pdfpagescrop\@empty
6877 \else
6878 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
6879 \fi
6880 }
6881 </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.

```

6882 <*\texhtml>
6883 \RequirePackage{vtexhtml}
6884 \newif\if@Localurl
6885 \def\PDF@FinishDoc{}
6886 \def\PDF@SetupDoc{%
6887 \ifx\@baseurl\@empty
6888 \else
6889 \special{!direct <base href="\@baseurl">}%
6890 \fi
6891 }
6892 \def\@urltype{url}
6893 \def\hyper@link#1#2#3{%
6894 \leavevmode
6895 \special{!direct <a href=\hyper@quote\hyper@hash#2\hyper@quote>}%
6896 #3%
6897 \special{!direct </a>}%
6898 }
6899 \def\hyper@linkurl#1#2{%
6900 \begingroup
6901 \hyper@chars
6902 \leavevmode
6903 \MathBSuppress=1\relax
6904 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
6905 #1%
6906 \MathBSuppress=0\relax
6907 \special{!direct </a>}%
6908 \endgroup
6909 }
6910 \def\hyper@linkfile#1#2#3{%
6911 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
6912 }
6913 \def\hyper@linkstart#1#2{%
6914 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype

```

```

6915 \Localurltrue
6916 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
6917 \else
6918 \Localurlfalse
6919 \begingroup
6920 \hyper@chars
6921 \special{!aref #2}%
6922 \endgroup
6923 \fi
6924 }
6925 \def\hyper@linkend{%
6926 \if@Localurl
6927 \special{!endaref}%
6928 \else
6929 \special{!direct </a>}%
6930 \fi
6931 }
6932 \def\hyper@anchorstart#1{%
6933 \Hy@SaveLastskip
6934 \begingroup
6935 \hyper@chars
6936 \special{!aname #1}%
6937 \special{!direct <a name=\hyper@quote#1\hyper@quote>}%
6938 \endgroup
6939 \Hy@activeanchortrue
6940 }
6941 \def\hyper@anchorend{%
6942 \special{!direct </a>}%
6943 \Hy@activeanchorfalse
6944 \Hy@RestoreLastskip
6945 }
6946 \def\hyper@anchor#1{%
6947 \Hy@SaveLastskip
6948 \begingroup
6949 \let\protect=\string
6950 \hyper@chars
6951 \leavevmode
6952 \special{!aname #1}%
6953 \special{!direct <a name=\hyper@quote #1\hyper@quote>}%
6954 \endgroup
6955 \Hy@activeanchortrue
6956 \bgroup\anchor@spot\egroup
6957 \special{!direct </a>}%
6958 \Hy@activeanchorfalse
6959 \Hy@RestoreLastskip
6960 }
6961 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
6962 \def\@endForm{}
6963 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
6964 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
6965 }
6966 \def\@TextField[#1]#2{% parameters, label
6967 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
6968 }
6969 \def\@CheckBox[#1]#2{% parameters, label
6970 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
6971 }

```



```

6972 \def \@ChoiceMenu[#1]#2#3{% parameters, label, choices
6973 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
6974 }
6975 \def \@PushButton[#1]#2{% parameters, label
6976 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
6977 }
6978 \def \@Reset[#1]#2{\typeout{Sorry, TeXpider does not yet support FORMs}}
6979 \def \@Submit[#1]#2{\typeout{Sorry, TeXpider does not yet support FORMs}}
6980 \end{vtxhtml}
6981 \end{vtx}

```

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

```

6982 \ifx \mediaheight \@undefined
6983 \else
6984 \ifx \mediaheight \relax
6985 \else
6986 \ifHy@setpagesize
6987 \providecommand*{\VTeXInitMediaSize}{%
6988 \ifundefined{stockwidth}{%
6989 \ifdim \paperheight > 0pt %
6990 \setlength \mediaheight \paperheight
6991 \fi
6992 \ifdim \paperheight > 0pt %
6993 \setlength \mediawidth \paperwidth
6994 \fi
6995 }{%
6996 \ifdim \stockheight > 0pt %
6997 \setlength \mediaheight \stockheight
6998 \fi
6999 \ifdim \stockwidth > 0pt %
7000 \setlength \mediawidth \stockwidth
7001 \fi
7002 }%
7003 }%
7004 \AtBeginDocument{\VTeXInitMediaSize}%
7005 \fi
7006 \Hy@DisableOption{setpagesize}%
7007 \fi
7008 \fi

```

Older versions of VTeX require xyz in lower case.

```

7009 \providecommand*{\pdfview}{xyz}
7010 \providecommand*{\pdfborder}{0 0 1}
7011 \providecommand*{\pdfborderstyle}{}
7012 \let \CurrentBorderColor \linkbordercolor
7013 \def \hyper@anchor#1{%
7014 \Hy@SaveLastskip
7015 \begingroup
7016 \let \protect = \string
7017 \hyper@chars
7018 \special{!aname #1;\pdfview}%
7019 \endgroup
7020 \Hy@activeanchortrue
7021 \Hy@colorlink \@anchorcolor \anchor@spot \Hy@endcolorlink
7022 \Hy@activeanchorfalse
7023 \Hy@RestoreLastskip

```

```

7024 }
7025 \def\hyper@anchorstart#1{%
7026   \Hy@SaveLastskip
7027   \begingroup
7028     \hyper@chars
7029     \special{!aname #1;\@pdfview}%
7030   \endgroup
7031   \Hy@activeanchortrue
7032 }
7033 \def\hyper@anchorend{%
7034   \Hy@activeanchorfalse
7035   \Hy@RestoreLastskip
7036 }
7037 \def\@urltype{url}
7038 \def\Hy@undefinedname{UNDEFINED}
7039 \def\hyper@linkstart#1#2{%
7040   \Hy@pstringdef\Hy@pstringURI{#2}%
7041   \expandafter\Hy@colorlink\csname @#1color\endcsname
7042   \@ifundefined{#1bordercolor}{%
7043     \let\CurrentBorderColor\relax
7044   }{%
7045     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7046   }%
7047   \def\Hy@tempa{#1}%
7048   \ifx\Hy@tempa\@urltype
7049     \special{!%
7050       aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
7051       a=<%
7052         \Hy@setpdfborder
7053         \ifx\CurrentBorderColor\relax
7054           \else
7055             /C [\CurrentBorderColor]%
7056           \fi
7057       >%
7058     }%
7059   \else
7060     \protected@edef\Hy@testname{#2}%
7061     \ifx\Hy@testname\@empty
7062       \let\Hy@testname\Hy@undefinedname
7063     \fi
7064     \special{!%
7065       aref \Hy@testname;%
7066       a=<%
7067         \Hy@setpdfborder
7068         \ifx\CurrentBorderColor\relax
7069           \else
7070             /C [\CurrentBorderColor]%
7071           \fi
7072       >%
7073     }%
7074   \fi
7075 }
7076 \def\hyper@linkend{%
7077   \special{!endaref}%
7078   \Hy@endcolorlink
7079 }
7080 \def\hyper@linkfile#1#2#3{%

```

```

7081 \leavevmode
7082 \special{!%
7083   aref <%
7084     \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
7085     f=#2>#3;%
7086     a=<%
7087       \Hy@setpdfborder
7088       \ifx\@filebordercolor\relax
7089       \else
7090         /C [\@filebordercolor]%
7091       \fi
7092     >%
7093   }%
7094   \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7095   \special{!endaref}%
7096 }
7097 \def\hyper@linkurl#1#2{%
7098   \begingroup
7099     \Hy@pstringdef\Hy@pstringURI{#2}%
7100     \hyper@chars
7101     \leavevmode
7102     \special{!%
7103       aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
7104       a=<%
7105         \Hy@setpdfborder
7106         \ifx\@urlbordercolor\relax
7107         \else
7108           /C [\@urlbordercolor]%
7109         \fi
7110       >%
7111     }%
7112     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7113     \special{!endaref}%
7114   \endgroup
7115 }
7116 \def\hyper@link#1#2#3{%
7117   \@ifundefined{#1bordercolor}{%
7118     \let\CurrentBorderColor\relax
7119   }{%
7120     \edef\CurrentBorderColor{\csname #1bordercolor\endcsname}%
7121   }%
7122   \leavevmode
7123   \protected@edef\Hy@testname{#2}%
7124   \ifx\Hy@testname\@empty
7125     \let\Hy@testname\Hy@undefinedname
7126   \fi
7127   \special{!%
7128     aref \Hy@testname;%
7129     a=<%
7130       \Hy@setpdfborder
7131       \ifx\CurrentBorderColor\relax
7132       \else
7133         /C [\CurrentBorderColor]%
7134       \fi
7135     >%
7136   }%
7137   \expandafter\Hy@colorlink\csname #1color\endcsname#3\Hy@endcolorlink

```

```

7138 \special{!endaref}%
7139 }
7140 \def\hyper@image#1#2{%
7141   \hyper@linkurl{#2}{#1}%
7142 }
7143 \def\hyper@launch run:#1\#2#3{%
7144   \Hy@pstringdef\Hy@pstringF{#1}%
7145   \Hy@pstringdef\Hy@pstringP{#3}%
7146   \leavevmode
7147   \special{!aref %
7148     <u=%
7149       /Type/Action%
7150       /S/Launch%
7151       /F(\Hy@pstringF)%
7152       \ifHy@newwindow /NewWindow true \fi
7153       \ifx\#3\else /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
7154     >;%
7155     a=<%
7156       \Hy@setpdfborder
7157       \ifx\@runbordercolor\relax
7158       \else
7159         /C[\@runbordercolor]%
7160       \fi
7161     >%
7162   }%
7163   \Hy@colorlink\@runcolor#2\Hy@endcolorlink
7164   \special{!endaref}%
7165 }
7166 \def\Acrobatmenu#1#2{%
7167   \leavevmode
7168   \special{!%
7169     aref <u=/S /Named /N /#1>;%
7170     a=<%
7171       \Hy@setpdfborder
7172       \ifx\@menubordercolor\relax
7173       \else
7174         /C[\@menubordercolor]%
7175       \fi
7176     >%
7177   }%
7178   \Hy@colorlink\@menucolor#2\Hy@endcolorlink
7179   \special{!endaref}%
7180 }

```

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.

```

7181 \ifnum\Hy@VTeXversion<702 %
7182 \else
7183   \def\hyper@pagetransition{%
7184     \ifx\@pdfpagetransition\relax
7185     \else
7186       \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

7187   \else
7188     \hvtex@parse@trans\@pdfpagetransition

```

```

7189     \fi
7190     \fi
7191 }%

```

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

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

```

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

```

Transition codes:

```

7192 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
7193 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
7194 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
7195 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
7196 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
7197 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
7198 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

7199 \def\hvtex@par@dimension{/Dm}%
7200 \def\hvtex@par@direction{/Di}%
7201 \def\hvtex@par@duration{/D}%
7202 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

7203 \def\hvtex@gettoken{\expandafter\hvtex@gettoken@\hvtex@buffer\@nil}%

```

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

```

7204 \def\hvtex@gettoken@#1 #2\@nil{%
7205     \edef\hvtex@token{#1}%
7206     \edef\hvtex@buffer{#2}%
7207 }%
7208 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

7209 \let\hvtex@trans@code\@empty
7210 \let\hvtex@param@dimension\@empty
7211 \let\hvtex@param@direction\@empty
7212 \let\hvtex@param@duration\@empty
7213 \let\hvtex@param@motion\@empty
7214 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

7215 \hvtex@gettoken
7216 \ifx\hvtex@token\@empty

```

Leading space(s)?

```
7217      \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
7218      \else
7219      \hvtex@gettoken
7220      \fi
7221      \fi
7222      \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
7223      \hvtex@trans@params
7224  }%
```

Reentrant macro to parse optional parameters.

```
7225  \def\hvtex@trans@params{%
7226      \ifx\hvtex@buffer\@empty
7227      \else
7228      \hvtex@gettoken
7229      \let\hvtex@trans@par\hvtex@token
7230      \ifx\hvtex@buffer\@empty
7231      \else
7232      \hvtex@gettoken
7233      \ifx\hvtex@trans@par\hvtex@par@duration
```

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

```
7234      \let\hvtex@param@duration\hvtex@token
7235      \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
7236      \expandafter\edef\expandafter\hvtex@param@motion
7237      \expandafter{\expandafter\@gobble\hvtex@token}%
7238      \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
7239      \expandafter\edef\expandafter\hvtex@param@dimension
7240      \expandafter{\expandafter\@gobble\hvtex@token}%
7241      \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).

```
7242      \let\hvtex@param@direction\hvtex@token
7243      \fi\fi\fi\fi
7244      \fi
7245      \fi
7246      \ifx\hvtex@buffer\@empty
7247      \let\next\hvtex@produce@trans
7248      \else
7249      \let\next\hvtex@trans@params
7250      \fi
7251      \next
7252  }%
```

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

```
7253  \def\hvtex@produce@trans{%
7254      \let\vtex@trans@special\@empty
7255      \if S\hvtex@trans@code
7256      \edef\vtex@trans@special{\hvtex@trans@code
7257      \hvtex@param@dimension\hvtex@param@motion}%

```

```

7258 \else \if B\hvtex@trans@code
7259 \edef\vtex@trans@special{\hvtex@trans@code\hvtex@param@dimension}%
7260 \else \if X\hvtex@trans@code
7261 \edef\vtex@trans@special{\hvtex@trans@code\hvtex@param@motion}%
7262 \else \if W\hvtex@trans@code
7263 \edef\vtex@trans@special{\hvtex@trans@code\hvtex@param@direction}%
7264 \else \if D\hvtex@trans@code
7265 \let\vtex@trans@special\hvtex@trans@code
7266 \else \if R\hvtex@trans@code
7267 \let\vtex@trans@special\hvtex@trans@code
7268 \else \if G\hvtex@trans@code
7269 \edef\vtex@trans@special{\hvtex@trans@code\hvtex@param@direction}%
7270 \fi\fi\fi\fi\fi\fi\fi
7271 \ifx\vtex@trans@special\@empty
7272 \else
7273 \ifx\hvtex@param@duration\@empty
7274 \else
7275 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

7276 \multiply\dimen@{\@m
7277 \edef\vtex@trans@special{\vtex@trans@special,\strip@pt\dimen@}%
7278 \fi

```

And all the mess is just for this.

```

7279 \special{!trans \vtex@trans@special}%
7280 \fi
7281 }%
7282 \def\hyper@pageduration{%
7283 \ifx\@pdfpageduration\relax
7284 \else
7285 \ifx\@pdfpageduration\@empty
7286 \special{!duration-}%
7287 \else
7288 \special{!duration \@pdfpageduration}%
7289 \fi
7290 \fi
7291 }%
7292 \def\hyper@pagehidden{%
7293 \ifHy@useHidKey
7294 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
7295 \fi
7296 }%
7297 \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

```

7298 \ifx\@pdfproducer\relax
7299 \def\@pdfproducer{VTeX}%

```

```

7300 \ifnum\Hy@VTeXversion>\z@
7301   \count@\VTeXversion
7302   \divide\count@ 100 %
7303   \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
7304   \multiply\count@ -100 %
7305   \advance\count@\VTeXversion
7306   \edef\@pdfproducer{%
7307     \@pdfproducer
7308     .\ifnum\count@<10 0\fi\the\count@
7309     \ifx\VTeXOS\@undefined\else
7310       \ifnum\VTeXOS>0 %
7311         \ifnum\VTeXOS<6 %
7312           \space(%
7313             \ifcase\VTeXOS
7314               \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
7315             \fi
7316           )%
7317         \fi
7318       \fi
7319     \fi
7320     ,\space
7321     \ifnum\OpMode=\@ne PDF\else PS\fi
7322     \space backend%
7323     \ifx\gexmode\@undefined\else
7324       \ifnum\gexmode>\z@\space with GeX\fi
7325     \fi
7326   }%
7327 \fi
7328 \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).

```

7329 \def\PDF@SetupDoc{%
7330   \ifx\@pdfpagescrop\@empty
7331   \else
7332     \special{!pdfinfo b=<\@pdfpagescrop>}%
7333   \fi
7334   \special{!onopen Page\@pdfstartpage}%
7335   \special{!pdfinfo p=</\@pdfpagemode>}%
7336   \ifx\@baseurl\@empty
7337   \else
7338     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
7339   \fi
7340   \special{!pdfinfo v=<<<%
7341     \ifHy@toolbar\else /HideToolbar true\fi

```



```

7342 \ifHy@menubar\else /HideMenubar true\fi
7343 \ifHy@windowui\else /HideWindowUI true\fi
7344 \ifHy@fitwindow /FitWindow true\fi
7345 \ifHy@centerwindow /CenterWindow true\fi
7346 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7347 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7348 \Hy@UseNameKey{Direction}\@pdfdirection
7349 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7350 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7351 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7352 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7353 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7354 \Hy@UseNameKey{Duplex}\@pdfduplex
7355 \ifx\@pdfpicktraybypdfsize\@empty
7356 \else
7357 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7358 \fi
7359 \ifx\@pdfprintpagerange\@empty
7360 \else
7361 /PrintPageRange[\@pdfprintpagerange]%
7362 \fi
7363 \ifx\@pdfnumcopies\@empty
7364 \else
7365 /NumCopies \@pdfnumcopies
7366 \fi
7367 >>>}%
7368 \ifx\@pdfpagelayout\@empty
7369 \else
7370 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
7371 \fi
7372 }%
7373 \def\PDF@FinishDoc{%
7374 \Hy@UseMaketitleInfos
7375 \special{!pdfinfo a=<\@pdfauthor>}%
7376 \special{!pdfinfo t=<\@pdftitle>}%
7377 \special{!pdfinfo s=<\@pdfsubject>}%
7378 \special{!pdfinfo c=<\@pdfcreator>}%
7379 \ifx\@pdfproducer\relax
7380 \else
7381 \special{!pdfinfo r=<\@pdfproducer>}%
7382 \fi
7383 \special{!pdfinfo k=<\@pdfkeywords>}%
7384 \Hy@DisableOption{pdfauthor}%
7385 \Hy@DisableOption{pdftitle}%
7386 \Hy@DisableOption{pdfsubject}%
7387 \Hy@DisableOption{pdfcreator}%
7388 \Hy@DisableOption{pdfcreationdate}%
7389 \Hy@DisableOption{pdfmoddate}%
7390 \Hy@DisableOption{pdfproducer}%
7391 \Hy@DisableOption{pdfkeywords}%
7392 }
7393 </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.

```
7394 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%  
7395 <package>\providecommand*\Hy@DistillerDestFix{}%  
7396 <*pdfmark | dviwindo>  
7397 \def\Hy@DistillerDestFix{%  
7398   \begin{group}  
7399     \let\x\literalps@out
```

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

```
7400   \ifnum \@ifundefined{OpMode}{0}{}%  
7401     \@ifundefined{gexmode}{0}{}%  
7402     \ifnum\gexmode>0 \OpMode\else 0\fi  
7403   }>1 %  
7404   \def\x##1{%  
7405     \immediate\special{!=##1}%  
7406   }%  
7407 \fi  
7408 \x{%  
7409   /product where{%  
7410     pop %  
7411     product(Distiller)search{%  
7412       pop pop pop %  
7413       version(.)search{%  
7414         exch pop exch pop%  
7415         (3011)eq{%  
7416           gsave %  
7417           newpath 0 0 moveto closepath clip%  
7418           /Courier findfont 10 scalefont setfont %  
7419           72 72 moveto(.)show %  
7420           grestore%  
7421         }if%  
7422       }{pop}ifelse%  
7423     }{pop}ifelse%  
7424   }if%  
7425 }%  
7426 \endgroup  
7427 }  
7428 </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

```

7429 <*pdfmark | dvipdf>
7430 \def\hyper@anchor#1{%
7431   \Hy@SaveLastskip
7432   \begingroup
7433     \pdfmark[\anchor@spot]{%
7434       pdfmark=/DEST,%
7435       linktype=anchor,%
7436       View=/\@pdfview \@pdfviewparams,%
7437       DestAnchor={#1}%
7438     }%
7439   \endgroup
7440   \Hy@RestoreLastskip
7441 }
7442 <*dvipdf>
7443 \def\hyper@anchorstart#1{\Hy@activeanchortrue}
7444 \def\hyper@anchorend{\Hy@activeanchorfalse}
7445 \def\hyper@linkstart#1#2{%
7446   \expandafter\Hy@colorlink\csname @#1color\endcsname
7447   \xdef\hyper@currentanchor{#2}%
7448 }
7449 \def\hyper@linkend{%
7450   \Hy@endcolorlink
7451 }
7452 </dvipdf>
7453 <*pdfmark>
7454 \ifundefined{hyper@anchorstart}{-}{\endinput}
7455 \def\hyper@anchorstart#1{%
7456   \Hy@SaveLastskip
7457   \literalps@out{H.S}%
7458   \xdef\hyper@currentanchor{#1}%
7459   \Hy@activeanchortrue
7460 }
7461 \def\hyper@anchorend{%
7462   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
7463   \pdfmark{%
7464     pdfmark=/DEST,%
7465     linktype=anchor,%
7466     View=/\@pdfview \@pdfviewparams,%
7467     DestAnchor=\hyper@currentanchor,%
7468   }%
7469   \Hy@activeanchorfalse
7470   \Hy@RestoreLastskip
7471 }
7472 \def\hyper@linkstart#1#2{%
7473   \ifHy@breaklinks
7474   \else
7475     \leavevmode\hbox\bgroup
7476     \fi
7477   \expandafter\Hy@colorlink\csname @#1color\endcsname
7478   \literalps@out{H.S}%

```

```

7479 \xdef\hyper@currentanchor{#2}%
7480 \gdef\hyper@currentlinktype{#1}%
7481 }
7482 \def\hyper@linkend{%
7483 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
7484 \@ifundefined{@\hyper@currentlinktype bordercolor}{%
7485 \let\Hy@tempcolor\relax
7486 }{%
7487 \edef\Hy@tempcolor{\csname @\hyper@currentlinktype bordercolor\endcsname}%
7488 }%
7489 \pdfmark{%
7490 pdfmark=/ANN,%
7491 linktype=link,%
7492 Subtype=/Link,%
7493 Dest=\hyper@currentanchor,%
7494 AcroHighlight=\@pdfhighlight,%
7495 Border=\@pdfborder,%
7496 BorderStyle=\@pdfborderstyle,%
7497 Color=\Hy@tempcolor,%
7498 Raw=H.B%
7499 }%
7500 \Hy@endcolorlink
7501 \ifHy@breaklinks
7502 \else
7503 \egroup
7504 \fi
7505 }
7506 \pdfmark

```

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.

```

7507 \begingroup
7508 \catcode'P=12 %
7509 \catcode'T=12 %
7510 \lowercase{\endgroup
7511 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
7512 }
7513 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}
7514 \pdfmark

```

\hyper@pagetransition

```

7515 \def\hyper@pagetransition{%
7516 \ifx\@pdfpagetransition\relax
7517 \else
7518 \ifx\@pdfpagetransition\@empty
7519 % 1. Does an old entry have to be deleted?
7520 % 2. If 1=yes, how to delete?
7521 \else
7522 \pdfmark{%
7523 pdfmark=/PUT,%
7524 Raw={%
7525 \string{ThisPage\string}%
7526 <</Trans << /S /\@pdfpagetransition\space >> >>%
7527 }%
7528 }%
7529 \fi

```

```

7530 \fi
7531 }

```

\hyper@pageduration

```

7532 \def\hyper@pageduration{%
7533 \ifx\@pdfpageduration\relax
7534 \else
7535 \ifx\@pdfpageduration\@empty
7536 % 1. Does an old entry have to be deleted?
7537 % 2. If 1=yes, how to delete?
7538 \else
7539 \pdfmark{%
7540 pdfmark=/PUT,%
7541 Raw={%
7542 \string{ThisPage\string}%
7543 <</Dur \@pdfpageduration>>%
7544 }%
7545 }%
7546 \fi
7547 \fi
7548 }

```

\hyper@pagehidden

```

7549 \def\hyper@pagehidden{%
7550 \ifHy@useHidKey
7551 \pdfmark{%
7552 pdfmark=/PUT,%
7553 Raw={%
7554 \string{ThisPage\string}%
7555 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
7556 }%
7557 }%
7558 \fi
7559 }

```

```

7560 \pdfmark>
7561 \def\hyper@image#1#2{%
7562 \hyper@linkurl{#2}{#1}%
7563 }
7564 \def\Hy@undefinedname{UNDEFINED}
7565 \def\hyper@link#1#2#3{%
7566 \@ifundefined{@#1bordercolor}{%
7567 \let\Hy@tempcolor\relax
7568 }{%
7569 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
7570 }%
7571 \begingroup
7572 \protected@edef\Hy@testname{#2}%
7573 \ifx\Hy@testname\@empty
7574 \let\Hy@testname\Hy@undefinedname
7575 \fi
7576 \dviPDF
7577 \pdfmark[{#3}]{%
7578 pdfmark=/LNK,%
7579 },%
7580 linktype={#1},%
7581 AcroHighlight=\@pdfhighlight,%

```

```

7582     Border=\@pdfborder,%
7583     BorderStyle=\@pdfborderstyle,%
7584     Color=\Hy@tempcolor,%
7585     Dest=\Hy@testname
7586 }%
7587 </dvipdf>
7588 <*pdfmarkbase>
7589     \pdfmark[#{3}]{%
7590         Color=\Hy@tempcolor,%
7591         linktype={#1},%
7592         AcroHighlight=\@pdfhighlight,%
7593         Border=\@pdfborder,%
7594         BorderStyle=\@pdfborderstyle,%
7595         pdfmark=/ANN,%
7596         Subtype=/Link,%
7597         Dest=\Hy@testname
7598     }%
7599 </pdfmarkbase>
7600 \endgroup
7601 }
7602 \newtoks\pdf@docset
7603 \def\PDF@FinishDoc{%
7604     \Hy@UseMaketitleInfos
7605     \let\Hy@temp\@empty
7606     \ifx\@pdfcreationdate\@empty
7607     \else
7608         \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
7609     \fi
7610     \ifx\@pdfmoddate\@empty
7611     \else
7612         \expandafter\def\expandafter\Hy@temp\expandafter{%
7613             \Hy@temp
7614             ModDate=\@pdfmoddate,%
7615         }%
7616     \fi
7617     \ifx\@pdfproducer\relax
7618     \else
7619         \expandafter\def\expandafter\Hy@temp\expandafter{%
7620             \Hy@temp
7621             Producer=\@pdfproducer,%
7622         }%
7623     \fi
7624     \expandafter
7625     \pdfmark\expandafter{%
7626         \Hy@temp
7627         pdfmark=/DOCINFO,%
7628         Title=\@pdftitle,%
7629         Subject=\@pdfsubject,%
7630         Creator=\@pdfcreator,%
7631         Author=\@pdfauthor,%
7632         Keywords=\@pdfkeywords
7633     }%
7634     \Hy@DisableOption{pdfauthor}%
7635     \Hy@DisableOption{pdftitle}%
7636     \Hy@DisableOption{pdfsubject}%
7637     \Hy@DisableOption{pdfcreator}%
7638     \Hy@DisableOption{pdfcreationdate}%

```

```

7639 \Hy@DisableOption{pdfmoddate}%
7640 \Hy@DisableOption{pdfproducer}%
7641 \Hy@DisableOption{pdfkeywords}%
7642 }
7643 \def\PDF@SetupDoc{%
7644 \pdfmark{%
7645 pdfmark=/DOCVIEW,%
7646 Page=\@pdfstartpage,%
7647 View=\@pdfstartview,%
7648 PageMode=/\@pdfpagemode
7649 }%
7650 \ifx\@pdfpagescrop\@empty
7651 \else
7652 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7653 \fi
7654 \edef\Hy@temp{%
7655 \ifHy@toolbar\else /HideToolbar true\fi
7656 \ifHy@menubar\else /HideMenubar true\fi
7657 \ifHy@windowui\else /HideWindowUI true\fi
7658 \ifHy@fitwindow /FitWindow true\fi
7659 \ifHy@centerwindow /CenterWindow true\fi
7660 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7661 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7662 \Hy@UseNameKey{Direction}\@pdfdirection
7663 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7664 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7665 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7666 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7667 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7668 \Hy@UseNameKey{Duplex}\@pdfduplex
7669 \ifx\@pdfpicktraybypdfsize\@empty
7670 \else
7671 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7672 \fi
7673 \ifx\@pdfprintpagerange\@empty
7674 \else
7675 /PrintPageRange[\@pdfprintpagerange]%
7676 \fi
7677 \ifx\@pdfnumcopies\@empty
7678 \else
7679 /NumCopies \@pdfnumcopies
7680 \fi
7681 }%
7682 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7683 \pdfmark{%
7684 pdfmark=/PUT,%
7685 Raw={%
7686 \string{Catalog\string}<<%
7687 \ifx\Hy@temp\@empty
7688 \else
7689 /ViewerPreferences<<\Hy@temp>>%
7690 \fi
7691 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7692 \ifx\@pdflang\@empty
7693 \else
7694 /Lang(\@pdflang)%
7695 \fi

```

```

7696      \ifx\@baseurl\@empty
7697      \else
7698      /URI<</Base(\Hy@pstringB)>>%
7699      \fi
7700      >>%
7701      }%
7702      }%
7703 }
7704 </pdfmark | dvipdf>
7705 <*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.

```

7706 \newif\ifHy@pdfmarkerror
7707 \def\pdfmark{\@ifnextchar [{\pdfmark@}{\pdfmark@[]}}
7708 \def\pdfmark@[#1]#2{%
7709   \Hy@pdfmarkerrorfalse
7710   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
7711   \@processme
7712   \let\pdf@type\relax
7713   \setkeys{PDF}{#2}%
7714   \ifHy@pdfmarkerror
7715   \else
7716     \ifx\pdf@type\relax
7717       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
7718       \ifx\#1\\\relax\else\pdf@rect{#1}\fi
7719     \else
7720       \ifx\#1\\\relax
7721       <pdfmarkbase> \literalps@out{[\the\pdf@toks\space\pdf@type\space pdfmark]}%
7722       <dvipdf> \literalps@out{/ANN >>}%
7723     \else
7724       \@ifundefined{@\pdf@linktype color}{%
7725         \Hy@colorlink\@linkcolor
7726       }{%
7727         \expandafter\Hy@colorlink
7728         \csname @\pdf@linktype color\endcsname
7729       }%
7730       \pdf@rect{#1}%
7731       <pdfmarkbase> \literalps@out{[\the\pdf@toks\space\pdf@type\space pdfmark]}%
7732       <dvipdf> \literalps@out{/ANN >>}%
7733       \Hy@endcolorlink
7734     \fi
7735   \fi
7736 \fi
7737 }

```

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

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

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

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


```

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

7738 \newsavebox{\pdf@box}
7739 \providecommand*{\Hy@setouterhbox}{\sbox}
7740 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
7741 \def\Hy@DEST{/DEST}
7742 \def\pdf@rect#1{%
7743   \literalps@out{/ANN \pdf@type\space\the\pdf@toks\space <<}#1%
7744   \leavevmode
7745   \ifHy@breaklinks
7746     \Hy@setouterhbox\pdf@box{#1}%
7747   \else
7748     \sbox\pdf@box{#1}%
7749   \fi
7750   \dimen@ht\pdf@box
7751   \ifdim\dp\pdf@box=\z@
7752     \literalps@out{H.S}%
7753   \else
7754     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
7755   \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...).

```

7756 \ifHy@breaklinks
7757   \expandafter\Hy@breaklinksunhbox
7758 \else
7759   \expandafter\box
7760 \fi
7761 \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

7762 \ifdim\dimen@=\z@
7763   \literalps@out{H.R}%
7764 \else
7765   \raise\dimen@\hbox{\literalps@out{H.R}}%
7766 \fi
7767 \ifx\pdf@type\Hy@DEST
7768 \else
7769   \pdf@addtoksx{H.B}%
7770 \fi
7771 }

```

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.

```

7772 \newtoks\pdf@toks
7773 \newtoks\pdf@defaulttoks
7774 \pdf@defaulttoks={}
7775 \def\pdf@addtoks#1#2{%
7776   \edef\@processme{\pdf@toks{\the\pdf@toks\space /#2 #1}}%
7777   \@processme
7778 }
7779 \def\pdf@addtoksx#1{%
7780   \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%

```

```

7781 \@processme
7782 }
7783 \def\PDFdefaults#1{%
7784   \pdf@defaulttoks={#1}%
7785 }

```

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

```

7786 % what is the type of pdfmark?
7787 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
7788 % what is the link type?
7789 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
7790 \def\pdf@linktype{link}
7791 % parameter is a stream of PDF
7792 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
7793 % parameter is a name
7794 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
7795 % parameter is a array
7796 \define@key{PDF}{Border}{%
7797   \edef\Hy@temp{#1}%
7798   \ifx\Hy@temp\@empty
7799     \else
7800       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
7801   \fi
7802 }
7803 \let\Hy@BorderArrayPatch\@empty
7804 % parameter is a dictionary
7805 \define@key{PDF}{BorderStyle}{%
7806   \edef\Hy@temp{#1}%
7807   \ifx\Hy@temp\@empty
7808     \else
7809       \pdf@addtoks{<<#1>>}{BS}%
7810   \fi
7811 }
7812 % parameter is a array
7813 \define@key{PDF}{Color}{%
7814   \ifx\relax#1\relax
7815     \else
7816       \pdf@addtoks{[#1]}{Color}% hash-ok
7817   \fi
7818 }
7819 % parameter is a string
7820 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
7821 % parameter is a integer
7822 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
7823 % parameter is a array
7824 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
7825 % parameter is a string
7826 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
7827 % parameter is a string or file
7828 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
7829 % parameter is a destination
7830 \define@key{PDF}{Dest}{%
7831   \Hy@pstringdef\Hy@pstringDest{#1}%
7832   \ifx\Hy@pstringDest\@empty
7833     \Hy@pdfmarkerrortrue
7834     \Hy@Warning{Destination with empty name ignored}%
7835   \else
7836     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%

```

```

7837 \fi
7838 }
7839 \define@key{PDF}{DestAnchor}{%
7840 \Hy@pstringdef\Hy@pstringDest{#1}%
7841 \ifx\Hy@pstringDest\@empty
7842 \Hy@pdfmarkerrortrue
7843 \Hy@Warning{Destination with empty name ignored}%
7844 \else
7845 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
7846 \fi
7847 }
7848 % parameter is a string
7849 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
7850 % parameter is a string
7851 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
7852 % parameter is a int
7853 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
7854 % parameter is a name
7855 \define@key{PDF}{AcroHighlight}{%
7856 \begingroup
7857 \edef\x{#1}%
7858 \expandafter\endgroup\ifx\x\@empty
7859 \else
7860 \pdf@addtoks{#1}{H}%
7861 \fi
7862 }
7863 % parameter is a string
7864 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
7865 % parameter is a string
7866 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
7867 % parameter is a string
7868 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
7869 % parameter is a string
7870 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
7871 % parameter is a Boolean
7872 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
7873 % parameter is a integer or name
7874 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
7875 % parameter is a name
7876 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
7877 % parameter is a string
7878 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
7879 % parameter is a array
7880 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
7881 % parameter is a integer
7882 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
7883 % parameter is a name
7884 \pdfmarkbase\define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
7885 \dvi pdf\define@key{PDF}{Subtype}{\pdf@addtoks{#1}{}}
7886 % parameter is a string
7887 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
7888 % parameter is a string
7889 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
7890 % parameter is a string
7891 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
7892 % parameter is an array
7893 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok

```

```

7894 % parameter is a string
7895 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

7896 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
7897 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
7898 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
7899 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
7900 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
7901 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
7902 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
7903 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
7904 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
7905 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
7906 </pdfmarkbase | dvipdf>
7907 <*pdfmark | dvipdf>
7908 \def\Acrobatmenu#1#2{%
7909   \pdfmark[{#2}] {%
7910     linktype=menu,%
7911     pdfmark=/ANN,%
7912     AcroHighlight=\pdfhighlight,%
7913     Border=\pdfborder,%
7914     BorderStyle=\pdfborderstyle,%
7915     Action={<< /Subtype /Named /N /#1 >>},%
7916     Subtype=/Link%
7917   }%
7918 }

```

And now for some useful examples:

```

7919 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
7920 \def\PDFNextPage@[#1]#2{%
7921   \pdfmark[{#2}] {%
7922     #1,%
7923     Border=\pdfborder,%
7924     BorderStyle=\pdfborderstyle,%
7925     Color=.2 .1 .5,%
7926     pdfmark=/ANN,%
7927     Subtype=/Link,%
7928     Page=/Next%
7929   }%
7930 }
7931 \def\PDFPreviousPage{%
7932   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}]%
7933 }
7934 \def\PDFPreviousPage@[#1]#2{%
7935   \pdfmark[{#2}] {%
7936     #1,%
7937     Border=\pdfborder,%
7938     BorderStyle=\pdfborderstyle,%
7939     Color=.4 .4 .1,%
7940     pdfmark=/ANN,%
7941     Subtype=/Link,%
7942     Page=/Prev%
7943   }%
7944 }
7945 \def\PDFOpen#1{%
7946   \pdfmark{#1,pdfmark=/DOCVIEW}%
7947 }

```

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

```

7948 \def\hyper@linkurl#1#2{%
7949   \begingroup
7950     \Hy@pstringdef\Hy@pstringURI{#2}%
7951     \hyper@chars
7952     \leavevmode
7953 \pdfmarkbase>
7954   \pdfmark[{#1}]{%
7955     pdfmark=/ANN,%
7956     linktype=url,%
7957     AcroHighlight=\pdfhighlight,%
7958     Border=\pdfborder,%
7959     BorderStyle=\pdfborderstyle,%
7960     Color=\urlbordercolor,%
7961     Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
7962     Subtype=/Link%
7963   }%
7964 \pdfmarkbase>
7965 \dvipdf>
7966   \pdfmark[{#1}]{%
7967     pdfmark=/LNK,%
7968     linktype=url,%
7969     AcroHighlight=\pdfhighlight,%
7970     Border=\pdfborder,%
7971     BorderStyle=\pdfborderstyle,%
7972     Color=\urlbordercolor,%
7973     Action={URI /URI <\Hy@hstringURI>}%
7974   }%
7975 \dvipdf>
7976 \endgroup
7977 }
7978 \def\hyper@linkfile#1#2#3{%
7979   \begingroup
7980     \Hy@pstringdef\Hy@pstringF{#2}%
7981     \Hy@pstringdef\Hy@pstringD{#3}%
7982     \leavevmode
7983 \pdfmark>
7984   \pdfmark[{#1}]{%
7985     pdfmark=/ANN,%
7986     Subtype=/Link,%
7987     AcroHighlight=\pdfhighlight,%
7988     Border=\pdfborder,%
7989     BorderStyle=\pdfborderstyle,%
7990     linktype=file,%
7991     Color=\filebordercolor,%
7992     Action={%
7993       <<%
7994         /S/GoToR%
7995         \ifHy@newwindow /NewWindow true\fi
7996         /F(\Hy@pstringF)%
7997         /D\ifx\#3\ [0 \pdfstartview]\else(\Hy@pstringD)cvn\fi
7998       >>%
7999     }%
8000   }%
8001 \pdfmark>
8002 \dvipdf>
8003   \pdfmark[{#1}]{%

```

```

8004 pdfmark=/LNK,%
8005 linktype=file,%
8006 AcroHighlight=@pdfhighlight,%
8007 Border=@pdfborder,%
8008 BorderStyle=@pdfborderstyle,%
8009 Color=@filebordercolor,%
8010 Action={%
8011 <<%
8012 /S/GoToR%
8013 \ifHy@newwindow /NewWindow true\fi
8014 /F(\Hy@pstringF)%
8015 /D\ifx\#3\[/O \pdfstartview\else(\Hy@pstringD)cvn\fi
8016 >>%
8017 }%
8018 }%
8019 </dvipdf>
8020 \endgroup
8021 }
8022 \def\@hyper@launch run:#1\#2#3{%
8023 \begingroup
8024 \Hy@pstringdef\Hy@pstringF{#1}%
8025 \Hy@pstringdef\Hy@pstringP{#3}%
8026 \leavevmode
8027 <*pdfmark>
8028 \pdfmark[{#2}]{%
8029 pdfmark=/ANN,%
8030 Subtype=/Link,%
8031 AcroHighlight=@pdfhighlight,%
8032 Border=@pdfborder,%
8033 BorderStyle=@pdfborderstyle,%
8034 linktype=run,%
8035 Color=@runbordercolor,%
8036 Action={%
8037 <<%
8038 /S/Launch%
8039 \ifHy@newwindow /NewWindow true\fi
8040 /F(\Hy@pstringF)%
8041 \ifx\#3\%
8042 \else
8043 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8044 \fi
8045 >>%
8046 }%
8047 }%
8048 </pdfmark>
8049 <*dvipdf>
8050 \pdfmark[{#2}]{%
8051 pdfmark=/LNK,%
8052 linktype=file,%
8053 AcroHighlight=@pdfhighlight,%
8054 Border=@pdfborder,%
8055 BorderStyle=@pdfborderstyle,%
8056 Color=@filebordercolor,%
8057 Action={%
8058 <<%
8059 /S/GoToR%
8060 \ifHy@newwindow /NewWindow true\fi

```

```

8061      /F(\Hy@pstringF)%
8062      \ifx\#3\%
8063      \else
8064      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8065      \fi
8066      >>%
8067      }%
8068      }%
8069 </dvipdf>
8070 \endgroup
8071 }
8072 </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.

```

8073 < *dvips>
8074 \input{pdfmark.def}%
8075 \ifx\@pdfproducer\relax
8076 \def\@pdfproducer{dvips + Distiller}%
8077 \fi
8078 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
8079 \def\headerps@out#1{\special{! #1}}%
8080 \providecommand*\@pdfborder{0 0 1}
8081 \providecommand*\@pdfborderstyle{}
8082 \providecommand*\@pdfview{XYZ}
8083 \providecommand*\@pdfviewparams{ H.V}
8084 \def\Hy@BorderArrayPatch{BorderArrayPatch}

8085 \AtBeginDvi{%
8086 \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.

```

8087 /DvipsToPDF{72.27 mul Resolution div} def%
8088 /PDFToDvips{72.27 div Resolution mul} def%
8089 /BPToDvips{72 div Resolution mul}def%

```

The values inside the /Boder array are not taken literally, but interpreted by ghostscript using the resolution of the dvi driver. I don't know how other distiller programs behaves in this manner.

```

8090 /BorderArrayPatch{%

```

```

8091      [exch{%
8092        dup dup type/integertype eq exch type/realttype eq or%
8093        {BPToDvips}if%
8094      }forall]%
8095    }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.

```

8096    /HyperBorder {1 PDFToDvips} def%
8097    /H.V {pdf@hoff pdf@voff null} def%
8098    /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

```

8099    /H.S {%
8100      currentpoint %
8101      HyperBorder add /pdf@lly exch def %
8102      dup DvipsToPDF 72 add /pdf@hoff exch def %
8103      HyperBorder sub /pdf@llx exch def%
8104    } 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`

```

8105    /H.L {%
8106      2 sub dup%
8107      /HyperBasePt exch def %
8108      PDFToDvips /HyperBaseDvips exch def %
8109      currentpoint %
8110      HyperBaseDvips sub /pdf@ury exch def%
8111      /pdf@urx exch def%
8112    } def%
8113    /H.A {%
8114      H.L %
8115      % |pdf@voff| = the distance from the top of the page to a point
8116      % |\baselineskip| above the current point in PDF coordinates
8117      currentpoint exch pop %
8118      vsize 72 sub exch DvipsToPDF %
8119      HyperBasePt sub % baseline skip
8120      sub /pdf@voff exch def%
8121    } def%
8122    /H.R {%
8123      currentpoint %
8124      HyperBorder sub /pdf@ury exch def %
8125      HyperBorder add /pdf@urx exch def %
8126      % |pdf@voff| = the distance from the top of the page to the current point, in
8127      % PDF coordinates
8128      currentpoint exch pop vsize 72 sub %
8129      exch DvipsToPDF sub /pdf@voff exch def%
8130    } def %
8131    systemdict /pdfmark known%
8132    {%
8133      userdict /?pdfmark systemdict /exec get put%
8134    }{%

```



```

8135      userdict /?pdfmark systemdict /pop get put %
8136      userdict /pdfmark systemdict /cleartomark get put%
8137    }%
8138    ifelse%
8139  }%
8140 }
8141 \AfterBeginDocument{%
8142   \ifx\special@paper\@empty\else
8143     \ifHy@setpagesize
8144       \special{papersize=\special@paper}%
8145     \fi
8146     \Hy@DisableOption{setpagesize}%
8147   \fi
8148 }
8149 </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.

```

8150 <*vtexpdfmark>
8151 \input{pdfmark.def}%
8152 \ifx\@pdfproducer\relax
8153   \ifnum\OpMode=\@ne
8154     \def\@pdfproducer{VTeX}%
8155   \else
8156     \def\@pdfproducer{VTeX + Distiller}%
8157   \fi
8158 \fi
8159 \def\literalps@out#1{\special{pS:#1}}%
8160 \def\headerps@out#1{\immediate\special{pS:#1}}%
8161 \providecommand*\@pdfborder{0 0 1}
8162 \providecommand*\@pdfborderstyle{}
8163 \providecommand*\@pdfview{XYZ}
8164 \providecommand*\@pdfviewparams{ H.V}

8165 \AtBeginDvi{%
8166   \headerps@out{%
8167     /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.

```

8168   /HyperBorder {1} def%
8169   /H.V {pdf@hoff pdf@voff null} def%
8170   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

8171   /H.S {%
8172     currentpoint %
8173     HyperBorder sub%
8174     /pdf@lly exch def %
8175     dup 72 add /pdf@hoff exch def %
8176     HyperBorder sub%

```

```

8177     /pdf@llx exch def%
8178   } def%

```

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

```

8179   /H.L {%
8180     2 sub%
8181   /HyperBasePt exch def %
8182   currentpoint %
8183   HyperBasePt add HyperBorder add%
8184   /pdf@ury exch def %
8185   HyperBorder add%
8186   /pdf@urx exch def%
8187 } def%
8188 /H.A {%
8189   H.L %
8190   currentpoint exch pop %
8191   vsize 72 sub exch %
8192   HyperBasePt add add%
8193   /pdf@voff exch def%
8194 } def%

```

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

```

8195   /H.R {%
8196     currentpoint %
8197     HyperBorder add%
8198     /pdf@ury exch def %
8199     HyperBorder add%
8200     /pdf@urx exch def %
8201     currentpoint exch pop vsize 72 sub add%
8202     /pdf@voff exch def%
8203 } def %
8204 systemdict /pdfmark known%
8205 {%
8206   userdict /?pdfmark systemdict /exec get put%
8207 }{%
8208   userdict /?pdfmark systemdict /pop get put %
8209   userdict /pdfmark systemdict /cleartomark get put%
8210 }%
8211 ifelse%
8212 }%
8213 }
8214 </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.

```

8215 <*textures>
8216 \begingroup

```

```

8217 \obeylines %
8218 \gdef\Hy@ps@CR{\noexpand
8219 }%
8220 \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`.

```

8221 \def\literalps@out#1{%
8222 \special{postscript 0 0 transform}%
8223 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
8224 }%
8225 %

```

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.

```

8226 \def\headerps@out#1{%
8227 \special{%
8228 prepostscript TeXdict begin\Hy@ps@CR
8229 #1\Hy@ps@CR
8230 end%
8231 }%
8232 }%
8233 %

```

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.

```

8234 \AtBeginDvi{%
8235 \headerps@out{%
8236 /betterpdfmark {%
8237 systemdict begin %
8238 dup /BP eq%
8239 {cleartomark gsave nulldevice []}%
8240 {dup /EP eq%
8241 {cleartomark cleartomark grestore}}%
8242 {cleartomark}}%
8243 ifelse%
8244 }ifelse %
8245 end%
8246 }def\Hy@ps@CR
8247 __pdfmark__ not{/pdfmark /betterpdfmark load def}if %
8248 systemdict /pdfmark known%
8249 {%
8250 userdict /?pdfmark systemdict /load get put%
8251 }{%
8252 userdict /?pdfmark systemdict /pop get put%
8253 }%
8254 ifelse%
8255 }% end of \headerps@out

```

```

8256}% end of \AtBeginDvi
8257%
8258\input{pdfmark.def}%
8259%
8260\ifx\@pdfproducer\relax
8261  \def\@pdfproducer{Textures + Distiller}%
8262\fi
8263\providecommand*\@pdfborder{0 0 1}
8264\providecommand*\@pdfborderstyle{}
8265\providecommand*\@pdfview{XYZ}
8266\providecommand*\@pdfviewparams{ H.V}
8267%

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. The Rect pair are called at the LL and UR corners of a box known to \TeX .

```

8268\headerps@out{%

```

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

```

8269  /vsize {\Hy@pageheight} def%
8270  /DvipsToPDF {} def%
8271  /PDFToDvips {} def%
8272  /BPToDvips {} def%
8273  /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
8274  /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
8275  /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
8276  /H.S {%
8277    currentpoint %
8278    HyperBorder add /pdf@lly exch def %
8279    dup DvipsToPDF 72 add /pdf@hoff exch def %
8280    HyperBorder sub /pdf@llx exch def%
8281  } def\Hy@ps@CR
8282  /H.L {%
8283    2 sub %
8284    PDFToDvips /HyperBase exch def %
8285    currentpoint %
8286    HyperBase sub /pdf@ury exch def%
8287    /pdf@urx exch def%
8288  } def\Hy@ps@CR
8289  /H.A {%
8290    H.L %
8291    currentpoint exch pop %
8292    vsize 72 sub exch DvipsToPDF %
8293    HyperBase sub % baseline skip
8294    sub /pdf@voff exch def%
8295  } def\Hy@ps@CR
8296  /H.R {%
8297    currentpoint %
8298    HyperBorder sub /pdf@ury exch def %
8299    HyperBorder add /pdf@urx exch def %
8300    currentpoint exch pop vsize 72 sub %
8301    exch DvipsToPDF sub /pdf@voff exch def%
8302  } def\Hy@ps@CR
8303}
8304\AfterBeginDocument{%

```

```

8305 \ifHy@colorlinks
8306   \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
8307 \fi
8308 }

```

Textures provides built-in support for HyperTeX specials so this part combines code from `hypertext.def` with what is established by loading `pdfmark.def`, or any other driver.

```

8309 \expandafter\let\expandafter\keepPDF@SetupDoc
8310 \csname PDF@SetupDoc\endcsname
8311 \def\PDF@SetupDoc{%
8312   \ifx\@baseurl\@empty
8313   \else
8314     \special{html:<base href="\@baseurl">}%
8315   \fi
8316   \keepPDF@SetupDoc
8317 }
8318 \def\hyper@anchor#1{%
8319   \Hy@SaveLastskip
8320   \begingroup
8321     \let\protect=\string
8322     \special{html:<a name=\hyper@quote #1\hyper@quote>}%
8323   \endgroup
8324   \Hy@activeanchortrue
8325   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8326   \special{html:</a>}%
8327   \Hy@activeanchorfalse
8328   \Hy@RestoreLastskip
8329 }
8330 \def\hyper@anchorstart#1{%
8331   \Hy@SaveLastskip
8332   \begingroup
8333     \hyper@chars
8334     \special{html:<a name=\hyper@quote#1\hyper@quote>}%
8335   \endgroup
8336   \Hy@activeanchortrue
8337 }
8338 \def\hyper@anchorend{%
8339   \special{html:</a>}%
8340   \Hy@activeanchorfalse
8341   \Hy@RestoreLastskip
8342 }
8343 \def\@urltype{url}
8344 \def\hyper@linkstart#1#2{%
8345   \expandafter\Hy@colorlink\csname @#1color\endcsname
8346   \def\Hy@tempa{#1}%
8347   \ifx\Hy@tempa\@urltype
8348     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8349   \else
8350     \begingroup
8351       \hyper@chars
8352       \special{html:<a href=\hyper@quote\##2\hyper@quote>}%
8353     \endgroup
8354   \fi
8355 }
8356 \def\hyper@linkend{%
8357   \special{html:</a>}%
8358   \Hy@endcolorlink
8359 }

```

```

8360 \def\hyper@linkfile#1#2#3{%
8361   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
8362 }
8363 \def\hyper@linkurl#1#2{%
8364   \leavevmode
8365   \ifHy@raiselinks
8366     \setbox\@tempboxa=\color@hbox #1\color@endbox
8367     \@linkdim\dp\@tempboxa
8368     \lower\@linkdim\hbox{%
8369       \hyper@chars
8370       \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
8371     }%
8372     \Hy@colorlink\@urlcolor#1%
8373     \@linkdim\ht\@tempboxa
8374     \advance\@linkdim by -6.5\p@
8375     \raise\@linkdim\hbox{\special{html:</a>}}%
8376     \Hy@endcolorlink
8377   \else
8378     \begingroup
8379     \hyper@chars
8380     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
8381     \Hy@colorlink\@urlcolor#1%
8382     \special{html:</a>}}%
8383     \Hy@endcolorlink
8384   \endgroup
8385   \fi
8386 }
8387 \def\hyper@link#1#2#3{%
8388   \hyper@linkurl{#3}{\##2}%
8389 }
8390 \def\hyper@image#1#2{%
8391   \begingroup
8392   \hyper@chars
8393   \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
8394   \endgroup
8395 }
8396 </textures>

```

45.12 dvipsone

```

8397 % \subsection{dvipsone driver}
8398 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
8399 % |\special| commands.
8400 <{*dvipsone}
8401 \providecommand*\@pdfborder{0 0 1}
8402 \providecommand*\@pdfborderstyle{}
8403 \input{pdfmark.def}%
8404 \ifx\@pdfproducer\relax
8405   \def\@pdfproducer{dvipsone + Distiller}%
8406 \fi
8407 \def\literalps@out#1{\special{ps:#1}}%
8408 \def\headerps@out#1{\special{! #1}}%
8409 \def\PDF@FinishDoc{%
8410   \Hy@UseMaketitleInfos
8411   \special{PDF: Keywords \@pdfkeywords}%
8412   \special{PDF: Title \@pdftitle}%
8413   \special{PDF: Creator \@pdfcreator}%

```

```

8414 \ifx\@pdfcreationdate\@empty
8415 \else
8416 \special{PDF: CreationDate \@pdfcreationdate}%
8417 \fi
8418 \ifx\@pdfmoddate\@empty
8419 \else
8420 \special{PDF: ModDate \@pdfmoddate}%
8421 \fi
8422 \special{PDF: Author \@pdfauthor}%
8423 \ifx\@pdfproducer\relax
8424 \else
8425 \special{PDF: Producer \@pdfproducer}%
8426 \fi
8427 \special{PDF: Subject \@pdfsubject}%
8428 \Hy@DisableOption{pdfauthor}%
8429 \Hy@DisableOption{pdftitle}%
8430 \Hy@DisableOption{pdfsubject}%
8431 \Hy@DisableOption{pdfcreator}%
8432 \Hy@DisableOption{pdfcreationdate}%
8433 \Hy@DisableOption{pdfmoddate}%
8434 \Hy@DisableOption{pdfproducer}%
8435 \Hy@DisableOption{pdfkeywords}%
8436 }
8437 \def\PDF@SetupDoc{%
8438 \pdfmark{%
8439 pdfmark=/DOCVIEW,%
8440 Page=\@pdfstartpage,%
8441 View=\@pdfstartview,%
8442 PageMode=/\@pdfpagemode
8443 }%
8444 \ifx\@pdfpagescrop\@empty
8445 \else
8446 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8447 \fi
8448 \edef\Hy@temp{%
8449 \ifHy@toolbar\else /HideToolbar true\fi
8450 \ifHy@menubar\else /HideMenubar true\fi
8451 \ifHy>windowui\else /HideWindowUI true\fi
8452 \ifHy@fitwindow /FitWindow true\fi
8453 \ifHy@centerwindow /CenterWindow true\fi
8454 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8455 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8456 \Hy@UseNameKey{Direction}\@pdfdirection
8457 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8458 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8459 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8460 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8461 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8462 \Hy@UseNameKey{Duplex}\@pdfduplex
8463 \ifx\@pdfpicktraybypdfsize\@empty
8464 \else
8465 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8466 \fi
8467 \ifx\@pdfprintpagerange\@empty
8468 \else
8469 /PrintPageRange[\@pdfprintpagerange]%
8470 \fi

```

```

8471 \ifx\@pdfnumcopies\@empty
8472 \else
8473 /NumCopies \@pdfnumcopies
8474 \fi
8475 }%
8476 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8477 \pdfmark{%
8478 pdfmark=/PUT,%
8479 Raw={%
8480 \string{Catalog\string}<<%
8481 \ifx\Hy@temp\@empty
8482 \else
8483 /ViewerPreferences<<\Hy@temp>>%
8484 \fi
8485 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8486 \ifx\@pdflang\@empty
8487 \else
8488 /Lang(\@pdflang)%
8489 \fi
8490 \ifx\@baseurl\@empty
8491 \else
8492 /URI<</Base(\Hy@pstringB)>>%
8493 \fi
8494 >>%
8495 }%
8496 }%
8497 }
8498 \providecommand*\@pdfview{XYZ}
8499 \providecommand*\@pdfviewparams{ %
8500 gsave revscl currentpoint grestore %
8501 72 add exch pop null exch null%
8502 }
8503 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to \TeX .

```
8504 \special{headertext=%
```

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

```

8505 /DvipsToPDF { 65781 div } def%
8506 /PDFToDvips { 65781 mul } def%
8507 /BPToDvips{65781 mul}def%
8508 /HyperBorder { 1 PDFToDvips } def%
8509 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def%

```

The values inside the /Boder array are not taken literally, but interpreted by ghostscript using the resolution of the dvi driver. I don't know how other distiller programs behaves in this manner.

```

8510 /BorderArrayPatch{%
8511 [exch{%
8512 dup dup type/integertype eq exch type/realtype eq or%
8513 {BPToDvips}if%
8514 }forall]%
8515 }def%
8516 /H.S {%
8517 currentpoint %

```



```

8518   HyperBorder add /pdf@lly exch def %
8519   dup DvipsToPDF 72 add /pdf@hoff exch def %
8520   HyperBorder sub /pdf@llx exch def%
8521 } def%
8522 /H.L {%
8523   2 sub %
8524   PDFToDvips /HyperBase exch def %
8525   currentpoint %
8526   HyperBase sub /pdf@ury exch def%
8527   /pdf@urx exch def%
8528 } def%
8529 /H.A {%
8530   H.L %
8531   currentpoint exch pop %
8532   HyperBase sub % baseline skip
8533   DvipsToPDF /pdf@voff exch def%
8534 } def%
8535 /H.R {%
8536   currentpoint %
8537   HyperBorder sub /pdf@ury exch def %
8538   HyperBorder add /pdf@urx exch def %
8539   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
8540 } def %
8541 systemdict%
8542 /pdfmark known%
8543 {%
8544   userdict /?pdfmark /exec load put%
8545 }{%
8546   userdict /?pdfmark /pop load put %
8547   userdict /pdfmark systemdict /cleartomark get put%
8548 }%
8549 ifelse%
8550 }
8551 </dvipsone>
8552 <*dvipdf>
8553 \def\literalps@out#1{\special{pdf: #1}}%
8554 \providecommand*\@pdfborder{0 0 1}
8555 \providecommand*\@pdfborderstyle{}
8556 </dvipdf>

```

45.13 TeX4ht

```

8557 <*tex4ht>
8558 \@ifpackageloaded{tex4ht}{%
8559   \typeout{hyperref tex4ht: tex4ht already loaded}%
8560 }{%
8561   \RequirePackage[htex4ht]{tex4ht}%
8562 }
8563 \hyperlinkfileprefix{}
8564 \def\PDF@FinishDoc{}
8565 \def\PDF@SetupDoc{%
8566   \ifx\@baseurl\@empty
8567   \else
8568     \special{t4ht=<base href="\@baseurl">}%
8569   \fi
8570 }
8571 \def\hyper@anchor#1{%
8572   \Hy@SaveLastskip

```

```

8573 \begingroup
8574   \let\protect=\string
8575   \special{t4ht=<a name=\hyper@quote #1\hyper@quote>}%
8576 \endgroup
8577 \Hy@activeanchortrue
8578 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8579 \special{t4ht=</a>}%
8580 \Hy@activeanchorfalse
8581 \Hy@RestoreLastskip
8582 }
8583 \def\hyper@anchorstart#1{%
8584   \Hy@SaveLastskip
8585   \begingroup
8586     \hyper@chars\special{t4ht=<a name=\hyper@quote#1\hyper@quote>}%
8587   \endgroup
8588   \Hy@activeanchortrue
8589 }
8590 \def\hyper@anchorend{%
8591   \special{t4ht=</a>}%
8592   \Hy@activeanchorfalse
8593   \Hy@RestoreLastskip
8594 }
8595 \def\@urltype{url}
8596 \def\hyper@linkstart#1#2{%
8597   \expandafter\Hy@colorlink\csname @#1color\endcsname
8598   \def\Hy@tempa{#1}%
8599   \ifx\Hy@tempa\@urltype
8600     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
8601   \else
8602     {\hyper@chars\special{t4ht=<a href=\hyper@quote\##2\hyper@quote>}}%
8603   \fi
8604 }
8605 \def\hyper@linkend{%
8606   \special{t4ht=</a>}%
8607   \Hy@endcolorlink
8608 }
8609 \def\hyper@linkfile#1#2#3{%
8610   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
8611 }
8612 \def\hyper@linkurl#1#2{%
8613   \leavevmode
8614   \ifHy@raiselinks
8615     \setbox\@tempboxa=\color@hbox #1\color@endbox
8616     \@linkdim\dp\@tempboxa
8617     \lower\@linkdim\hbox{%
8618       \begingroup
8619         \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
8620       \endgroup
8621     }%
8622     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8623     \@linkdim\ht\@tempboxa
8624     \advance\@linkdim by -6.5\p@
8625     \raise\@linkdim\hbox{\special{t4ht=</a>}}%
8626   \else
8627     \begingroup
8628       \hyper@chars
8629       \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%

```

```

8630      \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8631      \special{t4ht=</a>}%
8632      \endgroup
8633 \fi
8634 }
8635 \def\hyper@link#1#2#3{%
8636   \hyper@linkurl{#3}{\##2}%
8637 }
8638 \def\hyper@image#1#2{%
8639   \begin{group}
8640     \hyper@chars
8641     \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
8642   \endgroup
8643 }
8644 \let\autoref\ref
8645 \ifx \rEfLiNK \UnDef
8646   \def\rEfLiNK #1#2{#2}%
8647 \fi
8648 \def\backref#1{}
8649 </tex4ht>
8650 <*tex4htcfg>
8651 \IfFileExists{\jobname.cfg}{\endinput}{}
8652 \Preamble{html}
8653   \begin{document}%
8654 \EndPreamble
8655 \def\TeX{TeX}
8656 \def\OMEGA{\Omega}
8657 \def\LaTeX{LaTeX}
8658 \def\LaTeXe{\LaTeX2e}
8659 \def\eTeX{e-TeX}
8660 \def\MF{Metafont}
8661 \def\MP{Metapost}
8662 </tex4htcfg>

```

46 Driver-specific form support

46.1 pdfmarks

```

8663 <*pdfmark>
8664 \long\def\@Form[#1]{%
8665 \AtBeginDvi{%
8666   \headerps@out{%
8667 [%
8668   /_objdef{pdfDocEncoding}%
8669   /type/dict%
8670 /OBJ pdfmark%
8671 [%
8672   {pdfDocEncoding}%
8673   <<%
8674     /Type/Encoding%
8675     /Differences[%
8676       24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
8677       39/quotesingle %
8678       96/grave %
8679       128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin/fraction%
8680       /guilsinglleft/guilsinglright/minus/perthousand/quotedblbase%
8681       /quotedblleft/quotedblright/quoteleft/quoteright/quotesinglbase%
8682       /trademark/fi/fl/Lslash/OE/Scaron/Ydieresis/Zcaron/dotlessi%

```

```

8683      /lslash/oe/scaron/zcaron164/currency166/brokenbar %
8684      168/dieresis/copyright/ordfeminine %
8685      172/logicalnot/.notdef/registered/macron/degree/plusminus%
8686      /twosuperior/threesuperior/acute/mu %
8687      183/periodcentered/cedilla/onesuperior/ordmasculine %
8688      188/onequarter/onehalf/threequarters %
8689      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE/Ccedilla%
8690      /Egrave/Eacute/ECircumflex/Edieresis/Igrave/Iacute/ICircumflex%
8691      /Idieresis/Eth/Ntilde/Ograve/Oacute/OCircumflex/Otilde/Odieresis%
8692      /multiply/Oslash/Ugrave/Uacute/UCircumflex/Udieresis/Yacute%
8693      /Thorn/germandbls/agrave/aacute/acircumflex/atilde/adieresis%
8694      /aring/ae/ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
8695      /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
8696      /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
8697      /ucircumflex/udieresis/yacute/thorn/ydieresis%
8698      ]%
8699      >>%
8700 /PUT pdfmark%
8701 [%
8702      /_objdef{ZaDb}%
8703      /type/dict%
8704 /OBJ pdfmark%
8705 [%
8706      {ZaDb}%
8707      <<%
8708      /Type/Font%
8709      /Subtype/Type1%
8710      /Name/ZaDb%
8711      /BaseFont/ZapfDingbats%
8712      >>%
8713 /PUT pdfmark%
8714 [%
8715      /_objdef {Helv}%
8716      /type/dict%
8717 /OBJ pdfmark%
8718 [%
8719      {Helv}%
8720      <<%
8721      /Type/Font%
8722      /Subtype/Type1%
8723      /Name/Helv%
8724      /BaseFont/Helvetica%
8725      /Encoding{pdfDocEncoding}%
8726      >>%
8727 /PUT pdfmark%
8728 [%
8729      /_objdef {aform}%
8730      /type/dict%
8731 /OBJ pdfmark%
8732 [%
8733      /_objdef{afields}%
8734      /type/array%
8735 /OBJ pdfmark%
8736 {%
8737      [%
8738      /BBox[0 0 100 100]%
8739      /_objdef{Check}%

```

```

8740 /BP pdfmark %
8741 1 0 0 setrgbcolor%
8742 /ZapfDingbats 80 selectfont %
8743 20 20 moveto%
8744 (4)show%
8745 [/EP pdfmark%
8746 [%
8747 /BBox[0 0 100 100]%
8748 /_objdef{Cross}%
8749 /BP pdfmark %
8750 1 0 0 setrgbcolor%
8751 /ZapfDingbats 80 selectfont %
8752 20 20 moveto%
8753 (8)show%
8754 [/EP pdfmark%
8755 [%
8756 /BBox[0 0 250 100]%
8757 /_objdef{Submit}%
8758 /BP pdfmark %
8759 0.6 setgray %
8760 0 0 250 100 rectfill %
8761 1 setgray %
8762 2 2 moveto %
8763 2 98 lineto %
8764 248 98 lineto %
8765 246 96 lineto %
8766 4 96 lineto %
8767 4 4 lineto %
8768 fill %
8769 0.34 setgray %
8770 248 98 moveto %
8771 248 2 lineto %
8772 2 2 lineto %
8773 4 4 lineto %
8774 246 4 lineto %
8775 246 96 lineto %
8776 fill%
8777 /Helvetica 76 selectfont %
8778 0 setgray %
8779 8 22.5 moveto%
8780 (Submit)show%
8781 [/EP pdfmark%
8782 [%
8783 /BBox[0 0 250 100]%
8784 /_objdef{SubmitP}%
8785 /BP pdfmark %
8786 0.6 setgray %
8787 0 0 250 100 rectfill %
8788 0.34 setgray %
8789 2 2 moveto %
8790 2 98 lineto %
8791 248 98 lineto %
8792 246 96 lineto %
8793 4 96 lineto %
8794 4 4 lineto %
8795 fill %
8796 1 setgray %

```

```

8797 248 98 moveto %
8798 248 2 lineto %
8799 2 2 lineto %
8800 4 4 lineto %
8801 246 4 lineto %
8802 246 96 lineto %
8803 fill%
8804 /Helvetica 76 selectfont %
8805 0 setgray %
8806 10 20.5 moveto%
8807 (Submit)show%
8808 [/EP pdfmark%
8809 } ?pdfmark%
8810 [%
8811 {aform}%
8812 <<%
8813 /Fields{afields}%
8814 /DR<<%
8815 /Font<<%
8816 /ZaDb{ZaDb}%
8817 /Helv{Helv}%
8818 >>%
8819 >>%
8820 /DA(/Helv 10 Tf 0 g)%
8821 /CO{corder}%
8822 /NeedAppearances true%
8823 >>%
8824 /PUT pdfmark%
8825 [%
8826 {Catalog}%
8827 <<%
8828 /AcroForm{aform}%
8829 >>%
8830 /PUT pdfmark%
8831 [%
8832 /_objdef{corder}%
8833 /type/array%
8834 /OBJ pdfmark% dps
8835 }}%
8836 \setkeys{Form}{#1}%
8837 }
8838 \def\@endForm{}
8839 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8840 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
8841 }
8842 \def\@TextField[#1]#2{% parameters, label
8843 \def\Fld@name{#2}%
8844 \def\Fld@default{}%
8845 \let\Fld@value\@empty
8846 \def\Fld@width{\DefaultWidthofText}%
8847 \def\Fld@height{\DefaultHeightofText}%
8848 \ifFld@multiline
8849 \begingroup
8850 \dimen@=\DefaultHeightofText
8851 \dimen@=4\dimen@
8852 \edef\x{\endgroup
8853 \def\noexpand\Fld@height{\the\dimen@}%

```

```

8854     }%
8855     \x
8856 \fi
8857 \bgroup
8858   \Field@toks={ }%
8859   \setkeys{Field}{#1}%
8860   \ifFld@hidden\def\Fld@width{1sp}\fi
8861   \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
8862   \LayoutTextField{#2}{%
8863     \Hy@escapeform\PDFForm@Text
8864     \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
8865       pdfmark=/ANN,Raw={\PDFForm@Text}%
8866     }%
8867   }%
8868 \egroup
8869 }
8870 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8871   \def\Fld@name{#2}%
8872   \let\Fld@default\relax
8873   \let\Fld@value\relax
8874   \def\Fld@width{\DefaultWidthofChoiceMenu}%
8875   \def\Fld@height{\DefaultHeightofChoiceMenu}%
8876   \bgroup
8877     \Fld@menulength=0 %
8878     \@tempdima\z@
8879     \@for\@curropt:=#3\do{%
8880       \expandafter\Fld@checkequals\@curropt==\%
8881       \Hy@StepCount\Fld@menulength
8882       \settowidth{\@tempdimb}{\@currDisplay}%
8883       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
8884     }%
8885     \advance\@tempdima by 15\p@
8886     \Field@toks={ }%
8887     \setkeys{Field}{#1}%
8888     \ifFld@hidden\def\Fld@width{1sp}\fi
8889     \ifx\Fld@value\relax
8890       \let\Fld@value\Fld@default
8891     \fi
8892     \LayoutChoiceField{#2}{%
8893       \ifFld@radio
8894         \@@Radio{#3}%
8895       \else
8896         {%
8897           \ifdim\Fld@width<\@tempdima
8898             \ifdim\@tempdima<1cm\@tempdima1cm\fi
8899             \edef\Fld@width{\the\@tempdima}%
8900           \fi
8901           \def\Fld@flags{}%
8902           \ifFld@combo\def\Fld@flags{/Ff 917504}\fi
8903           \ifFld@popdown\def\Fld@flags{/Ff 131072}\fi
8904           \ifx\Fld@flags\empty
8905             \@tempdima=\the\Fld@menulength\Fld@charsize
8906             \advance\@tempdima by \Fld@borderwidth bp %
8907             \advance\@tempdima by \Fld@borderwidth bp %
8908             \edef\Fld@height{\the\@tempdima}%
8909           \fi
8910           \@@ListBox{#3}%

```

```

8911     }%
8912     \fi
8913 }%
8914 \egroup
8915 }
8916 \def\@@Radio#1{%
8917   \Fld@listcount=0 %
8918   \@for\@curropt:=#1\do{%
8919     \expandafter\Fld@checkequals\@curropt==\%
8920     \Hy@StepCount\Fld@listcount
8921     \@currDisplay\space
8922     \Hy@escapeform\PDFForm@Radio
8923     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
8924       pdfmark=/ANN,%
8925       Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
8926     } % deliberate space between radio buttons
8927   }%
8928 }
8929 \newcount\Fld@listcount
8930 \def\@@Listbox#1{%
8931   \Choice@toks={ }%
8932   \Fld@listcount=0 %
8933   \@for\@curropt:=#1\do{%
8934     \expandafter\Fld@checkequals\@curropt==\%
8935     \Hy@StepCount\Fld@listcount
8936     \edef\@processme{%
8937       \Choice@toks{the\Choice@toks [(\@currValue) (\@currDisplay)]}%
8938     }\@processme
8939   }%
8940   \Hy@escapeform\PDFForm@List
8941   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
8942     pdfmark=/ANN,Raw={\PDFForm@List}%
8943   }%
8944 }
8945 \def\@PushButton[#1]#2{% parameters, label
8946   \def\Fld@name{#2}%
8947   \bgroup
8948     \Field@toks={ }%
8949     \setkeys{Field}{#1}%
8950     \ifFld@hidden\def\Fld@width{1sp}\fi
8951     \LayoutPushButtonField{%
8952       \Hy@escapeform\PDFForm@Push
8953       \pdfmark[\MakeButtonField{#2}]{%
8954         pdfmark=/ANN,Raw={\PDFForm@Push}%
8955       }%
8956     }%
8957   \egroup
8958 }
8959 \def\@Submit[#1]#2{%
8960   \Field@toks={ }%
8961   \def\Fld@width{\DefaultWidthofSubmit}%
8962   \def\Fld@height{\DefaultHeightofSubmit}%
8963   \bgroup
8964     \def\Fld@name{Submit}%
8965     \setkeys{Field}{#1}%
8966     \ifFld@hidden\def\Fld@width{1sp}\fi
8967     \Hy@escapeform\PDFForm@Submit

```



```

8968 \pdfmark[\MakeButtonField{#2}]{%
8969 pdfmark=/ANN,%
8970 Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
8971 }%
8972 \egroup
8973 }
8974 \def\@Reset[#1]#2{%
8975 \Field@toks={}%
8976 \def\Fld@width{\DefaultWidthofReset}%
8977 \def\Fld@height{\DefaultHeightofReset}%
8978 \bgroup
8979 \def\Fld@name{Reset}%
8980 \setkeys{Field}{#1}%
8981 \ifFld@hidden\def\Fld@width{1sp}\fi
8982 \Hy@escapeform\PDFForm@Reset
8983 \pdfmark[\MakeButtonField{#2}]{%
8984 pdfmark=/ANN,Raw={\PDFForm@Reset}%
8985 }%
8986 \egroup
8987 }
8988 \def\@CheckBox[#1]#2{% parameters, label
8989 \def\Fld@name{#2}%
8990 \def\Fld@default{0}%
8991 \bgroup
8992 \def\Fld@width{\DefaultWidthofCheckBox}%
8993 \def\Fld@height{\DefaultHeightofCheckBox}%
8994 \Field@toks={}%
8995 \setkeys{Field}{#1}%
8996 \ifFld@hidden\def\Fld@width{1sp}\fi
8997 \LayoutCheckField{#2}{%
8998 \Hy@escapeform\PDFForm@Check
8999 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
9000 pdfmark=/ANN,Raw={\PDFForm@Check}%
9001 }%
9002 }%
9003 \egroup
9004 }
9005 </pdfmark>

```

46.2 dvipdf

```

9006 <*dvipdf>
9007 \def\@Form[#1]{\typeout{Sorry, I do not support FORMs}}
9008 \def\@endForm{}
9009 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9010 \typeout{Sorry, dvipdf does not support FORM gauges}%
9011 }
9012 \def\@TextField[#1]#2{% parameters, label
9013 \typeout{Sorry, dvipdf does not support FORM text fields}%
9014 }
9015 \def\@CheckBox[#1]#2{% parameters, label
9016 \typeout{Sorry, dvipdf does not support FORM checkboxes}%
9017 }
9018 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9019 \typeout{Sorry, dvipdf does not support FORM choice menus}%
9020 }
9021 \def\@PushButton[#1]#2{% parameters, label
9022 \typeout{Sorry, dvipdf does not support FORM pushbuttons}%

```

```

9023 }
9024 \def\@Reset[#1]#2{\typeout{Sorry, dvipdf does not support FORMs}}
9025 \def\@Submit[#1]#2{\typeout{Sorry, dvipdf does not support FORMs}}
9026 \end{dvipdf}

```

46.3 HyperTeX

```

9027 \hypertex
9028 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
9029 \def\@endForm{}
9030 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9031   \typeout{Sorry, HyperTeX does not support FORM gauges}%
9032 }
9033 \def\@TextField[#1]#2{% parameters, label
9034   \typeout{Sorry, HyperTeX does not support FORM text fields}%
9035 }
9036 \def\@CheckBox[#1]#2{% parameters, label
9037   \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
9038 }
9039 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9040   \typeout{Sorry, HyperTeX does not support FORM choice menus}%
9041 }
9042 \def\@PushButton[#1]#2{% parameters, label
9043   \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
9044 }
9045 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
9046 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
9047 \end{hypertex}

```

46.4 TeX4ht

```

9048 \tex4ht
9049 \def\@Form[#1]{%
9050   \setkeys{Form}{#1}%
9051   \HCode{<form action="\Form@action" method="\Form@method">}%
9052 }
9053 \def\@endForm{\HCode{</form>}}
9054 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9055   \typeout{Sorry, TeX4ht does not support gauges}%
9056 }
9057 \def\@TextField[#1]#2{% parameters, label
9058   \let\Hy@reserved@a\@empty
9059   \def\Fld@name{#2}%
9060   \def\Fld@default{}%
9061   \bgroup
9062     \Field@toks={ }%
9063     \setkeys{Field}{#1}%
9064     \HCode{<label for="\Fld@name">#2</label>}%
9065     \ifFld@password
9066       \@@PasswordField
9067     \else
9068       \@@TextField
9069     \fi
9070   \egroup
9071 }
9072 \def\@@PasswordField{%
9073   \HCode{%
9074     <input type="password" %
9075       id="\Fld@name" %

```

```

9076     name="\Fld@name" %
9077     \ifFld@hidden type="hidden" \fi
9078     value="\Fld@default" %
9079     \the\Field@toks
9080 >%
9081 }%
9082 }
9083 \def\@@TextField{%
9084   \ifFld@multiline
9085     \HCode{<textarea %
9086       \ifFld@readonly readonly \fi
9087       id="\Fld@name" %
9088       name="\Fld@name" %
9089       \ifFld@hidden type="hidden" \fi
9090       \the\Field@toks>%
9091   }%
9092   \Fld@default
9093   \HCode{</textarea>}%
9094 \else
9095   \HCode{<input type="text" %
9096     \ifFld@readonly readonly \fi
9097     id="\Fld@name" %
9098     name="\Fld@name" %
9099     \ifFld@hidden type="hidden" \fi
9100     value="\Fld@default" %
9101     \the\Field@toks>%
9102   }%
9103 \fi
9104 }
9105 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9106   \def\Fld@name{#2}%
9107   \def\Fld@default{}%
9108   \let\Hy@reserved@a\relax
9109   \bgroup
9110   \expandafter\Fld@findlength#3\\%
9111   \Field@toks={ }%
9112   \setkeys{Field}{#1}%
9113   #2%
9114   \ifFld@radio
9115     \expandafter\@@Radio#3\\%
9116   \else
9117     \expandafter\@@Menu#3\\%
9118   \fi
9119   \egroup
9120 }
9121 \def\Fld@findlength#1\\{%
9122   \Fld@menulength=0 %
9123   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
9124 }
9125 \def\@@Menu#1\\{%
9126   \HCode{<select size="\the\Fld@menulength" %
9127     name="\Fld@name" %
9128     \the\Field@toks>%
9129   }%
9130   \@for\@curropt:=#1\do{%
9131     \expandafter\Fld@checkequals\@curropt==\\%
9132     \HCode{<option %

```

```

9133     \ifx\@currropt\Fld@default selected \fi
9134     value="\@currValue">\@currDisplay</option>%
9135 }%
9136 }%
9137 \HCode{</select>}%
9138 }
9139 \def\@@Radio#1\\{%
9140   \@for\@currropt:=#1\do{%
9141     \expandafter\Fld@checkequals\@currropt==\\%
9142     \HCode{<input type="radio" %
9143       \ifx\@currropt\Fld@default checked \fi
9144       name="\Fld@name" %
9145       value="\@currValue" %
9146       \the\Fld@toks>%
9147     }%
9148     \@currDisplay
9149   }%
9150 }
9151 \def\@PushButton[#1]#2{% parameters, label
9152   \def\Fld@name{#2}%
9153   \bgroup
9154     \Fld@toks={ }%
9155     \setkeys{Field}{#1}%
9156     \HCode{<input type="button" %
9157       name="\Fld@name" %
9158       value="#2" %
9159       \the\Fld@toks>%
9160     }%
9161     \HCode{</button>}%
9162   \egroup
9163 }
9164 \def\@Submit[#1]#2{%
9165   \HCode{<button type="submit">#2</button>}%
9166 }
9167 \def\@Reset[#1]#2{%
9168   \HCode{<button type="reset">#2</button>}%
9169 }
9170 \def\@CheckBox[#1]#2{% parameters, label
9171   \let\Hy@reserved@a\@empty
9172   \def\Fld@name{#2}%
9173   \def\Fld@default{0}%
9174   \bgroup
9175     \Fld@toks={ }%
9176     \setkeys{Field}{#1}%
9177     \HCode{<input type="checkbox" %
9178       \ifFld@checked checked \fi
9179       \ifFld@disabled disabled \fi
9180       \ifFld@readonly readonly \fi
9181       name="\Fld@name" %
9182       \ifFld@hidden type="hidden" \fi
9183       value="\Fld@default" %
9184       \the\Fld@toks>%
9185     #2%
9186   }%
9187   \egroup
9188 }
9189 </tex4ht>

```

46.5 pdfTeX

```

9190 <*pdfTeX>
9191 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9192 \typeout{Sorry, pdfTeX does not support FORM gauges}%
9193 }
9194 \def\MakeFieldObject#1#2{\sbox0{#1}%
9195 \immediate\pdfxform0 %
9196 \expandafter\edef\csname #2Object\endcsname{%
9197 \the\pdflastxform\space 0 R%
9198 }%
9199 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
9200 }%
9201 \def\@Form[#1]{%
9202 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
9203 \setkeys{Form}{#1}%
9204 \ifnum\pdfTeXversion>13 %
9205 \pdfrefobj\OBJ@pdfdocencoding
9206 \pdfrefobj\OBJ@ZaDb
9207 \pdfrefobj\OBJ@Helv
9208 \pdfrefobj\OBJ@acroform
9209 \fi
9210 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
9211 \MakeFieldObject%

```

Same as \ding{123} of package pifont.

```

9212 \begingroup
9213 \fontfamily{pzd}%
9214 \fontencoding{U}%
9215 \fontseries{m}%
9216 \fontshape{n}%
9217 \selectfont
9218 \char123 %
9219 \endgroup
9220 }{Ding}%
9221 \MakeFieldObject{\fbox{\textcolor{yellow}{\textsf{Submit}}}}{Submit}%
9222 \MakeFieldObject{\fbox{\textcolor{yellow}{\textsf{SubmitP}}}}{SubmitP}%
9223 }
9224 \def\@EndForm{}
9225 \def\@TextField[#1]#2{% parameters, label
9226 \def\Fld@name{#2}%
9227 \def\Fld@default{}%
9228 \let\Fld@value\@empty
9229 \def\Fld@width{\DefaultWidthofText}%
9230 \def\Fld@height{\DefaultHeightofText}%
9231 \ifFld@multiline
9232 \begingroup
9233 \dimen@=\DefaultHeightofText
9234 \dimen@=4\dimen@
9235 \edef\x{\endgroup
9236 \def\noexpand\Fld@height{\the\dimen@}%
9237 }%
9238 \x
9239 \fi
9240 \bgroup
9241 \Field@toks={ }%
9242 \setkeys{Field}{#1}%
9243 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

9244 \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
9245 \LayoutTextField{#2}{%
9246 \Hy@escapeform\PDFForm@Text
9247 \pdfstartlink user {\PDFForm@Text}\relax
9248 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
9249 }%
9250 \egroup
9251 }
9252 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9253 \def\Fld@name{#2}%
9254 \let\Fld@default\relax
9255 \let\Fld@value\relax
9256 \def\Fld@width{\DefaultWidthofChoiceMenu}%
9257 \def\Fld@height{\DefaultHeightofChoiceMenu}%
9258 \bgroup
9259 \Fld@menulength=0 %
9260 \@tempdima\z@
9261 \@for\@curropt:=#3\do{%
9262 \expandafter\Fld@checkequals\@curropt==\%
9263 \Hy@StepCount\Fld@menulength
9264 \settowidth{\@tempdimb}{\@currDisplay}%
9265 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
9266 }%
9267 \advance\@tempdima by 15\p@
9268 \Field@toks={ }%
9269 \setkeys{Field}{#1}%
9270 \ifFld@hidden\def\Fld@width{1sp}\fi
9271 \ifx\Fld@value\relax
9272 \let\Fld@value\Fld@default
9273 \fi
9274 \LayoutChoiceField{#2}{%
9275 \ifFld@radio
9276 \@@Radio{#3}%
9277 \else
9278 {%
9279 \ifdim\Fld@width<\@tempdima
9280 \ifdim\@tempdima<1cm\@tempdima1cm\fi
9281 \edef\Fld@width{\the\@tempdima}%
9282 \fi
9283 \def\Fld@flags{%
9284 \ifFld@combo\def\Fld@flags{/Ff 917504}\fi
9285 \ifFld@popdown\def\Fld@flags{/Ff 131072}\fi
9286 \ifx\Fld@flags\empty
9287 \@tempdima=\the\Fld@menulength\Fld@charsize
9288 \advance\@tempdima by \Fld@borderwidth bp %
9289 \advance\@tempdima by \Fld@borderwidth bp %
9290 \edef\Fld@height{\the\@tempdima}%
9291 \fi
9292 \@@ListBox{#3}%
9293 }%
9294 \fi
9295 }%
9296 \egroup
9297 }
9298 \def\@@Radio#1{%
9299 \Fld@listcount=0 %
9300 \@for\@curropt:=#1\do{%

```

```

9301 \expandafter\Fld@checkequals\@curropt==\%
9302 \Hy@StepCount\Fld@listcount
9303 \@currDisplay\space
9304 \leavevmode
9305 \Hy@escapeform\PDFForm@Radio
9306 \pdfstartlink user {%
9307 \PDFForm@Radio
9308 /AP<<%
9309 /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.

```

9310 \/\@currValue\space \DingObject
9311 >>%
9312 >>%
9313 }%
9314 \relax
9315 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
9316 \space % deliberate space between radio buttons
9317 }%
9318 }
9319 \newcount\Fld@listcount
9320 \def\@@ListBox#1{%
9321 \Choice@toks={ }%
9322 \Fld@listcount=0 %
9323 \@for\@curropt:=#1\do{%
9324 \expandafter\Fld@checkequals\@curropt==\%
9325 \Hy@StepCount\Fld@listcount
9326 \edef\@processme{%
9327 \Choice@toks{\the\Choice@toks [(\@currValue) (\@currDisplay)]}%
9328 }\@processme
9329 }%
9330 \leavevmode
9331 \Hy@escapeform\PDFForm@List
9332 \pdfstartlink user {\PDFForm@List}\relax
9333 \MakeChoiceField{\Fld@width}{\Fld@height}%
9334 \pdfendlink
9335 }
9336 \def\@PushButton[#1]#2{% parameters, label
9337 \def\Fld@name{#2}%
9338 \bgroup
9339 \Field@toks={ }%
9340 \setkeys{Field}{#1}%
9341 \ifFld@hidden\def\Fld@width{1sp}\fi
9342 \LayoutPushButtonField{%
9343 \leavevmode
9344 \Hy@escapeform\PDFForm@Push
9345 \pdfstartlink user {\PDFForm@Push}\relax
9346 \MakeButtonField{#2}%
9347 \pdfendlink
9348 }%
9349 \egroup
9350 }
9351 \def\@Submit[#1]#2{%
9352 \Field@toks={ }%
9353 \def\Fld@width{\DefaultWidthofSubmit}%
9354 \def\Fld@height{\DefaultHeightofSubmit}%

```

```

9355 \bgroup
9356   \def\Fld@name{Submit}%
9357   \setkeys{Field}{#1}%
9358   \ifFld@hidden\def\Fld@width{1sp}\fi
9359   \leavevmode
9360   \Hy@escapeform\PDFForm@Submit
9361   \pdfstartlink user {%
9362     \PDFForm@Submit
9363     /AP<</N \SubmitObject/D \SubmitPObject>>%
9364   }%
9365   \relax
9366   \MakeButtonField{#2}%
9367   \pdfendlink
9368 \egroup
9369 }
9370 \def\@Reset[#1]#2{%
9371   \Field@toks={ }%
9372   \def\Fld@width{\DefaultWidthofReset}%
9373   \def\Fld@height{\DefaultHeightofReset}%
9374   \bgroup
9375     \def\Fld@name{Reset}%
9376     \setkeys{Field}{#1}%
9377     \ifFld@hidden\def\Fld@width{1sp}\fi
9378     \leavevmode
9379     \Hy@escapeform\PDFForm@Reset
9380     \pdfstartlink user {\PDFForm@Reset}\relax
9381     \MakeButtonField{#2}%
9382     \pdfendlink
9383   \egroup
9384 }
9385 \def\@CheckBox[#1]#2{% parameters, label
9386   \def\Fld@name{#2}%
9387   \def\Fld@default{0}%
9388   \bgroup
9389     \def\Fld@width{\DefaultWidthofCheckBox}%
9390     \def\Fld@height{\DefaultHeightofCheckBox}%
9391     \Field@toks={ }%
9392     \setkeys{Field}{#1}%
9393     \ifFld@hidden\def\Fld@width{1sp}\fi
9394     \LayoutCheckField{#2}{%
9395       \Hy@escapeform\PDFForm@Check
9396       \pdfstartlink user {\PDFForm@Check}\relax
9397       \MakeCheckField{\Fld@width}{\Fld@height}%
9398     }%
9399   \egroup
9400 }
9401 }
9402 \pdfobj { << /Type /Encoding /Differences [ 24 /breve /caron
9403 /circumflex /dotaccent /hungarumlaut /ogonek /ring /tilde 39
9404 /quotesingle 96 /grave 128 /bullet /dagger /daggerdbl /ellipsis
9405 /emdash /endash /florin /fraction /guilsinglleft /guilsinglright
9406 /minus /perthousand /quotedblbase /quotedblleft /quotedblright
9407 /quoteleft /quoteright /quotesinglbase /trademark /fi /fl /Lslash /OE
9408 /Scaron /Ydieresis /Zcaron /dotlessi /lslash /oe /scaron /zcaron 164
9409 /currency 166 /brokenbar 168 /dieresis /copyright /ordfeminine 172
9410 /logicalnot /.notdef /registered /macron /degree /plusminus
9411 /twosuperior /threesuperior /acute /mu 183 /periodcentered /cedilla

```



```

9412 /onesuperior /ordmasculine 188 /onequarter /onehalf /threequarters 192
9413 /Agrave /Aacute /Acircumflex /Atilde /Adieresis /Aring /AE /Ccedilla
9414 /Egrave /Eacute /Ecircumflex /Edieresis /Igrave /Iacute /Icircumflex
9415 /Idieresis /Eth /Ntilde /Ograve /Oacute /Ocircumflex /Otilde
9416 /Odieresis /multiply /Oslash /Ugrave /Uacute /Ucircumflex /Udieresis
9417 /Yacute /Thorn /germandbls /agrave /aacute /acircumflex /atilde
9418 /adieresis /aring /ae /ccedilla /egrave /eacute /ecircumflex
9419 /edieresis /igrave /iacute /icircumflex /idieresis /eth /ntilde
9420 /ograde /oacute /ocircumflex /otilde /odieresis /divide /oslash
9421 /ugrave /uacute /ucircumflex /udieresis /yacute /thorn /ydieresis ] >>
9422 }
9423 \edef\OBJ@pdfdocencoding{\the\pdflastobj}
9424 \pdfobj{%
9425   <<%
9426     /Type/Font%
9427     /Subtype/Type1%
9428     /Name/ZaDb%
9429     /BaseFont/ZapfDingbats%
9430   >>%
9431 }
9432 \edef\OBJ@ZaDb{\the\pdflastobj}
9433 \pdfobj{%
9434   <<%
9435     /Type/Font%
9436     /Subtype/Type1%
9437     /Name/Helv%
9438     /BaseFont/Helvetica%
9439     /Encoding \OBJ@pdfdocencoding\space 0 R%
9440   >>%
9441 }
9442 \edef\OBJ@Helv{\the\pdflastobj}
9443 \pdfobj{%
9444   <<%
9445     /Fields[]%
9446     /DR<<%
9447       /Font<<%
9448         /ZaDb \OBJ@ZaDb\space 0 R%
9449         /Helv \OBJ@Helv\space 0 R%
9450       >>%
9451     >>%
9452     /DA(/Helv 10 Tf 0 g)%
9453     /NeedAppearances true%
9454   >>%
9455 }
9456 \edef\OBJ@acroform{\the\pdflastobj}
9457 \pdfobj{</pdfx>}

```

46.6 dvipdfm

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

```

9458 \*dvipdfm

```

\@Gauge

```

9459 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9460   \typeout{Sorry, dvipdfm does not support FORM gauges}%
9461 }

```

```

\@Form
9462 \def \@Form[#1]{%
9463   \ifundefined{textcolor}{\let\textcolor\@gobble}{}}%
9464   \setkeys{Form}{#1}%
9465   \@pdfm@mark{obj @afields []}%
9466   \@pdfm@mark{obj @corder []}%
9467   \@pdfm@mark{%
9468     obj @aform <<%
9469     /Fields @afields%
9470     /DR<<%
9471     /Font<<%
9472     /ZaDb @OBJZaDb%
9473     /Helv @OBJHelv%
9474     >>%
9475     >>%
9476     /DA(/Helv 10 Tf 0 g)%
9477     /CO @corder%
9478     /NeedAppearances true%
9479     >>%
9480   }%
9481   \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
9482 }

\@endForm
9483 \def \@endForm{}

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
9484 \def \dvipdfm@setdim{%
9485   height \the\ht\pdfm@box\space
9486   width \the\wd\pdfm@box\space
9487   depth \the\dp\pdfm@box\space
9488 }

\@TextField
9489 \def \@TextField[#1]#2{% parameters, label
9490   \def \Fld@name{#2}%
9491   \def \Fld@default{}}%
9492   \let \Fld@value \@empty
9493   \def \Fld@width{\DefaultWidthofText}%
9494   \def \Fld@height{\DefaultHeightofText}%
9495   \ifFld@multiline
9496     \begingroup
9497       \dimen@=\DefaultHeightofText
9498       \dimen@=4\dimen@
9499       \edef\x{\endgroup
9500         \def\noexpand\Fld@height{\the\dimen@}%
9501       }%
9502     \x
9503   \fi
9504   \bgroup
9505     \Field@toks={ }%
9506     \setkeys{Field}{#1}%
9507     \ifFld@hidden\def\Fld@width{1sp}\fi
9508     \ifx\Fld@value \@empty\def\Fld@value{\Fld@default}\fi
9509     \setbox\pdfm@box=\hbox{%
9510       \MakeTextField{\Fld@width}{\Fld@height}%

```

```

9511 }%
9512 \LayoutTextField{#2}{%
9513 \Hy@escapeform\PDFForm@Text
9514 \@pdfm@mark{%
9515 ann @\Fld@name\space \dvipdfm@setdim << \PDFForm@Text >>%
9516 }%
9517 }%
9518 \unhbox\pdfm@box
9519 \@pdfm@mark{put @afields @\Fld@name}% record in @afields array
9520 \egroup
9521 }

```

\@ChoiceMenu

```

9522 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9523 \def\Fld@name{#2}%
9524 \let\Fld@default\relax
9525 \let\Fld@value\relax
9526 \def\Fld@width{\DefaultWidthofChoiceMenu}%
9527 \def\Fld@height{\DefaultHeightofChoiceMenu}%
9528 \bgroup
9529 \Fld@menulength=0 %
9530 \@tempdima\z@
9531 \@for\@curropt:=#3\do{%
9532 \expandafter\Fld@checkequals\@curropt==\%
9533 \Hy@StepCount\Fld@menulength
9534 \settowidth{\@tempdimb}{\@currDisplay}%
9535 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
9536 }%
9537 \advance\@tempdima by 15\p@
9538 \Field@toks={ }%
9539 \setkeys{Field}{#1}%
9540 \ifFld@hidden\def\Fld@width{1sp}\fi
9541 \ifx\Fld@value\relax
9542 \let\Fld@value\Fld@default
9543 \fi
9544 \LayoutChoiceField{#2}{%
9545 \ifFld@radio
9546 \@@Radio{#3}%
9547 \else
9548 {%
9549 \ifdim\Fld@width<\@tempdima
9550 \ifdim\@tempdima<1cm\@tempdima1cm\fi
9551 \edef\Fld@width{\the\@tempdima}%
9552 \fi
9553 \def\Fld@flags{%
9554 \ifFld@combo\def\Fld@flags{/Ff 917504}\fi
9555 \ifFld@popdown\def\Fld@flags{/Ff 131072}\fi
9556 \ifx\Fld@flags\@empty
9557 \@tempdima=\the\Fld@menulength\Fld@charsize
9558 \advance\@tempdima by \Fld@borderwidth bp %
9559 \advance\@tempdima by \Fld@borderwidth bp %
9560 \edef\Fld@height{\the\@tempdima}%
9561 \fi
9562 \@@Listbox{#3}%
9563 }%
9564 \fi
9565 }%

```

```

9566 \egroup
9567 }

\@@Radio
9568 \def\@@Radio#1{%
9569   \Fld@listcount=0 %
9570   \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
9571   \@for\@curropt:=#1\do{%
9572     \expandafter\Fld@checkequals\@curropt==\%
9573     \Hy@StepCount\Fld@listcount
9574     \@currDisplay\space
9575     \leavevmode
9576     \Hy@escapeform\PDFForm@Radio
9577     \@pdfm@mark{%
9578       ann \ifnum\Fld@listcount=1 @\Fld@name\space\fi
9579       \dvipdfm@setdim
9580       <<%
9581         \PDFForm@Radio
9582         /AP<</N<</\@currValue /null>>>>%
9583       >>%
9584     }%
9585     \unhcopy\pdfm@box\space% deliberate space between radio buttons
9586     \ifnum\Fld@listcount=1\@pdfm@mark{put @afields @\Fld@name}\fi
9587   }%
9588 }

\Fld@listcount
9589 \newcount\Fld@listcount

\@@Listbox
9590 \def\@@Listbox#1{%
9591   \Choice@toks={ }%
9592   \Fld@listcount=0 %
9593   \@for\@curropt:=#1\do{%
9594     \expandafter\Fld@checkequals\@curropt==\%
9595     \Hy@StepCount\Fld@listcount
9596     \edef\@processme{%
9597       \Choice@toks{\the\Choice@toks [(\@currValue) (\@currDisplay)]}%
9598     }\@processme
9599   }%
9600   \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
9601   \leavevmode
9602   \Hy@escapeform\PDFForm@List
9603   \@pdfm@mark{%
9604     ann @\Fld@name\space\dvipdfm@setdim
9605     << \PDFForm@List >>%
9606   }%
9607   \unhbox\pdfm@box
9608   \@pdfm@mark{put @afields @\Fld@name}%
9609 }

\@PushButton
9610 \def\@PushButton[#1]#2{% parameters, label
9611   \def\Fld@name{#2}%
9612   \bgroup
9613   \Field@toks={ }%
9614   \setkeys{Field}{#1}%

```

```

9615 \ifFld@hidden\def\Fld@width{1sp}\fi
9616 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
9617 \LayoutPushButtonField{%
9618 \leavevmode
9619 \Hy@escapeform\PDFForm@Push
9620 \@pdfm@mark{%
9621 ann @\Fld@name\space\dvipdfm@setdim
9622 << \PDFForm@Push >>%
9623 }%
9624 }%
9625 \unhbox\pdfm@box
9626 \@pdfm@mark{put @afields @\Fld@name}%
9627 \egroup
9628 }

\@Submit
9629 \def\@Submit[#1]#2{%
9630 \Field@toks={ }%
9631 \def\Fld@width{\DefaultWidthofSubmit}%
9632 \def\Fld@height{\DefaultHeightofSubmit}%
9633 \bgroup
9634 \def\Fld@name{Submit}%
9635 \setkeys{Field}{#1}%
9636 \ifFld@hidden\def\Fld@width{1sp}\fi
9637 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
9638 \leavevmode
9639 \Hy@escapeform\PDFForm@Submit
9640 \@pdfm@mark{%
9641 ann @\Fld@name\space\dvipdfm@setdim
9642 << \PDFForm@Submit >>%
9643 }%
9644 \unhbox\pdfm@box%
9645 \@pdfm@mark{put @afields @\Fld@name}%
9646 \egroup
9647 }

\@Reset
9648 \def\@Reset[#1]#2{%
9649 \Field@toks={ }%
9650 \def\Fld@width{\DefaultWidthofReset}%
9651 \def\Fld@height{\DefaultHeightofReset}%
9652 \bgroup
9653 \def\Fld@name{Reset}%
9654 \setkeys{Field}{#1}%
9655 \ifFld@hidden\def\Fld@width{1sp}\fi
9656 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
9657 \leavevmode
9658 \Hy@escapeform\PDFForm@Reset
9659 \@pdfm@mark{%
9660 ann @\Fld@name\space\dvipdfm@setdim
9661 << \PDFForm@Reset >>%
9662 }%
9663 \unhbox\pdfm@box
9664 \@pdfm@mark{put @afields @\Fld@name}%
9665 \egroup
9666 }

```

\@CheckBox

```
9667 \def \@CheckBox[#1]#2{% parameters, label
9668   \def \Fld@name{#2}%
9669   \def \Fld@default{0}%
9670   \bgroup
9671     \def \Fld@width{\DefaultWidthofCheckBox}%
9672     \def \Fld@height{\DefaultHeightofCheckBox}%
9673     \Field@toks={ }%
9674     \setkeys{Field}{#1}%
9675     \ifFld@hidden\def \Fld@width{1sp}\fi
9676     \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
9677     \LayoutCheckField{#2}{%
9678       \Hy@escapeform\PDFForm@Check
9679       \@pdfm@mark{%
9680         ann @\Fld@name\space\dvipdfm@setdim
9681         << \PDFForm@Check >>%
9682       }%
9683       \unhbox\pdfm@box
9684       \@pdfm@mark{put @afields @\Fld@name}%
9685     }%
9686   \egroup
9687 }

9688 \@pdfm@mark{obj @OBJpdfdocencoding%
9689 <<%
9690   /Type/Encoding%
9691   /Differences[%
9692     24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
9693     39/quotesingle %
9694     96/grave %
9695     128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
9696     /fraction/guilsinglleft/guilsinglright/minus/perthousand%
9697     /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
9698     /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
9699     /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
9700     164/currency %
9701     166/brokenbar %
9702     168/dieresis/copyright/ordfeminine %
9703     172/logicalnot/.notdef/registered/macron/degree/plusminus%
9704     /twosuperior/threesuperior/acute/mu %
9705     183/periodcentered/cedilla/onesuperior/ordmasculine %
9706     188/onequarter/onehalf/threequarters %
9707     192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
9708     /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
9709     /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
9710     /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
9711     /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
9712     /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
9713     /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
9714     /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
9715     /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
9716     /thorn/ydieresis%
9717   ]%
9718 >>%
9719 }
9720 \@pdfm@mark{obj @OBJZaDb%
9721 <<%
```

```

9722 /Type/Font%
9723 /Subtype/Type1%
9724 /Name/ZaDb%
9725 /BaseFont/ZapfDingbats%
9726 >>%
9727 }
9728 \pdfmark{obj @OBJHelv%
9729 <<%
9730 /Type/Font%
9731 /Subtype/Type1%
9732 /Name/Helv%
9733 /BaseFont/Helvetica%
9734 /Encoding @OBJpdfdocencoding%
9735 >>%
9736 }
9737 </dvipdfm>

```

46.7 Common forms part

```

9738 <*pdfmform>

```

\Hy@escapestring

```

9739 \begingroup\expandafter\expandafter\expandafter\endgroup
9740 \expandafter\ifx\csname pdfescapestring\endcsname\relax
9741 \let\Hy@escapestring\@firstofone
9742 \def\Hy@escapeform#1{%
9743   \ifHy@escapeform
9744     \def\Hy@escapestring##1{%
9745       \noexpand\Hy@escapestring{\noexpand##1}%
9746     }%
9747     \edef\Hy@temp{#1}%
9748     \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
9749     \def\Hy@escapestring##1{%
9750       \ifundefined{Hy@esc@\string##1}{%
9751         ##1%
9752         \ThisShouldNotHappen
9753       }{%
9754         \csname Hy@esc@\string##1\endcsname
9755       }%
9756     }%
9757   \else
9758     \let\Hy@escapestring\@firstofone
9759   \fi
9760 }%
9761 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
9762   \ifx\#3\%
9763   \else
9764     \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
9765     \Hy@ReturnAfterFi{%
9766       \Hy@@escapeform#3\@nil
9767     }%
9768   \fi
9769 }%
9770 \else
9771 \def\Hy@escapeform#1{%
9772   \ifHy@escapeform
9773     \let\Hy@escapestring\pdfescapestring

```

```

9774     \else
9775         \let\Hy@escapestring\@firstofone
9776     \fi
9777 }%
9778 \Hy@escapeform{}%
9779 \fi

```

\PDFForm@Check

```

9780 \def\PDFForm@Check{%
9781     /Subtype/Widget%
9782     \ifFld@hidden /F 6\else /F 4\fi
9783     /T(\Hy@escapestring{\Fld@name})%
9784     /Q \Fld@align
9785     /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
9786     /MK<<%
9787         \ifnum\Fld@rotation=\z@
9788             \else
9789                 /R \Fld@rotation
9790             \fi
9791         \ifx\Fld@bordercolor\relax
9792             \else
9793                 /BC[\Fld@bordercolor]%
9794             \fi
9795         \ifx\Fld@bcolor\relax
9796             \else
9797                 /BG[\Fld@bcolor]%
9798             \fi
9799         /CA(\Hy@escapestring{\Fld@cbsymbol})%
9800     >>%
9801     /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
9802         \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
9803     /FT/Btn%
9804     /H/P%
9805     \ifFld@checked /V/Yes\else /V/Off\fi
9806 }

```

\PDFForm@Push

```

9807 \def\PDFForm@Push{%
9808     /Subtype/Widget%
9809     \ifFld@hidden /F 6\else /F 4\fi
9810     /T(\Hy@escapestring{\Fld@name})%
9811     /FT/Btn%
9812     /Ff 65540%
9813     /H/P%
9814     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
9815     /MK<<%
9816         \ifnum\Fld@rotation=\z@
9817             \else
9818                 /R \Fld@rotation
9819             \fi
9820         \ifx\Fld@bordercolor\relax
9821             \else
9822                 /BC[\Fld@bordercolor]%
9823             \fi
9824     >>%
9825     /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick})>>%
9826 }

```


\Fld@additionalactions

```
9827 \def\Fld@@additionalactions{%
```

K input (keystroke) format

```
9828 \ifx\Fld@keystroke@code\@empty
```

```
9829 \else
```

```
9830 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
```

```
9831 \fi
```

F display format

```
9832 \ifx\Fld@format@code\@empty
```

```
9833 \else
```

```
9834 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
```

```
9835 \fi
```

V validation

```
9836 \ifx\Fld@validate@code\@empty
```

```
9837 \else
```

```
9838 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
```

```
9839 \fi
```

C calculation

```
9840 \ifx\Fld@calculate@code\@empty
```

```
9841 \else
```

```
9842 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
```

```
9843 \fi
```

Fo receiving the input focus

```
9844 \ifx\Fld@onfocus@code\@empty
```

```
9845 \else
```

```
9846 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
```

```
9847 \fi
```

Bl loosing the input focus (blurred)

```
9848 \ifx\Fld@onblur@code\@empty
```

```
9849 \else
```

```
9850 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
```

```
9851 \fi
```

D pressing the mouse button (down)

```
9852 \ifx\Fld@onmousedown@code\@empty
```

```
9853 \else
```

```
9854 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
```

```
9855 \fi
```

U releasing the mouse button (up)

```
9856 \ifx\Fld@onmouseup@code\@empty
```

```
9857 \else
```

```
9858 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
```

```
9859 \fi
```

E cursor enters the annotation's active area.

```
9860 \ifx\Fld@onenter@code\@empty
```

```
9861 \else
```

```
9862 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
```

```
9863 \fi
```

X cursor exits the annotation's active area.

```
9864 \ifx\Fld@onexit@code\@empty
```

```
9865 \else
```

```
9866 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
```

```

9867 \fi
9868 }
9869 \def\Fld@additionalactions{%
9870 \if-\Fld@@additionalactions-%
9871 \else
9872 /AA<<\Fld@@additionalactions>>%
9873 \fi
9874 }

```

\PDFForm@List

```

9875 \def\PDFForm@List{%
9876 /Subtype/Widget%
9877 \ifFld@hidden /F 6\else /F 4\fi
9878 /T(\Hy@escapestring{\Fld@name})%
9879 /FT/Ch%
9880 /Q \Fld@align
9881 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
9882 /MK<<%
9883 \ifnum\Fld@rotation=\z@
9884 \else
9885 /R \Fld@rotation
9886 \fi
9887 \ifx\Fld@bordercolor\relax
9888 \else
9889 /BC[\Fld@bordercolor]%
9890 \fi
9891 \ifx\Fld@bcolor\relax
9892 \else
9893 /BG[\Fld@bcolor]%
9894 \fi
9895 >>%
9896 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
9897 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
9898 /Opt[\the\Choice@toks]%
9899 \ifx\Fld@default\relax
9900 \else
9901 /DV(\Hy@escapestring{\Fld@default})%
9902 \fi
9903 \ifx\Fld@value\relax
9904 \else
9905 /V(\Hy@escapestring{\Fld@value})%
9906 \fi
9907 \Fld@additionalactions
9908 \Fld@flags
9909 }

```

\PDFForm@Radio

```

9910 \def\PDFForm@Radio{%
9911 /Subtype/Widget%
9912 \ifFld@hidden /F 6\else /F 4\fi
9913 /T(\Hy@escapestring{\Fld@name})%
9914 /FT/Btn%
9915 /Ff 49152%
9916 /H/P%
9917 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
9918 /MK<<%
9919 \ifnum\Fld@rotation=\z@

```

```

9920     \else
9921         /R \Fld@rotation
9922     \fi
9923     \ifx\Fld@bordercolor\relax
9924     \else
9925         /BC[\Fld@bordercolor]%
9926     \fi
9927     \ifx\Fld@bcolor\relax
9928     \else
9929         /BG[\Fld@bcolor]%
9930     \fi
9931     /CA(H)%
9932 >>%
9933 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
9934     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
9935 \ifx\@currValue\Fld@default
9936     /V\Fld@default
9937 \else
9938     /V/Off%
9939 \fi
9940 \Fld@additionalactions
9941 }

```

\PDFForm@Text

```

9942 \def\PDFForm@Text{%
9943     /Subtype/Widget%
9944     \ifFld@hidden /F 6\else /F 4\fi
9945     /T(\Hy@escapestring{\Fld@name})%
9946     /Q \Fld@align
9947     /FT/Tx%
9948     /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
9949     /MK<<%
9950         \ifnum\Fld@rotation=\z@
9951         \else
9952             /R \Fld@rotation
9953         \fi
9954         \ifx\Fld@bordercolor\relax
9955         \else
9956             /BC[\Fld@bordercolor]%
9957         \fi
9958         \ifx\Fld@bcolor\relax
9959         \else
9960             /BG[\Fld@bcolor]%
9961         \fi
9962     >>%
9963     /DA(/Helv \strip@pt\Fld@charsize\space Tf%
9964         \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
9965     /DV(\Hy@escapestring{\Fld@default})%
9966     /V(\Hy@escapestring{\Fld@value})%
9967     \Fld@additionalactions
9968     \ifFld@multiline
9969         \ifFld@readonly /Ff 4097\else /Ff 4096\fi
9970     \else
9971         \ifFld@password
9972             \ifFld@readonly /Ff 8193\else /Ff 8192\fi
9973         \else
9974             \ifFld@readonly /Ff 1\fi

```

```

9975     \fi
9976     \fi
9977     \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
9978 }

```

\PDFForm@Submit

```

9979 \def\PDFForm@Submit{%
9980   /Subtype/Widget%
9981   \ifFld@hidden /F 6\else /F 4\fi
9982   /T(\Hy@escapestring{\Fld@name})%
9983   /FT/Btn%
9984   /Ff 65540%
9985   /H/P%
9986   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
9987   /MK<<%
9988     \ifnum\Fld@rotation=\z@
9989     \else
9990       /R \Fld@rotation
9991     \fi
9992     \ifx\Fld@bordercolor\relax
9993     \else
9994       /BC[\Fld@bordercolor]%
9995     \fi
9996   >>%
9997   /A<<%
9998     /S/SubmitForm%
9999     /F<<%
10000       /FS/URL%
10001       /F(\Hy@escapestring{\Form@action})%
10002     >>%
10003     \ifForm@html /Flags 4\fi
10004   >>%
10005 }

```

\PDFForm@Reset

```

10006 \def\PDFForm@Reset{%
10007   /Subtype/Widget%
10008   \ifFld@hidden /F 6\else /F 4\fi
10009   /T(\Hy@escapestring{\Fld@name})%
10010   /FT/Btn%
10011   /H/P%
10012   /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
10013   /Ff 65540%
10014   /MK<<%
10015     \ifnum\Fld@rotation=\z@
10016     \else
10017       /R \Fld@rotation
10018     \fi
10019     \ifx\Fld@bordercolor\relax
10020     \else
10021       /BC[\Fld@bordercolor]%
10022     \fi
10023   % /CA (Clear)
10024   % /AC (Done)
10025   >>%
10026   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
10027   /A<</S/ResetForm>>%

```

```

10028 }
10029 </pdfform>
10030 <*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`

```

10031 \def\phantomsection{%
10032   \Hy@GlobalStepCount\Hy@linkcounter
10033   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
10034   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
10035 }
10036 </package>

```

47.1 Bookmarks

```

10037 <*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`.

```

10038 \def\Hy@writebookmark#1#2#3#4#5{% section number, text, label, level, file
10039   \ifx\WriteBookmarks\relax%
10040     \else
10041       \ifnum#4>\Hy@bookmarksdepth\relax
10042       \else
10043         \@writetorep{#1}{#2}{#3}{#4}{#5}%
10044       \fi
10045     \fi
10046 }
10047 \def\Hy@currentbookmarklevel{0}
10048 \def\Hy@numberline#1{#1 }
10049 \def\@writetorep#1#2#3#4#5{%
10050   \begingroup
10051     \edef\Hy@tempa{#5}%
10052     \ifx\Hy@tempa\Hy@bookmarkstype
10053       \edef\Hy@level{#4}%
10054       \ifx\Hy@levelcheck Y%
10055         \@tempcnta\Hy@level\relax
10056         \advance\@tempcnta by -1 %
10057         \ifnum\Hy@currentbookmarklevel<\@tempcnta
10058           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
10059           \advance\@tempcnta by 1 %
10060           \Hy@Warning{%
10061             Difference (\the\@tempcnta) between bookmark levels is %
10062             greater \MessageBreak than one, level fixed%

```

```

10063         }%
10064         \@tempcnta\Hy@currentbookmarklevel
10065         \advance\@tempcnta by 1 %
10066         \edef\Hy@level{\the\@tempcnta}%
10067     \fi
10068 \else
10069     \global\let\Hy@levelcheck Y%
10070 \fi
10071 \global\let\Hy@currentbookmarklevel\Hy@level
10072 \@tempcnta\Hy@level\relax
10073 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
10074 \advance\@tempcnta by -1 %
10075 \edef\Hy@tempa{#3}%
10076 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
10077 \ifx\Hy@tempa\Hy@tempb
10078     \Hy@Warning{%
10079         The anchor of a bookmark and its parent's must not%
10080         \MessageBreak be the same. Added a new anchor%
10081     }%
10082     \phantomsection
10083 \fi
10084 \ifHy@bookmarksnumbered
10085     \let\numberline\Hy@numberline
10086     \let\partnumberline\Hy@numberline
10087     \let\chapternumberline\Hy@numberline
10088 \else
10089     \let\numberline\@gobble
10090     \let\partnumberline\@gobble
10091     \let\chapternumberline\@gobble
10092 \fi
10093 \pdfstringdef\Hy@tempa{#2}%
10094 \if@filesw
10095     \protected@write\@outlinefile{}{%
10096         \protect\BOOKMARK
10097         [\Hy@level] [\@bookmarkopenstatus{\Hy@level}] {#3}%
10098         {\Hy@tempa}{\Hy@tempb}%
10099     }%
10100 \fi
10101 \fi
10102 \endgroup
10103 }

```

In the call of \BOOKMARK the braces around #4 are omitted, because it is not likely, that the level number contains] .

```

10104 \newcommand{\currentpdfbookmark}{%
10105     \pdfbookmark[\Hy@currentbookmarklevel]%
10106 }
10107 \newcommand{\subpdfbookmark}{%
10108     \@tempcnta\Hy@currentbookmarklevel
10109     \Hy@StepCount\@tempcnta
10110     \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
10111 }
10112 \newcommand{\belowpdfbookmark}[2]{%
10113     \@tempcnta\Hy@currentbookmarklevel
10114     \Hy@StepCount\@tempcnta
10115     \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
10116     \advance\@tempcnta by -1 %
10117     \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%

```

10118 }

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.

```
10119 \renewcommand\pdfbookmark[3][0]{%
10120   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
10121   \hyper@anchorstart{#3.#1}\hyper@anchorend
10122 }
10123 \def\BOOKMARK{\ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}}
10124 \def\@BOOKMARK[#1]{\ifnextchar[{\@@BOOKMARK[#1]}{\@@BOOKMARK[#1][-]}}
```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

The VTEX section was written originally by VTEX, but then amended by Denis Girou (denis.girou@idris.fr), then by 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.

```
10125 <*vtex>
10126 \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.

```
10127 \begingroup
10128   \catcode'\'=12 %
10129   \ifnum\Hy@VTeXversion<650 %
10130     \catcode'\=12 %
10131     \gdef\hv@pdf@char#1#2#3{%
10132       \char
10133       \ifcase'#1#2#3 %
10134         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
10135         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
10136         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
10137         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
10138         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
10139         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
10140         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
10141         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
10142         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
10143         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
10144         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
10145         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
10146         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
10147         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
10148         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
10149         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
10150         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
10151         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
10152         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
10153         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
10154         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
10155         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
10156         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
10157         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
10158         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
10159         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
10160         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
```

```

10161      \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
10162      \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
10163      \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
10164      \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
10165      \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
10166      \fi
10167    }%
10168  \else
10169    \gdef\hv@pdf@char{\char'}%
10170  \fi
10171 \endgroup

```

\@@BOOKMARK

```

10172 \def\@@BOOKMARK[#1][#2]#3#4#5{%
10173   \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
10174   \edef\@mycount{\the\@serial@counter}%
10175   \Hy@StepCount\@serial@counter
10176   \edef\@parcount{%
10177     \expandafter\ifx\csname @count@#5\endcsname\relax
10178     0%
10179     \else
10180     \csname @count@#5\endcsname
10181     \fi
10182   }%
10183   \immediate\special{!outline #3;p=\@parcount,i=\@mycount,s=\ifx#2-c\else
10184   o\fi,t=#4}%
10185 }%

```

\ReadBookmarks

```

10186 \def\ReadBookmarks{%
10187   \begingroup
10188     \def\0{\hv@pdf@char 0}%
10189     \def\1{\hv@pdf@char 1}%
10190     \def\2{\hv@pdf@char 2}%
10191     \def\3{\hv@pdf@char 3}%
10192     \def\({}%
10193     \def\)}%
10194     \def\do##1{%
10195       \ifnum\the\catcode'##1=\active
10196       \makeoother##1%
10197     \fi
10198   }%
10199   \dospecials
10200   \InputIfFileExists{\jobname.out}{-}{-}%
10201 \endgroup
10202 \ifx\WriteBookmarks\relax
10203 \else
10204   \if@filesw
10205     \newwrite\@outlinefile
10206     \immediate\openout\@outlinefile=\jobname.out\relax
10207     \ifHy@typexml
10208       \immediate\write\@outlinefile{<relaxxml>\relax}%
10209     \fi
10210   \fi
10211 \fi
10212 }
10213 </vtex>

```



```

10214 <*\vtex>
10215 \def\ReadBookmarks{%
10216   \begingroup
10217     \escapechar='\%
10218     \let\escapechar@gobble %
10219     \def\@BOOKMARK[##1][##2]##3##4##5{\calc@bm@number{##5}}%
10220     \InputIfFileExists{\jobname.out}{-}{-}%
10221     \ifx\WriteBookmarks\relax
10222       \global\let\WriteBookmarks\relax
10223     \fi
10224     \def\@BOOKMARK[##1][##2]##3##4##5{%
10225       \def\Hy@temp{##4}%
10226 <*\pdfTex>
10227       \Hy@pstringdef\Hy@pstringName{##3}%
10228       \Hy@OutlineName{\Hy@pstringName{%
10229         ##2\check@bm@number{##3}}%
10230       }{%
10231         \expandafter\strip@prefix\meaning\Hy@temp
10232       }%
10233 </\pdfTex>
10234 <*\pdfmark>
10235       \Hy@pstringdef\Hy@pstringName{##3}%
10236       \pdfmark{%
10237         pdfmark=/OUT,%
10238         Count={##2\check@bm@number{##3}},%
10239         Dest={\Hy@pstringName},%
10240         Title=\expandafter\strip@prefix\meaning\Hy@temp
10241       }%
10242 </\pdfmark>
10243 <*\dvipdfm>
10244       \Hy@pstringdef\Hy@pstringName{##3}%
10245       \@pdfm@mark{%
10246         outline \ifHy@DvipdfmxOutlineOpen
10247           [%
10248             \ifnum##21>\z@
10249             \else
10250               -%
10251             \fi
10252           ] %
10253           \fi
10254           ##1<<%
10255           /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
10256           /A<<%
10257           /S/GoTo%
10258           /D(\Hy@pstringName)%
10259           >>%
10260         >>%
10261       }%
10262 </\dvipdfm>
10263     }%
10264     {%
10265       \def\WriteBookmarks{0}%
10266       \InputIfFileExists{\jobname.out}{-}{-}%
10267     }%
10268     {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
10269     \ifx\WriteBookmarks\relax
10270     \else

```

```

10271 \if@filesw
10272 \newwrite\@outlinefile
10273 \immediate\openout\@outlinefile=\jobname.out\relax
10274 \ifHy@typexml
10275 \immediate\write\@outlinefile{<relaxxml>\relax}%
10276 \fi
10277 \fi
10278 \fi
10279 \endgroup
10280 }
10281 <*pdftex>
10282 \def\Hy@OutlineName#1#2#3#4{%
10283 \pdfoutline goto name{#2}count#3{#4}%
10284 }
10285 </pdftex>
10286 \def\check@bm@number#1{%
10287 \expandafter\ifx\csname B_#1\endcsname\relax
10288 0%
10289 \else
10290 \csname B_#1\endcsname
10291 \fi
10292 }
10293 \def\calc@bm@number#1{%
10294 \@tempcnta=\check@bm@number{#1}\relax
10295 \advance\@tempcnta by 1 %
10296 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
10297 }
10298 </!vtex>

```

This code is added, so that option ‘pdfpagenumbers’ works with option ‘implicit’ (suggestion of Sebastian Rahtz).

```

10299 \ifHy@implicit
10300 \else
10301 \def\@beginndvi{%
10302 \unvbox\@beginndvibox
10303 \HyPL@EveryPage
10304 \global\let\@beginndvi\HyPL@EveryPage
10305 }%
10306 \expandafter\endinput
10307 \fi
10308 </outlines>
10309 <*outlines | hypertex>
10310 \let\H@old@ssect\@ssect
10311 \def\@ssect#1#2#3#4#5{%
10312 \H@old@ssect{#1}{#2}{#3}{#4}{#5}%
10313 \phantomsection
10314 }
10315 \let\H@old@schapter\@schapter
10316 \def\@schapter#1{%
10317 \H@old@schapter{#1}%
10318 \begingroup
10319 \let\@mkboth\@gobbletwo
10320 \Hy@GlobalStepCount\Hy@linkcounter
10321 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
10322 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
10323 \endgroup
10324 }

```

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:

```

10325 \@ifundefined{@chapter}{%
10326   \let\Hy@org@chapter\@chapter
10327   \def\@chapter{%
10328     \def\Hy@next{%
10329       \Hy@GlobalStepCount\Hy@linkcounter
10330       \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
10331       \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
10332     }%
10333     \ifnum\c@secnumdepth>\m@ne
10334       \@ifundefined{if@mainmatter}%
10335       \iftrue{\csname if@mainmatter\endcsname}%
10336       \let\Hy@next\relax
10337     \fi
10338     \fi
10339     \Hy@next
10340     \Hy@org@chapter
10341   }%
10342 }

10343 \let\H@old@part\@part
10344 \begingroup\expandafter\expandafter\expandafter\endgroup
10345 \expandafter\ifx\csname chapter\endcsname\relax
10346   \let\Hy@secnum@part\z@
10347 \else
10348   \let\Hy@secnum@part\m@ne
10349 \fi
10350 \def\@part{%
10351   \ifnum\Hy@secnum@part>\c@secnumdepth
10352     \phantomsection
10353     \fi
10354   \H@old@part
10355 }

10356 \let\H@old@spart\@spart
10357 \def\@spart#1{%
10358   \H@old@spart{#1}%
10359   \Hy@GlobalStepCount\Hy@linkcounter
10360   \xdef\@currentHref{part*.\the\Hy@linkcounter}%
10361   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
10362 }

10363 \let\H@old@sect\@sect
10364 \def\@sect#1#2#3#4#5#6[#7]#8{%
10365   \ifnum #2>\c@secnumdepth
10366     \Hy@GlobalStepCount\Hy@linkcounter
10367     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
10368     \fi
10369   \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%
10370   \ifnum #2>\c@secnumdepth
10371     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
10372   \fi
10373 }

10374 </outlines | hypertex>
10375 <*outlines>

10376 \expandafter\def\csname Parent-4\endcsname{}

```

```

10377 \expandafter\def\csname Parent-3\endcsname{}
10378 \expandafter\def\csname Parent-2\endcsname{}
10379 \expandafter\def\csname Parent-1\endcsname{}
10380 \expandafter\def\csname Parent0\endcsname{}
10381 \expandafter\def\csname Parent1\endcsname{}
10382 \expandafter\def\csname Parent2\endcsname{}
10383 \expandafter\def\csname Parent3\endcsname{}
10384 \expandafter\def\csname Parent4\endcsname{}
10385 </outlines>

```

48 Compatibility with koma-script classes

```
10386 < *outlines | hypertex>
```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias.Isenberg@gmx.de. With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

10387 \def\Hy@tempa{%
10388   \def\@addchap[##1]##2{%
10389     \typeout{##2}%
10390     \if@twoside
10391       \mkboth{##1}{}%
10392     \else
10393       \mkboth{}{##1}%
10394     \fi
10395     \addtocontents{lof}{\protect\addvspace{10\p@}}%
10396     \addtocontents{lot}{\protect\addvspace{10\p@}}%
10397     \Hy@GlobalStepCount\Hy@linkcounter
10398     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
10399     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
10400     \if@twocolumn
10401       \topnewpage[\@makeschapterhead{##2}]%
10402     \else
10403       \@makeschapterhead{##2}%
10404       \afterheading
10405     \fi
10406     \addcontentsline{toc}{chapter}{##1}%
10407   }%
10408 }
10409 \@ifclassloaded{scrbook}{%
10410   \@ifclasslater{scrbook}{2001/01/01}{%
10411     \let\Hy@tempa\@empty
10412   }{}%
10413 }{%
10414   \@ifclassloaded{scrreprt}{%
10415     \@ifclasslater{scrreprt}{2001/01/01}{%
10416       \let\Hy@tempa\@empty
10417     }{}%
10418   }{}%
10419   \let\Hy@tempa\@empty
10420 }%
10421 }%
10422 \Hy@tempa
10423 </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

```
10424 (*pd1enc)
10425 \DeclareFontEncoding{PD1}{-}{-}
```

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

```
10426 \DeclareTextCommand{\textLF}{PD1}{\012} % line feed
10427 \DeclareTextCommand{\textCR}{PD1}{\015} % carriage return
10428 \DeclareTextCommand{\textHT}{PD1}{\011} % horizontal tab
10429 \DeclareTextCommand{\textBS}{PD1}{\010} % backspace
10430 \DeclareTextCommand{\textFF}{PD1}{\014} % formfeed
```

Accents

```
10431 \DeclareTextAccent{\'}{PD1}{\textgrave}
10432 \DeclareTextAccent{\'}{PD1}{\textacute}
10433 \DeclareTextAccent{\~}{PD1}{\textcircumflex}
10434 \DeclareTextAccent{\~}{PD1}{\texttilde}
10435 \DeclareTextAccent{\"}{PD1}{\textdieresis}
10436 \DeclareTextAccent{\r}{PD1}{\textring}
10437 \DeclareTextAccent{\v}{PD1}{\textcaron}
10438 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
10439 \DeclareTextAccent{\c}{PD1}{\textcedilla}
10440 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textgrave}
10441 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
10442 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textcircumflex}
10443 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
10444 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textdieresis}
10445 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
10446 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textcaron}
10447 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
10448 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
10449 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
```

Accent glyph names

```
10450 \DeclareTextCommand{\textbreve}{PD1}{\030} % breve
10451 \DeclareTextCommand{\textcaron}{PD1}{\031} % caron
10452 \DeclareTextCommand{\textcircumflex}{PD1}{\032} % circumflex
10453 \DeclareTextCommand{\textdotaccent}{PD1}{\033} % dotaccent
10454 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034} % hungarumlaut
10455 \DeclareTextCommand{\textogonek}{PD1}{\035} % ogonek
10456 \DeclareTextCommand{\textring}{PD1}{\036} % ring
10457 \DeclareTextCommand{\texttilde}{PD1}{\037} % tilde
```

\040: space

\041: exclam

```
10458 \DeclareTextCommand{\textquotedbl}{PD1}{\string"} % quotedbl \042
10459 \DeclareTextCommand{\textnumbersign}{PD1}{\043} % numbersign
10460 \DeclareTextCommand{\textdollar}{PD1}{\044} % dollar
10461 \DeclareTextCommand{\textpercent}{PD1}{\045} % percent
10462 \DeclareTextCommand{\textampersand}{PD1}{\046} % ampersand
```

\047: quotesingle

```
10463 \DeclareTextCommand{\textparenleft}{PD1}{\string\({} % parenleft \050
10464 \DeclareTextCommand{\textparenright}{PD1}{\string\)} % parenright \051
```

\052: asterisk

\053: plus

\054: comma
 \055: hyphen
 \056: period
 \057: slash
 \060... \071: 0...9
 \072: colon
 \073: semicolon
 10465 \DeclareTextCommand{\textless}{PD1}{<} % less \074
 \075: equal
 10466 \DeclareTextCommand{\textgreater}{PD1}{>} % greater \076
 \077: question
 \100: at
 \101... \132: A...Z
 \133: bracketleft
 10467 \DeclareTextCommand{\textbackslash}{PD1}{\134} % backslash
 \135: bracketright
 10468 \DeclareTextCommand{\textasciicircum}{PD1}{\136} % asciicircum
 10469 \DeclareTextCommand{\textunderscore}{PD1}{\137} % underscore
 10470 \DeclareTextCommand{\textgrave}{PD1}{\140} % grave
 \141... \172: a...z
 10471 \DeclareTextCompositeCommand{\.}{PD1}{i}{i} % i
 10472 \DeclareTextCommand{\textbraceleft}{PD1}{\173} % braceleft
 10473 \DeclareTextCommand{\textbar}{PD1}{|} % bar
 10474 \DeclareTextCommand{\textbraceright}{PD1}{\175} % braceright
 10475 \DeclareTextCommand{\textasciitilde}{PD1}{\176} % asciitilde
 No glyph \177 in PDFDocEncoding.
 10476 \DeclareTextCommand{\textbullet}{PD1}{\200} % bullet
 10477 \DeclareTextCommand{\textdagger}{PD1}{\201} % dagger
 10478 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202} % daggerdbl
 10479 \DeclareTextCommand{\textellipsis}{PD1}{\203} % ellipsis
 10480 \DeclareTextCommand{\textemdash}{PD1}{\204} % emdash
 10481 \DeclareTextCommand{\textendash}{PD1}{\205} % endash
 10482 \DeclareTextCommand{\textflorin}{PD1}{\206} % florin
 10483 \DeclareTextCommand{\textfractionmark}{PD1}{\207} % fraction, \207
 10484 \DeclareTextCommand{\guilsinglleft}{PD1}{\210} % guilsinglleft
 10485 \DeclareTextCommand{\guilsinglright}{PD1}{\211} % guilsinglright
 10486 \DeclareTextCommand{\textminus}{PD1}{-} % minus, \212
 10487 \DeclareTextCommand{\textperthousand}{PD1}{\213} % perthousand
 10488 \DeclareTextCommand{\quotedblbase}{PD1}{\214} % quotedblbase
 10489 \DeclareTextCommand{\textquotedblleft}{PD1}{\215} % quotedblleft
 10490 \DeclareTextCommand{\textquotedblright}{PD1}{\216} % quotedblright
 10491 \DeclareTextCommand{\textquoteleft}{PD1}{\217} % quoteleft
 10492 \DeclareTextCommand{\textquoteright}{PD1}{\220} % quoteright
 10493 \DeclareTextCommand{\quotesinglbase}{PD1}{\221} % quotesinglbase
 10494 \DeclareTextCommand{\texttrademark}{PD1}{\222} % trademark
 10495 \DeclareTextCommand{\textfi}{PD1}{\223} % fi ?? \223
 10496 \DeclareTextCommand{\textfl}{PD1}{\224} % fl ?? \224
 10497 \DeclareTextCommand{\L}{PD1}{\225} % Lslash, \225
 10498 \DeclareTextCommand{\OE}{PD1}{\226} % OE
 10499 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227} % Scaron
 10500 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230} % Ydieresis
 10501 \DeclareTextCommand{\IJ}{PD1}{\230}
 10502 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231} % Zcaron, \231
 10503 \DeclareTextCommand{\i}{PD1}{\232} % dotlessi, \232
 10504 \DeclareTextCommand{\l}{PD1}{\233} % lslash, \233

```

10505 \DeclareTextCommand{\oe}{PD1}{\234} % oe
10506 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235} % scaron
10507 \DeclareTextCompositeCommand{\v}{PD1}{z}{\236} % zcaron, 236

```

No glyph \237 in PDFDocEncoding.

The euro \240 is inserted in version 1.3 of the pdf specification.

```

10508 \DeclareTextCommand{\texteuro}{PD1}{\240} % Euro
10509 \DeclareTextCommand{\textexclamdown}{PD1}{\241} % exclamdown
10510 \DeclareTextCommand{\textcent}{PD1}{\242} % cent
10511 \DeclareTextCommand{\textsterling}{PD1}{\243} % sterling
10512 \DeclareTextCommand{\textcurrency}{PD1}{\244} % currency
10513 \DeclareTextCommand{\textyen}{PD1}{\245} % yen
10514 \DeclareTextCommand{\textbrokenbar}{PD1}{\246} % brokenbar
10515 \DeclareTextCommand{\textsection}{PD1}{\247} % section
10516 \DeclareTextCommand{\textdieresis}{PD1}{\250} % dieresis
10517 \DeclareTextCommand{\textcopyright}{PD1}{\251} % copyright
10518 \DeclareTextCommand{\textordfeminine}{PD1}{\252} % ordfeminine
10519 \DeclareTextCommand{\guillemotleft}{PD1}{\253} % guillemotleft
10520 \DeclareTextCommand{\textlogicalnot}{PD1}{\254} % logicalnot

```

No glyph \255 in PDFDocEncoding.

```

10521 \DeclareTextCommand{\textregistered}{PD1}{\256} % registered
10522 \DeclareTextCommand{\textmacron}{PD1}{\257} % macron
10523 \DeclareTextCommand{\textdegree}{PD1}{\260} % degree
10524 \DeclareTextCommand{\textplusminus}{PD1}{\261} % plusminus
10525 \DeclareTextCommand{\texttwosuperior}{PD1}{\262} % twosuperior
10526 \DeclareTextCommand{\textthreesuperior}{PD1}{\263} % threesuperior
10527 \DeclareTextCommand{\textacute}{PD1}{\264} % acute
10528 \DeclareTextCommand{\textmu}{PD1}{\265} % mu
10529 \DeclareTextCommand{\textparagraph}{PD1}{\266} % paragraph
10530 \DeclareTextCommand{\textperiodcentered}{PD1}{\267} % periodcentered
10531 \DeclareTextCommand{\textcedilla}{PD1}{\270} % cedilla
10532 \DeclareTextCommand{\textonesuperior}{PD1}{\271} % onesuperior
10533 \DeclareTextCommand{\textordmasculine}{PD1}{\272} % ordmasculine
10534 \DeclareTextCommand{\guillemotright}{PD1}{\273} % guillemotright
10535 \DeclareTextCommand{\textonequarter}{PD1}{\274} % onequarter
10536 \DeclareTextCommand{\textonehalf}{PD1}{\275} % onehalf
10537 \DeclareTextCommand{\textthreequarters}{PD1}{\276} % threequarters
10538 \DeclareTextCommand{\textquestiondown}{PD1}{\277} % questiondown
10539 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300} % Agrave
10540 \DeclareTextCompositeCommand{\`}{PD1}{A}{\301} % Aacute
10541 \DeclareTextCompositeCommand{\`}{PD1}{A}{\302} % Acircumflex
10542 \DeclareTextCompositeCommand{\`}{PD1}{A}{\303} % Atilde
10543 \DeclareTextCompositeCommand{\`}{PD1}{A}{\304} % Adieresis
10544 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305} % Aring
10545 \DeclareTextCommand{\AE}{PD1}{\306} % AE
10546 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307} % Ccedilla
10547 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310} % Egrave
10548 \DeclareTextCompositeCommand{\`}{PD1}{E}{\311} % Eacute
10549 \DeclareTextCompositeCommand{\`}{PD1}{E}{\312} % Ecircumflex
10550 \DeclareTextCompositeCommand{\`}{PD1}{E}{\313} % Edieresis
10551 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314} % Igrave
10552 \DeclareTextCompositeCommand{\`}{PD1}{I}{\315} % Iacute
10553 \DeclareTextCompositeCommand{\`}{PD1}{I}{\316} % Icircumflex
10554 \DeclareTextCompositeCommand{\`}{PD1}{I}{\317} % Idieresis
10555 \DeclareTextCommand{\DH}{PD1}{\320} % Eth
10556 \DeclareTextCommand{\DJ}{PD1}{\320} % Eth
10557 \DeclareTextCompositeCommand{\`}{PD1}{N}{\321} % Ntilde
10558 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322} % Ograve

```

```

10559 \DeclareTextCompositeCommand{\'}{PD1}{0}{\323} % Oacute
10560 \DeclareTextCompositeCommand{\^}{PD1}{0}{\324} % Ocircumflex
10561 \DeclareTextCompositeCommand{\~}{PD1}{0}{\325} % Otilde
10562 \DeclareTextCompositeCommand{\"}{PD1}{0}{\326} % Odieresis
10563 \DeclareTextCommand{\textmultiply}{PD1}{\327} % multiply
10564 \DeclareTextCommand{\O}{PD1}{\330} % Oslash
10565 \DeclareTextCompositeCommand{\'}{PD1}{U}{\331} % Ugrave
10566 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332} % Uacute
10567 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333} % Ucircumflex
10568 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334} % Udieresis
10569 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335} % Yacute
10570 \DeclareTextCommand{\TH}{PD1}{\336} % Thorn
10571 \DeclareTextCommand{\ss}{PD1}{\337} % germanbls
10572 \DeclareTextCompositeCommand{\'}{PD1}{a}{\340} % agrave
10573 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341} % aacute
10574 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342} % acircumflex
10575 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343} % atilde
10576 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344} % adieresis
10577 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345} % aring
10578 \DeclareTextCommand{\ae}{PD1}{\346} % ae
10579 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347} % ccedilla
10580 \DeclareTextCompositeCommand{\'}{PD1}{e}{\350} % egrave
10581 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351} % eacute
10582 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352} % ecircumflex
10583 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353} % edieresis
10584 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354} % igrave
10585 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354} % igrave
10586 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355} % iacute
10587 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355} % iacute
10588 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356} % icircumflex
10589 \DeclareTextCompositeCommand{\~}{PD1}{i}{\356} % icircumflex
10590 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357} % idieresis
10591 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357} % idieresis
10592 \DeclareTextCommand{\dh}{PD1}{\360} % eth
10593 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361} % ntilde
10594 \DeclareTextCompositeCommand{\'}{PD1}{o}{\362} % ograve
10595 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363} % oacute
10596 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364} % ocircumflex
10597 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365} % otilde
10598 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366} % odieresis
10599 \DeclareTextCommand{\textdivide}{PD1}{\367} % divide
10600 \DeclareTextCommand{\o}{PD1}{\370} % oslash
10601 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371} % ugrave
10602 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372} % uacute
10603 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373} % ucircumflex
10604 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374} % udieresis
10605 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375} % yacute
10606 \DeclareTextCommand{\th}{PD1}{\376} % thorn
10607 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377} % ydieresis
10608 \DeclareTextCommand{\ij}{PD1}{\377}

```

Glyphs that consist of several characters.

```

10609 \DeclareTextCommand{\SS}{PD1}{SS}
10610 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

10611 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
10612 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
10613 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}

```



```

10614 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
10615 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
10616 \DeclareTextCommand{\textfrq}{PD1}{\guillemotright}
10617 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
10618 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

10619 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
10620 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
10621 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
10622 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
10623 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
10624 \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;

```

10625 \DeclareTextCompositeCommand{\k}{PD1}{a}{a} % aogonek
10626 \DeclareTextCompositeCommand{\'}{PD1}{c}{c} % cacute
10627 \DeclareTextCompositeCommand{\k}{PD1}{e}{e} % eogonek
10628 \DeclareTextCompositeCommand{\'}{PD1}{n}{n} % nacute
10629 \DeclareTextCompositeCommand{\'}{PD1}{s}{s} % sacute
10630 \DeclareTextCompositeCommand{\'}{PD1}{z}{z} % zacute
10631 \DeclareTextCompositeCommand{\.}{PD1}{z}{z} % zdot
10632 \DeclareTextCompositeCommand{\k}{PD1}{A}{A} % Aogonek
10633 \DeclareTextCompositeCommand{\'}{PD1}{C}{C} % Cacute
10634 \DeclareTextCompositeCommand{\k}{PD1}{E}{E} % Eogonek
10635 \DeclareTextCompositeCommand{\'}{PD1}{N}{N} % Nacute
10636 \DeclareTextCompositeCommand{\'}{PD1}{S}{S} % Sacute
10637 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z} % Zacute
10638 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z} % Zdot

```

```

10639 </pdlenc>

```

49.2 PU encoding

```

10640 <*puenc>
10641 \DeclareFontEncoding{PU}{-}{-}

```

49.2.1 Basic Latin

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

```

10642 \DeclareTextCommand{\textLF}{PU}{\80\012} % line feed
10643 \DeclareTextCommand{\textCR}{PU}{\80\015} % carriage return
10644 \DeclareTextCommand{\textHT}{PU}{\80\011} % horizontal tab
10645 \DeclareTextCommand{\textBS}{PU}{\80\010} % backspace
10646 \DeclareTextCommand{\textFF}{PU}{\80\014} % formfeed

```

Accents

```

10647 \DeclareTextAccent{\'}{PU}{\textgrave}
10648 \DeclareTextAccent{\'}{PU}{\textacute}
10649 \DeclareTextAccent{\^}{PU}{\textcircumflex}
10650 \DeclareTextAccent{\~}{PU}{\texttilde}
10651 \DeclareTextAccent{"}{PU}{\textdieresis}
10652 \DeclareTextAccent{\r}{PU}{\textring}
10653 \DeclareTextAccent{\v}{PU}{\textcaron}
10654 \DeclareTextAccent{\.}{PU}{\textdotaccent}
10655 \DeclareTextAccent{\c}{PU}{\textcedilla}
10656 \DeclareTextAccent{\U}{PU}{\textbreve}
10657 \DeclareTextAccent{\C}{PU}{\textdoublegrave}
10658 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textgrave}
10659 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}

```

```

10660 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textcircumflex}
10661 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
10662 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textdieresis}
10663 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
10664 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textcaron}
10665 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
10666 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
10667 \DeclareTextCompositeCommand{\U}{PU}{\@empty}{\textbreve}
10668 \DeclareTextCompositeCommand{\C}{PU}{\@empty}{\textdoublegrave}
10669 \DeclareTextCommand{\=}{PU}[1]{\TextSymbolUnavailable{\={#1}}#1}
10670 \DeclareTextCommand{\H}{PU}[1]{\TextSymbolUnavailable{\H{#1}}#1}
10671 \DeclareTextCommand{\k}{PU}[1]{\TextSymbolUnavailable{\k{#1}}#1}
10672 \DeclareTextCommand{\u}{PU}[1]{\TextSymbolUnavailable{\u{#1}}#1}

Accent glyph names
10673 \DeclareTextCommand{\textbreve}{PU}{\80\030} % breve
10674 \DeclareTextCommand{\textcaron}{PU}{\80\031} % caron
10675 \DeclareTextCommand{\textcircumflex}{PU}{\80\032} % circumflex
10676 \DeclareTextCommand{\textdotaccent}{PU}{\80\033} % dotaccent
10677 \DeclareTextCommand{\texthungarumlaut}{PU}{\80\034} % hungarumlaut
10678 \DeclareTextCommand{\textogonek}{PU}{\80\035} % ogonek
10679 \DeclareTextCommand{\textring}{PU}{\80\036} % ring
10680 \DeclareTextCommand{\texttilde}{PU}{\80\037} % tilde
10681 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017} % double grave

\040: space
\041: exclam

10682 \DeclareTextCommand{\textquotedbl}{PU}{\string"} % quotedbl \80\042
10683 \DeclareTextCommand{\textnumbersign}{PU}{\80\043} % numbersign
10684 \DeclareTextCommand{\textdollar}{PU}{\80\044} % dollar
10685 \DeclareTextCommand{\textpercent}{PU}{\80\045} % percent
10686 \DeclareTextCommand{\textampersand}{PU}{\80\046} % ampersand

\047: quotesingle

10687 \DeclareTextCommand{\textparenleft}{PU}{\80\050} % parenleft
10688 \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

10689 \DeclareTextCommand{\textless}{PU}{<} % less \80\074

\075: equal

10690 \DeclareTextCommand{\textgreater}{PU}{>} % greater \80\076

\077: question
\100: at
\101... \132: A...Z
\133: bracketleft

10691 \DeclareTextCommand{\textbackslash}{PU}{\80\134} % backslash

\135: bracketright

10692 \DeclareTextCommand{\textasciicircum}{PU}{\80\136} % asciicircum

```

```

10693 \DeclareTextCommand{\textunderscore}{PU}{\80\137} % underscore
10694 \DeclareTextCommand{\textgrave}{PU}{\80\140} % grave
\141...\172: a...z
10695 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % i
10696 \DeclareTextCommand{\j}{PU}{j} % jdotless
10697 \DeclareTextCommand{\textbraceleft}{PU}{\80\173} % braceleft
10698 \DeclareTextCommand{\textbar}{PU}{|} % bar
10699 \DeclareTextCommand{\textbraceright}{PU}{\80\175} % braceright
10700 \DeclareTextCommand{\textasciitilde}{PU}{\80\176} % asciitilde
No glyph \177 in PDFDocEncoding.

```

49.2.2 Latin-1 Supplement

```

10701 \DeclareTextCommand{\textminus}{PU}{-} % minus, \80\212
10702 \DeclareTextCommand{\textfi}{PU}{fi} % fi ?? \80\223
10703 \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.

```

10704 \DeclareTextCommand{\OE}{PU}{OE} % OE
10705 \DeclareTextCommand{\oe}{PU}{oe} % oe

```

The euro \240 is inserted in version 1.3 of the pdf specification.

```

10706 \DeclareTextCommand{\textexclamdown}{PU}{\80\241} % exclamdown
10707 \DeclareTextCommand{\textcent}{PU}{\80\242} % cent
10708 \DeclareTextCommand{\textsterling}{PU}{\80\243} % sterling
10709 \DeclareTextCommand{\textcurrency}{PU}{\80\244} % currency
10710 \DeclareTextCommand{\textyen}{PU}{\80\245} % yen
10711 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246} % brokenbar
10712 \DeclareTextCommand{\textsection}{PU}{\80\247} % section
10713 \DeclareTextCommand{\textdieresis}{PU}{\80\250} % dieresis
10714 \DeclareTextCommand{\textcopyright}{PU}{\80\251} % copyright
10715 \DeclareTextCommand{\textordfeminine}{PU}{\80\252} % ordfeminine
10716 \DeclareTextCommand{\guillemotleft}{PU}{\80\253} % guillemotleft
10717 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254} % logicalnot

```

No glyph \255 in PDFDocEncoding.

```

10718 \DeclareTextCommand{\textregistered}{PU}{\80\256} % registered
10719 \DeclareTextCommand{\textmacron}{PU}{\80\257} % macron
10720 \DeclareTextCommand{\textdegree}{PU}{\80\260} % degree
10721 \DeclareTextCommand{\textplusminus}{PU}{\80\261} % plusminus
10722 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262} % twosuperior
10723 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263} % threesuperior
10724 \DeclareTextCommand{\textacute}{PU}{\80\264} % acute
10725 \DeclareTextCommand{\textmu}{PU}{\80\265} % mu
10726 \DeclareTextCommand{\textparagraph}{PU}{\80\266} % paragraph
10727 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267} % periodcentered
10728 \DeclareTextCommand{\textcedilla}{PU}{\80\270} % cedilla
10729 \DeclareTextCommand{\textonesuperior}{PU}{\80\271} % onesuperior
10730 \DeclareTextCommand{\textordmasculine}{PU}{\80\272} % ordmasculine
10731 \DeclareTextCommand{\guillemotright}{PU}{\80\273} % guillemotright
10732 \DeclareTextCommand{\textonequarter}{PU}{\80\274} % onequarter
10733 \DeclareTextCommand{\textonehalf}{PU}{\80\275} % onehalf
10734 \DeclareTextCommand{\textthreequarters}{PU}{\80\276} % threequarters
10735 \DeclareTextCommand{\textquestiondown}{PU}{\80\277} % questiondown
10736 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300} % Agrave
10737 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301} % Aacute

```

10738 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\302} % Acircumflex
10739 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303} % Atilde
10740 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304} % Adieresis
10741 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305} % Aring
10742 \DeclareTextCommand{\AE}{PU}{\80\306} % AE
10743 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307} % Ccedilla
10744 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310} % Egrave
10745 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311} % Eacute
10746 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312} % Ecircumflex
10747 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313} % Edieresis
10748 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314} % Igrave
10749 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315} % Iacute
10750 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316} % Icircumflex
10751 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317} % Idieresis
10752 \DeclareTextCommand{\DH}{PU}{\80\320} % Eth
10753 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321} % Ntilde
10754 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322} % Ograve
10755 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323} % Oacute
10756 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324} % Ocircumflex
10757 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325} % Otilde
10758 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326} % Odieresis
10759 \DeclareTextCommand{\textmultiply}{PU}{\80\327} % multiply
10760 \DeclareTextCommand{\O}{PU}{\80\330} % Oslash
10761 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331} % Ugrave
10762 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332} % Uacute
10763 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333} % Ucircumflex
10764 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334} % Udieresis
10765 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335} % Yacute
10766 \DeclareTextCommand{\TH}{PU}{\80\336} % Thorn
10767 \DeclareTextCommand{\ss}{PU}{\80\337} % germandbls
10768 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340} % agrave
10769 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341} % aacute
10770 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342} % acircumflex
10771 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343} % atilde
10772 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344} % adieresis
10773 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345} % aring
10774 \DeclareTextCommand{\ae}{PU}{\80\346} % ae
10775 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347} % ccedilla
10776 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350} % egrave
10777 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351} % eacute
10778 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352} % ecircumflex
10779 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353} % edieresis
10780 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354} % igrave
10781 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354} % igrave
10782 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355} % iacute
10783 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355} % iacute
10784 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356} % icircumflex
10785 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356} % icircumflex
10786 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357} % idieresis
10787 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357} % idieresis
10788 \DeclareTextCommand{\dh}{PU}{\80\360} % eth
10789 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361} % ntilde
10790 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362} % ograve
10791 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363} % oacute
10792 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364} % ocircumflex
10793 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365} % otilde
10794 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366} % odieresis

```

10795 \DeclareTextCommand{\textdivide}{PU}{\80\367} % divide
10796 \DeclareTextCommand{\o}{PU}{\80\370} % oslash
10797 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371} % ugrave
10798 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372} % uacute
10799 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373} % ucircumflex
10800 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374} % udieresis
10801 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375} % yacute
10802 \DeclareTextCommand{\th}{PU}{\80\376} % thorn
10803 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377} % ydieresis
10804 \DeclareTextCommand{\ij}{PU}{\80\377}

```

Glyphs that consist of several characters.

```

10805 \DeclareTextCommand{\SS}{PU}{SS}

```

Aliases (german.sty)

```

10806 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
10807 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
10808 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
10809 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
10810 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
10811 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
10812 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
10813 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

10814 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
10815 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
10816 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
10817 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
10818 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}

```

49.2.3 Latin Extended-A

```

10819 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% Amacron
10820 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% amacron
10821 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% Abreve
10822 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% abreve
10823 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% Aogonek
10824 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% aogonek
10825 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% Cacute
10826 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% cacute
10827 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% Ccircumflex
10828 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% ccircumflex
10829 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% Cdot
10830 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% cdot
10831 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% Ccaron
10832 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% ccaron
10833 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% Dcaron
10834 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% dcaron
10835 \DeclareTextCommand{\DJ}{PU}{\81\020}% Dslash
10836 \DeclareTextCommand{\dj}{PU}{\81\021}% dslash
10837 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% Emacron
10838 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% emacron
10839 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% Ebreve
10840 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% ebreve
10841 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% Edot
10842 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% edot
10843 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% Eogonek
10844 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% eogonek
10845 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% Ecaron

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10846 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033} % ecaron
10847 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034} % Gcircumflex
10848 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035} % Gcircumflex
10849 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036} % Gbreve
10850 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037} % gbreve
10851 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040} % Gdot
10852 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041} % gdot
10853 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042} % Gcedilla
10854 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043} % gcedilla
10855 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044} % Hcircumflex
10856 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045} % Hcircumflex
10857 \DeclareTextCommand{\textHslash}{PU}{\81\046} % Hslash
10858 \DeclareTextCommand{\texthslash}{PU}{\81\047} % hslash
10859 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050} % Itilde
10860 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051} % itilde
10861 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051} % itilde
10862 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052} % Imacron
10863 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053} % imacron
10864 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053} % imacron
10865 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054} % Ibreve
10866 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055} % ibreve
10867 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055} % ibreve
10868 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056} % Iogonek
10869 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057} % iogonek
10870 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057} % iogonek
10871 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060} % Idot
10872 \DeclareTextCommand{\i}{PU}{\81\061} % idotless
10873 % IJlig
10874 % ijlig
10875 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064} % Jcircumflex
10876 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065} % jcircumflex
10877 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065} % jcircumflex
10878 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066} % Kcedilla
10879 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067} % kcedilla
10880 % kgreen
10881 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071} % Lacute
10882 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072} % lacute
10883 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073} % Lcedilla
10884 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074} % lcedilla
10885 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075} % Lcaron
10886 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076} % lcaron
10887 % L middle dot
10888 % l middle dot
10889 \DeclareTextCommand{\L}{PU}{\81\101} % Lslash
10890 \DeclareTextCommand{\l}{PU}{\81\102} % lslash
10891 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103} % Nacute
10892 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104} % nacute
10893 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105} % Ncedilla
10894 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106} % ncedilla
10895 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107} % Ncaron
10896 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110} % ncaron
10897 % n apostrophe
10898 \DeclareTextCommand{\NG}{PU}{\81\112} % NG
10899 \DeclareTextCommand{\ng}{PU}{\81\113} % ng
10900 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114} % Omacron
10901 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115} % omacron
10902 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116} % Obreve

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10903 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117} % obreve
10904 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120} % Odoubleacute
10905 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121} % odoubleacute
10906 \DeclareTextCommand{\OE}{PU}{\81\122} % OE
10907 \DeclareTextCommand{\oe}{PU}{\81\123} % oe
10908 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124} % Racute
10909 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125} % racute
10910 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126} % Rcedilla
10911 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127} % rcedilla
10912 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130} % Rcaron
10913 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131} % rcaron
10914 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132} % Sacute
10915 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133} % sacute
10916 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134} % Scircumflex
10917 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135} % scircumflex
10918 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136} % Scedilla
10919 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137} % scedilla
10920 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140} % Scaron
10921 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141} % scaron
10922 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142} % Tcedilla
10923 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143} % tcedilla
10924 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144} % Tcaron
10925 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145} % tcaron
10926 \DeclareTextCommand{\textTslash}{PU}{\81\146} % Tslash
10927 \DeclareTextCommand{\texttslash}{PU}{\81\147} % tslash
10928 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150} % Utilde
10929 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151} % utilde
10930 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152} % Umacron
10931 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153} % umacron
10932 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154} % Ubreve
10933 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155} % ubreve
10934 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156} % Uring
10935 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157} % uring
10936 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160} % Udoubleacute
10937 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161} % udoubleacute
10938 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162} % Uogonek
10939 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163} % uogonek
10940 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164} % Wcircumflex
10941 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165} % wcircumflex
10942 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166} % Ycircumflex
10943 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167} % ycircumflex
10944 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170} % Ydieresis
10945 \DeclareTextCommand{\IJ}{PU}{\81\170}
10946 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171} % Zacute
10947 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172} % zacute
10948 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173} % Zdot
10949 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174} % zdot
10950 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175} % Zcaron
10951 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176} % zcaron

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49.2.4 Latin Extended-B

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10952 \DeclareTextCommand{\textflorin}{PU}{\81\222} % florin
10953 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315} % Acaron
10954 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316} % acaron
10955 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317} % Icaron
10956 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320} % icaron
10957 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320} % icaron

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10958 \DeclareTextCompositeCommand{\v}{PU}{0}{\81\321} % Ocaron
10959 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322} % ocaron
10960 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323} % Ucaron
10961 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324} % ucaron
10962 \DeclareTextCommand{\textGslash}{PU}{\81\344} % Gslash
10963 \DeclareTextCommand{\textgslash}{PU}{\81\345} % gslash
10964 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346} % Gcaron
10965 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347} % gcaron
10966 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350} % Kcaron
10967 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351} % kcaron
10968 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352} % Oogonek
10969 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353} % oogonek

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49.2.5 Greek

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10970 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}
10971 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}
10972 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}
10973 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}
10974 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}
10975 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}
10976 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}
10977 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}
10978 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}
10979 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}
10980 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}
10981 \DeclareTextCommand{\textAlpha}{PU}{\83\221}
10982 \DeclareTextCommand{\textBeta}{PU}{\83\222}
10983 \DeclareTextCommand{\textGamma}{PU}{\83\223}
10984 \DeclareTextCommand{\textDelta}{PU}{\83\224}
10985 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}
10986 \DeclareTextCommand{\textZeta}{PU}{\83\226}
10987 \DeclareTextCommand{\textEta}{PU}{\83\227}
10988 \DeclareTextCommand{\textTheta}{PU}{\83\230}
10989 \DeclareTextCommand{\textIota}{PU}{\83\231}
10990 \DeclareTextCommand{\textKappa}{PU}{\83\232}
10991 \DeclareTextCommand{\textLambda}{PU}{\83\233}
10992 \DeclareTextCommand{\textMu}{PU}{\83\234}
10993 \DeclareTextCommand{\textNu}{PU}{\83\235}
10994 \DeclareTextCommand{\textXi}{PU}{\83\236}
10995 \DeclareTextCommand{\textOmicron}{PU}{\83\237}
10996 \DeclareTextCommand{\textPi}{PU}{\83\240}
10997 \DeclareTextCommand{\textRho}{PU}{\83\241}
10998 \DeclareTextCommand{\textSigma}{PU}{\83\243}
10999 \DeclareTextCommand{\textTau}{PU}{\83\244}
11000 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}
11001 \DeclareTextCommand{\textPhi}{PU}{\83\246}
11002 \DeclareTextCommand{\textChi}{PU}{\83\247}
11003 \DeclareTextCommand{\textPsi}{PU}{\83\250}
11004 \DeclareTextCommand{\textOmega}{PU}{\83\251}
11005 \DeclareTextCompositeCommand{\"}{PU}{\textIota}{\83\252}
11006 \DeclareTextCompositeCommand{\"}{PU}{\textUpsilon}{\83\253}
11007 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}
11008 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}
11009 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}
11010 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}
11011 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}
11012 \DeclareTextCompositeCommand{\"}{PU}{\textupsilonacute}{\83\260}

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11013 \DeclareTextCommand{\textalpha}{PU}{\83\261}
11014 \DeclareTextCommand{\textbeta}{PU}{\83\262}
11015 \DeclareTextCommand{\textgamma}{PU}{\83\263}
11016 \DeclareTextCommand{\textdelta}{PU}{\83\264}
11017 \DeclareTextCommand{\textepsilon}{PU}{\83\265}
11018 \DeclareTextCommand{\textzeta}{PU}{\83\266}
11019 \DeclareTextCommand{\texteta}{PU}{\83\267}
11020 \DeclareTextCommand{\texttheta}{PU}{\83\270}
11021 \DeclareTextCommand{\textiota}{PU}{\83\271}
11022 \DeclareTextCommand{\textkappa}{PU}{\83\272}
11023 \DeclareTextCommand{\textlambda}{PU}{\83\273}
11024 \DeclareTextCommand{\textmu}{PU}{\83\274}
11025 \DeclareTextCommand{\textnu}{PU}{\83\275}
11026 \DeclareTextCommand{\textxi}{PU}{\83\276}
11027 \DeclareTextCommand{\textomicron}{PU}{\83\277}
11028 \DeclareTextCommand{\textpi}{PU}{\83\300}
11029 \DeclareTextCommand{\textrho}{PU}{\83\301}
11030 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}
11031 \DeclareTextCommand{\textsigma}{PU}{\83\303}
11032 \DeclareTextCommand{\texttau}{PU}{\83\304}
11033 \DeclareTextCommand{\textupsilon}{PU}{\83\305}
11034 \DeclareTextCommand{\textphi}{PU}{\83\306}
11035 \DeclareTextCommand{\textchi}{PU}{\83\307}
11036 \DeclareTextCommand{\textpsi}{PU}{\83\310}
11037 \DeclareTextCommand{\textomega}{PU}{\83\311}
11038 \DeclareTextCompositeCommand{\"}{PU}{\textiota}{\83\312}
11039 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\313}
11040 \DeclareTextCompositeCommand{\'}{PU}{\textomicron}{\83\314}
11041 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}
11042 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}
11043 %\DeclareTextCommand{\textvartheta}{PU}{\83\321}
11044 %\DeclareTextCommand{\textvarphi}{PU}{\83\325}
11045 %\DeclareTextCommand{\textvarpi}{PU}{\83\326}
11046 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}
11047 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}
11048 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}
11049 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}
11050 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}
11051 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}
11052 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}
11053 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}
11054 %\DeclareTextCommand{\textvarkappa}{PU}{\83\360}
11055 %\DeclareTextCommand{\textvarrho}{PU}{\83\361}

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49.2.6 Cyrillic

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

```

11056 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% IO
11057 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}%
11058 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% DJE
11059 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% GJE
11060 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% ukrainian IE
11061 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% DZE
11062 \DeclareTextCommand{\CYRII}{PU}{\84\006}% byelorussian-ukrainian I
11063 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% YI
11064 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% JE
11065 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% LJE

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11066 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% NJE
11067 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% TSHE
11068 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% KJE
11069 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% short U
11070 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% DZHE
11071 \DeclareTextCommand{\CYRA}{PU}{\84\020}% A
11072 \DeclareTextCommand{\CYRB}{PU}{\84\021}% BE
11073 \DeclareTextCommand{\CYRV}{PU}{\84\022}% VE
11074 \DeclareTextCommand{\CYRG}{PU}{\84\023}% GHE
11075 \DeclareTextCommand{\CYRD}{PU}{\84\024}% DE
11076 \DeclareTextCommand{\CYRE}{PU}{\84\025}% IE
11077 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% ZHE
11078 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% ZE
11079 \DeclareTextCommand{\CYRI}{PU}{\84\030}% I
11080 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% short I
11081 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}%
11082 \DeclareTextCommand{\CYRK}{PU}{\84\032}% KA
11083 \DeclareTextCommand{\CYRL}{PU}{\84\033}% EL
11084 \DeclareTextCommand{\CYRM}{PU}{\84\034}% EM
11085 \DeclareTextCommand{\CYRN}{PU}{\84\035}% EN
11086 \DeclareTextCommand{\CYRO}{PU}{\84\036}% O
11087 \DeclareTextCommand{\CYRP}{PU}{\84\037}% PE
11088 \DeclareTextCommand{\CYRR}{PU}{\84\040}% ER
11089 \DeclareTextCommand{\CYRS}{PU}{\84\041}% ES
11090 \DeclareTextCommand{\CYRT}{PU}{\84\042}% TE
11091 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U
11092 \DeclareTextCommand{\CYRF}{PU}{\84\044}% EF
11093 \DeclareTextCommand{\CYRH}{PU}{\84\045}% HA
11094 \DeclareTextCommand{\CYRC}{PU}{\84\046}% TSE
11095 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% CHE
11096 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% SHA
11097 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% SHCHA
11098 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% HARD SIGN
11099 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% YERU
11100 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% SOFT SIGN
11101 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% E
11102 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% YU
11103 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% YA
11104 \DeclareTextCommand{\cyra}{PU}{\84\060}% a
11105 \DeclareTextCommand{\cyrb}{PU}{\84\061}% be
11106 \DeclareTextCommand{\cyrv}{PU}{\84\062}% ve
11107 \DeclareTextCommand{\cyrg}{PU}{\84\063}% ghe
11108 \DeclareTextCommand{\cyrd}{PU}{\84\064}% de
11109 \DeclareTextCommand{\cyre}{PU}{\84\065}% ie
11110 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% zhe
11111 \DeclareTextCommand{\cyrz}{PU}{\84\067}% ze
11112 \DeclareTextCommand{\cyri}{PU}{\84\070}% i
11113 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% short i
11114 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}%
11115 \DeclareTextCommand{\cyrk}{PU}{\84\072}% ka
11116 \DeclareTextCommand{\cyrl}{PU}{\84\073}% el
11117 \DeclareTextCommand{\cyrm}{PU}{\84\074}% em
11118 \DeclareTextCommand{\cyrn}{PU}{\84\075}% en
11119 \DeclareTextCommand{\cyro}{PU}{\84\076}% o
11120 \DeclareTextCommand{\cyrp}{PU}{\84\077}% pe
11121 \DeclareTextCommand{\cyrr}{PU}{\84\100}% er
11122 \DeclareTextCommand{\cyrs}{PU}{\84\101}% es

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11123 \DeclareTextCommand{\cyr t}{PU}{\84\102}% te
11124 \DeclareTextCommand{\cyr u}{PU}{\84\103}% u
11125 \DeclareTextCommand{\cyr f}{PU}{\84\104}% ef
11126 \DeclareTextCommand{\cyr h}{PU}{\84\105}% ha
11127 \DeclareTextCommand{\cyr c}{PU}{\84\106}% tse
11128 \DeclareTextCommand{\cyr ch}{PU}{\84\107}% che
11129 \DeclareTextCommand{\cyr sh}{PU}{\84\110}% sha
11130 \DeclareTextCommand{\cyr shch}{PU}{\84\111}% shcha
11131 \DeclareTextCommand{\cyr hrdsn}{PU}{\84\112}% hard sign
11132 \DeclareTextCommand{\cyr rery}{PU}{\84\113}% yeru
11133 \DeclareTextCommand{\cyr sftsn}{PU}{\84\114}% soft sign
11134 \DeclareTextCommand{\cyr rerev}{PU}{\84\115}% e
11135 \DeclareTextCommand{\cyr yu}{PU}{\84\116}% yu
11136 \DeclareTextCommand{\cyr ya}{PU}{\84\117}% ya
11137 \DeclareTextCommand{\cyr yo}{PU}{\84\121}% io
11138 \DeclareTextCompositeCommand{"}{PU}{\cyr e}{\84\121}%
11139 \DeclareTextCommand{\cyr dje}{PU}{\84\122}% dje
11140 \DeclareTextCompositeCommand{'}{PU}{\cyr g}{\84\123}% gje
11141 \DeclareTextCommand{\cyr ie}{PU}{\84\124}% ukrainian ie
11142 \DeclareTextCommand{\cyr dze}{PU}{\84\125}% dze
11143 \DeclareTextCommand{\cyr ii}{PU}{\84\126}% byelorussian-ukrainian i
11144 \DeclareTextCommand{\cyr yi}{PU}{\84\127}% yi
11145 \DeclareTextCommand{\cyr je}{PU}{\84\130}% je
11146 \DeclareTextCommand{\cyr lje}{PU}{\84\131}% lje
11147 \DeclareTextCommand{\cyr nje}{PU}{\84\132}% nje
11148 \DeclareTextCommand{\cyr tshe}{PU}{\84\133}% tshe
11149 \DeclareTextCompositeCommand{'}{PU}{\cyr k}{\84\134}% kje
11150 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% short u
11151 \DeclareTextCommand{\cyr dzhe}{PU}{\84\137}% dzhe
11152 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% OMEGA
11153 \DeclareTextCommand{\cyromega}{PU}{\84\141}% omega
11154 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% YAT
11155 \DeclareTextCommand{\cyryat}{PU}{\84\143}% yat
11156 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% iotified E
11157 \DeclareTextCommand{\cyriote}{PU}{\84\145}% iotified e
11158 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% little YUS
11159 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% little yus
11160 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% iotified little YUS
11161 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% iotified little yus
11162 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% big YUS
11163 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% big yus
11164 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% iotified big YUS
11165 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% iotified big yus
11166 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% KSI
11167 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% ksi
11168 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% PSI
11169 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% psi
11170 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% FITA
11171 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% fita
11172 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% IZHITSA
11173 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% izhitsa
11174 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% IZHITSA double grave
11175 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% izhitsa double grave
11176 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% UK
11177 \DeclareTextCommand{\cyruk}{PU}{\84\171}% uk
11178 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% round OMEGA
11179 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% round omega

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11180 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% OMEGA titlo
11181 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% omega titlo
11182 \DeclareTextCommand{\CYROT}{PU}{\84\176}% OT
11183 \DeclareTextCommand{\cyrot}{PU}{\84\177}% ot
11184 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% KOPPA
11185 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% koppa
11186 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% thousands sign
11187 %\DeclareTextCommand{\COMBINING TITLO}{PU}{\84\203}% COMBINING TITLO
11188 %\DeclareTextCommand{\COMBINING PALATALIZATION}{PU}{\84\204}% COMBINING PALATALIZATION
11189 %\DeclareTextCommand{\COMBINING DASIA PNEUMATA}{PU}{\84\205}% COMBINING DASIA PNEUMATA
11190 %\DeclareTextCommand{\COMBINING PSILI PNEUMATA}{PU}{\84\206}% COMBINING PSILI PNEUMATA
11191 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% GHE upturn
11192 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% ghe upturn
11193 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% GHE stroke
11194 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% ghe stroke
11195 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% GHE middle hook
11196 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% ghe middle hook
11197 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% ZHE descender
11198 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% zhe descender
11199 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% ZE descender
11200 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% ze descender
11201 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% KA descender
11202 \DeclareTextCommand{\cyrkds}{PU}{\84\233}% ka descender
11203 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% KA vertical stroke
11204 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% ka vertical stroke
11205 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% KA stroke
11206 \DeclareTextCommand{\cyrkhr}{PU}{\84\237}% ka stroke
11207 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% bashkir KA
11208 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% bashkir ka
11209 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% EN descender
11210 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% en descender
11211 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% ligature EN GHE
11212 \DeclareTextCommand{\cyrng}{PU}{\84\245}% ligature en ghe
11213 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% PE middle hook
11214 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% pe middle hook
11215 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% abkhasian HA
11216 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% abkhasian ha
11217 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% ES descender
11218 \DeclareTextCommand{\cyrds}{PU}{\84\253}% es descender
11219 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% TE descender
11220 \DeclareTextCommand{\cyrt}{PU}{\84\255}% te descender
11221 \DeclareTextCommand{\CYRY}{PU}{\84\256}% straight U
11222 \DeclareTextCommand{\cyry}{PU}{\84\257}% straight u
11223 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% straight U stroke
11224 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% straight u stroke
11225 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% HA descender
11226 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% ha descender
11227 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% ligature TE TSE
11228 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% ligature te tse
11229 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% CHE descender
11230 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% che descender
11231 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% CHE vertical stroke
11232 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% che vertical stroke
11233 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% SHHA
11234 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% shha
11235 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% abkhasian CHE
11236 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% abkhasian che

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11237 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% abkhasian CHE descender
11238 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% abkhasian che descender
11239 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% palochka
11240 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% ZHE breve
11241 \DeclareTextCompositeCommand{\U}{PU}{\cyrgyz}{\84\302}% zhe breve
11242 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% KA hook
11243 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% ka hook
11244 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% EN hook
11245 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% en hook
11246 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% khakassian CHE
11247 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% khakassian che
11248 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% A breve
11249 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% a breve
11250 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% A diaeresis
11251 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% a diaeresis
11252 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% ligature A IE
11253 \DeclareTextCommand{\cyrae}{PU}{\84\325}% ligature a ie
11254 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% IE breve
11255 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% ie breve
11256 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% SCHWA
11257 \DeclareTextCommand{\cyrswa}{PU}{\84\331}% schwa
11258 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% SCHWA diaeresis
11259 \DeclareTextCompositeCommand{"}{PU}{\cyrswa}{\84\333}% schwa diaeresis
11260 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% ZHE diaeresis
11261 \DeclareTextCompositeCommand{"}{PU}{\cyrgyz}{\84\335}% zhe diaeresis
11262 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% ZE diaeresis
11263 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% ze diaeresis
11264 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% abkhasian DZE
11265 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% abkhasian dze
11266 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% I macron
11267 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% i macron
11268 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% I diaeresis
11269 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% i diaeresis
11270 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% O diaeresis
11271 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% o diaeresis
11272 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% barred O
11273 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% barred o
11274 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% barred O diaeresis
11275 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% barred o diaeresis
11276 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U macron
11277 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% u macron
11278 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U diaeresis
11279 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% u diaeresis
11280 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U double acute
11281 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% u double acute
11282 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% CHE diaeresis
11283 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% che diaeresis
11284 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% YERU diaeresis
11285 \DeclareTextCompositeCommand{"}{PU}{\cyrery}{\84\371}% yeru diaeresis

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49.2.7 Symbols

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11286 \DeclareTextCommand{\textendash}{PU}{\9040\023} % endash
11287 \DeclareTextCommand{\textemdash}{PU}{\9040\024} % emdash
11288 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030} % quoteleft
11289 \DeclareTextCommand{\textquoteright}{PU}{\9040\031} % quoteright
11290 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032} % quotesinglbase

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11291 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034} % quotedblleft
11292 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035} % quotedblright
11293 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036} % quotedblbase
11294 \DeclareTextCommand{\textdagger}{PU}{\9040\040} % dagger
11295 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041} % daggerdbl
11296 \DeclareTextCommand{\textbullet}{PU}{\9040\042} % bullet
11297 \DeclareTextCommand{\textellipsis}{PU}{\9040\046} % ellipsis
11298 \DeclareTextCommand{\textperthousand}{PU}{\9040\060} % perthousand
11299 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061} % pertenthousand
11300 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071} % guilsinglleft
11301 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072} % guilsinglright
11302 \DeclareTextCommand{\textfractionmark}{PU}{\9040\104} % fraction slash
11303 \DeclareTextCommand{\texteuro}{PU}{\9040\254} % Euro
11304 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}
11305 \DeclareTextCommand{\textnumero}{PU}{\9041\026}
11306 \DeclareTextCommand{\texttrademark}{PU}{\9041\042} % trademark
11307 \DeclareTextCommand{\cyrlangle}{PU}{\9043\051}
11308 \DeclareTextCommand{\cyrrangle}{PU}{\9043\052}
11309 </puenc>

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49.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

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11310 <*puvnenc>
11311 \DeclareTextCommand{\abreve}{PU}{\81\003}
11312 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
11313 \DeclareTextCommand{\dj}{PU}{\81\021}
11314 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
11315 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
11316 \DeclareTextCommand{\ohorn}{PU}{\81\241}
11317 \DeclareTextCommand{\uhorn}{PU}{\81\260}
11318 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
11319 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
11320 \DeclareTextCommand{\DJ}{PU}{\81\020}
11321 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
11322 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
11323 \DeclareTextCommand{\OHORN}{PU}{\81\240}
11324 \DeclareTextCommand{\UHORN}{PU}{\81\257}
11325 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
11326 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
11327 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
11328 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
11329 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
11330 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
11331 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
11332 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
11333 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
11334 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
11335 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
11336 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
11337 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
11338 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
11339 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
11340 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
11341 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
11342 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}

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11343 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
11344 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
11345 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
11346 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
11347 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
11348 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
11349 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
11350 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
11351 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
11352 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
11353 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
11354 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
11355 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
11356 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
11357 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
11358 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
11359 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
11360 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
11361 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
11362 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
11363 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
11364 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
11365 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
11366 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
11367 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}
11368 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
11369 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
11370 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
11371 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
11372 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
11373 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
11374 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
11375 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
11376 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
11377 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
11378 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}
11379 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}
11380 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}
11381 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}
11382 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}
11383 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
11384 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}
11385 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
11386 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
11387 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
11388 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
11389 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
11390 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
11391 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
11392 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
11393 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
11394 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}
11395 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}
11396 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}
11397 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
11398 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}
11399 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}

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11400 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}
11401 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}
11402 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}
11403 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
11404 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}
11405 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}
11406 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
11407 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}
11408 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
11409 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
11410 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}
11411 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
11412 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
11413 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
11414 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
11415 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
11416 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
11417 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
11418 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
11419 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
11420 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
11421 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
11422 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
11423 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
11424 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
11425 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
11426 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
11427 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
11428 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
11429 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
11430 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
11431 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
11432 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
11433 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
11434 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
11435 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
11436 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
11437 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
11438 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}
11439 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
11440 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
11441 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
11442 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
11443 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
11444 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
11445 </puvnenc>

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49.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```
11446 <*puarenc>
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```

11447 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
11448 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA A
11449 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA A
11450 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA AE
11451 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HA

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11452 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
11453 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
11454 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
11455 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
11456 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
11457 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
11458 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
11459 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
11460 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
11461 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
11462 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
11463 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
11464 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
11465 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
11466 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
11467 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
11468 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
11469 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
11470 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
11471 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
11472 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN
11473 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
11474 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
11475 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
11476 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
11477 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
11478 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
11479 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
11480 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
11481 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
11482 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA
11483 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH

11484 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
11485 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
11486 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
11487 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
11488 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
11489 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
11490 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA
11491 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

Farsi

11492 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
11493 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
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11498 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
11499 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

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11501 < *check>
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11503 \begin{document}
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