

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

Sebastian Rahtz

Email: [sebastian.rahtz at oucs.ox.ac.uk](mailto:sebastian.rahtz@oucs.ox.ac.uk)

Heiko Oberdiek

Email: [heiko.oberdiek at gmail.com](mailto:heiko.oberdiek@gmail.com)

2010/03/29 v6.80t

## 1 Documentation overview for hyperref

The documentation for package hyperref consists of several files:

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

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


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

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

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

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

Source code documentation:

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

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

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

## 2 Contents

<b>1</b>	<b>Documentation overview for hyperref</b>	<b>1</b>
<b>2</b>	<b>Contents</b>	<b>2</b>
<b>3</b>	<b>File hycheck.tex</b>	<b>7</b>
<b>4</b>	<b>Package options and setup</b>	<b>10</b>
4.1	Save catcodes . . . . .	10
4.2	Compatibility with format dumps . . . . .	12
4.3	Switches . . . . .	13
<b>5</b>	<b>Common help macros</b>	<b>14</b>
5.1	Macros for recursions . . . . .	15
5.2	Babel's protection of shorthand characters . . . . .	15
5.3	Coordinate transformations . . . . .	15
<b>6</b>	<b>Dealing with PDF strings</b>	<b>16</b>
6.1	Description of PDF strings . . . . .	16
6.2	Definition of <code>\pdfstringdef</code> . . . . .	17
6.2.1	Preprocessing . . . . .	17
6.2.2	Expansion . . . . .	22
6.2.3	Postprocessing . . . . .	24
6.3	Encodings . . . . .	28
6.3.1	XeTeX . . . . .	28
6.3.2	Workaround for package linguex . . . . .	29
6.3.3	PD1 encoding . . . . .	29
6.3.4	PU encoding . . . . .	30
6.4	Additional user commands . . . . .	30
6.4.1	<code>\texorpdfstring</code> . . . . .	30
6.4.2	Hooks for <code>\pdfstringdef</code> . . . . .	30
6.5	Help macros for expansion . . . . .	31
6.5.1	<code>\ignorespaces</code> . . . . .	31
6.5.2	Babel languages . . . . .	32
6.5.3	CJK patch . . . . .	37
6.5.4	CJK bookmarks . . . . .	37
6.5.5	CJK unicode . . . . .	39
6.5.6	<code>\@inmathwarn-Patch</code> . . . . .	43
6.5.7	Unexpandable spaces . . . . .	44
6.5.8	Marker for commands . . . . .	45
6.5.9	<code>\hspace fix</code> . . . . .	45
6.5.10	Fix for AMS classes . . . . .	45
6.5.11	Reference commands . . . . .	46
6.5.12	Redefining the defining commands . . . . .	48
6.5.13	<code>\ifnextchar</code> . . . . .	49
6.5.14	<code>\@protected@testoptifnextchar</code> . . . . .	49
6.6	Help macros for postprocessing . . . . .	50
6.6.1	Generic warning. . . . .	50
6.6.2	Protecting spaces . . . . .	50
6.6.3	Remove grouping braces . . . . .	51
6.6.4	Catcode check . . . . .	52
6.6.5	Check for wrong glyphs . . . . .	55
6.6.6	Replacing tokens . . . . .	56

6.6.7	Support for package <code>xspace</code>	57
6.6.8	Converting to Unicode	57
6.6.9	Support for UTF-8 input encoding	59
<b>7</b>	<b>Support of other packages</b>	<b>63</b>
7.1	Class memoir	63
7.2	Package subfigure	63
7.3	Package xr and xr-hyper	64
<b>8</b>	<b>Help macros for links</b>	<b>64</b>
<b>9</b>	<b>Options</b>	<b>66</b>
9.1	Help macros	66
9.2	Defining the options	68
<b>10</b>	<b>Options for different drivers</b>	<b>72</b>
<b>11</b>	<b>Options to add extra features</b>	<b>74</b>
<b>12</b>	<b>Language options</b>	<b>75</b>
<b>13</b>	<b>Options to change appearance of links</b>	<b>82</b>
<b>14</b>	<b>Bookmarking</b>	<b>82</b>
<b>15</b>	<b>PDF-specific options</b>	<b>84</b>
15.1	PDF/A	94
15.2	Patch for babel's <code>\texttilde</code>	94
15.2.1	Driver loading	96
15.2.2	Bookmarks	98
<b>16</b>	<b>User hypertext macros</b>	<b>101</b>
<b>17</b>	<b>Underlying basic hypertext macros</b>	<b>106</b>
<b>18</b>	<b>Compatibility with the <i>BT<sub>E</sub>X2html</i> package</b>	<b>109</b>
<b>19</b>	<b>Forms creation</b>	<b>109</b>
19.1	Field flags	110
19.1.1	Declarations of field flags	112
19.1.2	Set submit flags	114
19.1.3	Set annot flags in fields	114
19.1.4	Pushbutton field	115
19.1.5	Check box field	115
19.1.6	Radio button field	115
19.1.7	Text fields	116
19.1.8	Choice fields	116
19.2	Choice field	117
19.3	Forms	119
<b>20</b>	<b>Setup</b>	<b>124</b>
<b>21</b>	<b>Low-level utility macros</b>	<b>125</b>
<b>22</b>	<b>Localized nullifying of package</b>	<b>126</b>

<b>23 Package nohyperref</b>	<b>127</b>
<b>24 The Mangling Of Aux and Toc Files</b>	<b>128</b>
<b>25 Title strings</b>	<b>129</b>
<b>26 Page numbers</b>	<b>130</b>
<b>27 Every page</b>	<b>130</b>
27.1 PDF /PageLabels . . . . .	131
27.1.1 pdfTeX and VTeX . . . . .	134
27.1.2 xetex . . . . .	136
27.1.3 pdfmarkbase, dvipdfm, xetex . . . . .	136
<b>28 Automated L<sup>A</sup>T<sub>E</sub>X hypertext cross-references</b>	<b>138</b>
<b>29 Package lastpage support</b>	<b>142</b>
<b>30 Package ifthen support</b>	<b>143</b>
<b>31 Package titlesec and titletoc support</b>	<b>143</b>
<b>32 Package varioref support</b>	<b>144</b>
<b>33 Package longtable support</b>	<b>144</b>
<b>34 Equations</b>	<b>145</b>
<b>35 Footnotes</b>	<b>149</b>
<b>36 Float captions</b>	<b>153</b>
<b>37 Bibliographic references</b>	<b>155</b>
37.1 Package harvard . . . . .	158
37.2 Package chicago . . . . .	160
<b>38 Page numbers</b>	<b>161</b>
<b>39 Table of contents</b>	<b>162</b>
<b>40 New counters</b>	<b>163</b>
<b>41 AMSL<sup>A</sup>T<sub>E</sub>X compatibility</b>	<b>164</b>
41.1 \@addtoreset and \numberwithin patches . . . . .	165
<b>42 Included figures</b>	<b>166</b>
<b>43 hyperindex entries</b>	<b>166</b>
<b>44 Compatibility with foiltex</b>	<b>169</b>
<b>45 Compatibility with seminar slide package</b>	<b>169</b>

<b>46</b>	<b>Configuration files</b>	<b>177</b>
46.1	PS/PDF strings	177
46.2	pdftex	178
46.2.1	Fix for problem with different nesting levels	191
46.3	hypertex	191
46.4	dviwindo	194
46.5	dvipdfm/xetex dvi to PDF converter	198
46.6	VT <sub>E</sub> X typesetting system	206
46.7	Fix for Adobe bug number 466320	218
46.8	Direct pdfmark support	219
46.9	Rokicki's dvips	231
46.10	VT <sub>E</sub> X's vtexpdfmark driver	233
46.11	Textures	235
46.12	dvipsone	239
46.13	TeX4ht	242
<b>47</b>	<b>Driver-specific form support</b>	<b>244</b>
47.1	pdfmarks	244
47.2	HyperTeX	251
47.3	TeX4ht	251
47.4	pdfTeX	254
47.5	dvipdfm, xetex	261
47.6	Common forms part	268
<b>48</b>	<b>Bookmarks in the PDF file</b>	<b>274</b>
48.1	Bookmarks	275
48.1.1	Rerun warning	278
48.1.2	Driver stuff	278
<b>49</b>	<b>Compatibility with koma-script classes</b>	<b>284</b>
<b>50</b>	<b>Encoding definition files for encodings of PDF strings</b>	<b>285</b>
50.1	PD1 encoding	285
50.2	PU encoding	293
50.2.1	NFSS2 accents	293
50.2.2	Basic Latin: U+0000 to U+007F	295
50.2.3	Latin-1 Supplement: U+0080 to U+00FF	296
50.2.4	Latin Extended-A: U+0080 to U+017F	300
50.2.5	Latin Extended-B: U+0180 to U+024F	305
50.2.6	Spacing Modifier Letters: U+02B0 to U+02FF	306
50.2.7	Combining Diacritical Marks: U+0300 to U+036F	307
50.2.8	Greek and Coptic: U+0370 to U+03FF	307
50.2.9	Cyrillic: U+0400 to U+04FF	310
50.2.10	Thai: U+0E00 to U+0E7F	320
50.2.11	Latin Extended Additional: U+1E00 to U+1EFF	320
50.2.12	General Punctuation: U+2000 to U+206F	323
50.2.13	Superscripts and Subscripts: U+2070 to U+209F	324
50.2.14	Currency Symbols: U+20A0 to U+20CF	325
50.2.15	Letterlike Symbols: U+2100 to U+214F	325
50.2.16	Arrows: U+2190 to U+21FF	326
50.2.17	Mathematical Operators: U+2200 to U+22FF	326
50.2.18	Miscellaneous Technical: U+2300 to U+23FF	326
50.2.19	Control Pictures: U+2400 to U+243F	326

50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF . . . . .	326
50.2.21 Box Drawing: U+2500 to U+257F . . . . .	329
50.2.22 Miscellaneous Symbols: U+2600 to U+26FF . . . . .	329
50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF . . . . .	329
50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F . . . . .	329
50.2.25 Miscellaneous . . . . .	329
50.2.26 Aliases . . . . .	329
50.3 PU encoding, additions for VnT <sub>E</sub> X . . . . .	330
50.4 PU encoding, additions for Arabi . . . . .	332
<b>51 End of file hycheck.tex</b>	<b>333</b>
<b>52 Index</b>	<b>334</b>

### 3 File hyccheck.tex

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

```

1 \check
2 \documentclass{article}
3 \makeatletter

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

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

```

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

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

```

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

`\HyC@checkPackage`

```

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

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

```

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

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

```

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

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

```

59 \def\HyC@checkcommand{%
60   \ifx\HyC@next\relax
61     \PackageError{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<sup>A</sup>T<sub>E</sub>X definition (number of arguments).

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

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

```

## 4 Package options and setup

### 4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```
231 \Hy@SetCatcodes
```

It needs the December 95 release of L<sup>A</sup>T<sub>E</sub>X, because it uses `\protected@write`, and it defines commands in options; and the page setup internal code changed at that point. It'll probably break with the later releases!

```

232 \RequirePackage{ltxcmds}[2010/03/09]
233 \RequirePackage{keyval}[1997/11/10]
234 \RequirePackage{kvsetkeys}[2007/09/29]
235 \RequirePackage{pdfescape}[2007/11/11]
236 \RequirePackage{ifpdf}[2006/02/20]
237 \RequirePackage{ifvtex}
238 \RequirePackage{ifxetex}[2006/08/21]
239 \RequirePackage{hycolor}
240 \RequirePackage{letltxmacro}[2008/06/13]
241 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
242 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
243 \def\Hy@Info#1{\PackageInfo{hyperref}{#1}}

```

## 4.2 Compatibility with format dumps

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

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

```

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

```

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

```

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

```

`\Hy@AtEndOfPackage`

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

```

251 \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
252 }

```

\Hy@AtBeginDocumentHook

```

253 \def\Hy@AtBeginDocumentHook{}

```

\Hy@AtEndOfPackageHook

```

254 \def\Hy@AtEndOfPackageHook{}

```

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

```

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

```

### 4.3 Switches

```

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

```

```

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

```

Defaults for the switches are now set.

```

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

```

## 5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

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

```

## 5.1 Macros for recursions

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

```

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

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

```

## 5.2 Babel's protection of shorthand characters

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

```

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

```

## 5.3 Coordinate transformations

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

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

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

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

Example (TeX):

```

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

```

`\hypercalcbp`

```

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

```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

### 6.1 Description of PDF strings

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

- They are surrounded by parentheses. The hexadecimal form is not supported.



- Like PostScript language strings they use the same escaping mechanism:
 

<code>\\</code>	the backslash itself
<code>\), \((</code>	unbalanced parentheses
<code>\n, \r, \t, \b, \f</code>	special white space escape sequences
<code>\ddd</code>	octal character code <i>ddd</i>
- Strings are stored either in PDFDocEncoding, which is a superset of ISO Latin1 and is compatible with Unicode with character codes below 256, or in Unicode.

## 6.2 Definition of `\pdfstringdef`

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

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

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

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

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

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

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

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

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

```
404 \begingroup
```

### 6.2.1 Preprocessing

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

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

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

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

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

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

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

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

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

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

```
421 \@inmathwarn\pdfstringdef
```

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

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

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

```
423 \let\add@accent\HyPsd@add@accent
```

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

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

```

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

```

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

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

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

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

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

```

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

```

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

```

438 \def\TeX{\TeX}%
439 \def\LaTeX{\LaTeX}%
440 \def\LaTeXe{\LaTeX2e}%
441 \def\TeXe{\TeX}%
442 \def\SLiTeX{\SLiTeX}%
443 \def\MF{Metafont}%
444 \def\MP{Metapost}%

```

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

```

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

```

```

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

```

#### Package color.

```

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

```

#### Upper- and lowercase.

```

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

```

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

```

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

```

Disable \cyr, used in russianb.ldf.

```

501 \let\cyr\relax

```

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

```

502 \let\es@roman\@Roman

```

#### Package german.

```

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

```

```

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

```

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

**Package FrenchPro.** This package uses:

```

\if@mid@expandable{not fully expandable code}{fully expandable code}

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

```

**AMS classes.**

```

512 \HyPsd@AMSclassfix

```

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

```

513 \let\hspace\HyPsd@hspace

```

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

```

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

```

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

```

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

```

**Miscellaneous commands.**

```

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

```

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

```

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

```

**Patch for cjk bookmarks.**

```

528 \HyPsd@CJKhook

```

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

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

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

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

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

**Package xspace.**

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

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

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

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

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

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

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

Support for package 'xargs':

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

## 6.2.2 Expansion

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

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

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

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

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

```

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

```

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

```

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

```

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

```

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

```

### 6.2.3 Postprocessing

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

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

```

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

```

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

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

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

```

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

```

**Ligatures.** T<sub>E</sub>X forms ligatures in its stomach, but the PDF strings are treated only by T<sub>E</sub>X's mouth. The PDFDocEncoding contains some ligatures, but the current version 3 of the AcrobatReader lacks the fi and fl glyphs, and the Linux version lacks the emdash and endash glyphs. So the necessary code is provided here, but currently disabled, hoping that version 4 of the AcrobatReader is better. To break the ligatures the user can use an empty group, because it leads to an insertion of an \HyPsd@empty. If this ligature code will be enabled some day, then the italic correction should also break the ligatures. Currently this occurs only, if package xspace is loaded.

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

```

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

```

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

```

624      \let\HyPsd@empty\@empty

```

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

An optimization is possible. Matched parentheses can be replaced by a () pair. But this code is removed to save T<sub>E</sub>X memory and time.

```

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

```

```

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

```

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

With Unicode the spaces are replaced by their octal sequences.

```

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

```

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

```

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

```

**Try conversion back to PDFDocEncoding.**

```

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

```

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

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

`\Hy@pdfstringdef`

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

## 6.3 Encodings

### 6.3.1 Xe<sub>TeX</sub>

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

```

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

```

### 6.3.2 Workaround for package linguex

```

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

```

### 6.3.3 PD1 encoding

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

preting by the PDF reader, the glyphs of the PD1 encoding are implemented to be safely written to a file (PDF output file, .out file).

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

```

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

```

### 6.3.4 PU encoding

The PU encoding implements the Unicode encoding for use with L<sup>A</sup>T<sub>E</sub>X's NFSS. Because of large memory requirements the encoding file for Unicode support is only loaded, if option unicode is specified as package option.

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

```

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

```

## 6.4 Additional user commands

### 6.4.1 \texorpdfstring

`\texorpdfstring` While expanding the string in `\pdfstringdef` the switch `\ifHy@pdfstring` is set. This is used by the full expandable macro `\texorpdfstring`. It expects two arguments, the first contains the string that will be set and processed by T<sub>E</sub>X's stomach, the second contains the replacement for PDF strings.

```

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

```

### 6.4.2 Hooks for \pdfstringdef

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

```

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

```

```

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

```

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

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

```

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

```

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

```

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

```

`\HyPsd@DisableCommands`

```

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

```

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

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

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

```

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

```

## 6.5 Help macros for expansion

### 6.5.1 `\ignorespaces`

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

```

813 \begingroup

```

```

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

```

### 6.5.2 Babel languages

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

```

\pdfstringdefDisableCommands{%
\languageshorthands{system}%
}

```

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

```

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

```



```

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

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

```

```

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

```

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

```

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

```

```

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

```

```

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

```

```

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

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

```

### 6.5.3 CJK patch

```

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

```

\HyPsd@CJKhook

```

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

```

### 6.5.4 CJK bookmarks

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

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

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

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

```

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

```

```

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

```

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

```

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

```

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

```

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

```

```

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

```

### 6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

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

```

\HyPsd@CJK@Unicode

```

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

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

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

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

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

```

```

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

```



```

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

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

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

```

```

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

```

```

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

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

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

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

```

### 6.5.6 \@inmathwarn-Patch

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

To understand the patch easier, the original code of `\@current@cmd` and `\@changed@cmd` follows ( $\text{\LaTeX}$  2<sub>ε</sub> release [1998/12/01]). In the normal case `\pdfstringdef` is executed in a context where `\protect` has the meaning of `\@typesetprotect` (`=\relax`).

```

\def\@current@cmd#1{%
  \ifx\protect\@typeset@protect
    \@inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble
  \fi}

\def\@changed@cmd#1#2{%
  \ifx\protect\@typeset@protect

```

```

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

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

\HyPsd@add@accent

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

```

### 6.5.7 Unexpandable spaces

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

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

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

```

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

```

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

```

1456 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

### 6.5.8 Marker for commands

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

```

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

```

### 6.5.9 \hspace fix

\HyPsd@hspace

```

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

```

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

```

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

```

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

```

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

```

### 6.5.10 Fix for AMS classes

```

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

```

1485 }

### 6.5.11 Reference commands

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

```

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

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

```

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

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

```

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

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

```

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

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

```

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

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

```

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

`\HyPsd@@autorefname`

```

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

```

### 6.5.12 Redefining the defining commands

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

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

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

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

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

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

```

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

```



```

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

```

### 6.5.13 \ifnextchar

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

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

```

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

```

### 6.5.14 \@protected@testoptifnextchar

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

```

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

```

## 6.6 Help macros for postprocessing

### 6.6.1 Generic warning.

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

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

### 6.6.2 Protecting spaces

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

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

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

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

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

### Remove mask.

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

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

```

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

```

### 6.6.3 Remove grouping braces

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

```

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

```

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

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

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

```

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

```

```

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

```

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

```

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

```

#### 6.6.4 Catcode check

##### Check catcodes.

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

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

```

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

```

```

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

```

```

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

```

### Remove counts, dimens, skips.

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

```

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

```

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

```

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

```

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

```

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

```

### Catcode warnings.

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

```

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

```

```

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

```

\HyPsd@RemoveSpaceWarning

```

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

```

\HyPsd@ReplaceSpaceWarning

```

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

```

### 6.6.5 Check for wrong glyphs

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

```

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

```

```

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

```

### Spaces.

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

```

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

```

### 6.6.6 Replacing tokens

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

```

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

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

```



```

1919 \fi
1920 }%
1921 }

```

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

```

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

```

### 6.6.7 Support for package `xspace`

`\HyPsd@doxspace` `\xspace` does not work, because it uses a `\futurelet` that cannot be executed in 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.

```

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

```

### 6.6.8 Converting to Unicode

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

```

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

```

`\HyPsd@ConvertToUnicode`

```

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

```

```

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

```

\HyPsd@DoConvert

```

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

```

\HyPsd@DoEscape

```

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

```

\HyPsd@GetTwoBytes

```

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

```

\HyPsd@GetOneByte

```

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

```

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

```

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

```

```

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

```

\HyPsd@Char

```

2006 \begingroup
2007 \catcode0=9 %
2008 \catcode'\^=7 %
2009 \catcode'\^^=12 %
2010 \def\x{^^^0000}%
2011 \expandafter\endgroup
2012 \ifx\x\@empty
2013 \def\HyPsd@Char#1{%
2014 \ifnum'#1<128 %
2015 \@backslashchar 000#1%
2016 \else
2017 \ifnum'#1<65536 %
2018 \expandafter\HyPsd@CharTwoByte\number'#1!%
2019 \else
2020 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2021 \intcalcSub{'#1}{65536}!%
2022 \fi
2023 \fi
2024 }%
2025 \def\HyPsd@CharTwoByte#1!{%
2026 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2027 \IntCalcDiv#1!256!!%
2028 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2029 \IntCalcMod#1!256!!%
2030 }%
2031 \def\HyPsd@CharOctByte#1!{%
2032 \@backslashchar
2033 \IntCalcDiv#1!64!%
2034 \intcalcDiv{\IntCalcMod#1!64!}{8}%
2035 \IntCalcMod#1!8!%
2036 }%
2037 \def\HyPsd@CharSurrogate#1!{%
2038 \@backslashchar 33%
2039 \IntCalcDiv#1!262144!%
2040 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2041 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2042 \@backslashchar 33%
2043 \expandafter\expandafter\expandafter\IntCalcAdd
2044 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2045 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2046 \IntCalcMod#1!256!!%
2047 }%
2048 \else
2049 \def\HyPsd@Char#1{%
2050 \@backslashchar 000#1%
2051 }%
2052 \fi

```

### 6.6.9 Support for UTF-8 input encoding

After `\usepackage[utf8]{inputenc}` there are macros that expect the UTF-8 octets as arguments. Therefore we can calculate the PDF octal sequences directly. Because the

PDF format is limited to UCS-2, conversion macros are needed for UTF-8 sequences with two and three octets only.

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

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

```

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

```

The two octet form of UTF-8 110aaabb (A) and 10cccd (B) must be converted into octal numbers 00a and bcd. The result is `\8a\bcd` (with a, b, c, d as octal numbers). The conversion equations.

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

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

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

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

$$(5)$$

```

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

```

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

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

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

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

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

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

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

$$(12)$$

```

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

```

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

```

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

```

```

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

```

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

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

```

## 7 Support of other packages

### 7.1 Class memoir

```

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

```

### 7.2 Package subfigure

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

```

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

```

```

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

```

### 7.3 Package xr and xr-hyper

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

```

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

```

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

```

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

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

```

Providing dummy definitions.

```

2245 \let\literalps@out\@gobble
2246 \newcommand\pdfbookmark[3]{}
2247 \def\Acrobatmenu#1#2{\leavevmode#2}
2248 \def\Hy@writebookmark#1#2#3#4#5{}%

```

## 8 Help macros for links

Anchors get created on the baseline of where they occur. If an XYZ PDF view is set, this means that the link places the top of the screen *on the baseline* of the target. If this is an equation, for instance, it means that you cannot see anything. Some links, of course, are created at the start of environments, and so it works. To allow for this, anchors are raised, where possible, by some small amount. This defaults to \baselineskip, but users can set it to something else in two ways (thanks to Heiko Oberdiek for suggesting this):

1. Redefine \HyperRaiseLinkDefault to be eg the height of a \strut
2. Redefine \HyperRaiseLinkHook to do something complicated; it must give a value to \HyperRaiseLinkLength, which is what actually gets used

```

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

```

\HyperRaiseLinkHook allows the user to reassign \HyperRaiseLinkLength.

```

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

```



```

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

```

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

```

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

```

## 9 Options

### 9.1 Help macros

\Hy@boolkey

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

\Hy@WarnOptionValue

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

\Hy@DisableOption

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

\Hy@WarnOptionDisabled

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

`\Hy@CheckOptionValue` Some options take a string value out of a limited set of values. Macro `\Hy@CheckOptionValue` checks whether the given value `#1` for option `#2` is a member of the value list `#3`.

```

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

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

```

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

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

```

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

`\Hy@UseNameKey`

```

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

```

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

```

## 9.2 Defining the options

```

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

```

```

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

```

If we are going to PDF via HyperTeX \special commands, the dvips (-z option) processor does not know the *height* of a link, as it works solely on the position of the closing \special. If we use this option, the \special is raised up by the right amount, to fool the dvi processor.

```

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

```

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

```

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

```

Determines whether an automatic anchor is put on each page

```

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

```

Are the page links done as plain arabic numbers, or do they follow the formatting of the package? The latter loses if you put in typesetting like \textbf or the like.

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

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

```

```

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

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

```

```

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

```

## 10 Options for different drivers

```

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

```



```

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

```

```

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

```

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

```

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

```

## 11 Options to add extra features

Make included figures (assuming they use the standard graphics package) be hypertext links. Off by default. Needs more work.

```

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

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

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

```

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

```

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

```

```

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

```

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

```

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

```

Configuration of encap char.

```

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

```

## 12 Language options

The `\autoref` feature depends on the language.

```

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

```

```

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

```

```

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

```

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

Next commented section for Russian is provided by Olga Lapko.

Next follow the checked reference names with commented variants and explanations. All they are abbreviated and they won't create a grammatical problems in the *middle* of sentences.

The most weak points in these abbreviations are the \equationautorefname, \theoremautorefname and the \FancyVerbLineautorefname. But those three, and also the \footnoteautorefname are not *too* often referenced. Another rather weak point is the \appendixautorefname.

2927 \def\HyLang@russian{%

The abbreviated reference to the equation: it is not for “the good face of the book”, but maybe it will be better to get the company for the \theoremautorefname?

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

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

2929 % \def\equationautorefname{%

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

2931 % }%

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

2932 \def\footnoteautorefname{%

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

2934 }%

Commented form of the full synonym for “footnote”. It has common form for both nominative and accusative but changes in other forms, like “of \autoref{auto}”

2935 % \def\footnoteautorefname{%

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

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

2938 % }%

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

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

2940 % \def\Accfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyru}%

Name of the list item, can be confused with the paragraph reference name, but reader could understand meaning from context(?). Commented variant has common form for both nominative and accusative but changes in other forms, like “of \autoref{auto}” etc.

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

2942 % \def\itemautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%

Names of the figure and table have stable (standard) abbreviation forms. No problem in the middle of sentence.

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

2944 \def\tableautorefname{\cyr\cyrt\cyra\cyrb\cyrl.}%

Names of the part, chapter, section(s) have stable (standard) abbreviation forms. No problem in the middle of sentence.

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

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

2947 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%

Name of the appendix can use this abbreviation, but it is not standard for books, i.e, not for “the good face of the book”. Commented variant has common form for both nominative and accusative but changes in other forms, like “of \autoref{auto}” etc.

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

The sectioning command have stable (almost standard) and common abbreviation form for all levels (the meaning of these references visible from the section number). No problem.

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

The names of references to paragraphs also have stable (almost standard) and common abbreviation form for all levels (the meaning of these references is visible from the section number). No problem in the middle of sentence.

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

Commented variant can be used in books but since it has common form for both nominative and accusative but it changes in other forms, like “of \autoref{auto}” etc.

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

The name of verbatim line. Here could be a standard of the abbreviation (used very rare). But the author preprint publications (which have not any editor or corrector) can use this abbreviation for the page reference. So the meaning of the line reference can be read as reference to the page.

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

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

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

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

```
2961 % \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyrk.}%
```

The names of theorem: if we want have “the good face of the book”, so the theorem reference must have the full name (like equation reference). But ...

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

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

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

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

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

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

```

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

```

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

```

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

```



```

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

```

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

```

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

```

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

```

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

```

## 13 Options to change appearance of links

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

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

## 14 Bookmarking

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

The depth of the outlines is controlled by option `bookmarksdepth`. The option acts globally and distinguishes three cases:

- `bookmarksdepth`: Without value `hyperref` uses counter `tocdepth` (compatible behaviour and default).
- `bookmarksdepth=<number>`: the depth is set to `<number>`.
- `bookmarksdepth=<name>`: The `<name>` must not start with a number or minus sign. It is a document division name (part, chapter, section, ...). Internally the value of macro `\toclevel@<name>` is used.

```

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

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

```

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

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

```

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

Option CJKbookmarks enables the patch for CJK bookmarks.

```

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

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

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

```

## 15 PDF-specific options

`\@pdfpagetransition` The value of option pdfpagetransition is stored in `\@pdfpagetransition`. Its initial value is set to `\relax` in order to be able to differentiate between a not used option and an option with an empty value.

```

3200 \let\@pdfpagetransition\relax
3201 \define@key{Hyp}{pdfpagetransition}{\def\@pdfpagetransition{#1}}

```

`\@pdfpageduration` The value of option pdfpageduration is stored in `\@pdfpageduration`. Its initial value is set to `\relax` in order to be able to differentiate between a not used option and an option with an empty value.

```

3202 \let\@pdfpageduration\relax
3203 \define@key{Hyp}{pdfpageduration}{\def\@pdfpageduration{#1}}

```

The entry for the `/Hid` key in the page object is only necessary, if it is used and set to true for at least one time. If it is always false, then the `/Hid` key is not written to the pdf page object in order not to enlarge the pdf file.

```

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

```

```

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

```

The value of the bordercolor options are not processed by the color package. Therefore the value consists of space separated rgb numbers in the range 0 until 1.

Package xcolor provides \XC@bordercolor since version 1.1. If the two spaces in the color specification are missing, then the value is processed as color specification from package xcolor by using \XC@bordercolor (since xcolor 2004/05/09 v1.11, versions 2005/03/24 v2.02 until 2006/11/28 v2.10 do not work because of a bug that is fixed in 2007/01/21 v2.11).

```

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

```

```

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

```

```

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

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

```

```

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

```



```

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

```

```

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

```

```

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

```

```

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

```

Default values:

```

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

```

```

3654 \endgroup
3655 }
3656 \def\HyInd@EncapChar{\|}
3657 \def\hypersetup{\setkeys{Hyp}}

```

Allow the user to use `\ExecuteOptions` in the `cfg` file even though this package does not use the normal option mechanism. Use `\hyper@normalise` as a scratch macro, since it is going to be defined in a couple of lines anyway.

```

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

```

To add flexibility, we will not use the ordinary processing of package options, but put them through the `keyval` package. This section was written by David Carlisle.

Package `kvoptions` is used for processing options that are given as key value pairs. The package provides `\ProcessKeyvalOptions`, formerly known as `\ProcessOptionsWithKV`.

```

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

```

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

```

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

```

After processing options.

```

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

```

```

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

```

## 15.1 PDF/A

```

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

```

## 15.2 Patch for babel’s \texttilde

Babel does not define \texttilde in NFSS2 manner, so the NFSS2 definitions of PD1 or PU encoding is not compatible. To fix this, \texttilde is defined in babel manner.

```

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

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

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

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

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

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

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

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

```

```

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

```

### 15.2.1 Driver loading

```

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

```

Some drivers can be detected. Check for these drivers, whether the given driver option is ok. Otherwise force the right driver or use the default driver.

```

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

```



```

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

```

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

```

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

```

```

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

```

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

```

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

```

### 15.2.2 Bookmarks

```

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

```

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

```

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

```

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

```

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

```

```

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

```

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

```

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

```

for grouping consistency:

```

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

```

```

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

```

## 16 User hypertext macros

We need to normalise all user commands taking a URL argument; Within the argument the following special definitions apply: `\#`, `\%`, `\~` produce `#`, `%`, `~` respectively. for consistency `\~` produces `~` as well. At the *top level only* ie not within the argument of another command, you can use `#` and `%` unescaped, to produce themselves. even if, say, `#` is entered as `#` it will be converted to `\#` so it does not die if written to an aux file etc. `\#` will write as `#` locally while making `\specials`.

```

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

```

```

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

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

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

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

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

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

```

```

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

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

```

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

```

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

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

```

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

```

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

```



```

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

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

```

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

```

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

```

## 17 Underlying basic hypertext macros

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

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

The problem here is that the first (URL) parameter may be a local file: reference (in which case some browsers treat it differently) or a genuine URL, in which case we'll have to activate a real Web browser. Note that a simple name is also a URL, as that is interpreted as a relative file name. We have to worry about # signs in a local file as well.

```
4359 \def\hyper@readexternallink#1\{#2#3#4{%
```

Parameters are:

1. The URL or file name
2. The type
3. The internal name
4. The link string

We need to get the 1st parameter properly expanded, so we delimit the arguments rather than passing it inside a group.

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

Now (potentially), we are passed: 1) The link type 2) The internal name, 3) the link string, 4) the URL type (http, mailto, file etc), 5) the URL details 6) anything after a real : in the URL 7) the whole URL again

```

4362 \def\@pdftempwordfile{file}%
4363 \def\@pdftempwordrun{run}%
4364 \def\@hyper@readexternallink#1#2#3#4:#5:#6\\\#7{%

```

If there are no colons at all (#6 is blank), its a local file; if the URL type (#4) is blank, its probably a Mac filename, so treat it like a file: URL. The only flaw is if its a relative Mac path, with several colon-separated elements — then we lose. Such names must be prefixed with an explicit dvi:

```

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

```

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

```

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

```

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

```

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

```

otherwise its a URL

```

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

```

By default, turn run: into file:

```

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

```

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

```

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

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

```

Anchors have a name, and marked text. We have to be careful with the marked text, as if we break off part of something to put a `\special` around it, all hell breaks loose. Therefore, we check the category code of the first token, and only proceed if its safe. Tanmoy sorted this out.

A curious case arises if the original parameter was in braces. That means that `#2` comes here a multiple letters, and the `noexpand` just looks at the first one, putting the rest in the output. Yuck.

```

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

```

```

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

```

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

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

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

```

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

```

This is really too much. The *L<sup>A</sup>T<sub>E</sub>X2html* package defines its own `\hyperref` command, with a different syntax. Was this always here? Its weird, anyway. We interpret it in the 'printed' way, since we are about fidelity to the page.

```

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

```

## 19 Forms creation

Allow for creation of PDF or HTML forms. The effects here are limited somewhat by the need to support both output formats, so it may not be as clever as something which only

wants to make PDF forms.

I (Sebastian) could not have started this without the encouragement of T V Raman.

## 19.1 Field flags

The field flags are organized in a bit set.

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

Each flag has an option name, an `\if` switch, and a bit position. The default is always ‘false’, the flag is clear. This is also the default of the switch created by `\newif`.

The names of the flags in the PDF specification (1.7) are used as lowercase option names.

`\HyField@NewFlag` #1: type: F annot flags, Ff field flags

#2: PDF name

#3: PDF position

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

`\HyField@NewFlagOnly`

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

`\HyField@NewOption` #1: option name

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

`\HyField@NewBitsetFlag` Package ‘bitset’ uses zero based positions, the PDF specification starts with one.

#1: option

#2: PDF name

#3: type: F annot flags, Ff field flags

#4: PDF position

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

```

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

```

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

```

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

```

\HyField@@UseFlag

```

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

```

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

```

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

```

\HyField@@SetFlag

```

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

```

\HyField@PrintFlags

```

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

```

### 19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

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

“Table 8.75 Field flags specific to button fields”

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

“Table 8.77 Field flags specific to text fields”

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

“Table 8.79 field flags specific to choice fields”

```
4581 \HyField@NewFlag{Ff}{Combo}{18}  
4582 \HyField@NewFlag{Ff}{Edit}{19}  
4583 \HyField@NewFlag{Ff}{Sort}{20}  
4584 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4  
4585 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4  
4586 \HyField@NewFlag{Ff}{CommitOnSelChange}{27}% PDF 1.5
```

Signature fields are not supported.

Until 6.76i hyperref uses field option ‘combo’ to set three flags ‘Combo’, ‘Edit’, and ‘Sort’. Option ‘popdown’ sets flag ‘Combo’ only.

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

Annotation flags. The form objects are widget annotations. There are two flags for readonly settings, the one in the annotation flags is ignored, instead the other in the field flags is used.

Flag Print is not much useful, because hyperref do not use the appearance entry of the annotations for most fields.

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



```

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

```

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

```

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

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

```

### 19.1.2 Set submit flags

\HyField@FlagsSubmit

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

### 19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

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

```

```

4711 }%
4712 }

```

#### 19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

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

```

#### 19.1.5 Check box field

\HyField@FlagsCheckBox

```

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

```

#### 19.1.6 Radio button field

\HyField@FlagsRadioButton

```

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

```

4755 }

### 19.1.7 Text fields

\HyField@FlagsText

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

### 19.1.8 Choice fields

\HyField@FlagsChoice

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

```

```

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

```

## 19.2 Choice field

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

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

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

```

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

```

```

4854 \endgroup
4855 }

```

\HyField@@PDFChoices

```

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

```

```

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

```

## 19.3 Forms

\HyField@SetKeys

```

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

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

```

```

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

```



```

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

```

```

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

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

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

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

```

```

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

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

```

```

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

```

Default options for the types of \ChoiceMenu.

```

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

```

## 20 Setup

```

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

```

```

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

```

## 21 Low-level utility macros

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

```

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

```

We give the start of document a special label; this is used in backreferencing-by-section, to allow for cites before any sectioning commands. Set up PDF info.

```

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

```

```

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

```

Ignore star from referencing macros:

```

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

```

## 22 Localized nullifying of package

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

```

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

```

```

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

```

## 23 Package nohyperref

This package is introduced by Sebastian Rahtz.

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

Some low-level commands:

```

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

```

Some top-level commands:

```

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

```

Ignore star from referencing macros:

```

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

```

```

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

```

## 24 The Mangling Of Aux and Toc Files

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

```

5384 \*package
5385 \Hy@AtBeginDocument{%

```

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

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

```

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

```

But the new aux file will be read again at the end, with the normal definitions expected, so better put things back as they were.

```

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

```

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

```

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

```



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

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

```

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

```

## 25 Title strings

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

```

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

```

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

```

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

```

```

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

```

Macro `\Hy@UseMaketitleInfos` is used in the driver files, before the information entries are used.

The newline macro `\newline` or `\\` is much more complicate. In the title a good replacement can be a space, but can be already a space after `\\` in the title string. So this space is removed by scanning for the next non-empty argument.

In the macro `\author` the newline can perhaps separate the different authors, so the newline expands here to a comma with space.

The possible arguments such as space or the optional argument after the newline macros are not detected.

```

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

```

## 26 Page numbers

This stuff is done by Heiko Oberdiek.

## 27 Every page

```

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

```

## 27.1 PDF /PageLabels

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

```

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

```

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

```

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

```

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

```

5539 \def\HyPL@Labels{}%

```

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

```

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

```

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

```

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

```

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

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

`\HyPL@EveryPage` If a page is shipout and the page number is known, `\HyPL@EveryPage` has to be called. It stores the current page label.

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

```

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

```

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

```

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

```

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

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

```

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

```

`\HyPL@Format` The help macro `\HyPL@Format` is executed while a `\protected@edef` in the second check method of `\HyPL@@@CheckPage`. The first occurrences of, for example, `\arabic{page}` is marked by `\HyPL@found` that is also defined by `\csname`.

```

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

```

```

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

```

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

```

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

```

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

```

5658 \providecommand*{\HyPL@StorePageLabel}[1]{}%

```

`\HyPL@Useless` The `/PageLabels` entry does not make sense, if the absolute page numbers and the page labels are the same. Then `\HyPL@Labels` has the meaning of `\HyPL@Useless`.

```

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

```

`\HyPL@SetPageLabels` The page labels are written to the PDF catalogue. The command `\Hy@PutCatalog` is defined in the driver files.

```

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

```

```

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

```

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

```

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

```

### 27.1.1 pdfTeX and VTeX

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

`\Hy@PutCatalog`

```

5675 <pdfTeX>\let\Hy@PutCatalog\pdfcatalog

```

The code for VTeX is more complicate, because it does not allow the direct access to the /Catalog object. The command scans its argument and looks for a /PageLabels entry.

VTeX 6.59g is the first version, that implements \special{!pdfpagelabels...}. For this version \VTeXversion reports 660.

```

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

5709 < *pdftex | vtex>

```

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

```

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

```

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

```

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

```

```

5722 \fi
5723 </pdfTEX | vTeX>

```

### 27.1.2 xetex

```

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

```

### 27.1.3 pdfmarkbase, dvipdfm, xetex

```

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

```



```

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

```

\Hy@PutCatalog

```

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

5787 \pdfmarkbase | dvi\pdfm | xetex>
5788 \ifHy@pagelabels

```

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

```

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

```

Write a dummy definition of \HyPL@Entry for the case, that the next run is done without hyperref. A marker for the rerun warning is set and the /PageLabels is written.

```

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

```

\HyPL@Entry

```

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

5818 \fi
5819 \pdfmarkbase | dvi\pdfm | xetex>

```

```

5820 <*package>
5821 \MaybeStopEarly

```

## 28 Automated L<sup>A</sup>T<sub>E</sub>X hypertext cross-references

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

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

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

Start with a fallback for equations

```

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

```

```

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

```

Thanks to Greta Meyer (gbd@pop.cwru.edu) for making me realize that enumeration starts at 0 for every list! But `\item` occurs inside `\trivlist`, so check if its a real `\item` before incrementing counters.

```

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

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

```

Tanmoy asked for this default handling of undefined `\theH<name>` situations. It really isn't clear what would be ideal, whether to turn off hyperizing of unknown elements, to pick up the textual definition of the counter, or to default it to something like `\arabic{name}`. We take the latter course, slightly worriedly.

```

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

```

We do not want the handler for `\refstepcounter` to cut in during the processing of `\item` (we handle that separately), so we provide a bypass conditional.

```

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

```

AMSL<sup>A</sup>T<sub>E</sub>X processes all equations twice; we want to make sure that the hyper stuff is not executed twice, so we use the AMS `\ifmeasuring@`, initialized if AMS math is not used.

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

`\hyper@refstepcounter`

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

After `\appendix` “chapter” (or “section” for classes without chapter) should be replaced by “appendix” to get `\autoref` work. Macro `\Hy@chapapp` contains the current valid name like `\@chapapp`, which cannot be used, because this string depends on the current language.

The “french” package defines counter `\thechapter` by `\newcounterchapter`, if `\ifundefinedchapter`.

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

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

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

```

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

```

\Hy@MakeCurrentHref

```

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

```

\Hy@MakeCurrentHrefAuto

```

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

```

```

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

```

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

```

5996 \def\@currentHlabel{\@currentHref}

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

```

## 29 Package lastpage support

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

\lastpage@putlabel

```

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

```

```

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

```

## 30 Package ifthen support

Since version 6.75a this is done in package nameref.

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

```

6070 \def\hypergetref#1{\getrefbykeydefault{#1}{\thepage}}
6071 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

## 31 Package titlesec and titletoc support

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

Package titlesec support:

```

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

```

```

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

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

```

## 32 Package varioref support

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

```

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

```

## 33 Package longtable support

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

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

```

6117 \@ifpackageloaded{longtable}{%

```



```

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

```

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

```

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

```

## 34 Equations

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

```

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

```

```

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

```

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

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

```

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

```

This is quite heavy-handed, but it works for now. If its an `eqnarray*` we need to disable the hyperref actions. There may well be a cleaner way to trap this. Bill Moss found this.

```

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

```

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

```

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

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

```

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

Support for amsmath's subequations:

```

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

Support for package amsthm (Daniel Müllner):

```

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

```

```

6319 \else
6320 \clubpenalty\@clubpenalty \everypar{}%
6321 \fi
6322 }%
6323 }{}

```

## 35 Footnotes

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

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

```

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

```

```

6367     \Hy@footnote@currentHref
6368     }{#1}%
6369   \else
6370     \Hy@raisedlink{%
6371       \expandafter\hyper@@anchor\expandafter{%
6372         \Hy@footnote@currentHref
6373       }{\relax}%
6374     }%
6375     \let\@currentHref\Hy@footnote@currentHref
6376     \let\@currentlabelname\@empty
6377     #1%
6378   \fi
6379 }%
6380 }%

```

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.

```

6381 \def\@footnotemark{%
6382   \leavevmode
6383   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
6384   \stepcounter{Hfootnote}%
6385   \global\let\Hy@saved@currentHref\@currentHref
6386   \hyper@makecurrent{Hfootnote}%
6387   \global\let\Hy@footnote@currentHref\@currentHref
6388   \global\let\@currentHref\Hy@saved@currentHref
6389   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
6390   \@makefnmark
6391   \hyper@linkend
6392   \ifhmode\spacefactor\@x@sf\fi
6393   \relax
6394 }%

```

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

```

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

```

```

6415     \Hy@footnote@currentHref
6416   }%
6417 }%
6418 \global\LT@p@ftn\expandafter{%
6419   \@tempa{#1}%
6420   \endgroup
6421 }%
6422 }%
6423 \long\def\Hy@LT@footnotetext#1#2{%
6424   \H@@@footnotetext{%
6425     \ifHy@nesting
6426       \hyper@@@anchor{#1}{#2}%
6427     \else
6428       \Hy@raisedlink{%
6429         \hyper@@@anchor{#1}{\relax}%
6430       }%
6431       \def\@currentHref{#1}%
6432       \let\@currentlabelname\@empty
6433       #2%
6434     \fi
6435   }%
6436 }%
6437 }{}%

```

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

```

6438 \ifpackageloaded{fancyvrb}{%
6439   \def\V@@@footnotetext{%
6440     \insert\footins\bgroup
6441     \csname reset@font\endcsname
6442     \footnotesize
6443     \interlinepenalty\interfootnotelinepenalty
6444     \splittopskip\footnotesep
6445     \splitmaxdepth\dp\strutbox
6446     \floatingpenalty \@MM
6447     \hsize\columnwidth
6448     \@parboxrestore
6449     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
6450     \@makefnmark{}%
6451     \rule{\z@}{\footnotesep}%
6452     \bgroup
6453     \aftergroup\V@@@footnotetext
6454     \Hy@raisedlink{%
6455       \expandafter\hyper@@@anchor\expandafter{%
6456         \Hy@footnote@currentHref
6457       }\relax}%
6458   }%
6459   \let\@currentHref\Hy@footnote@currentHref
6460   \let\@currentlabelname\@empty
6461   \ignorespaces
6462 }%
6463 }{}%

```

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

```

6464 \def\Hy@temp#1{%
6465   \begingroup
6466   \unrestored@protected\xdef\@thefnmark{\ref{#1}}%
6467   \endgroup

```

```

6468 \@@footnotemark
6469 }%
6470 \ifx\Hy@temp\footref
6471 \def\footref#1{%
6472 \begingroup
6473 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
6474 \endgroup
6475 \H@@@footnotemark
6476 }%
6477 \fi

```

But the special footnotes in `\maketitle` are much too hard to deal with properly. Let them revert to plain behaviour. The koma classes add an optional argument.

```

6478 \let\HyOrg@maketitle\maketitle
6479 \def\maketitle{%
6480 \let\Hy@saved@footnotemark\@@footnotemark
6481 \let\Hy@saved@footnotetext\@@footnotetext
6482 \let\@@footnotemark\H@@@footnotemark
6483 \let\@@footnotetext\H@@@footnotetext
6484 \@ifnextchar[\Hy@maketitle@optarg{% ]
6485 \HyOrg@maketitle
6486 \Hy@maketitle@end
6487 }%
6488 }%
6489 \def\Hy@maketitle@optarg[#1]{%
6490 \HyOrg@maketitle[{#1}]%
6491 \Hy@maketitle@end
6492 }%
6493 \def\Hy@maketitle@end{%
6494 \ifx\@@footnotemark\H@@@footnotemark
6495 \let\@@footnotemark\Hy@saved@footnotemark
6496 \fi
6497 \ifx\@@footnotetext\H@@@footnotetext
6498 \let\@@footnotetext\Hy@saved@footnotetext
6499 \fi
6500 }%

```

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

```

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

```



```

6519 }
6520 \checkcommand\def\@xfootnotemark[#1]{%
6521   \begingroup
6522     \c@footnote #1\relax
6523     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6524   \endgroup
6525   \@footnotemark
6526 }
6527 \checkcommand\def\@footnotemark{%
6528   \leavevmode
6529   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
6530   \@makefnmark
6531   \ifhmode\spacefactor\@x@sf\fi
6532   \relax
6533 }
6534 \end{check}
6535 \end{package}

```

## 36 Float captions

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

```

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

```

```

6570 \parboxrestore
6571 \if@minipage
6572 \setminipage
6573 \fi
6574 \normalize
6575 \expandafter\ifx\csname if@capstart\expandafter\endcsname
6576 \csname iftrue\endcsname
6577 \global\@capstartfalse
6578 \makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
6579 \else
6580 \makecaption{\csname fnum@#1\endcsname}{%
6581 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

6582 \ifHy@nesting
6583 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
6584 \else
6585 \Hy@raisedlink{%
6586 \expandafter\hyper@@anchor\expandafter{%
6587 \@currentHref
6588 }{\relax}%
6589 }%
6590 #3%
6591 \fi
6592 }%
6593 \fi
6594 \par
6595 \endgroup
6596 }

```

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.

```

6597 \let\Hy@float@caption\@caption
6598 \ifpackageloaded{float}{%
6599 \def\Hy@float@caption{%
6600 \ifx\Hy@float@currentHref\@undefined
6601 \hyper@makecurrent{\@cuptype}%
6602 \global\let\Hy@float@currentHref\@currentHref
6603 \else
6604 \let\@currentHref\Hy@float@currentHref
6605 \fi
6606 \float@caption
6607 }%
6608 \let\HyOrg@float@makebox\float@makebox
6609 \renewcommand{\float@makebox}[1]{%
6610 \HyOrg@float@makebox{%
6611 #1\relax
6612 \ifx\Hy@float@currentHref\@undefined
6613 \else
6614 \expandafter\hyper@@anchor\expandafter{%
6615 \Hy@float@currentHref
6616 }{\relax}%
6617 \global\let\Hy@float@currentHref\@undefined
6618 \fi
6619 }%
6620 }%
6621 }{}
6622 \endpackage

```

```

6623 <*check>
6624 \checklatex[1999/06/01 - 2000/06/01]
6625 \checkcommand\def\caption{%
6626   \ifx\@capttype\@undefined
6627     \@latex@error{\noexpand\caption outside float}\@ehd
6628     \expandafter\@gobble
6629   \else
6630     \refstepcounter\@capttype
6631     \expandafter\@firstofone
6632   \fi
6633   {\@dblarg{\@caption\@capttype}}}%
6634 }
6635 \checkcommand\long\def\@caption#1[#2]#3{%
6636   \par
6637   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
6638     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6639   }%
6640   \begingroup
6641     \@parboxrestore
6642     \if@minipage
6643       \setminipage
6644     \fi
6645     \normalsize
6646     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
6647   \endgroup
6648 }
6649 </check>
6650 <*package>

```

## 37 Bibliographic references

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

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

```

6651 \def\hyper@natlinkstart#1{%
6652   \Hy@backout{#1}%
6653   \hyper@linkstart{cite}{cite.#1}%
6654   \def\hyper@nat@current{#1}%
6655 }
6656 \def\hyper@natlinkend{%
6657   \hyper@linkend
6658 }
6659 \def\hyper@natlinkbreak#1#2{%
6660   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
6661 }
6662 \def\hyper@natanchorstart#1{%
6663   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
6664 }
6665 \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.

```

6666 \ltx@ifundefined{NAT@parse}{%
6667   \providecommand*\@extra@binfo{}%
6668   \providecommand*\@extra@b@citeb{}%
6669   \def\bibcite#1#2{%
6670     \@newl@bel{b}{#1\@extra@binfo}{%
6671       \hyper@link[cite]{#1\@extra@b@citeb}{#2}%
6672     }%
6673   }%
6674   \gdef\@extra@binfo{}%

```

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

```

6675 \let\Hy@bibcite\bibcite
6676 \begingroup
6677   \ifundefined{bbl@cite@choice}{%
6678     \g@addto@macro\bbl@cite@choice{%
6679       \let\bibcite\Hy@bibcite
6680     }%
6681   }%
6682 \endgroup

```

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

```

6683 \providecommand*\@BIBLABEL{\@biblabel}%
6684 \def\@bibitem[#1]#2{%
6685   \@skiphyperreftrue
6686   \H@item[%
6687     \ifx\Hy@raisedlink\@empty
6688       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
6689       \@BIBLABEL{#1}%
6690       \hyper@anchorend
6691     \else
6692       \Hy@raisedlink{%
6693         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
6694       }%
6695       \@BIBLABEL{#1}%
6696     \fi
6697     \hfill
6698   ]%
6699   \@skiphyperreffalse
6700   \if@filesw
6701     \begingroup
6702       \let\protect\noexpand
6703       \immediate\write\@auxout{%
6704         \string\bibcite{#2}{#1}%
6705       }%
6706     \endgroup
6707   \fi
6708   \ignorespaces
6709 }%

```

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

```

6710 \def\@bibitem#1{%
6711   \@skiphyperreftrue\H@item\@skiphyperreffalse
6712   \Hy@raisedlink{%

```

```

6713 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
6714 }%
6715 \if@filesw
6716 \begingroup
6717 \let\protect\noexpand
6718 \immediate\write\@auxout{%
6719 \string\bibcite{#1}{\the\value{\@listctr}}}%
6720 }%
6721 \endgroup
6722 \fi
6723 \ignorespaces
6724 }%
6725 }{}

6726 </package>
6727 <*check>
6728 \checklatex
6729 \checkcommand\def\@lbibitem[#1]#2{%
6730 \item[\@biblabel{#1}\hfill]%
6731 \if@filesw
6732 {%
6733 \let\protect\noexpand
6734 \immediate\write\@auxout{%
6735 \string\bibcite{#2}{#1}%
6736 }%
6737 }%
6738 \fi
6739 \ignorespaces
6740 }
6741 \checkcommand\def\@bibitem#1{%
6742 \item
6743 \if@filesw
6744 \immediate\write\@auxout{%
6745 \string\bibcite{#1}{\the\value{\@listctr}}}%
6746 }%
6747 \fi
6748 \ignorespaces
6749 }
6750 </check>
6751 <*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.

```

6752 \@ifclassloaded{revtex}{%
6753 \Hy@Info{*** compatibility with revtex **** }%
6754 \def\revtex@checking#1#2{%
6755 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
6756 \expandafter\def\csname b@#1\endcsname{#2}%
6757 \@SetMaxRnhefLabel{#1}%
6758 \expandafter\let\csname b@#1\endcsname\T@temp
6759 }%

```

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

```

6760 \@ifundefined{@CITE}{\def\CITE{\@cite}}{}%
6761 \providecommand*{\@extra@b@citeb}{}%
6762 \def\CITEX[#1]#2{%

```

```

6763 \let\@citea\@empty
6764 \leavevmode
6765 \unskip
6766 $\sim$
6767 \scriptstyle
6768 \@CITE{
6769 \@for\@citeb:=#2\do{
6770 \@citea
6771 \def\@citea{,\penalty\@m\ }
6772 \edef\@citeb{\expandafter\@firstofone\@citeb}%
6773 \if@filesw
6774 \immediate\write\@auxout{\string\citation{\@citeb}}%
6775 \fi
6776 \@ifundefined{b@\@citeb\extra@b@citeb}{
6777 \mbox{\reset@font\bfseries ?}%
6778 \G@refundefinedtrue
6779 \@latex@warning{
6780 Citation '\@citeb' on page \thepage \space undefined%
6781 }%
6782 }{
6783 {\csname b@\@citeb\extra@b@citeb\endcsname}%
6784 }%
6785 }%
6786 }{#1}%
6787 }$%
6788 }%

```

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.

```

6789 \def\@citex[#1]#2{
6790 \let\@citea\@empty
6791 \@cite{
6792 \@for\@citeb:=#2\do{
6793 \@citea
6794 \def\@citea{,\penalty\@m\ }
6795 \edef\@citeb{\expandafter\@firstofone\@citeb}%
6796 \if@filesw
6797 \immediate\write\@auxout{\string\citation{\@citeb}}%
6798 \fi
6799 \@ifundefined{b@\@citeb\extra@b@citeb}{
6800 \mbox{\reset@font\bfseries ?}%
6801 \G@refundefinedtrue
6802 \@latex@warning{
6803 Citation '\@citeb' on page \thepage \space undefined%
6804 }%
6805 }{
6806 \hbox{\csname b@\@citeb\extra@b@citeb\endcsname}%
6807 }%
6808 }%
6809 }{#1}%
6810 }%
6811 }{}

```

### 37.1 Package harvard

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

section for each bibliography entry.

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

```

6812 \ifpackageloaded{harvard}{%
6813   \Hy@AtBeginDocument{%
6814     \Hy@Info{*** compatibility with harvard **** }%
6815     \Hy@raiselinksfalse
6816     \def\harvardcite#1#2#3#4{%
6817       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{cite.#1}{#2}}%
6818       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{cite.#1}{#3}}%
6819       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{cite.#1}{#4}}%
6820       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
6821     }%
6822     \def\HAR@citetoaux#1{%
6823       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
6824       \ifHy@backref
6825         \ifx\@empty\@currentlabel
6826           \else
6827             \@bsphack
6828             \if@filesw
6829               \protected@write\@auxout{}{%
6830                 \string\@writefile{brf}{%
6831                   \string\backcite{#1}{%
6832                     {\thepage}{\@currentlabel}{\@currentHref}%
6833                   }%
6834                 }%
6835               }%
6836             \fi
6837             \@esphack
6838           \fi
6839         \fi
6840       }%
6841     \def\harvarditem{%
6842       \ifnextchar{\@harvarditem}{\@harvarditem\@null}}%
6843     }%
6844     \def\@harvarditem[#1]#2#3#4#5\par{%
6845       \item[]%
6846       \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
6847       \if@filesw
6848         \begingroup
6849           \def\protect##1{\string ##1\space}%
6850           \ifthenelse{\equal{#1}{\@null}}{%
6851             {\def\next{{#4}{#2}{#3}}}%
6852             {\def\next{{#4}{#2}{#1}{#3}}}%
6853             \immediate\write\@auxout{\string\harvardcite\codeof\next}%
6854           \endgroup
6855         \fi
6856         \protect\hspace*{-\labelwidth}%
6857         \protect\hspace*{-\labelsep}%
6858         \ignorespaces
6859         #5%
6860         \ifHy@backref
6861           \newblock
6862           \backref{\csname br@#4\endcsname}%
6863         \fi
6864       \par

```

```
6865 }%
```

\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:

```
6866 \long\def\HAR@checkcitations#1#2#3#4{%
6867   \def\HAR@tempa{\hyper@@link[cite]{#1}{#2}}%
6868   \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
6869   \def\HAR@tempa{\hyper@@link[cite]{#1}{#3}}%
6870   \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
6871   \def\HAR@tempa{\hyper@@link[cite]{#1}{#4}}%
6872   \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
6873   \else
6874     \@tempswatrue
6875   \fi
6876   \else
6877     \@tempswatrue
6878   \fi
6879   \else
6880     \@tempswatrue
6881   \fi
6882 }%
6883 }%

6884 }{}
```

## 37.2 Package chicago

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

```
6885 \@ifpackageloaded{chicago}{%
```

\citeN

```
6886 \def\citeN{%
6887   \def\@citesep{-1000}%
6888   \def\@cite##1##2{##1}%
6889   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
6890   \@citedata@opt
6891 }%
```

\shortciteN

```
6892 \def\shortciteN{%
6893   \def\@citesep{-1000}%
6894   \def\@cite##1##2{##1}%
6895   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
6896   \@citedata@opt
6897 }%
```

\@citedata@opt

```
6898 \def\@citedata@opt{%
6899   \let\@cite@opt\@empty
6900   \ifnextchar [{%
6901     \@tempswatrue
6902     \@citedatax@opt
6903   }{%
6904     \@tempswafalse
6905     \@citedatax[]%
```



```

6906 }%
6907 }%

```

\@citedatax@opt

```

6908 \def\@citedatax@opt[#1]{%
6909   \def\@cite@opt{, #1}%
6910   \@citedatax[{#1}]%
6911 }%

6912 }{}

```

## 38 Page numbers

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

This where we supply a destination for each page.

```

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

```

```

6950 \fi
6951 }
6952 \g@addto@macro\Hy@EveryPageBoxHook{%
6953 \Hy@EveryPageAnchor
6954 }

```

## 39 Table of contents

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

```

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

```

```

7000 \addtocontents{#1}{%
7001 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
7002 }%
7003 \endgroup
7004 }
7005 \def\contentsline#1#2#3#4{%
7006 \ifx\\#4\\%
7007 \csname l@#1\endcsname{#2}{#3}%
7008 \else
7009 \ifcase\Hy@linktoc % none
7010 \csname l@#1\endcsname{#2}{#3}%
7011 \or % section
7012 \csname l@#1\endcsname{%
7013 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7014 }{#3}%
7015 \or % page
7016 \csname l@#1\endcsname{#2}{#3}%
7017 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7018 }%
7019 \else % all
7020 \csname l@#1\endcsname{%
7021 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7022 }{%
7023 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7024 }%
7025 \fi
7026 \fi
7027 }
7028 </package>
7029 <*check>
7030 \checklatex
7031 \checkcommand\def\addcontentsline#1#2#3{%
7032 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
7033 }
7034 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7035 </check>
7036 <*package>

```

## 40 New counters

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

```

7037 \let\H@definecounter\@definecounter
7038 \def\@definecounter#1{%
7039 \H@definecounter{#1}%
7040 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7041 }

```

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.

```

7042 \let\H@newctr\@newctr
7043 \def\@newctr#1[#2]{%
7044 \H@newctr#1[#2]%
7045 \expandafter\def\csname theH#1\endcsname{%
7046 \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
7047 }%

```

7048 }

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

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

Version 6.77p uses a patch by Ross Moore.

```

7049 \ifpackageloaded{amsmath}{%
7050   \def\Hy@make@anchor{%
7051     \Hy@MakeCurrentHrefAuto{AMS}%
7052     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7053   }%
7054   \def\Hy@make@df@tag@@#1{%
7055     \gdef\df@tag{%
7056       \maketag@@@{\Hy@make@anchor#1}%
7057       \def\@currentlabel{#1}%
7058     }%
7059   }%
7060   \def\Hy@make@df@tag@@@#1{%
7061     \gdef\df@tag{%
7062       \tagform@{\Hy@make@anchor#1}%
7063       \toks@{\xp{p@equation{#1}}}%
7064       \edef\@currentlabel{the\toks@}%
7065     }%
7066   }%
7067   \let\HyOrg@make@df@tag@@\make@df@tag@@
7068   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
7069   \let\make@df@tag@@\Hy@make@df@tag@@
7070   \let\make@df@tag@@@\Hy@make@df@tag@@@
7071 }{}

```

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

```

7072 \ifpackagewith{hyperref}{pdf $\text{\TeX}$ }{%
7073   \let\H@seteqlabel\@seteqlabel
7074   \def\@seteqlabel#1{%
7075     \H@seteqlabel{#1}%
7076     \xdef\@currentHref{AMS.the\Hy@linkcounter}%
7077     \Hy@raisedlink{%
7078       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7079     }%
7080   }%
7081 }{}

```

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

```

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

```

## 41.1 \@addtoreset and \numberwithin patches

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

```

7082 \let\HyOrg@addtoreset\@addtoreset
7083 \def\@addtoreset#1#2{%
7084   \HyOrg@addtoreset{#1}{#2}%
7085   \expandafter\xdef\csname theH#1\endcsname{%
7086     \expandafter\noexpand
7087       \csname the\@ifundefined{theH#2}{H#2}\endcsname
7088     .\noexpand\the\noexpand\value{#1}%
7089   }%
7090 }
```

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

```

7091 </package>
7092 <*check>
7093 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
7094 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
7095   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7096     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7097       \@addtoreset{#2}{#3}%
7098       \@xp\xdef\csname the#2\endcsname{%
7099         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7100       }%
7101     }%
7102   }%
7103 }%
7104 </check>
7105 <*package>
7106 \@ifpackageloaded{amsmath}{%
7107   \@ifpackagelater{amsmath}{1999/12/14}{%
7108     \renewcommand*{\numberwithin}[3][\arabic]{%
7109       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7110         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7111           \HyOrg@addtoreset{#2}{#3}%
7112           \@xp\xdef\csname the#2\endcsname{%
7113             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7114           }%
7115           \@xp\xdef\csname theH#2\endcsname{%
7116             \@xp\@nx
7117             \csname the\@ifundefined{theH#3}{H#3}\endcsname
7118             .\@nx#1{#2}%
7119           }%
7120         }%
7121       }%
7122     }%
7123   }{%
7124     \Hy@WarningNoLine{%
7125       \string\numberwithin\space of package 'amsmath' %
7126       only fixed\MessageBreak
7127       for version 2000/06/06 v2.12 or newer%
7128     }%
7129   }%
7130 }{}
```

## 42 Included figures

Simply intercept the low level graphics package macro.

```
7131 \ifHy@figures
7132   \let\Hy@Gin@setfile\Gin@setfile
7133   \def\Gin@setfile#1#2#3{%
7134     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
7135   }%
7136 \fi
7137 \Hy@DisableOption{hyperfigures}
```

## 43 hyperindex entries

Internal command names are prefixed with \HyInd@.

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

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

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

```

```

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

```

```

7228     }%
7229     \fi
7230     \fi
7231     }%
7232     \fi
7233     }%
7234 \fi
7235 \Hy@DisableOption{hyperindex}
7236 \Hy@DisableOption{encap}

```

`\nohyperpage` The definition of `\nohyperpage` is just a precaution. It is used to mark code that does not belong to a page number, but `\nohyperpage` is never executed.

```

7237 \def\nohyperpage#1{#1}

```

This again is quite flaky, but allow for the common situation of a page range separated by en-rule. We split this into two different hyperlinked pages.

```

7238 \def\hyperpage#1{%
7239   \HyInd@hyperpage#1\nohyperpage{}\@nil
7240 }
7241 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
7242   \HyInd@@hyperpage{#1}%
7243   #2%
7244   \def\Hy@temp{#3}%
7245   \ifx\Hy@temp\@empty
7246     \else
7247       \Hy@ReturnAfterFi{%
7248         \HyInd@hyperpage#3\@nil
7249       }%
7250   \fi
7251 }
7252 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
7253 \def\@hyperpage#1--#2--#3\{\{%
7254   \ifx\#2\}%
7255     \@commahyperpage{#1}%
7256   \else
7257     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
7258   \fi
7259 }
7260 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
7261 \def\@commahyperpage#1, #2,#3\{\{%
7262   \ifx\#2\}%
7263     \HyInd@pagelink{#1}%
7264   \else
7265     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
7266   \fi
7267 }

```

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

```

7268 \def\HyInd@pagelink#1{%
7269   \begingroup
7270   \toks@={}%
7271   \HyInd@removespaces#1 \@nil
7272 \endgroup
7273 }
7274 \def\HyInd@removespaces#1 #2\@nil{%
7275   \toks@=\expandafter{\the\toks@#1}%

```



```

7276 \ifx\#2\%
7277 \edef\x{\the\toks@}%
7278 \ifx\x\@empty
7279 \else
7280 \hyperlink{page.\the\toks@}{\the\toks@}%
7281 \fi
7282 \else
7283 \Hy@ReturnAfterFi{%
7284 \HyInd@removespaces#2\@nil
7285 }%
7286 \fi
7287 }

```

## 44 Compatibility with foiltex

```

7288 \@ifclassloaded{foils}{%
7289 \providecommand*\ext@table{lot}%
7290 \providecommand*\ext@figure{lof}%
7291 }{}

```

## 45 Compatibility with seminar slide package

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

```

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

```

```

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

```

```

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

```

```

7438     \large
7439     \slide@cline{%
7440         \slidenumberline{$\Rightarrow\bullet$}%
7441         {\hyperlink{##4}{##2}}}%
7442     }{##3}%
7443 }%
7444 \else
7445 {%
7446     \large
7447     \slide@cline{%
7448         \slidenumberline{$\surd\;\bullet$}%
7449         {\hyperlink{##4}{##2}}}%
7450     }{##3}%
7451 }%
7452 \fi
7453 \or
7454 \def\lslide@flag{2}%
7455 {%
7456     \large
7457     \slide@cline{%
7458         \slidenumberline{$\bullet$}%
7459         {\hyperlink{##4}{##2}}}%
7460     }{##3}%
7461 }%
7462 \or
7463 {%
7464     \large
7465     \slide@cline{%
7466         \slidenumberline{$\bullet$}%
7467         {\hyperlink{##4}{##2}}}%
7468     }{##3}%
7469 }%
7470 \fi
7471 }%
7472 \def\l@subslide##1##2##3##4{%
7473     \ifnum\lslide@flag=1 %
7474         \undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}}%
7475     \fi
7476 }%
7477 \def\lslide@flag{0}%
7478 \@startlos
7479 }%
7480 }{}

```

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.)

```

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

```

```

7492 \else
7493 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
7494 \fi
7495 }

```

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

```

7496 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
7497 \begingroup
7498 \toks0={\hyper@@link{#5}{#4}}%
7499 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
7500 \edef\x{\endgroup
7501 \the\toks0 \the\toks1 }%
7502 }%
7503 \x
7504 }
7505 \def\@pagesetref#1#2#3{% csname, extract macro, ref
7506 \ifx#1\relax
7507 \protect\G@refundefinedtrue
7508 \nfss@text{\reset@font\bfseries ??}%
7509 \@latex@warning{%
7510 Reference '#3' on page \thepage \space undefined%
7511 }%
7512 \else
7513 \protect\hyper@@link
7514 {\expandafter\@fifthoffive#1}%
7515 {page.\expandafter\@secondoffive#1}%
7516 {\expandafter\@secondoffive#1}%
7517 \fi
7518 }
7519 </package>
7520 <*check>
7521 \checklatex
7522 \checkcommand\def\@setref#1#2#3{%
7523 \ifx#1\relax
7524 \protect\G@refundefinedtrue
7525 \nfss@text{\reset@font\bfseries ??}%
7526 \@latex@warning{%
7527 Reference '#3' on page \thepage\space undefined%
7528 }%
7529 \else
7530 \expandafter#2#1\null
7531 \fi
7532 }
7533 </check>
7534 <*package>

```

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

```

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

```

```

7544 \x
7545 }
7546 \def\HyRef@@StarSetRef#1#2#3{%
7547 \ifx#1\@undefined
7548 \let#1\relax
7549 \fi
7550 \real@setref#1#3{#2}%
7551 }
7552 \def\@refstar#1{%
7553 \HyRef@StarSetRef{#1}\@firstoffive
7554 }
7555 \def\@pagerefstar#1{%
7556 \HyRef@StarSetRef{#1}\@secondoffive
7557 }
7558 \Hy@AtBeginDocument{%
7559 \ifpackageloaded{varioref}{%
7560 \def\@Refstar#1{%
7561 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
7562 }%
7563 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
7564 \MakeUppercase#1%
7565 }%
7566 \DeclareRobustCommand*\Ref*{%
7567 \ifstar\@Refstar\HyRef@Ref
7568 }%
7569 \def\HyRef@Ref#1{%
7570 \hyperref[{#1}]{\Ref*{#1}}%
7571 }%
7572 \def\Vr@f#1{%
7573 \leavevmode\unskip\vref@space
7574 \hyperref[{#1}]{%
7575 \Ref*{#1}%
7576 \let\vref@space\nobreakspace
7577 \@vpageref{\unskip}{#1}%
7578 }%
7579 }%
7580 \def\vr@f#1{%
7581 \leavevmode\unskip\vref@space
7582 \begingroup
7583 \let\T@pageref\@pagerefstar
7584 \hyperref[{#1}]{%
7585 \ref*{#1}%
7586 \vpageref{\unskip}{#1}%
7587 }%
7588 \endgroup
7589 }%
7590 }{}%
7591 }
7592 \DeclareRobustCommand*\autopageref*{%
7593 \ifstar{%
7594 \HyRef@autopagerefname\pageref*%
7595 }\HyRef@autopageref
7596 }
7597 \def\HyRef@autopageref#1{%
7598 \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
7599 }
7600 \def\HyRef@autopagerefname{%

```

```

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

```

```

7658     }%
7659   }{%
7660     \edef\HyRef@currentHtag{%
7661       \expandafter\noexpand
7662       \csname\HyRef@name autorefname\endcsname
7663       \noexpand~%
7664     }%
7665   }%
7666 }{%
7667   \edef\HyRef@currentHtag{%
7668     \expandafter\noexpand\csname#1name\endcsname
7669     \noexpand~%
7670   }%
7671 }%
7672 }{%
7673   \edef\HyRef@currentHtag{%
7674     \expandafter\noexpand\csname#1autorefname\endcsname
7675     \noexpand~%
7676   }%
7677 }%
7678 }
7679 \def\HyRef@StripStar#1*\#2\@nil#3{%
7680   \def\HyRef@name{#2}%
7681   \ifx\HyRef@name\HyRef@CaseStar
7682     \def\HyRef@name{#1}%
7683   \else
7684     \def\HyRef@name{#3}%
7685   \fi
7686 }
7687 \def\HyRef@CaseStar{*\\}
7688 \def\HyRef@currentHtag{

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

7689 \let\HyRef@ShowKeysRef\@gobble
7690 \def\HyRef@ShowKeysInit{%
7691   \begingroup\expandafter\expandafter\expandafter\endgroup
7692   \expandafter\ifx\csname SK@@label\endcsname\relax
7693   \else
7694     \ifx\SK@ref\@empty
7695     \else
7696       \def\HyRef@ShowKeysRef{%
7697         \SK@\SK@@ref
7698       }%
7699     \fi
7700   \fi
7701 }
7702 \@ifpackageloaded{showkeys}{%
7703   \HyRef@ShowKeysInit
7704 }{%
7705   \Hy@AtBeginDocument{%
7706     \@ifpackageloaded{showkeys}{%
7707       \HyRef@ShowKeysInit
7708     }{}%
7709   }%
7710 }

```



Defaults for the names that `\autoref` uses.

```

7711 \providecommand* \AMSautorefname { \equationautorefname }
7712 \providecommand* \Hfootnoteautorefname { \footnoteautorefname }
7713 \providecommand* \Itemautorefname { \itemautorefname }
7714 \providecommand* \itemautorefname { item }
7715 \providecommand* \equationautorefname { Equation }
7716 \providecommand* \footnoteautorefname { footnote }
7717 \providecommand* \itemautorefname { item }
7718 \providecommand* \figureautorefname { Figure }
7719 \providecommand* \tableautorefname { Table }
7720 \providecommand* \partautorefname { Part }
7721 \providecommand* \appendixautorefname { Appendix }
7722 \providecommand* \chapterautorefname { chapter }
7723 \providecommand* \sectionautorefname { section }
7724 \providecommand* \subsectionautorefname { subsection }
7725 \providecommand* \subsubsectionautorefname { subsubsection }
7726 \providecommand* \paragraphautorefname { paragraph }
7727 \providecommand* \subparagraphautorefname { subparagraph }
7728 \providecommand* \FancyVerbLineautorefname { line }
7729 \providecommand* \theoremautorefname { Theorem }
7730 \providecommand* \pageautorefname { page }
7731 < /package >

```

## 46 Configuration files

### 46.1 PS/PDF strings

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

`\Hy@pstringdef` Therefore such strings should be passed through `\Hy@pstringdef`. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdf<sub>T</sub><sub>E</sub>X offers `\pdfescapestring`.

```

7732 < *pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo >
7733 \RequirePackage { pdfTeXcmds } [ 2009 / 04 / 10 ]
7734 \begingroup \expandafter \expandafter \expandafter \endgroup
7735 \expandafter \ifx \cscname pdf@escapestring \endcscname \relax
7736 \begingroup
7737 \catcode ` \ = 0 %
7738 \makeoother { \ %
7739 | @firstofone { | endgroup
7740 | def | Hy@pstringdef # 1 # 2 { %
7741 | begingroup
7742 | edef ~ { | string ~ } %
7743 | xdef | Hy@gtemp { # 2 } %
7744 | endgroup
7745 | let # 1 | Hy@gtemp
7746 | @onelevel @sanitize # 1 %
7747 | edef # 1 { | expandafter | Hy@ExchangeBackslash # 1 \ | @nil } %
7748 | edef # 1 { | expandafter | Hy@ExchangeLeftParenthesis # 1 ( | @nil } %
7749 | edef # 1 { | expandafter | Hy@ExchangeRightParenthesis # 1 ) | @nil } %
7750 } %
7751 | def | Hy@ExchangeBackslash # 1 \ # 2 | @nil { %
7752 # 1 %

```

```

7753 |ifx|\#2|\%%
7754 |else
7755   \\\%
7756   |Hy@ReturnAfterFi{%
7757     |Hy@ExchangeBackslash#2|@nil
7758   }%
7759 |fi
7760 }%
7761 }%
7762 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
7763   #1%
7764   \ifx\#2\\%
7765   \else
7766     \@backslashchar(%
7767     \Hy@ReturnAfterFi{%
7768       \Hy@ExchangeLeftParenthesis#2\@nil
7769     }%
7770   \fi
7771 }%
7772 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
7773   #1%
7774   \ifx\#2\\%
7775   \else
7776     \@backslashchar)%
7777     \Hy@ReturnAfterFi{%
7778       \Hy@ExchangeRightParenthesis#2\@nil
7779     }%
7780   \fi
7781 }%
7782 \else
7783 \def\Hy@pstringdef#1#2{%
7784   \begingroup
7785     \edef~{\string~}%
7786     \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
7787   \endgroup
7788   \let#1\Hy@gtemp
7789 }%
7790 \fi
7791 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 46.2 pdfTeX

```

7792 <*pdfTeX>
7793 \providecommand*{\XR@ext}{pdf}
7794 \Hy@setbreaklinks{true}

```

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

Set PDF version if requested by option `pdfversion`.

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

```

7795 \let\Hy@pdfminorversion\relax
7796 \begingroup\expandafter\expandafter\expandafter\endgroup
7797 \expandafter\ifx\cname pdfminorversion\endcname\relax
7798 \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

7799 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
7800 \else
7801 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
7802 \fi
7803 \else
7804 \def\Hy@pdfminorversion{\pdfminorversion}%
7805 \fi
7806 \@ifundefined{Hy@pdfminorversion}{%
7807 \PackageInfo{hyperref}{%
7808 PDF version is not set, because pdfTeX is too old (<1.10a)%
7809 }%
7810 }{%
7811 \ifHy@ocgcolorlinks
7812 \ifnum\Hy@pdfminorversion<5 %
7813 \setkeys{Hyp}{pdfversion=1.5}%
7814 \fi
7815 \fi
7816 \ifHy@setpdfversion
7817 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
7818 \else
7819 \Hy@pdfminorversion=\Hy@pdfversion\relax
7820 \fi
7821 \PackageInfo{hyperref}{%
7822 \expandafter\string\Hy@pdfminorversion
7823 :=\number\Hy@pdfversion\space
7824 }%
7825 \fi
7826 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
7827 }
7828 \Hy@DisableOption{pdfversion}%

7829 \ifHy@ocgcolorlinks
7830 \immediate\pdfobj{%
7831 <<%
7832 /Type/OCG%
7833 /Name(View)%
7834 /Usage<<%
7835 /Print<<%
7836 /PrintState/OFF%
7837 >>%
7838 /View<<%
7839 /ViewState/ON%
7840 >>%
7841 >>%
7842 >>%
7843 }%
7844 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
7845 \immediate\pdfobj{%
7846 <<%
7847 /Type/OCG%
7848 /Name(Print)%
7849 /Usage<<%
7850 /Print<<%
7851 /PrintState/ON%
7852 >>%
7853 /View<<%
7854 /ViewState/OFF%
7855 >>%

```

```

7856     >>%
7857     >>%
7858 }%
7859 \edef\OBJ@OCG@print{\the\pdfflastobj\space 0 R}%
7860 \immediate\pdfobj{%
7861 [%
7862   \OBJ@OCG@view\space\OBJ@OCG@print
7863 ]%
7864 }%
7865 \edef\OBJ@OCGs{\the\pdfflastobj\space 0 R}%
7866 \pdfcatalog{%
7867   /OCProperties<<%
7868     /OCGs \OBJ@OCGs
7869     /D<<%
7870       /OFF[\OBJ@OCG@print]%
7871       /AS[%
7872         <<%
7873           /Event/View%
7874           /OCGs \OBJ@OCGs
7875           /Category[/View]%
7876         >>%
7877         <<%
7878           /Event/Print%
7879           /OCGs \OBJ@OCGs
7880           /Category[/Print]%
7881         >>%
7882         <<%
7883           /Event/Export%
7884           /OCGs \OBJ@OCGs
7885           /Category[/Print]%
7886         >>%
7887       ]%
7888     >>%
7889   >>%
7890 }%
7891 \begingroup
7892 \edef\x{\endgroup
7893   \pdfpageresources{%
7894     /Properties<<%
7895       /OCView \OBJ@OCG@view
7896       /OCPrint \OBJ@OCG@print
7897     >>%
7898   }%
7899 }%
7900 \x
7901 \Hy@AtBeginDocument{%
7902   \def\Hy@colorlink#1{%
7903     \begingroup
7904       \ifHy@ocgcolorlinks
7905         \def\Hy@ocgcolor{#1}%
7906         \setbox0=\color@hbox
7907       \else
7908         \HyColor@UseColor#1%
7909       \fi
7910     }%
7911   \def\Hy@endcolorlink{%
7912     \ifHy@ocgcolorlinks

```

```

7913 \color@endbox
7914 \mbox{%
7915 \pdfliteral page{/OC/OCPrint BDC}%
7916 \rlap{\copy0}%
7917 \pdfliteral page{EMC/OC/OCView BDC}%
7918 \begingroup
7919 \expandafter\HyColor@UseColor\Hy@ocgcolor
7920 \box0 %
7921 \endgroup
7922 \pdfliteral page{EMC}%
7923 }%
7924 \fi
7925 \endgroup
7926 }%
7927 }%
7928 \else
7929 \Hy@DisableOption{ocgcolorlinks}%
7930 \fi

```

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

```

7931 \def\setpdfinkmargin#1{\pdfinkmargin#1}
7932 \ifx\pdfstartlink\@undefined% less than version 14
7933 \let\pdfstartlink\pdfannotlink
7934 \let\pdfinkmargin\@tempdima
7935 \let\pdfxform\pdfform
7936 \let\pdfastxform\pdfastform
7937 \let\pdfrefxform\pdfrefform
7938 \else
7939 \pdfinkmargin1pt %
7940 \fi

```

First set up the default linking

```

7941 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

7942 \def\new@pdfink#1{%
7943 \Hy@SaveLastskip
7944 \Hy@VerboseAnchor{#1}%
7945 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7946 \Hy@DestName\Hy@pstringDest\@pdfview
7947 \Hy@RestoreLastskip
7948 }
7949 \let\pdf@endanchor\@empty

```

`\Hy@DestName` Wrap the call of `\pdfdest name` in `\Hy@DestName`. Then it can easier be caught by package `hypdestopt`.

```

7950 \def\Hy@DestName#1#2{%
7951 \pdfdest name{#1}#2\relax
7952 }

```

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.

```

7953 \providecommand*\@pdfborder{0 0 1}
7954 \providecommand*\@pdfborderstyle{}
7955 \def\Hy@undefinedname{UNDEFINED}
7956 \def\find@pdfink#1#2{%

```

```

7957 \leavevmode
7958 \protected@edef\Hy@testname{#2}%
7959 \ifx\Hy@testname\@empty
7960   \Hy@Warning{%
7961     Empty destination name,\MessageBreak
7962     using '\Hy@undefinedname'%
7963   }%
7964   \let\Hy@testname\Hy@undefinedname
7965 \else
7966   \Hy@pstringdef\Hy@testname{%
7967     \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7968   }%
7969 \fi
7970 \Hy@StartlinkName{%
7971   \ifHy@pdfa /F 4\fi
7972   \Hy@setpdfborder
7973   \ifx\@pdfhighlight\@empty
7974   \else
7975     /H\@pdfhighlight
7976   \fi
7977   \ifx\CurrentBorderColor\relax
7978   \else
7979     /C[\CurrentBorderColor]%
7980   \fi
7981 } \Hy@testname
7982 \expandafter\Hy@colorlink\csname @#1color\endcsname
7983 }
7984 \def\Hy@StartlinkName#1#2{%
7985   \pdfstartlink attr{#1}goto name{#2}\relax
7986 }
7987 \def\close@pdfink{%
7988   \Hy@endcolorlink
7989   \Hy@VerboseLinkStop
7990   \pdfendlink
7991 }
7992 \def\hyper@anchor#1{%
7993   \new@pdfink{#1}\anchor@spot\pdf@endanchor
7994 }
7995 \def\hyper@anchorstart#1{%
7996   \new@pdfink{#1}%
7997   \Hy@activeanchortrue
7998 }
7999 \def\hyper@anchorend{%
8000   \pdf@endanchor
8001   \Hy@activeanchorfalse
8002 }
8003 \def\hyper@linkstart#1#2{%
8004   \Hy@VerboseLinkStart{#1}{#2}%
8005   \ltx@ifundefined{@#1bordercolor}{%
8006     \let\CurrentBorderColor\relax
8007   }{%
8008     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8009   }%
8010   \find@pdfink{#1}{#2}%
8011 }
8012 \def\hyper@linkend{\close@pdfink}
8013 \def\hyper@link#1#2#3{%

```

```

8014 \Hy@VerboseLinkStart{#1}{#2}%
8015 \ltx@ifundefined{@#1bordercolor}{%
8016   \let\CurrentBorderColor\relax
8017 }{%
8018   \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8019 }%
8020 \find@pdfink{#1}{#2}#3%
8021 \close@pdfink
8022 }
8023 \let\CurrentBorderColor\@linkbordercolor
8024 \def\hyper@linkurl#1#2{%
8025   \begingroup
8026     \Hy@pstringdef\Hy@pstringURI{#2}%
8027     \hyper@chars
8028     \leavevmode
8029     \pdfstartlink
8030     attr{%
8031       \Hy@setpdfborder
8032       \ifx\@pdfhighlight\@empty
8033       \else
8034         /H\@pdfhighlight
8035       \fi
8036       \ifx\@urlbordercolor\relax
8037       \else
8038         /C[\@urlbordercolor]%
8039       \fi
8040     }%
8041     user{%
8042       /Subtype/Link%
8043       \ifHy@pdfa /F 4\fi
8044       /A<<%
8045       /Type/Action%
8046       /S/URI%
8047       /URI(\Hy@pstringURI)%
8048     >>%
8049     }%
8050     \relax
8051     \Hy@colorlink\@urlcolor#1%
8052   \close@pdfink
8053 \endgroup
8054 }
8055 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
8056   \begingroup
8057     \Hy@pstringdef\Hy@pstringF{#2}%
8058     \Hy@pstringdef\Hy@pstringD{#3}%
8059     \leavevmode
8060     \pdfstartlink
8061     attr{%
8062       \Hy@setpdfborder
8063       \ifx\@pdfhighlight\@empty
8064       \else
8065         /H\@pdfhighlight
8066       \fi
8067       \ifx\@filebordercolor\relax
8068       \else
8069         /C[\@filebordercolor]%
8070       \fi

```

```

8071     }%
8072     user {%
8073         /Subtype/Link%
8074         \ifHy@pdfa /F 4\fi
8075         /A<<%
8076         /F(\Hy@pstringF)%
8077         /S/GoToR%
8078         \Hy@SetNewWindow

```

If #3 is empty, page 0; if its a number, Page number, otherwise a named destination.

```

\afterassignment\xxx\count@=0\foo!%

```

```

\def\xxx#1!{%
  \ifx\xxx#1\xxx
    foo was an integer
  \else
    it wasnt
  \fi}

```

```

8079     \ifx\#3\%
8080     /D[0 \@pdfstartview]%
8081     \else
8082     /D(\Hy@pstringD)%
8083     \fi
8084     >>%
8085     }%
8086     \relax
8087     \Hy@colorlink\@filecolor#1%
8088     \close@pdflink
8089     \endgroup
8090 }
8091 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
8092   \begingroup
8093     \Hy@pstringdef\Hy@pstringF{#1}%
8094     \Hy@pstringdef\Hy@pstringP{#3}%
8095     \leavevmode
8096     \pdfstartlink
8097     attr{%
8098         \Hy@setpdfborder
8099         \ifx\@pdfhighlight\@empty
8100         \else
8101         /H\@pdfhighlight
8102         \fi
8103         \ifx\@runbordercolor\relax
8104         \else
8105         /C[\@runbordercolor]%
8106         \fi
8107     }%
8108     user {%
8109         /Subtype/Link%
8110         \ifHy@pdfa /F 4\fi
8111         /A<<%
8112         /F(\Hy@pstringF)%
8113         /S/Launch%
8114         \Hy@SetNewWindow
8115         \ifx\#3\%
8116         \else

```



```

8117         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8118         \fi
8119         >>%
8120     }%
8121     \relax
8122     \Hy@colorlink\@runcolor#2%
8123     \close@pdflink
8124 \endgroup
8125 }

```

\@pdfproducer

```

8126 \ifx\@pdfproducer\relax
8127 \begingroup\expandafter\expandafter\expandafter\endgroup
8128 \expandafter\ifx\csname luatexversion\endcsname\relax
8129 \def\@pdfproducer{pdfTeX}%
8130 \ifx\eTeXversion\@undefined
8131 \else
8132 \ifx\eTeXversion\relax
8133 \else
8134 \ifnum\eTeXversion>0 %
8135 \def\@pdfproducer{pdfTeX}%
8136 \fi
8137 \fi
8138 \fi
8139 \ifx\pdfTeXversion\@undefined
8140 \else
8141 \ifnum\pdfTeXversion<100 %
8142 \edef\@pdfproducer{%
8143 \@pdfproducer
8144 \the\pdfTeXversion.\pdfTeXrevision
8145 }%
8146 \else
8147 \ifnum\pdfTeXversion<130 %
8148 \edef\@pdfproducer{%
8149 \@pdfproducer-%
8150 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8151 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
8152 \pdfTeXrevision
8153 }%
8154 \else
8155 \ifnum\pdfTeXversion<140 %
8156 \else
8157 \def\@pdfproducer{pdfTeX}%
8158 \fi
8159 \edef\@pdfproducer{%
8160 \@pdfproducer-%
8161 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8162 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
8163 \pdfTeXrevision
8164 }%
8165 \fi
8166 \fi
8167 \fi
8168 \else
8169 \begingroup
8170 \count@=\luatexversion
8171 \divide\count@ by 100 %

```

```

8172 \edef\x{\the\count@}%
8173 \count@=-\x\relax
8174 \multiply\count@ by 100 %
8175 \advance\count@ by \luatexversion
8176 \edef\x{\endgroup
8177 \def\noexpand\@pdfproducer{%
8178 LuaTeX-\x.\the\count@.\luatexrevision
8179 }%
8180 }%
8181 \x
8182 \fi
8183 \fi

```

\PDF@SetupDox

```

8184 \def\PDF@SetupDoc{%
8185 \ifx\@pdfpagescrop\@empty
8186 \else
8187 \edef\process@me{%
8188 \pdfpagesattr={%
8189 /CropBox[\@pdfpagescrop]%
8190 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
8191 \else
8192 ^^J\the\pdfpagesattr
8193 \fi
8194 }%
8195 }%
8196 \process@me
8197 \fi
8198 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8199 \pdfcatalog{%
8200 /PageMode/\@pdfpagemode
8201 \ifx\@baseurl\@empty
8202 \else
8203 /URI<</Base(\Hy@pstringB)>>%
8204 \fi
8205 }%
8206 \ifx\@pdfstartpage\@empty
8207 \else
8208 \ifx\@pdfstartview\@empty
8209 \else
8210 openaction goto page\@pdfstartpage{\@pdfstartview}%
8211 \fi
8212 \fi
8213 \edef\Hy@temp{%
8214 \ifHy@toolbar\else /HideToolbar true\fi
8215 \ifHy@menubar\else /HideMenubar true\fi
8216 \ifHy>windowui\else /HideWindowUI true\fi
8217 \ifHy@fitwindow /FitWindow true\fi
8218 \ifHy@centerwindow /CenterWindow true\fi
8219 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8220 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8221 \Hy@UseNameKey{Direction}\@pdfdirection
8222 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8223 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8224 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8225 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8226 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling

```

```

8227 \Hy@UseNameKey{Duplex}\@pdfduplex
8228 \ifx\@pdfpicktraybypdfsize\@empty
8229 \else
8230 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8231 \fi
8232 \ifx\@pdfprintpagerange\@empty
8233 \else
8234 /PrintPageRange[\@pdfprintpagerange]%
8235 \fi
8236 \ifx\@pdfnumcopies\@empty
8237 \else
8238 /NumCopies \@pdfnumcopies
8239 \fi
8240 }%
8241 \pdfcatalog{%
8242 \ifx\Hy@temp\@empty
8243 \else
8244 /ViewerPreferences<<\Hy@temp>>%
8245 \fi
8246 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8247 \ifx\@pdflang\@empty
8248 \else
8249 /Lang(\@pdflang)%
8250 \fi
8251 }%
8252 }

```

\PDF@FinishDoc

```

8253 \def\PDF@FinishDoc{%
8254 \Hy@UseMaketitleInfos
8255 \HyInfo@GenerateAddons
8256 \pdfinfo{%
8257 /Author(\@pdfauthor)%
8258 /Title(\@pdftitle)%
8259 /Subject(\@pdfsubject)%
8260 /Creator(\@pdfcreator)%
8261 \ifx\@pdfcreationdate\@empty
8262 \else
8263 /CreationDate(\@pdfcreationdate)%
8264 \fi
8265 \ifx\@pdfmoddate\@empty
8266 \else
8267 /ModDate(\@pdfmoddate)%
8268 \fi
8269 \ifx\@pdfproducer\relax
8270 \else
8271 /Producer(\@pdfproducer)%
8272 \fi
8273 /Keywords(\@pdfkeywords)%
8274 \ifx\@pdftrapped\@empty
8275 \else
8276 /Trapped/\@pdftrapped
8277 \fi
8278 \HyInfo@Addons
8279 }%
8280 \Hy@DisableOption{pdfauthor}%
8281 \Hy@DisableOption{pdftitle}%

```

```

8282 \Hy@DisableOption{pdfsubject}%
8283 \Hy@DisableOption{pdfcreator}%
8284 \Hy@DisableOption{pdfcreationdate}%
8285 \Hy@DisableOption{pdfmoddate}%
8286 \Hy@DisableOption{pdfproducer}%
8287 \Hy@DisableOption{pdfkeywords}%
8288 \Hy@DisableOption{pdftrapped}%
8289 \Hy@DisableOption{pdfinfo}%
8290 }

```

`\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`.

```

8291 \def\hyper@pagetransition{%
8292   \ifx\@pdfpagetransition\relax
8293   \else
8294     \expandafter\Hy@RemoveTransPageAttr
8295     \the\pdfpageattr^^J/Trans{>>\END
8296     \ifx\@pdfpagetransition\@empty
8297     \else
8298       \edef\@processme{%
8299         \global\pdfpageattr{%
8300           \the\pdfpageattr
8301             ^^J/Trans << /S /\@pdfpagetransition\space >>%
8302         }%
8303       }%
8304       \@processme
8305     \fi
8306   \fi
8307 }

```

`\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.

```

8308 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
8309   \ifx\\#2\\%
8310     \global\pdfpageattr{#1}%
8311   \else
8312     \Hy@RemoveTransPageAttr#1#4\END
8313   \fi
8314 }

```

`\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`.

```

8315 \def\hyper@pageduration{%
8316   \ifx\@pdfpageduration\relax
8317   \else
8318     \expandafter
8319     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
8320     \ifx\@pdfpageduration\@empty
8321     \else
8322       \edef\@processme{%
8323         \global\pdfpageattr{%
8324           \the\pdfpageattr
8325             ^^J/Dur \@pdfpageduration\space

```

```

8326     }%
8327     }%
8328     \@processme
8329     \fi
8330 \fi
8331 }

```

`\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.

```

8332 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
8333   \ifx\#2\%
8334     \global\pdfpageattr{#1}%
8335   \else
8336     \Hy@RemoveDurPageAttr#1#4\END
8337   \fi
8338 }

```

`\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).

```

8339 \def\hyper@pagehidden{%
8340   \ifHy@useHidKey
8341     \expandafter
8342     \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{ } \END
8343   \ifHy@pdfpagehidden
8344     \edef\@processme{%
8345       \global\pdfpageattr{%
8346         \the\pdfpageattr
8347         ^^J/Hid true % SPACE
8348       }%
8349     }%
8350     \@processme
8351   \fi
8352 \fi
8353 }

```

`\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.

```

8354 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
8355   \ifx\#2\%
8356     \global\pdfpageattr{#1}%
8357   \else
8358     \Hy@RemoveHidPageAttr#1#4\END
8359   \fi
8360 }

8361 \g@addto@macro\Hy@EveryPageHook{%
8362   \hyper@pagetransition
8363   \hyper@pageduration
8364   \hyper@pagehidden
8365 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

8366 </pdfTeX>
8367 <*pdfTeX | xetex>
8368 \Hy@AtBeginDocument{%
8369   \ifHy@setpagesize
8370     \expandafter\@firstofone
8371   \else
8372     \expandafter\@gobble
8373   \fi
8374   {%
8375     \@ifclassloaded{seminar}{%
8376 <*pdfTeX>
8377   \setlength{\pdfhorigin}{1truein}%
8378   \setlength{\pdfvorigin}{1truein}%
8379 </pdfTeX>
8380   \ifportrait
8381     \ifdim\paperwidth=\z@
8382     \else
8383       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
8384     \fi
8385     \ifdim\paperheight=\z@
8386     \else
8387       \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
8388     \fi
8389   \else
8390     \ifdim\paperheight=\z@
8391     \else
8392       \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
8393     \fi
8394     \ifdim\paperwidth=\z@
8395     \else
8396       \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
8397     \fi
8398   \fi
8399 }{%
8400   \ltx@ifundefined{stockwidth}{%
8401     \ifdim\paperwidth>\z@
8402       \setlength{\pdfpagewidth}{\paperwidth}%
8403     \fi
8404     \ifdim\paperheight>\z@
8405       \setlength{\pdfpageheight}{\paperheight}%
8406     \fi
8407   }{%
8408     \ifdim\stockwidth>\z@
8409       \setlength{\pdfpagewidth}{\stockwidth}%
8410     \fi
8411     \ifdim\stockheight>\z@
8412       \setlength{\pdfpageheight}{\stockheight}%
8413     \fi
8414   }%
8415 }%
8416 }%
8417 \Hy@DisableOption{setpagesize}%
8418 }
8419 </pdfTeX | xetex>
8420 <*pdfTeX>

```

```

8421 \def\Acrobatmenu#1#2{%
8422   \Hy@Acrobatmenu{#1}{#2}{%
8423     \pdfstartlink
8424     attr{%
8425       \Hy@setpdfborder
8426       \ifx\@pdfhighlight\@empty
8427       \else
8428         /H\@pdfhighlight
8429       \fi
8430       \ifx\@menubordercolor\relax
8431       \else
8432         /C[\@menubordercolor]%
8433       \fi
8434     }%
8435     user{%
8436       /Subtype/Link%
8437       \ifHy@pdfa /F 4\fi
8438       /A<<%
8439       /S/Named/N/#1%
8440     >>%
8441   }%
8442   \relax
8443   \Hy@colorlink\@menucolor#2%
8444   \close@pdflink
8445 }%
8446 }

```

#### 46.2.1 Fix for problem with different nesting levels

`\AtBeginShipoutFirst` adds an additional box layer around the first output page. This disturbs pdf<sub>T</sub>E<sub>X</sub>'s low level link commands `\pdfstartlink` and `\pdfendlink`, if a link is broken across the first and second output page.

The problem could be fixed by replacing `\AtBeginShipoutFirst`, because the box layer is not necessary for pdf<sub>T</sub>E<sub>X</sub>—no `\specials` need to be inserted. However it's easier to add an additional box level for the pages after the first one. Also `\AtBeginShipoutFirst` could be invoked independently from `hyperref`.

```

8447 \def\Hy@FixNotFirstPage{%
8448   \gdef\Hy@FixNotFirstPage{%
8449     \setbox\AtBeginShipoutBox=\hbox{%
8450       \copy\AtBeginShipoutBox
8451     }%
8452   }%
8453 }
8454 \AtBeginShipout{\Hy@FixNotFirstPage}
8455 \</pdfTeX>

```

### 46.3 hypertex

The Hyper<sub>T</sub>E<sub>X</sub> specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of `\special` commands:

**href:** `html:<a href = "href_string">`

**name:** `html:<a name = "name_string">`

**end:** `html:</a>`

**image:** html:<img src = "href\_string">

**base\_name:** html:<base href = "href\_string">

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base\_name* command is be used to communicate to the *dvi* viewer the full (URL) location of the current document so that files specified by relative URL's may be retrieved correctly.

The *href* and *name* commands must be paired with an *end* command later in the T<sub>E</sub>X file — the T<sub>E</sub>X commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href\_string*. The *anchor* associated with a *name* command represents a possible location to which other hypertext links may refer, either as local references (of the form href="#name\_string" with the *name\_string* identical to the one in the *name* command) or as part of a URL (of the form URL#name\_string). Here *href\_string* is a valid URL or local identifier, while *name\_string* could be any string at all: the only caveat is that “” characters should be escaped with a backslash (\), and if it looks like a URL name it may cause problems.

```
8456 (*hypertex)
8457 \providecommand*{\XR@ext}{dvi}
8458 \def\PDF@FinishDoc{}
8459 \def\PDF@SetupDoc{%
8460   \ifx\@baseurl\@empty
8461   \else
8462     \special{html:<base href="\@baseurl">}%
8463   \fi
8464 }
8465 \def\hyper@anchor#1{%
8466   \Hy@SaveLastskip
8467   \Hy@VerboseAnchor{#1}%
8468   \begingroup
8469     \let\protect=\string
8470     \hyper@chars
8471     \special{html:<a name=%
8472       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8473   \endgroup
8474   \Hy@activeanchortrue
8475   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8476   \special{html:</a>}%
8477   \Hy@activeanchorfalse
8478   \Hy@RestoreLastskip
8479 }
8480 \def\hyper@anchorstart#1{%
8481   \Hy@SaveLastskip
8482   \Hy@VerboseAnchor{#1}%
8483   \begingroup
8484     \hyper@chars
8485     \special{html:<a name=%
8486       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8487   \endgroup
8488   \Hy@activeanchortrue
8489 }
8490 \def\hyper@anchorend{%
```



```

8491 \special{html:</a>}%
8492 \Hy@activeanchorfalse
8493 \Hy@RestoreLastskip
8494 }
8495 \def\@urltype{url}
8496 \def\hyper@linkstart#1#2{%
8497   \Hy@VerboseLinkStart{#1}{#2}%
8498   \expandafter\Hy@colorlink\csname @#1color\endcsname
8499   \def\Hy@tempa{#1}%
8500   \ifx\Hy@tempa\@urltype
8501     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8502   \else
8503     \begingroup
8504       \hyper@chars
8505       \special{html:<a href=%
8506         \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>}%
8507     \endgroup
8508   \fi
8509 }
8510 \def\hyper@linkend{%
8511   \special{html:</a>}%
8512   \Hy@endcolorlink
8513 }
8514 \def\hyper@linkfile#1#2#3{%
8515   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
8516 }
8517 \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.

```

8518 \leavevmode
8519 \ifHy@raiselinks
8520   \setbox\@tempboxa=\color@hbox #1\color@endbox
8521   \@linkdim\dp\@tempboxa
8522   \lower\@linkdim\hbox{%
8523     \hyper@chars
8524     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8525   }%
8526   \Hy@colorlink\@urlcolor#1%
8527   \@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).

```

8528   \advance\@linkdim by -6.5\p@
8529   \raise\@linkdim\hbox{\special{html:</a>}}%
8530   \Hy@endcolorlink
8531 \else
8532   \begingroup
8533     \hyper@chars
8534     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8535     \Hy@colorlink\@urlcolor#1%
8536     \special{html:</a>}%
8537     \Hy@endcolorlink
8538   \endgroup
8539 \fi
8540 }

```

Very poor implementation of `\hyper@link` without considering `#1`.

```

8541 \def\hyper@link#1#2#3{%
8542   \Hy@VerboseLinkStart{#1}{#2}%
8543   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
8544 }

8545 \def\hyper@image#1#2{%
8546   \begingroup
8547   \hyper@chars
8548   \special{html:<img src=\hyper@quote#1\hyper@quote>}%
8549   \endgroup
8550 }
8551 \</hypertex>
8552 \<*dviwindo>

```

## 46.4 dviwindo

[This was developed by David Carlisle]. Within a file `dviwindo` hyperlinking is used, for external URL's a call to `\wwwbrowser` is made. (You can define this command before or after loading the `hyperref` package if the default `c:/netscape/netscape` is not suitable) `Dviwindo` could in fact handle external links to `dvi` files on the same machine without calling a web browser, but that would mean parsing the URL to recognise such, and this is currently not done.

This was more or less blindly copied from the `hypertex` `cfg`. For `dviwindo`,  $\LaTeX$  must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by `\baselineskip` high is used.

```

8553 \providecommand*\XR@ext}{dvi}
8554 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
8555 \def\hyper@anchor#1{%
8556   \Hy@SaveLastskip
8557   \Hy@VerboseAnchor{#1}%
8558   \begingroup
8559   \let\protect=\string
8560   \special{mark: #1}%
8561   \endgroup
8562   \Hy@activeanchortrue
8563   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8564   \Hy@activeanchorfalse
8565   \Hy@RestoreLastskip
8566 }
8567 \def\hyper@anchorstart#1{%
8568   \Hy@SaveLastskip
8569   \Hy@VerboseAnchor{#1}%
8570   \special{mark: #1}%
8571   \Hy@activeanchortrue
8572 }
8573 \def\hyper@anchorend{%
8574   \Hy@activeanchorfalse
8575   \Hy@RestoreLastskip
8576 }
8577 \def\hyper@linkstart#1#2{%
8578   \Hy@VerboseLinkStart{#1}{#2}%
8579   \expandafter\Hy@colorlink\csname @#1color\endcsname
8580   \special{button: %
8581     10000000 %

```

```

8582 \number\baselineskip\space
8583 #2%
8584 }%
8585 }
8586 \def\hyper@linkend{%
8587 \Hy@endcolorlink
8588 }
8589 \def\hyper@link#1#2#3{%
8590 \Hy@VerboseLinkStart{#1}{#2}%
8591 \setbox\@tempboxa=\color@hbox #3\color@endbox
8592 \leavevmode
8593 \ifHy@raiselinks
8594 \@linkdim\dp\@tempboxa
8595 \lower\@linkdim\hbox{%
8596 \special{button: %
8597 \number\wd\@tempboxa\space
8598 \number\ht\@tempboxa\space
8599 #2%
8600 }%
8601 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8602 \Hy@endcolorlink
8603 }%
8604 \@linkdim\ht\@tempboxa
8605 \advance\@linkdim by -6.5\p@
8606 \raise\@linkdim\hbox{}%
8607 \else
8608 \special{button: %
8609 \number\wd\@tempboxa\space
8610 \number\ht\@tempboxa\space
8611 #2%
8612 }%
8613 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8614 \Hy@endcolorlink
8615 \fi
8616 }
8617 \def\hyper@linkurl#1#2{%
8618 \begingroup
8619 \hyper@chars
8620 \leavevmode
8621 \setbox\@tempboxa=\color@hbox #1\color@endbox
8622 \ifHy@raiselinks
8623 \@linkdim\dp\@tempboxa
8624 \lower\@linkdim\hbox{%
8625 \special{button: %
8626 \number\wd\@tempboxa\space
8627 \number\ht\@tempboxa\space
8628 launch: \wwwbrowser\space
8629 #2%
8630 }%
8631 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8632 }%
8633 \@linkdim\ht\@tempboxa
8634 \advance\@linkdim by -6.5\p@
8635 \raise\@linkdim\hbox{}%
8636 \else
8637 \special{button: %
8638 \number\wd\@tempboxa\space

```

```

8639     \number\ht\@tempboxa\space
8640     launch: \wwwbrowser\space
8641     #2%
8642   }%
8643   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8644   \fi
8645 \endgroup
8646 }
8647 \def\hyper@linkfile#1#2#3{%
8648 \begingroup
8649   \hyper@chars
8650   \leavevmode
8651   \setbox\@tempboxa=\color@hbox #1\color@endbox
8652   \ifHy@raiselinks
8653     \@linkdim\dp\@tempboxa
8654     \lower\@linkdim\hbox{%
8655       \special{button: %
8656         \number\wd\@tempboxa\space
8657         \number\ht\@tempboxa\space
8658         #3,%
8659         file: #2%
8660       }%
8661       \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8662     }%
8663     \@linkdim\ht\@tempboxa
8664     \advance\@linkdim by -6.5\p@
8665     \raise\@linkdim\hbox{}%
8666   \else
8667     \special{button: %
8668       \number\wd\@tempboxa\space
8669       \number\ht\@tempboxa\space
8670       #3,%
8671       file: #2%
8672     }%
8673     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8674   \fi
8675 \endgroup
8676 }
8677 \ifx\@pdfproducer\relax
8678 \def\@pdfproducer{dviwindo + Distiller}%
8679 \fi
8680 \HyInfo@AddonUnsupportedtrue
8681 \def\PDF@FinishDoc{%
8682   \Hy@UseMaketitleInfos
8683   \HyInfo@TrappedUnsupported
8684   \special{PDF: Keywords \@pdfkeywords}%
8685   \special{PDF: Title \@pdftitle}%
8686   \special{PDF: Creator \@pdfcreator}%
8687   \ifx\@pdfcreationdate\@empty
8688   \else
8689     \special{PDF: CreationDate \@pdfcreationdate}%
8690   \fi
8691   \ifx\@pdfmoddate\@empty
8692   \else
8693     \special{PDF: ModDate \@pdfmoddate}%
8694   \fi
8695   \special{PDF: Author \@pdfauthor}%

```

```

8696 \ifx\@pdfproducer\relax
8697 \else
8698   \special{PDF: Producer \@pdfproducer}%
8699 \fi
8700 \special{PDF: Subject \@pdfsubject}%
8701 \Hy@DisableOption{pdfauthor}%
8702 \Hy@DisableOption{pdftitle}%
8703 \Hy@DisableOption{pdfsubject}%
8704 \Hy@DisableOption{pdfcreator}%
8705 \Hy@DisableOption{pdfcreationdate}%
8706 \Hy@DisableOption{pdfmoddate}%
8707 \Hy@DisableOption{pdfproducer}%
8708 \Hy@DisableOption{pdfkeywords}%
8709 \Hy@DisableOption{pdftrapped}%
8710 \Hy@DisableOption{pdfinfo}%
8711 }
8712 \def\PDF@SetupDoc{%
8713   \ifx\@baseurl\@empty
8714   \else
8715     \special{PDF: Base \@baseurl}%
8716   \fi
8717   \ifx\@pdfpagescrop\@empty\else
8718     \special{PDF: BBox \@pdfpagescrop}%
8719   \fi
8720   \def\Hy@temp{%
8721     \ifx\@pdfstartpage\@empty
8722     \else
8723       \ifx\@pdfstartview\@empty
8724       \else
8725         \edef\Hy@temp{%
8726           ,Page=\@pdfstartpage
8727           ,View=\@pdfstartview
8728         }%
8729       \fi
8730     \fi
8731     \edef\Hy@temp{%
8732       \noexpand\pdfmark{%
8733         pdfmark=/DOCVIEW,%
8734         PageMode=/\@pdfpagemode
8735       }\Hy@temp
8736     }%
8737   }%
8738   \Hy@temp
8739   \ifx\@pdfpagescrop\@empty
8740   \else
8741     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8742   \fi
8743   \edef\Hy@temp{%
8744     \ifHy@toolbar\else /HideToolbar true\fi
8745     \ifHy@menubar\else /HideMenubar true\fi
8746     \ifHy>windowui\else /HideWindowUI true\fi
8747     \ifHy@fitwindow /FitWindow true\fi
8748     \ifHy@centerwindow /CenterWindow true\fi
8749     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8750     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8751     \Hy@UseNameKey{Direction}\@pdfdirection
8752     \Hy@UseNameKey{ViewArea}\@pdfviewarea

```

```

8753 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8754 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8755 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8756 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8757 \Hy@UseNameKey{Duplex}\@pdfduplex
8758 \ifx\@pdfpicktraybypdfsize\@empty
8759 \else
8760 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8761 \fi
8762 \ifx\@pdfprintpagerange\@empty
8763 \else
8764 /PrintPageRange\@pdfprintpagerange]%
8765 \fi
8766 \ifx\@pdfnumcopies\@empty
8767 \else
8768 /NumCopies \@pdfnumcopies
8769 \fi
8770 }%
8771 \pdfmark{pdfmark=/PUT,%
8772 Raw={%
8773 \string{Catalog\string}<<%
8774 \ifx\Hy@temp\@empty
8775 \else
8776 /ViewerPreferences<<\Hy@temp>>%
8777 \fi
8778 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8779 \ifx\@pdflang\@empty
8780 \else
8781 /Lang(\@pdflang)%
8782 \fi
8783 >>%
8784 }%
8785 }%
8786 }
8787 </dviwindo>
8788 <*dvi pdfm | xetex>

```

## 46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

8789 \providecommand*\XR@ext}{pdf}
8790 \Hy@setbreaklinks{true}
8791 \newsavebox{\pdfm@box}
8792 \def\@pdfm@mark#1{\special{pdf:#1}}
8793 \def\@pdfm@dest#1{%
8794 \Hy@SaveLastskip
8795 \Hy@VerboseAnchor{#1}%
8796 \begingroup
8797 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8798 \def\x{XYZ}%
8799 \ifx\x\@pdfview
8800 \def\x{XYZ @xpos @ypos null}%
8801 \else
8802 \def\x{FitH}%
8803 \ifx\x\@pdfview
8804 \def\x{FitH @ypos}%
8805 \else

```

```

8806 \def\x{FitBH}%
8807 \ifx\x\@pdfview
8808 \def\x{FitBH @ypos}%
8809 \else
8810 \def\x{FitV}%
8811 \ifx\x\@pdfview
8812 \def\x{FitV @xpos}%
8813 \else
8814 \def\x{FitBV}%
8815 \ifx\x\@pdfview
8816 \def\x{FitBV @xpos}%
8817 \else
8818 \def\x{Fit}%
8819 \ifx\x\@pdfview
8820 \let\x\@pdfview
8821 \else
8822 \def\x{FitB}%
8823 \ifx\x\@pdfview
8824 \let\x\@pdfview
8825 \else
8826 \def\x{FitR}%
8827 \ifx\x\@pdfview
8828 \Hy@Warning{'pdfview=FitR' is not supported}%
8829 \def\x{XYZ @xpos @ypos null}%
8830 \else
8831 \Onelevel@sanitize\@pdfview
8832 \Hy@Warning{%
8833   Unknown value '\@pdfview' for pdfview%
8834 }%
8835 \def\x{XYZ @xpos @ypos null}%
8836 \fi
8837 \fi
8838 \fi
8839 \fi
8840 \fi
8841 \fi
8842 \fi
8843 \fi
8844 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
8845 \endgroup
8846 \Hy@RestoreLastskip
8847 }
8848 \providecommand*\@pdfview{XYZ}
8849 \providecommand*\@pdfborder{0 0 1}
8850 \providecommand*\@pdfborderstyle{}
8851 \def\hyper@anchor#1{%
8852 \@pdfm@dest{#1}%
8853 }
8854 \def\hyper@anchorstart#1{%
8855 \Hy@activeanchortrue
8856 \@pdfm@dest{#1}%
8857 }
8858 \def\hyper@anchorend{%
8859 \Hy@activeanchorfalse
8860 }
8861 \newcounter{Hy@AnnotLevel}
8862 \ifHy@ocgcolorlinks

```

```

8863 \def\OBJ@OCG@view{@OCG@view}%
8864 \@pdfm@mark{%
8865   obj \OBJ@OCG@view <<%
8866     /Type/OCG%
8867     /Name(View)%
8868     /Usage<<%
8869     /Print<<%
8870     /PrintState/OFF%
8871     >>%
8872     /View<<%
8873     /ViewState/ON%
8874     >>%
8875     >>%
8876   >>%
8877 }%
8878 \@pdfm@mark{close \OBJ@OCG@view}%
8879 \def\OBJ@OCG@print{@OCG@print}%
8880 \@pdfm@mark{%
8881   obj \OBJ@OCG@print <<%
8882     /Type/OCG%
8883     /Name(Print)%
8884     /Usage<<%
8885     /Print<<%
8886     /PrintState/ON%
8887     >>%
8888     /View<<%
8889     /ViewState/OFF%
8890     >>%
8891     >>%
8892   >>%
8893 }%
8894 \@pdfm@mark{close \OBJ@OCG@print}%
8895 \def\OBJ@OCGs{@OCGs}%
8896 \@pdfm@mark{%
8897   obj \OBJ@OCGs [%
8898     \OBJ@OCG@view\space\OBJ@OCG@print
8899   ]%
8900 }%
8901 \@pdfm@mark{close \OBJ@OCGs}%
8902 \@pdfm@mark{%
8903   put @catalog <<%
8904     /OCProperties<<%
8905     /OCGs \OBJ@OCGs
8906     /D<<%
8907     /OFF[\OBJ@OCG@print]%
8908     /AS[%
8909       <<%
8910         /Event/View%
8911         /OCGs \OBJ@OCGs
8912         /Category[/View]%
8913       >>%
8914       <<%
8915         /Event/Print%
8916         /OCGs \OBJ@OCGs
8917         /Category[/Print]%
8918       >>%
8919     <<%

```



```

8920         /Event/Export%
8921         /OCGs \OBJ@OCGs
8922         /Category[/Print]%
8923     >>%
8924     l%
8925     >>%
8926     >>%
8927     >>%
8928 }%
8929 \AtBeginShipout{%
8930     \setbox\AtBeginShipoutBox=\hbox{%
8931         \copy\AtBeginShipoutBox
8932         \@pdfm@mark{%
8933             put @resources <<%
8934                 /Properties<<%
8935                 /OCView \OBJ@OCG@view
8936                 /OCPrint \OBJ@OCG@print
8937             >>%
8938             >>%
8939         }%
8940     }%
8941 }%
8942 \Hy@AtBeginDocument{%
8943     \def\Hy@colorlink#1{%
8944         \begingroup
8945         \ifHy@ocgcolorlinks
8946             \def\Hy@ocgcolor{#1}%
8947             \setbox0=\color@hbox
8948         \else
8949             \HyColor@UseColor#1%
8950         \fi
8951     }%
8952     \def\Hy@endcolorlink{%
8953         \ifHy@ocgcolorlinks
8954             \color@endbox
8955             \mbox{%
8956                 \@pdfm@mark{content /OC/OCPrint BDC}%
8957                 \rlap{\copy0}%
8958                 \@pdfm@mark{content EMC/OC/OCView BDC}%
8959             \begingroup
8960                 \expandafter\HyColor@UseColor\Hy@ocgcolor
8961                 \box0 %
8962             \endgroup
8963             \@pdfm@mark{content EMC}%
8964         }%
8965         \fi
8966     \endgroup
8967 }%
8968 }%
8969 \else
8970     \Hy@DisableOption{ocgcolorlinks}%
8971 \fi
8972 \def\Hy@BeginAnnot#1{%
8973     \stepcounter{Hy@AnnotLevel}%
8974     \ifnum\value{Hy@AnnotLevel}=\@ne
8975         #1%
8976     \fi

```

```

8977 }
8978 \def\Hy@EndAnnot{%
8979   \ifnum\value{Hy@AnnotLevel}=\@ne
8980     \Hy@endcolorlink
8981     \@pdfm@mark{eann}%
8982   \fi
8983   \addtocounter{Hy@AnnotLevel}\m@ne
8984 }

8985 \def\Hy@undefinedname{UNDEFINED}
8986 \def\hyper@linkstart#1#2{%
8987   \Hy@VerboseLinkStart{#1}{#2}%
8988   \Hy@BeginAnnot{%
8989     \protected@edef\Hy@testname{#2}%
8990     \ifx\Hy@testname\@empty
8991       \Hy@Warning{%
8992         Empty destination name,\MessageBreak
8993         using '\Hy@undefinedname'%
8994       }%
8995       \let\Hy@testname\Hy@undefinedname
8996     \else
8997       \Hy@pstringdef\Hy@testname{%
8998         \expandafter\HyperDestNameFilter\expandafter{%
8999           \Hy@testname
9000         }%
9001       }%
9002     \fi
9003     \@pdfm@mark{%
9004       bann<<%
9005       /Type/Annot%
9006       /Subtype/Link%
9007       \ifHy@pdfa /F 4\fi
9008       \Hy@setpdfborder
9009       \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9010       \else
9011         /C[\csname @#1bordercolor\endcsname]%
9012       \fi
9013       /A<<%
9014       /S/GoTo%
9015       /D(\Hy@testname)%
9016       >>%
9017     >>%
9018   }%
9019   \expandafter\Hy@colorlink\csname @#1color\endcsname
9020 }%
9021 }

9022 \def\hyper@linkend{\Hy@EndAnnot}%
9023 \def\hyper@link#1#2#3{%
9024   \hyper@linkstart{#1}{#2}#3\hyper@linkend
9025 }

9026 \def\hyper@linkfile#1#2#3{%
9027   \leavevmode
9028   \Hy@BeginAnnot{%
9029     \Hy@pstringdef\Hy@pstringF{#2}%
9030     \Hy@pstringdef\Hy@pstringD{#3}%
9031     \@pdfm@mark{%
9032       bann<<%
9033       /Type/Annot%

```

```

9034      /Subtype/Link%
9035      \ifHy@pdfa /F 4\fi
9036      \Hy@setpdfborder
9037      \ifx\@filebordercolor\relax
9038      \else
9039      /C[\@filebordercolor]%
9040      \fi
9041      /A<<%
9042      /S/GoToR%
9043      /F(\Hy@pstringF)%
9044      /D\ifx\#3\[\0 \@pdfstartview]\else(\Hy@pstringD)\fi
9045      \Hy@SetNewWindow
9046      >>%
9047      >>%
9048      }%
9049      \Hy@colorlink\@filecolor
9050      }%
9051      #1%
9052      \Hy@endAnnot
9053      }
9054      \def\hyper@linkurl#1#2{%
9055      \leavevmode
9056      \Hy@BeginAnnot{%
9057      \Hy@pstringdef\Hy@pstringURI{#2}%
9058      \@pdfm@mark{%
9059      bann<<%
9060      /Type/Annot%
9061      /Subtype/Link%
9062      \ifHy@pdfa /F 4\fi
9063      \Hy@setpdfborder
9064      \ifx\@urlbordercolor\relax
9065      \else
9066      /C[\@urlbordercolor]%
9067      \fi
9068      /A<<%
9069      /S/URI%
9070      /URI(\Hy@pstringURI)%
9071      >>%
9072      >>%
9073      }%
9074      \Hy@colorlink\@urlcolor
9075      }%
9076      #1%
9077      \Hy@endAnnot
9078      }
9079      \def\Acrobatmenu#1#2{%
9080      \Hy@Acrobatmenu{#1}{#2}{%
9081      \Hy@BeginAnnot{%
9082      \@pdfm@mark{%
9083      bann<<%
9084      /Type/Annot%
9085      /Subtype/Link%
9086      \ifHy@pdfa /F 4\fi
9087      /A<<%
9088      /S/Named%
9089      /N/#1%
9090      >>%

```

```

9091      \Hy@setpdfborder
9092      \ifx\@menubordercolor\relax
9093      \relax
9094      /C[\@menubordercolor]%
9095      \fi
9096      >>%
9097      }%
9098      \Hy@colorlink\@menucolor
9099      }%
9100      #2%
9101      \Hy@EndAnnot
9102      }%
9103  }
9104  \ifx\@pdfproducer\relax
9105  \def\@pdfproducer{dvipdfm}%

```

Detect Xe<sub>T</sub>TeX. However, but xdvipdfmx will overwrite it in the final PDF file.

```

9106  \begingroup\expandafter\expandafter\expandafter\endgroup
9107  \expandafter\ifx\csname XeTeXversion\endcsname\relax
9108  \else
9109  \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
9110  \fi
9111  \fi
9112  \def\PDF@FinishDoc{%
9113  \Hy@UseMaketitleInfos
9114  \HyInfo@GenerateAddons
9115  \@pdfm@mark{%
9116  docinfo<<%
9117  /Title(\@pdftitle)%
9118  /Subject(\@pdfsubject)%
9119  /Creator(\@pdfcreator)%
9120  \ifx\@pdfcreationdate\@empty
9121  \else
9122  /CreationDate(\@pdfcreationdate)%
9123  \fi
9124  \ifx\@pdfmoddate\@empty
9125  \else
9126  /ModDate(\@pdfmoddate)%
9127  \fi
9128  /Author(\@pdfauthor)%
9129  \ifx\@pdfproducer\relax
9130  \else
9131  /Producer(\@pdfproducer)%
9132  \fi
9133  /Keywords(\@pdfkeywords)%
9134  \ifx\@pdftrapped\@empty
9135  \else
9136  /Trapped/\@pdftrapped
9137  \fi
9138  \HyInfo@Addons
9139  >>%
9140  }%
9141  \Hy@DisableOption{pdfauthor}%
9142  \Hy@DisableOption{pdftitle}%
9143  \Hy@DisableOption{pdfsubject}%
9144  \Hy@DisableOption{pdfcreator}%
9145  \Hy@DisableOption{pdfcreationdate}%
9146  \Hy@DisableOption{pdfmoddate}%

```

```

9147 \Hy@DisableOption{pdfproducer}%
9148 \Hy@DisableOption{pdfkeywords}%
9149 \Hy@DisableOption{pdftrapped}%
9150 \Hy@DisableOption{pdfinfo}%
9151 }

9152 \def\PDF@SetupDoc{%
9153   \edef\Hy@temp{%
9154     \ifHy@toolbar\else /HideToolbar true\fi
9155     \ifHy@menubar\else /HideMenubar true\fi
9156     \ifHy>windowui\else /HideWindowUI true\fi
9157     \ifHy@fitwindow /FitWindow true\fi
9158     \ifHy@centerwindow /CenterWindow true\fi
9159     \ifHy@displaydoctitle /DisplayDocTitle true\fi
9160     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9161     \Hy@UseNameKey{Direction}\@pdfdirection
9162     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9163     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9164     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9165     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9166     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9167     \Hy@UseNameKey{Duplex}\@pdfduplex
9168     \ifx\@pdfpicktraybypdfsize\@empty
9169       \else
9170         /PickTrayByPDFSize \@pdfpicktraybypdfsize
9171       \fi
9172     \ifx\@pdfprintpagerange\@empty
9173       \else
9174         /PrintPageRange\@pdfprintpagerange\%
9175       \fi
9176     \ifx\@pdfnumcopies\@empty
9177       \else
9178         /NumCopies \@pdfnumcopies
9179       \fi
9180   }%
9181   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9182   \@pdfm@mark{%
9183     docview<<%
9184     \ifx\@pdfstartpage\@empty
9185       \else
9186         \ifx\@pdfstartview\@empty
9187           \else
9188             /OpenAction[@page\@pdfstartpage\@pdfstartview]%
9189           \fi
9190         \fi
9191         \ifx\@baseurl\@empty
9192           \else
9193             /URI<</Base(\Hy@pstringB)>>%
9194           \fi
9195         /PageMode/\@pdfpagemode
9196         \ifx\Hy@temp\@empty
9197           \else
9198             /ViewerPreferences<<\Hy@temp>>%
9199           \fi
9200         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9201         \ifx\@pdflang\@empty
9202           \else
9203             /Lang(\@pdflang)%

```

```

9204 \fi
9205 >>%
9206 }%
9207 \ifx\@pdfpagescrop\@empty
9208 \else
9209 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
9210 \fi
9211 }
9212 </dvipdfm | xetex>

```

XeTeX uses pdfTeX's method \pdfpagewidth and \pdfpageheight for setting the paper size.

```

9213 <*dvipdfm>
9214 \AtBeginShipoutFirst{%
9215 \ifHy@setpagesize
9216 \begingroup
9217 \@ifundefined{stockwidth}{%
9218 \ifdim\paperwidth>\z@
9219 \ifdim\paperheight>\z@
9220 \special{papersize=\the\paperwidth,\the\paperheight}%
9221 \fi
9222 \fi
9223 }{%
9224 \ifdim\stockwidth>\z@
9225 \ifdim\stockheight>\z@
9226 \special{papersize=\the\stockwidth,\the\stockheight}%
9227 \fi
9228 \fi
9229 }%
9230 \endgroup
9231 \fi
9232 \Hy@DisableOption{setpagesize}%
9233 }
9234 </dvipdfm>

```

## 46.6 VTeX typesetting system

Provided by MicroPress, May 1998. They require VTeX version 6.02 or newer; see <http://www.micropress-inc.com/> for details.

```

9235 <*vtexhtml>
9236 \providecommand*\XR@ext}{htm}
9237 \RequirePackage{vtexhtml}
9238 \newif\if@Localurl
9239 \def\PDF@FinishDoc{}
9240 \def\PDF@SetupDoc{%
9241 \ifx\@baseurl\@empty
9242 \else
9243 \special{!direct <base href="\@baseurl">}%
9244 \fi
9245 }
9246 \def\@urltype{url}
9247 \def\hyper@link#1#2#3{%
9248 \Hy@VerboseLinkStart{#1}{#2}%
9249 \leavevmode
9250 \special{!direct <a href=%
9251 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
9252 #3%

```

```

9253 \special{!direct </a>}%
9254 }
9255 \def\hyper@linkurl#1#2{%
9256 \begingroup
9257 \hyper@chars
9258 \leavevmode
9259 \MathBSuppress=1\relax
9260 \special{!direct <a href=%
9261 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
9262 #1%
9263 \MathBSuppress=0\relax
9264 \special{!direct </a>}%
9265 \endgroup
9266 }
9267 \def\hyper@linkfile#1#2#3{%
9268 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9269 }
9270 \def\hyper@linkstart#1#2{%
9271 \Hy@VerboseLinkStart{#1}{#2}%
9272 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlltype
9273 \@Localurltrue
9274 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
9275 \else
9276 \@Localurlfalse
9277 \begingroup
9278 \hyper@chars
9279 \special{!aref \HyperDestNameFilter{#2}}%
9280 \endgroup
9281 \fi
9282 }
9283 \def\hyper@linkend{%
9284 \if@Localurl
9285 \special{!endaref}%
9286 \else
9287 \special{!direct </a>}%
9288 \fi
9289 }
9290 \def\hyper@anchorstart#1{%
9291 \Hy@SaveLastskip
9292 \Hy@VerboseAnchor{#1}%
9293 \begingroup
9294 \hyper@chars
9295 \special{!aname #1}%
9296 \special{!direct <a name=%
9297 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9298 \endgroup
9299 \Hy@activeanchortrue
9300 }
9301 \def\hyper@anchorend{%
9302 \special{!direct </a>}%
9303 \Hy@activeanchorfalse
9304 \Hy@RestoreLastskip
9305 }
9306 \def\hyper@anchor#1{%
9307 \Hy@SaveLastskip
9308 \Hy@VerboseAnchor{#1}%
9309 \begingroup

```

```

9310 \let\protect=\string
9311 \hyper@chars
9312 \leavevmode
9313 \special{!aname #1}%
9314 \special{!direct <a name=%
9315     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9316 \endgroup
9317 \Hy@activeanchortrue
9318 \bgroup\anchor@spot\egroup
9319 \special{!direct </a>}%
9320 \Hy@activeanchorfalse
9321 \Hy@RestoreLastskip
9322 }
9323 \def\@Form[#1]{%
9324 \typeout{Sorry, TeXpider does not yet support FORMs}%
9325 }
9326 \def\@endForm{}
9327 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9328 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
9329 }
9330 \def\@TextField[#1]#2{% parameters, label
9331 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
9332 }
9333 \def\@CheckBox[#1]#2{% parameters, label
9334 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
9335 }
9336 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9337 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
9338 }
9339 \def\@PushButton[#1]#2{% parameters, label
9340 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
9341 }
9342 \def\@Reset[#1]#2{%
9343 \typeout{Sorry, TeXpider does not yet support FORMs}%
9344 }
9345 \def\@Submit[#1]#2{%
9346 \typeout{Sorry, TeXpider does not yet support FORMs}%
9347 }
9348 </vtexhtml>
9349 <*vtex>

```

VTeX version 6.68 supports \mediawidth and \mediaheight. The \ifx construct is better than a \csname, because it avoids the definition and the hash table entry of a previous undefined macro.

```

9350 \ifx\mediaheight\@undefined
9351 \else
9352 \ifx\mediaheight\relax
9353 \else
9354 \ifHy@setpagesize
9355 \providecommand*\VTeXInitMediaSize{%
9356 \ltx@ifundefined{stockwidth}{%
9357 \ifdim\paperheight>0pt %
9358 \setlength\mediaheight\paperheight
9359 \fi
9360 \ifdim\paperheight>0pt %
9361 \setlength\mediawidth\paperwidth
9362 \fi

```



```

9363     }{%
9364         \ifdim\stockheight>0pt %
9365             \setlength\mediaheight\stockheight
9366         \fi
9367         \ifdim\stockwidth>0pt %
9368             \setlength\mediawidth\stockwidth
9369         \fi
9370     }%
9371 }%
9372 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
9373 \fi
9374 \Hy@DisableOption{setpagesize}%
9375 \fi
9376 \fi

```

Older versions of VTeX require xyz in lower case.

```

9377 \providecommand*\@pdfview{xyz}
9378 \providecommand*\@pdfborder{0 0 1}
9379 \providecommand*\@pdfborderstyle{}
9380 \let\CurrentBorderColor\@linkbordercolor
9381 \def\hyper@anchor#1{%
9382     \Hy@SaveLastskip
9383     \Hy@VerboseAnchor{#1}%
9384     \begingroup
9385         \let\protect=\string
9386         \hyper@chars
9387         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9388     \endgroup
9389     \Hy@activeanchortrue
9390     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9391     \Hy@activeanchorfalse
9392     \Hy@RestoreLastskip
9393 }
9394 \def\hyper@anchorstart#1{%
9395     \Hy@SaveLastskip
9396     \Hy@VerboseAnchor{#1}%
9397     \begingroup
9398         \hyper@chars
9399         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9400     \endgroup
9401     \Hy@activeanchortrue
9402 }
9403 \def\hyper@anchorend{%
9404     \Hy@activeanchorfalse
9405     \Hy@RestoreLastskip
9406 }
9407 \def\@urltype{url}
9408 \def\Hy@undefinedname{UNDEFINED}
9409 \def\hyper@linkstart#1#2{%
9410     \Hy@VerboseLinkStart{#1}{#2}%
9411     \Hy@pstringdef\Hy@pstringURI{#2}%
9412     \expandafter\Hy@colorlink\csname @#1color\endcsname
9413     \ltx@ifundefined{@#1bordercolor}{%
9414         \let\CurrentBorderColor\relax
9415     }{%
9416         \edef\CurrentBorderColor{%
9417             \csname @#1bordercolor\endcsname
9418         }%

```

```

9419 }%
9420 \def\Hy@tempa{#1}%
9421 \ifx\Hy@tempa\@urltype
9422 \special{!%
9423   aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
9424   a=<%
9425     \ifHy@pdfa /F 4\fi
9426     \Hy@setpdfborder
9427     \ifx\CurrentBorderColor\relax
9428     \else
9429       /C [\CurrentBorderColor]%
9430     \fi
9431   >%
9432 }%
9433 \else
9434 \protected@edef\Hy@testname{#2}%
9435 \ifx\Hy@testname\@empty
9436 \Hy@Warning{%
9437   Empty destination name,\MessageBreak
9438   using '\Hy@undefinedname'%
9439 }%
9440 \let\Hy@testname\Hy@undefinedname
9441 \fi
9442 \special{!%
9443   aref \expandafter\HyperDestNameFilter
9444     \expandafter{\Hy@testname};%
9445   a=<%
9446     \ifHy@pdfa /F 4\fi
9447     \Hy@setpdfborder
9448     \ifx\CurrentBorderColor\relax
9449     \else
9450       /C [\CurrentBorderColor]%
9451     \fi
9452   >%
9453 }%
9454 \fi
9455 }
9456 \def\hyper@linkend{%
9457 \special{!endaref}%
9458 \Hy@endcolorlink
9459 }
9460 \def\hyper@linkfile#1#2#3{%
9461 \leavevmode
9462 \special{!%
9463   aref <%
9464     \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
9465   f=#2>#3;%
9466   a=<%
9467     \ifHy@pdfa /F 4\fi
9468     \Hy@setpdfborder
9469     \ifx\@filebordercolor\relax
9470     \else
9471       /C [\@filebordercolor]%
9472     \fi
9473   >%
9474 }%
9475 \Hy@colorlink\@filecolor#1\Hy@endcolorlink

```

```

9476 \special{!endaref}%
9477 }
9478 \def\hyper@linkurl#1#2{%
9479 \begingroup
9480 \Hy@pstringdef\Hy@pstringURI{#2}%
9481 \hyper@chars
9482 \leavevmode
9483 \special{!%
9484   aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
9485   a=<%
9486     \ifHy@pdfa /F 4\fi
9487     \Hy@setpdfborder
9488     \ifx\@urlbordercolor\relax
9489       \else
9490         /C [\@urlbordercolor]%
9491       \fi
9492     >%
9493   }%
9494   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9495   \special{!endaref}%
9496 \endgroup
9497 }
9498 \def\hyper@link#1#2#3{%
9499 \Hy@VerboseLinkStart{#1}{#2}%
9500 \ltx@ifundefined{@#1bordercolor}{%
9501   \let\CurrentBorderColor\relax
9502 }{%
9503   \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9504 }%
9505 \leavevmode
9506 \protected@edef\Hy@testname{#2}%
9507 \ifx\Hy@testname\@empty
9508   \Hy@Warning{%
9509     Empty destination name,\MessageBreak
9510     using '\Hy@undefinedname'%
9511   }%
9512   \let\Hy@testname\Hy@undefinedname
9513 \fi
9514 \special{!%
9515   aref \expandafter\HyperDestNameFilter
9516     \expandafter{\Hy@testname};%
9517   a=<%
9518     \ifHy@pdfa /F 4\fi
9519     \Hy@setpdfborder
9520     \ifx\CurrentBorderColor\relax
9521       \else
9522         /C [\CurrentBorderColor]%
9523       \fi
9524     >%
9525   }%
9526 \expandafter
9527 \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
9528 \special{!endaref}%
9529 }
9530 \def\hyper@image#1#2{%
9531 \hyper@linkurl{#2}{#1}%
9532 }

```

```

9533 \def\@hyper@launch run:#1\|#2#3{%
9534   \Hy@pstringdef\Hy@pstringF{#1}%
9535   \Hy@pstringdef\Hy@pstringP{#3}%
9536   \leavevmode
9537   \special{!aref %
9538     <u=%
9539       /Type/Action%
9540       /S/Launch%
9541       /F(\Hy@pstringF)%
9542       \Hy@SetNewWindow
9543       \ifx\|#3\|%
9544       \else
9545         /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
9546       \fi%
9547     >,%
9548     a=<%
9549     \ifHy@pdfa /F 4\fi
9550     \Hy@setpdfborder
9551     \ifx\@runbordercolor\relax
9552     \else
9553       /C[\@runbordercolor]%
9554     \fi
9555     >%
9556   }%
9557   \Hy@colorlink\@runcolor#2\Hy@endcolorlink
9558   \special{!endaref}%
9559 }
9560 \def\Acrobatmenu#1#2{%
9561   \Hy@Acrobatmenu{#1}{#2}{%
9562     \special{!%
9563       aref <u=/S /Named /N /#1>,%
9564       a=<%
9565       \ifHy@pdfa /F 4\fi
9566       \Hy@setpdfborder
9567       \ifx\@menubordercolor\relax
9568       \else
9569         /C[\@menubordercolor]%
9570       \fi
9571       >%
9572     }%
9573     \Hy@colorlink\@menucolor#2\Hy@endcolorlink
9574     \special{!endaref}%
9575   }%
9576 }

```

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for  $\text{\TeX}$  7.02 or later.

Please never use `\@ifundefined{VTeXversion}{...}{...}` globally.

```

9577 \ifnum\Hy@VTeXversion<702 %
9578 \else
9579   \def\hyper@pagetransition{%
9580     \ifx\@pdfpagetransition\relax
9581     \else
9582       \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

9583   \else

```

```

9584 \hvtex@parse@trans\@pdfpagetransition
9585 \fi
9586 \fi
9587 }%

```

I have to write an “honest” parser to convert raw PDF code into  $\text{\TeX}$   $\backslash\text{special}$ . (AVK)

Syntax of  $\text{\TeX}$   $\backslash\text{special}\{!\text{trans } \langle\text{transition\_effect}\rangle\}$ :

```

<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:

```

9588 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
9589 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
9590 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
9591 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
9592 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
9593 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
9594 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

9595 \def\hvtex@par@dimension{/Dm}%
9596 \def\hvtex@par@direction{/Di}%
9597 \def\hvtex@par@duration{/D}%
9598 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

9599 \def\hvtex@gettoken{%
9600 \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
9601 }%

```

Notice that tokens in the input buffer must be space delimited.

```

9602 \def\hvtex@gettoken@#1 #2\@nil{%
9603 \edef\hvtex@token{#1}%
9604 \edef\hvtex@buffer{#2}%
9605 }%
9606 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

9607 \let\hvtex@trans@code\@empty
9608 \let\hvtex@param@dimension\@empty
9609 \let\hvtex@param@direction\@empty
9610 \let\hvtex@param@duration\@empty
9611 \let\hvtex@param@motion\@empty
9612 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```
9613 \hvtex@gettoken
9614 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
9615 \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
9616 \else
9617 \hvtex@gettoken
9618 \fi
9619 \fi
9620 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
9621 \hvtex@trans@params
9622 }%
```

Reentrant macro to parse optional parameters.

```
9623 \def\hvtex@trans@params{%
9624 \ifx\hvtex@buffer\@empty
9625 \else
9626 \hvtex@gettoken
9627 \let\hvtex@trans@par\hvtex@token
9628 \ifx\hvtex@buffer\@empty
9629 \else
9630 \hvtex@gettoken
9631 \ifx\hvtex@trans@par\hvtex@par@duration
```

/D is the effect duration in seconds. V<sub>T</sub><sub>E</sub>X special takes it in milliseconds.

```
9632 \let\hvtex@param@duration\hvtex@token
9633 \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
9634 \expandafter\edef\expandafter\hvtex@param@motion
9635 \expandafter{\expandafter\@gobble\hvtex@token}%
9636 \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
9637 \expandafter\edef\expandafter\hvtex@param@dimension
9638 \expandafter{\expandafter\@gobble\hvtex@token}%
9639 \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).

```
9640 \let\hvtex@param@direction\hvtex@token
9641 \fi\fi\fi\fi
9642 \fi
9643 \fi
9644 \ifx\hvtex@buffer\@empty
9645 \let\next\hvtex@produce@trans
9646 \else
9647 \let\next\hvtex@trans@params
9648 \fi
9649 \next
9650 }%
```

Merge <transition\_effect> and issue the special when possible. Too lazy to validate optional parameters.

```
9651 \def\hvtex@produce@trans{%
```

```

9652 \let\vtex@trans@special\@empty
9653 \if S\hvtex@trans@code
9654 \edef\vtex@trans@special{\hvtex@trans@code
9655 \hvtex@param@dimension\hvtex@param@motion}%
9656 \else\if B\hvtex@trans@code
9657 \edef\vtex@trans@special{%
9658 \hvtex@trans@code\hvtex@param@dimension
9659 }%
9660 \else\if X\hvtex@trans@code
9661 \edef\vtex@trans@special{%
9662 \hvtex@trans@code\hvtex@param@motion
9663 }%
9664 \else\if W\hvtex@trans@code
9665 \edef\vtex@trans@special{%
9666 \hvtex@trans@code\hvtex@param@direction
9667 }%
9668 \else\if D\hvtex@trans@code
9669 \let\vtex@trans@special\hvtex@trans@code
9670 \else\if R\hvtex@trans@code
9671 \let\vtex@trans@special\hvtex@trans@code
9672 \else\if G\hvtex@trans@code
9673 \edef\vtex@trans@special{%
9674 \hvtex@trans@code\hvtex@param@direction
9675 }%
9676 \fi\fi\fi\fi\fi\fi
9677 \ifx\vtex@trans@special\@empty
9678 \else
9679 \ifx\hvtex@param@duration\@empty
9680 \else
9681 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

9682 \multiply\dimen@\@m
9683 \edef\vtex@trans@special{%
9684 \vtex@trans@special,\strip@pt\dimen@
9685 }%
9686 \fi

```

And all the mess is just for this.

```

9687 \special{!trans \vtex@trans@special}%
9688 \fi
9689 }%

9690 \def\hyper@pageduration{%
9691 \ifx\@pdfpageduration\relax
9692 \else
9693 \ifx\@pdfpageduration\@empty
9694 \special{!duration-}%
9695 \else
9696 \special{!duration \@pdfpageduration}%
9697 \fi
9698 \fi
9699 }%

9700 \def\hyper@pagehidden{%
9701 \ifHy@useHidKey
9702 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
9703 \fi
9704 }%
9705 \g@addto@macro\Hy@EveryPageBoxHook{%

```

```

9706 \hyper@pagetransition
9707 \hyper@pageduration
9708 \hyper@pagehidden
9709 }%
9710 \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

```

9711 \ifx\@pdfproducer\relax
9712 \def\@pdfproducer{VTeX}%
9713 \ifnum\Hy@VTeXversion>\z@
9714 \count@\VTeXversion
9715 \divide\count@ 100 %
9716 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
9717 \multiply\count@ -100 %
9718 \advance\count@\VTeXversion
9719 \edef\@pdfproducer{%
9720 \@pdfproducer
9721 .\ifnum\count@<10 0\fi\the\count@
9722 \ifx\VTeXOS\@undefined\else
9723 \ifnum\VTeXOS>0 %
9724 \ifnum\VTeXOS<6 %
9725 \space(%
9726 \ifcase\VTeXOS
9727 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
9728 \fi
9729 )%
9730 \fi
9731 \fi
9732 \fi
9733 ,\space
9734 \ifnum\OpMode=\@ne PDF\else PS\fi
9735 \space backend%
9736 \ifx\gexmode\@undefined\else
9737 \ifnum\gexmode>\z@\space with GeX\fi
9738 \fi
9739 }%
9740 \fi
9741 \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).

```

9742 \def\PDF@SetupDoc{%
9743 \ifx\@pdfpagescrop\@empty
9744 \else
9745 \special{!pdfinfo b=<\@pdfpagescrop>}%
9746 \fi
9747 \ifx\@pdfstartpage\@empty
9748 \else
9749 \ifx\@pdfstartview\@empty
9750 \else
9751 \special{!onopen Page\@pdfstartpage}%
9752 \fi
9753 \fi
9754 \special{!pdfinfo p=</\@pdfpagemode>}%
9755 \ifx\@baseurl\@empty
9756 \else
9757 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
9758 \fi
9759 \special{!pdfinfo v=<<<%
9760 \ifHy@toolbar\else /HideToolbar true\fi
9761 \ifHy@menubar\else /HideMenubar true\fi
9762 \ifHy>windowui\else /HideWindowUI true\fi
9763 \ifHy@fitwindow /FitWindow true\fi
9764 \ifHy@centerwindow /CenterWindow true\fi
9765 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9766 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9767 \Hy@UseNameKey{Direction}\@pdfdirection
9768 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9769 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9770 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9771 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9772 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9773 \Hy@UseNameKey{Duplex}\@pdfduplex
9774 \ifx\@pdfpicktraybypdfsize\@empty
9775 \else
9776 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9777 \fi
9778 \ifx\@pdfprintpagerange\@empty
9779 \else
9780 /PrintPageRange[\@pdfprintpagerange]%
9781 \fi
9782 \ifx\@pdfnumcopies\@empty
9783 \else
9784 /NumCopies \@pdfnumcopies

```

```

9785 \fi
9786 >>>}%
9787 \ifx\@pdfpagelayout\@empty
9788 \else
9789 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
9790 \fi
9791 }%
9792 \HyInfo@AddonUnsupportedtrue
9793 \def\PDF@FinishDoc{%
9794 \Hy@UseMaketitleInfos
9795 \HyInfo@TrappedUnsupported
9796 \special{!pdfinfo a=<\@pdfauthor>}%
9797 \special{!pdfinfo t=<\@pdftitle>}%
9798 \special{!pdfinfo s=<\@pdfsubject>}%
9799 \special{!pdfinfo c=<\@pdfcreator>}%
9800 \ifx\@pdfproducer\relax
9801 \else
9802 \special{!pdfinfo r=<\@pdfproducer>}%
9803 \fi
9804 \special{!pdfinfo k=<\@pdfkeywords>}%
9805 \Hy@DisableOption{pdfauthor}%
9806 \Hy@DisableOption{pdftitle}%
9807 \Hy@DisableOption{pdfsubject}%
9808 \Hy@DisableOption{pdfcreator}%
9809 \Hy@DisableOption{pdfcreationdate}%
9810 \Hy@DisableOption{pdfmoddate}%
9811 \Hy@DisableOption{pdfproducer}%
9812 \Hy@DisableOption{pdfkeywords}%
9813 \Hy@DisableOption{pdftrapped}%
9814 \Hy@DisableOption{pdfinfo}%
9815 }
9816 </vtex>

```

## 46.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:

```

/showpage {
  //showpage
  clippath stroke erasepage
} bind def

```

But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

```

9817 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
9818 <package>\providecommand*{\Hy@DistillerDestFix}{%
9819 <*pdfmark | dviwindo>
9820 \def\Hy@DistillerDestFix{%
9821 \beginngroup
9822 \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

9823 \ifnum \@ifundefined{OpMode}{0}{%
9824 \ifundefined{gexmode}{0}{%
9825 \ifnum\gexmode>0 \OpMode\else 0\fi
9826 }}>1 %

```

```

9827 \def\x##1{%
9828 \immediate\special{!=##1}%
9829 }%
9830 \fi
9831 \x{%
9832 /product where{%
9833 pop %
9834 product(Distiller)search{%
9835 pop pop pop %
9836 version(.)search{%
9837 exch pop exch pop%
9838 (3011)eq{%
9839 gsave %
9840 newpath 0 0 moveto closepath clip%
9841 /Courier findfont 10 scalefont setfont %
9842 72 72 moveto(.)show %
9843 grestore%
9844 }if%
9845 }{pop}ifelse%
9846 }{pop}ifelse%
9847 }if%
9848 }%
9849 \endgroup
9850 }
9851 </pdfmark | dviwindo>

```

## 46.8 Direct pdfmark support

Drivers that load pdfmark.def have to provide the correct macro definitions of

\@pdfproducer	for document information
\literalps@out	PostScript output
\headerps@out	PostScript output that goes in the header area

and the correct definitions of the following PostScript procedures:

H.S	start of anchor, link or rect
#1 H.A	end of anchor, argument=baselineskip in pt
#1 H.L	end of link, argument=baselineskip in pt
H.R	end of rect
H.B	raw rect code

```

9852 <*pdfmark>
9853 \Hy@breaklinks@unsupported
9854 \def\hyper@anchor#1{%
9855 \Hy@SaveLastskip
9856 \Hy@VerboseAnchor{#1}%
9857 \begingroup
9858 \pdfmark[\anchor@spot]{%
9859 pdfmark=/DEST,%
9860 linktype=anchor,%
9861 View=/\@pdfview \@pdfviewparams,%
9862 DestAnchor={#1}%
9863 }%
9864 \endgroup
9865 \Hy@RestoreLastskip
9866 }
9867 \ltx@ifundefined{hyper@anchorstart}{-}{\endinput}

```

```

9868 \def\hyper@anchorstart#1{%
9869   \Hy@SaveLastskip
9870   \Hy@VerboseAnchor{#1}%
9871   \literalps@out{H.S}%
9872   \Hy@AllowHyphens
9873   \xdef\hyper@currentanchor{#1}%
9874   \Hy@activeanchortrue
9875 }
9876 \def\hyper@anchorend{%
9877   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
9878   \pdfmark{%
9879     pdfmark=/DEST,%
9880     linktype=anchor,%
9881     View=/\@pdfview \@pdfviewparams,%
9882     DestAnchor=\hyper@currentanchor,%
9883   }%
9884   \Hy@activeanchorfalse
9885   \Hy@RestoreLastskip
9886 }
9887 \def\hyper@linkstart#1#2{%
9888   \Hy@VerboseLinkStart{#1}{#2}%
9889   \ifHy@breaklinks
9890   \else
9891     \leavevmode\hbox\bgroup
9892     \fi
9893     \expandafter\Hy@colorlink\csname @#1color\endcsname
9894     \literalps@out{H.S}%
9895     \Hy@AllowHyphens
9896     \xdef\hyper@currentanchor{#2}%
9897     \gdef\hyper@currentlinktype{#1}%
9898 }
9899 \def\hyper@linkend{%
9900   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
9901   \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
9902     \let\Hy@tempcolor\relax
9903   }{%
9904     \edef\Hy@tempcolor{%
9905       \csname @\hyper@currentlinktype bordercolor\endcsname
9906     }%
9907   }%
9908   \pdfmark{%
9909     pdfmark=/ANN,%
9910     linktype=link,%
9911     Subtype=/Link,%
9912     PDFAMlags=4,%
9913     Dest=\hyper@currentanchor,%
9914     AcroHighlight=\@pdfhighlight,%
9915     Border=\@pdfborder,%
9916     BorderStyle=\@pdfborderstyle,%
9917     Color=\Hy@tempcolor,%
9918     Raw=H.B%
9919   }%
9920   \Hy@endcolorlink
9921   \ifHy@breaklinks
9922   \else
9923     \egroup
9924   \fi

```

```
9925 }
```

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.

```
9926 \begingroup
9927 \catcode'P=12 %
9928 \catcode'T=12 %
9929 \lowercase{\endgroup
9930 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>z@.#2\fi}%
9931 }
9932 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}
```

\hyper@pagetransition

```
9933 \def\hyper@pagetransition{%
9934 \ifx\@pdfpagetransition\relax
9935 \else
9936 \ifx\@pdfpagetransition\@empty
9937 % 1. Does an old entry have to be deleted?
9938 % 2. If 1=yes, how to delete?
9939 \else
9940 \pdfmark{%
9941 pdfmark=/PUT,%
9942 Raw={%
9943 \string{ThisPage\string}%
9944 <</Trans << /S /\@pdfpagetransition\space >> >>%
9945 }%
9946 }%
9947 \fi
9948 \fi
9949 }
```

\hyper@pageduration

```
9950 \def\hyper@pageduration{%
9951 \ifx\@pdfpageduration\relax
9952 \else
9953 \ifx\@pdfpageduration\@empty
9954 % 1. Does an old entry have to be deleted?
9955 % 2. If 1=yes, how to delete?
9956 \else
9957 \pdfmark{%
9958 pdfmark=/PUT,%
9959 Raw={%
9960 \string{ThisPage\string}%
9961 <</Dur \@pdfpageduration>>%
9962 }%
9963 }%
9964 \fi
9965 \fi
9966 }
```

\hyper@pagehidden

```
9967 \def\hyper@pagehidden{%
9968 \ifHy@useHidKey
9969 \pdfmark{%
9970 pdfmark=/PUT,%
9971 Raw={%
```

```

9972     \string{ThisPage\string}%
9973     <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
9974 }%
9975 }%
9976 \fi
9977 }

9978 \g@addto@macro\Hy@EveryPageBoxHook{%
9979   \hyper@pagetransition
9980   \hyper@pageduration
9981   \hyper@pagehidden
9982 }

9983 \def\hyper@image#1#2{%
9984   \hyper@linkurl{#2}{#1}%
9985 }

9986 \def\Hy@undefinedname{UNDEFINED}
9987 \def\hyper@link#1#2#3{%
9988   \Hy@VerboseLinkStart{#1}{#2}%
9989   \ltx@ifundefined{@#1bordercolor}{%
9990     \let\Hy@tempcolor\relax
9991   }{%
9992     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
9993   }%
9994   \begingroup
9995     \protected@edef\Hy@testname{#2}%
9996     \ifx\Hy@testname\@empty
9997       \Hy@Warning{%
9998         Empty destination name,\MessageBreak
9999         using '\Hy@undefinedname'%
10000     }%
10001     \let\Hy@testname\Hy@undefinedname
10002   \fi
10003   \pdfmark[{#3}]{%
10004     Color=\Hy@tempcolor,%
10005     linktype={#1},%
10006     AcroHighlight=\@pdfhighlight,%
10007     Border=\@pdfborder,%
10008     BorderStyle=\@pdfborderstyle,%
10009     pdfmark=/ANN,%
10010     Subtype=/Link,%
10011     PDFAFlags=4,%
10012     Dest=\Hy@testname
10013   }%
10014   \endgroup
10015 }

10016 \newtoks\pdf@docset
10017 \def\PDF@FinishDoc{%
10018   \Hy@UseMaketitleInfos
10019   \HyInfo@GenerateAddons
10020   \let\Hy@temp\@empty
10021   \ifx\@pdfcreationdate\@empty
10022   \else
10023     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
10024   \fi
10025   \ifx\@pdfmoddate\@empty
10026   \else
10027     \expandafter\def\expandafter\Hy@temp\expandafter{%
10028       \Hy@temp

```

```

10029     ModDate=\@pdfmoddate,%
10030 }%
10031 \fi
10032 \ifx\@pdfproducer\relax
10033 \else
10034   \expandafter\def\expandafter\Hy@temp\expandafter{%
10035     \Hy@temp
10036     Producer=\@pdfproducer,%
10037   }%
10038 \fi
10039 \expandafter
10040 \pdfmark\expandafter{%
10041   \Hy@temp
10042   pdfmark=/DOCINFO,%
10043   Title=\@pdftitle,%
10044   Subject=\@pdfsubject,%
10045   Creator=\@pdfcreator,%
10046   Author=\@pdfauthor,%
10047   Keywords=\@pdfkeywords,%
10048   Trapped=\@pdftrapped
10049 }%
10050 \ifx\HyInfo@Addons\@empty
10051 \else
10052   \pdfmark{%
10053     pdfmark=/DOCINFO,%
10054     Raw={\HyInfo@Addons}%
10055   }%
10056 \fi
10057 \Hy@DisableOption{pdfauthor}%
10058 \Hy@DisableOption{pdftitle}%
10059 \Hy@DisableOption{pdfsubject}%
10060 \Hy@DisableOption{pdfcreator}%
10061 \Hy@DisableOption{pdfcreationdate}%
10062 \Hy@DisableOption{pdfmoddate}%
10063 \Hy@DisableOption{pdfproducer}%
10064 \Hy@DisableOption{pdfkeywords}%
10065 \Hy@DisableOption{pdftrapped}%
10066 \Hy@DisableOption{pdfinfo}%
10067 }
10068 \def\PDF@SetupDoc{%
10069   \def\Hy@temp{}%
10070   \ifx\@pdfstartpage\@empty
10071   \else
10072     \ifx\@pdfstartview\@empty
10073     \else
10074       \edef\Hy@temp{%
10075         ,Page=\@pdfstartpage
10076         ,View=\@pdfstartview
10077       }%
10078     \fi
10079   \fi
10080   \edef\Hy@temp{%
10081     \noexpand\pdfmark{%
10082       pdfmark=/DOCVIEW,%
10083       PageMode=/\@pdfpagemode
10084     }\Hy@temp
10085   }%

```

```

10086 }%
10087 \Hy@temp
10088 \ifx\@pdfpagescrop\@empty
10089 \else
10090 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10091 \fi
10092 \edef\Hy@temp{%
10093 \ifHy@toolbar\else /HideToolbar true\fi
10094 \ifHy@menubar\else /HideMenubar true\fi
10095 \ifHy>windowui\else /HideWindowUI true\fi
10096 \ifHy@fitwindow /FitWindow true\fi
10097 \ifHy@centerwindow /CenterWindow true\fi
10098 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10099 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10100 \Hy@UseNameKey{Direction}\@pdfdirection
10101 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10102 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10103 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10104 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10105 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10106 \Hy@UseNameKey{Duplex}\@pdfduplex
10107 \ifx\@pdfpicktraybypdfsize\@empty
10108 \else
10109 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10110 \fi
10111 \ifx\@pdfprintpagerange\@empty
10112 \else
10113 /PrintPageRange[\@pdfprintpagerange]%
10114 \fi
10115 \ifx\@pdfnumcopies\@empty
10116 \else
10117 /NumCopies \@pdfnumcopies
10118 \fi
10119 }%
10120 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10121 \pdfmark{%
10122 pdfmark=/PUT,%
10123 Raw={%
10124 \string{Catalog\string}<<%
10125 \ifx\Hy@temp\@empty
10126 \else
10127 /ViewerPreferences<<\Hy@temp>>%
10128 \fi
10129 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10130 \ifx\@pdflang\@empty
10131 \else
10132 /Lang(\@pdflang)%
10133 \fi
10134 \ifx\@baseurl\@empty
10135 \else
10136 /URI<</Base(\Hy@pstringB)>>%
10137 \fi
10138 >>%
10139 }%
10140 }%
10141 }
10142 \pdfmark

```



10143  $\langle$ \*pdfmarkbase $\rangle$

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.

```

10144 \newif\ifHy@pdfmarkerror
10145 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
10146 \def\pdfmark@[#1]#2{%
10147   \Hy@pdfmarkerrorfalse
10148   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
10149   \@processme
10150   \let\pdf@type\relax
10151   \setkeys{PDF}{#2}%
10152   \ifHy@pdfmarkerror
10153   \else
10154     \ifx\pdf@type\relax
10155       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
10156       \ifx\#1\%
10157         \else
10158           \pdf@rect{#1}%
10159         \fi
10160       \else
10161         \ifx\#1\%
10162           \literalps@out{%
10163             [\the\pdf@toks\space\pdf@type\space pdfmark%
10164             ]%
10165           \else
10166             \ltx@ifundefined{@\pdf@linktype color}{%
10167               \Hy@colorlink\@linkcolor
10168             }{%
10169               \expandafter\Hy@colorlink
10170               \csname @\pdf@linktype color\endcsname
10171             }%
10172             \pdf@rect{#1}%
10173             \literalps@out{%
10174               [\the\pdf@toks\space\pdf@type\space pdfmark%
10175               ]%
10176               \Hy@endcolorlink
10177             \fi
10178           \fi
10179         \fi
10180 }

```

The complicated bit is working out the right enclosing rectangle of some piece of T<sub>E</sub>X 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}

```

```
10181 \newsavebox{\pdf@box}
```

```

10182 \providecommand*{\Hy@setouterhbox}{\sbox}
10183 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
10184 \def\Hy@DEST{/DEST}
10185 \def\pdf@rect#1{%
10186   \leavevmode
10187   \ifHy@breaklinks
10188     \Hy@setouterhbox\pdf@box{\Hy@AllowHyphens#1}%
10189   \else
10190     \sbox\pdf@box{#1}%
10191   \fi
10192   \dimen@ht\pdf@box
10193   \ifdim\dp\pdf@box=\z@
10194     \literalps@out{H.S}%
10195   \else
10196     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
10197   \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...).

```

10198   \ifHy@breaklinks
10199     \expandafter\Hy@breaklinksunhbox
10200   \else
10201     \expandafter\box
10202   \fi
10203 \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

10204 \ifdim\dimen@=\z@
10205   \literalps@out{H.R}%
10206 \else
10207   \raise\dimen@\hbox{\literalps@out{H.R}}%
10208 \fi
10209 \ifx\pdf@type\Hy@DEST
10210 \else
10211   \pdf@addtoksx{H.B}%
10212 \fi
10213 }

```

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.

```

10214 \newtoks\pdf@toks
10215 \newtoks\pdf@defaulttoks
10216 \pdf@defaulttoks={}%
10217 \def\pdf@addtoks#1#2{%
10218   \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
10219   \@processme
10220 }
10221 \def\pdf@addtoksx#1{%
10222   \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
10223   \@processme
10224 }
10225 \def\PDFdefaults#1{%
10226   \pdf@defaulttoks={#1}%
10227 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```
10228 % what is the type of pdfmark?
10229 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
10230 % what is the link type?
10231 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
10232 \def\pdf@linktype{link}
10233 % parameter is a stream of PDF
10234 \define@key{PDF}{Raw}{\pdf@addtoks{#1}}
10235 % parameter is a name
10236 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
10237 % parameter is a array
10238 \define@key{PDF}{Border}{%
10239   \edef\Hy@temp{#1}%
10240   \ifx\Hy@temp\@empty
10241     \else
10242       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
10243     \fi
10244 }
10245 \let\Hy@BorderArrayPatch\@empty
10246 % parameter is a dictionary
10247 \define@key{PDF}{BorderStyle}{%
10248   \edef\Hy@temp{#1}%
10249   \ifx\Hy@temp\@empty
10250     \else
10251       \pdf@addtoks{<<#1>>}{BS}%
10252     \fi
10253 }
10254 % parameter is a array
10255 \define@key{PDF}{Color}{%
10256   \ifx\relax#1\relax
10257     \else
10258       \pdf@addtoks{[#1]}{Color}% hash-ok
10259     \fi
10260 }
10261 % parameter is a string
10262 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
10263 % parameter is a integer
10264 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
10265 % parameter is a array
10266 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
10267 % parameter is a string
10268 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
10269 % parameter is a string or file
10270 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
10271 % parameter is a destination
10272 \define@key{PDF}{Dest}{%
10273   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10274   \ifx\Hy@pstringDest\@empty
10275     \Hy@pdfmarkerrortrue
10276     \Hy@Warning{Destination with empty name ignored}%
10277   \else
10278     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10279   \fi
10280 }
10281 \define@key{PDF}{DestAnchor}{%
10282   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10283   \ifx\Hy@pstringDest\@empty
```

```

10284 \Hy@pdfmarkerrortrue
10285 \Hy@Warning{Destination with empty name ignored}%
10286 \else
10287 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10288 \fi
10289 }
10290 % parameter is a string
10291 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
10292 % parameter is a string
10293 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
10294 % parameter is a int
10295 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
10296 \define@key{PDF}{PDFAFlags}{%
10297 \ifHy@pdfa
10298 \pdf@addtoks{#1}{F}%
10299 \fi
10300 }
10301 % parameter is a name
10302 \define@key{PDF}{AcroHighlight}{%
10303 \begingroup
10304 \edef\x{#1}%
10305 \expandafter\endgroup\ifx\x@empty
10306 \else
10307 \pdf@addtoks{#1}{H}%
10308 \fi
10309 }
10310 % parameter is a string
10311 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
10312 % parameter is a string
10313 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
10314 % parameter is a string
10315 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10316 % parameter is a string
10317 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
10318 % parameter is a Boolean
10319 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
10320 % parameter is a integer or name
10321 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
10322 % parameter is a name
10323 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
10324 % parameter is a string
10325 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
10326 % parameter is a array
10327 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
10328 % parameter is a integer
10329 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
10330 % parameter is a name
10331 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
10332 % parameter is a string
10333 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
10334 % parameter is a string
10335 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
10336 % parameter is a string
10337 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
10338 % parameter is an array
10339 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
10340 % parameter is a string

```

```
10341 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}
```

These are the keys used in the DOCINFO section.

```
10342 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
10343 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
10344 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
10345 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10346 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
10347 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
10348 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
10349 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10350 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
10351 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
10352 \define@key{PDF}{Trapped}{%
10353   \edef\Hy@temp{#1}%
10354   \ifx\Hy@temp\@empty
10355     \else
10356       \pdf@addtoks{/#1}{Trapped}%
10357     \fi
10358 }
10359
10360 </pdfmarkbase>
10361 <*pdfmark>
10362 \def\Acrobatmenu#1#2{%
10363   \Hy@Acrobatmenu{#1}{#2}{%
10364     \pdfmark[{#2}]{%
10365       linktype=menu,%
10366       pdfmark=/ANN,%
10367       AcroHighlight=\@pdfhighlight,%
10368       Border=\@pdfborder,%
10369       BorderStyle=\@pdfborderstyle,%
10370       Action={<< /Subtype /Named /N /#1 >>},%
10371       Subtype=/Link,%
10372       PDFAFlags=4%
10373     }%
10374   }%
10375 }
```

And now for some useful examples:

```
10376 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
10377 \def\PDFNextPage@[#1]#2{%
10378   \pdfmark[{#2}]{%
10379     #1,%
10380     Border=\@pdfborder,%
10381     BorderStyle=\@pdfborderstyle,%
10382     Color=.2 .1 .5,%
10383     pdfmark=/ANN,%
10384     Subtype=/Link,%
10385     PDFAFlags=4,%
10386     Page=/Next%
10387   }%
10388 }
10389 \def\PDFPreviousPage{%
10390   \@ifnextchar{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
10391 }
10392 \def\PDFPreviousPage@[#1]#2{%
10393   \pdfmark[{#2}]{%
10394     #1,%
```

```

10395   Border=\@pdfborder,%
10396   BorderStyle=\@pdfborderstyle,%
10397   Color=.4 .4 .1,%
10398   pdfmark=/ANN,%
10399   Subtype=/Link,%
10400   PDFAFlags=4,%
10401   Page=/Prev%
10402 }%
10403 }
10404 \def\PDFOpen#1{%
10405   \pdfmark{#1,pdfmark=/DOCVIEW}%
10406 }

```

This will only work if you use Distiller 2.1 or higher.

```

10407 \def\hyper@linkurl#1#2{%
10408   \begingroup
10409   \Hy@pstringdef\Hy@pstringURI{#2}%
10410   \hyper@chars
10411   \leavevmode
10412   \pdfmark[{#1}]{%
10413     pdfmark=/ANN,%
10414     linktype=url,%
10415     AcroHighlight=\@pdfhighlight,%
10416     Border=\@pdfborder,%
10417     BorderStyle=\@pdfborderstyle,%
10418     Color=\@urlbordercolor,%
10419     Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
10420     Subtype=/Link,%
10421     PDFAFlags=4%
10422   }%
10423   \endgroup
10424 }
10425 \def\hyper@linkfile#1#2#3{%
10426   \begingroup
10427   \Hy@pstringdef\Hy@pstringF{#2}%
10428   \Hy@pstringdef\Hy@pstringD{#3}%
10429   \leavevmode
10430   \pdfmark[{#1}]{%
10431     pdfmark=/ANN,%
10432     Subtype=/Link,%
10433     PDFAFlags=4,%
10434     AcroHighlight=\@pdfhighlight,%
10435     Border=\@pdfborder,%
10436     BorderStyle=\@pdfborderstyle,%
10437     linktype=file,%
10438     Color=\@filebordercolor,%
10439     Action={%
10440       <<%
10441         /S/GoToR%
10442         \Hy@SetNewWindow
10443         /F(\Hy@pstringF)%
10444         /D\ifx\#3\@pdfstartview\else(\Hy@pstringD)cvn\fi
10445       >>%
10446     }%
10447   }%
10448   \endgroup
10449 }
10450 \def\hyper@launch run:#1\#2#3{%

```

```

10451 \begingroup
10452   \Hy@pstringdef\Hy@pstringF{#1}%
10453   \Hy@pstringdef\Hy@pstringP{#3}%
10454   \leavevmode
10455   \pdfmark[{#2}]{%
10456     pdfmark=/ANN,%
10457     Subtype=/Link,%
10458     PDFAFlags=4,%
10459     AcroHighlight=\@pdfhighlight,%
10460     Border=\@pdfborder,%
10461     BorderStyle=\@pdfborderstyle,%
10462     linktype=run,%
10463     Color=\@runbordercolor,%
10464     Action={%
10465       <<%
10466         /S/Launch%
10467         \Hy@SetNewWindow
10468         /F(\Hy@pstringF)%
10469         \ifx\#3\%
10470         \else
10471           /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10472         \fi
10473       >>%
10474     }%
10475   }%
10476 \endgroup
10477 }
10478 </pdfmark>

```

Unfortunately, some parts of the pdfmark PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

## 46.9 Rokicki's dvips

dvips thinks in 10ths of a big point, its coordinate space is resolution dependent, and its *y* axis starts at the top of the page. Other drivers can and will be different!

The work is done in SDict, because we add in some header definitions in a moment.

```

10479 <*dvips>
10480 \providecommand*{\XR@ext}{pdf}
10481 \def\Hy@raisedlink{}
10482 \def\literals@out#1{\special{ps:SDict begin #1 end}}%
10483 \def\headerps@out#1{\special{! #1}}%
10484 \input{pdfmark.def}%
10485 \ifx\@pdfproducer\relax
10486   \def\@pdfproducer{dvips + Distiller}%
10487 \fi
10488 \providecommand*\@pdfborder{0 0 1}
10489 \providecommand*\@pdfborderstyle{}
10490 \providecommand*\@pdfview{XYZ}
10491 \providecommand*\@pdfviewparams{H.V}
10492 \def\Hy@BorderArrayPatch{BorderArrayPatch}
10493 \g@addto@macro\Hy@FirstPageHook{%
10494   \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.

```
10495 /DvipsToPDF{72.27 mul Resolution div} def%
10496 /PDFToDvips{72.27 div Resolution mul} def%
10497 /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.

```
10498 /BorderArrayPatch{%
10499   lsexch{%
10500     dup dup type/integertype eq exch type/realtype eq or%
10501     {BPToDvips}if%
10502   }forall}%
10503 }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.

```
10504 /HyperBorder {1 PDFToDvips} def%
10505 /H.V {pdf@hoff pdf@voff null} def%
10506 /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

```
10507 /H.S {%
10508   currentpoint %
10509   HyperBorder add /pdf@lly exch def %
10510   dup DvipsToPDF 72 add /pdf@hoff exch def %
10511   HyperBorder sub /pdf@llx exch def%
10512 } def%
```

The calculation of upper left  $y$  is done without raising the point in T<sub>E</sub>X, 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

```
10513 /H.L {%
10514   2 sub dup%
10515   /HyperBasePt exch def %
10516   PDFToDvips /HyperBaseDvips exch def %
10517   currentpoint %
10518   HyperBaseDvips sub /pdf@ury exch def%
10519   /pdf@urx exch def%
10520 } def%
10521 /H.A {%
10522   H.L %
10523 % |pdf@voff| = the distance from the top of the page to a point
10524 % |\baselineskip| above the current point in PDF coordinates
10525   currentpoint exch pop %
```



```

10526     vsize 72 sub exch DvipsToPDF %
10527     HyperBasePt sub % baseline skip
10528     sub /pdf@voff exch def%
10529 } def%
10530 /H.R. {%
10531     currentpoint %
10532     HyperBorder sub /pdf@ury exch def %
10533     HyperBorder add /pdf@urx exch def %
10534 % | /pdf@voff| = the distance from the top of the page to the current point, in
10535 % PDF coordinates
10536     currentpoint exch pop vsize 72 sub %
10537     exch DvipsToPDF sub /pdf@voff exch def%
10538 } def%
10539 }%
10540 }
10541 \AtBeginShipoutFirst{%
10542 \ifHy@setpagesize
10543 \begingroup
10544 \ifundefined{stockwidth}{%
10545 \ifdim\paperwidth>\z@
10546 \ifdim\paperheight>\z@
10547 \special{papersize=\the\paperwidth,\the\paperheight}%
10548 \fi
10549 \fi
10550 }{%
10551 \ifdim\stockwidth>\z@
10552 \ifdim\stockheight>\z@
10553 \special{papersize=\the\stockwidth,\the\stockheight}%
10554 \fi
10555 \fi
10556 }%
10557 \endgroup
10558 \fi
10559 \Hy@DisableOption{setpagesize}%
10560 }
10561 </dvips>

```

## 46.10 VTeX's vtexpdfmark driver

This part is derived from the dvips (many names reflect this).

The origin seems to be the same as TeX's origin, 1 in from the left and 1 in downwards from the top. The direction of the  $y$  axis is downwards, the opposite of the dvips case. Units seems to be pt or bp.

```

10562 <*vtexpdfmark>
10563 \providecommand*{\XR@ext}{pdf}
10564 \def\Hy@raisedlink{}
10565 \def\literalps@out#1{\special{pS:#1}}%
10566 \def\headerps@out#1{\immediate\special{pS:#1}}%
10567 \input{pdfmark.def}%
10568 \ifx\@pdfproducer\relax
10569 \ifnum\OpMode=\@ne
10570 \def\@pdfproducer{VTeX}%
10571 \else
10572 \def\@pdfproducer{VTeX + Distiller}%
10573 \fi
10574 \fi

```

```

10575 \providecommand*\@pdfborder{0 0 1}
10576 \providecommand*\@pdfborderstyle{}
10577 \providecommand*\@pdfview{XYZ}
10578 \providecommand*\@pdfviewparams{ H.V}

10579 \g@addto@macro\Hy@FirstPageHook{%
10580   \headerps@out{%
10581     /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.

```

10582   /HyperBorder {1} def%
10583   /H.V {pdf@hoff pdf@voff null} def%
10584   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

10585   /H.S {%
10586     currentpoint %
10587     HyperBorder sub%
10588     /pdf@lly exch def %
10589     dup 72 add /pdf@hoff exch def %
10590     HyperBorder sub%
10591     /pdf@llx exch def%
10592   } def%

```

The  $x$  and  $y$  coordinates of the current point, minus the `\baselineskip`:  $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

10593   /H.L {%
10594     2 sub%
10595     /HyperBasePt exch def %
10596     currentpoint %
10597     HyperBasePt add HyperBorder add%
10598     /pdf@ury exch def %
10599     HyperBorder add%
10600     /pdf@urx exch def%
10601   } def%
10602   /H.A {%
10603     H.L %
10604     currentpoint exch pop %
10605     vsize 72 sub exch %
10606     HyperBasePt add add%
10607     /pdf@voff exch def%
10608   } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

10609   /H.R {%
10610     currentpoint %
10611     HyperBorder add%
10612     /pdf@ury exch def %
10613     HyperBorder add%
10614     /pdf@urx exch def %
10615     currentpoint exch pop vsize 72 sub add%
10616     /pdf@voff exch def%
10617   } def%
10618 }%
10619 }
10620 </vtxpdfmark>

```

## 46.11 Textures

```
10621 ⟨*textures⟩
10622 \providecommand*{\XR@ext}{pdf}
```

At the suggestion of Jacques Distler (distler@golem.ph.utexas.edu), try to derive a suitable driver for Textures. This was initially a copy of dvips, with some guesses about Textures behaviour. Ross Moore (ross@maths.mq.edu.au) has added modifications for better compatibility, and to support use of pdfmark.

Start by defining a macro that expands to the end-of-line character. This will be used to format the appearance of PostScript code, to enhance readability, and avoid excessively long lines which might otherwise become broken to bad places.

`\Hy@ps@CR`. The macro `\Hy@ps@CR` contains the end-of-line character.

```
10623 \begingroup
10624   \obeylines %
10625   \gdef\Hy@ps@CR{\noexpand
10626     }%
10627 \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`.

```
10628 \def\literalps@out#1{%
10629   \special{postscript 0 0 transform}%
10630   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
10631 }%
10632 %
```

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.

```
10633 \def\headerps@out#1{%
10634   \special{%
10635     prepostscript TeXdict begin\Hy@ps@CR
10636       #1\Hy@ps@CR
10637     end%
10638   }%
10639 }%
10640 %
```

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.

```
10641 \g@addto@macro\Hy@FirstPageHook{%
10642   \headerps@out{%
10643     /betterpdfmark {%
10644       systemdict begin %
10645         dup /BP eq%
10646         {cleartomark gsave nulldevice []}%
10647         {dup /EP eq%
10648           {cleartomark cleartomark grestore}}%
```

```

10649      {cleartomark}%
10650      ifelse%
10651    }ifelse %
10652  end%
10653 }def\Hy@ps@CR
10654 ____pdfmark__ not{/pdfmark /betterpdfmark load def}if%
10655 }% end of \headerps@out
10656 }% end of \AtBeginShipoutFirst
10657 %
10658 \input{pdfmark.def}%
10659 %
10660 \ifx\@pdfproducer\relax
10661   \def\@pdfproducer{Textures + Distiller}%
10662 \fi
10663 \providecommand*\@pdfborder{0 0 1}
10664 \providecommand*\@pdfborderstyle{}
10665 \providecommand*\@pdfview{XYZ}
10666 \providecommand*\@pdfviewparams{ H.V}
10667 %

```

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  $\TeX$ .

```

10668 \Hy@AtBeginDocument{%
10669   \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

10670   /vsize {\Hy@pageheight} def%
10671   /DvipsToPDF {} def%
10672   /PDFToDvips {} def%
10673   /BPToDvips {} def%
10674   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
10675   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
10676   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
10677   /H.S {%
10678     currentpoint %
10679     HyperBorder add /pdf@lly exch def %
10680     dup DvipsToPDF 72 add /pdf@hoff exch def %
10681     HyperBorder sub /pdf@llx exch def%
10682   } def\Hy@ps@CR
10683   /H.L {%
10684     2 sub %
10685     PDFToDvips /HyperBase exch def %
10686     currentpoint %
10687     HyperBase sub /pdf@ury exch def%
10688     /pdf@urx exch def%
10689   } def\Hy@ps@CR
10690   /H.A {%
10691     H.L %
10692     currentpoint exch pop %
10693     vsize 72 sub exch DvipsToPDF %
10694     HyperBase sub % baseline skip
10695     sub /pdf@voff exch def%
10696   } def\Hy@ps@CR
10697   /H.R {%
10698     currentpoint %

```

```

10699   HyperBorder sub /pdf@ury exch def %
10700   HyperBorder add /pdf@urx exch def %
10701   currentpoint exch pop vsize 72 sub %
10702   exch DvipsToPDF sub /pdf@voff exch def%
10703   } def\Hy@ps@CR
10704 }%
10705 }

10706 \Hy@AtBeginDocument{%
10707   \ifHy@colorlinks
10708     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
10709   \fi
10710 }

```

Textures provides built-in support for HyperTeX specials so this part combines code from `hypertex.def` with what is established by loading `pdfmark.def`, or any other driver.

```

10711 \expandafter\let\expandafter\keepPDF@SetupDoc
10712   \csname PDF@SetupDoc\endcsname
10713 \def\PDF@SetupDoc{%
10714   \ifx\@baseurl\@empty
10715     \else
10716       \special{html:<base href="\@baseurl">}%
10717     \fi
10718   \keepPDF@SetupDoc
10719 }

10720 \def\hyper@anchor#1{%
10721   \Hy@SaveLastskip
10722   \Hy@VerboseAnchor{#1}%
10723   \begingroup
10724     \let\protect=\string
10725     \special{html:<a name=%
10726       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10727   \endgroup
10728   \Hy@activeanchortrue
10729   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10730   \special{html:</a>}%
10731   \Hy@activeanchorfalse
10732   \Hy@RestoreLastskip
10733 }

10734 \def\hyper@anchorstart#1{%
10735   \Hy@SaveLastskip
10736   \Hy@VerboseAnchor{#1}%
10737   \begingroup
10738     \hyper@chars
10739     \special{html:<a name=%
10740       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10741   \endgroup
10742   \Hy@activeanchortrue
10743 }

10744 \def\hyper@anchorend{%
10745   \special{html:</a>}%
10746   \Hy@activeanchorfalse
10747   \Hy@RestoreLastskip
10748 }

10749 \def\@urltype{url}
10750 \def\hyper@linkstart#1#2{%
10751   \Hy@VerboseLinkStart{#1}{#2}%
10752   \expandafter\Hy@colorlink\csname @#1color\endcsname

```

```

10753 \def\Hy@tempa{#1}%
10754 \ifx\Hy@tempa \@urltype
10755   \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10756 \else
10757   \begingroup
10758     \hyper@chars
10759     \special{%
10760       html:<a href=%
10761         \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>%
10762     }%
10763   \endgroup
10764 \fi
10765 }
10766 \def\hyper@linkend{%
10767   \special{html:</a>}%
10768   \Hy@endcolorlink
10769 }
10770 \def\hyper@linkfile#1#2#3{%
10771   \hyper@linkurl{#1}{%
10772     \Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi
10773   }%
10774 }
10775 \def\hyper@linkurl#1#2{%
10776   \leavevmode
10777   \ifHy@raiselinks
10778     \setbox\@tempboxa=\color@hbox #1\color@endbox
10779     \@linkdim\dp\@tempboxa
10780     \lower\@linkdim\hbox{%
10781       \hyper@chars
10782       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10783     }%
10784     \Hy@colorlink\@urlcolor#1%
10785     \@linkdim\ht\@tempboxa
10786     \advance\@linkdim by -6.5\p@
10787     \raise\@linkdim\hbox{\special{html:</a>}}%
10788     \Hy@endcolorlink
10789   \else
10790     \begingroup
10791       \hyper@chars
10792       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10793       \Hy@colorlink\@urlcolor#1%
10794       \special{html:</a>}%
10795       \Hy@endcolorlink
10796     \endgroup
10797   \fi
10798 }

```

Very poor implementation of \hyper@link without considering #1.

```

10799 \def\hyper@link#1#2#3{%
10800   \Hy@VerboseLinkStart{#1}{#2}%
10801   \hyper@linkurl{#3}{\#\Hy@DestNameFilter{#2}}%
10802 }
10803 \def\hyper@image#1#2{%
10804   \begingroup
10805     \hyper@chars
10806     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
10807   \endgroup
10808 }

```

10809  $\langle$ /textures $\rangle$

## 46.12 dvipsone

```
10810 % \subsection{dvipsone driver}
10811 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
10812 % |\special| commands.
10813  $\langle$ *dvipsone $\rangle$ 
10814 \providecommand*\XR@ext}{pdf}
10815 \def\Hy@raisedlink{}
10816 \providecommand*\@pdfborder{0 0 1}
10817 \providecommand*\@pdfborderstyle{}
10818 \def\literalps@out#1{\special{ps:#1}}%
10819 \def\headerps@out#1{\special{headertext=#1}}%
10820 \input{pdfmark.def}%
10821 \ifx\@pdfproducer\relax
10822   \def\@pdfproducer{dvipsone + Distiller}%
10823 \fi
10824 \HyInfo@AddonUnsupportedtrue
10825 \def\PDF@FinishDoc{%
10826   \Hy@UseMaketitleInfos
10827   \HyInfo@TrappedUnsupported
10828   \special{PDF: Keywords \@pdfkeywords}%
10829   \special{PDF: Title \@pdftitle}%
10830   \special{PDF: Creator \@pdfcreator}%
10831   \ifx\@pdfcreationdate\@empty
10832     \else
10833       \special{PDF: CreationDate \@pdfcreationdate}%
10834   \fi
10835   \ifx\@pdfmoddate\@empty
10836     \else
10837       \special{PDF: ModDate \@pdfmoddate}%
10838   \fi
10839   \special{PDF: Author \@pdfauthor}%
10840   \ifx\@pdfproducer\relax
10841     \else
10842       \special{PDF: Producer \@pdfproducer}%
10843   \fi
10844   \special{PDF: Subject \@pdfsubject}%
10845   \Hy@DisableOption{pdfauthor}%
10846   \Hy@DisableOption{pdftitle}%
10847   \Hy@DisableOption{pdfsubject}%
10848   \Hy@DisableOption{pdfcreator}%
10849   \Hy@DisableOption{pdfcreationdate}%
10850   \Hy@DisableOption{pdfmoddate}%
10851   \Hy@DisableOption{pdfproducer}%
10852   \Hy@DisableOption{pdfkeywords}%
10853   \Hy@DisableOption{pdftrapped}%
10854   \Hy@DisableOption{pdfinfo}%
10855 }
10856 \def\PDF@SetupDoc{%
10857   \def\Hy@temp{}%
10858   \ifx\@pdfstartpage\@empty
10859     \else
10860       \ifx\@pdfstartview\@empty
10861         \else
10862           \edef\Hy@temp{%
```

```

10863     ,Page=\@pdfstartpage
10864     ,View=\@pdfstartview
10865   }%
10866 \fi
10867 \fi
10868 \edef\Hy@temp{%
10869   \noexpand\pdfmark{%
10870     pdfmark=/DOCVIEW,%
10871     PageMode=/\@pdfpagemode
10872   \Hy@temp
10873   }%
10874 }%
10875 \Hy@temp
10876 \ifx\@pdfpagescrop\@empty
10877 \else
10878   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10879 \fi
10880 \edef\Hy@temp{%
10881   \ifHy@toolbar\else /HideToolbar true\fi
10882   \ifHy@menubar\else /HideMenubar true\fi
10883   \ifHy>windowui\else /HideWindowUI true\fi
10884   \ifHy@fitwindow /FitWindow true\fi
10885   \ifHy@centerwindow /CenterWindow true\fi
10886   \ifHy@displaydoctitle /DisplayDocTitle true\fi
10887   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10888   \Hy@UseNameKey{Direction}\@pdfdirection
10889   \Hy@UseNameKey{ViewArea}\@pdfviewarea
10890   \Hy@UseNameKey{ViewClip}\@pdfviewclip
10891   \Hy@UseNameKey{PrintArea}\@pdfprintarea
10892   \Hy@UseNameKey{PrintClip}\@pdfprintclip
10893   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10894   \Hy@UseNameKey{Duplex}\@pdfduplex
10895   \ifx\@pdfpicktraybypdfsize\@empty
10896   \else
10897     /PickTrayByPDFSize \@pdfpicktraybypdfsize
10898   \fi
10899   \ifx\@pdfprintpagerange\@empty
10900   \else
10901     /PrintPageRange[\@pdfprintpagerange]%
10902   \fi
10903   \ifx\@pdfnumcopies\@empty
10904   \else
10905     /NumCopies \@pdfnumcopies
10906   \fi
10907   }%
10908 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10909 \pdfmark{%
10910   pdfmark=/PUT,%
10911   Raw={%
10912     \string{Catalog\string}<<%
10913     \ifx\Hy@temp\@empty
10914     \else
10915       /ViewerPreferences<<\Hy@temp>>%
10916     \fi
10917     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10918     \ifx\@pdflang\@empty
10919     \else

```



```

10920      /Lang(\@pdflang)%
10921      \fi
10922      \ifx\@baseurl\@empty
10923      \else
10924      /URI<</Base(\Hy@pstringB)>>%
10925      \fi
10926      >>%
10927      }%
10928      }%
10929      }
10930      \providecommand*\@pdfview{XYZ}
10931      \providecommand*\@pdfviewparams{ %
10932      gsave revscl currentpoint grestore %
10933      72 add exch pop null exch null%
10934      }
10935      \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  $\TeX$ .

```

10936      \g@addto@macro\Hy@FirstPageHook{%
10937      \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

10938      /DvipsToPDF { 65781 div } def%
10939      /PDFToDvips { 65781 mul } def%
10940      /BPToDvips{65781 mul}def%
10941      /HyperBorder { 1 PDFToDvips } def%
10942      /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.

```

10943      /BorderArrayPatch{%
10944      [exch{%
10945      dup dup type/integertype eq exch type/realtype eq or%
10946      {BPToDvips}if%
10947      }forall]%
10948      }def%
10949      /H.S {%
10950      currentpoint %
10951      HyperBorder add /pdf@lly exch def %
10952      dup DvipsToPDF 72 add /pdf@hoff exch def %
10953      HyperBorder sub /pdf@llx exch def%
10954      } def%
10955      /H.L {%
10956      2 sub %
10957      PDFToDvips /HyperBase exch def %
10958      currentpoint %
10959      HyperBase sub /pdf@ury exch def%
10960      /pdf@urx exch def%
10961      } def%
10962      /H.A {%
10963      H.L %
10964      currentpoint exch pop %
10965      HyperBase sub % baseline skip
10966      DvipsToPDF /pdf@voff exch def%

```

```

10967 } def%
10968 /H.R {%
10969   currentpoint %
10970   HyperBorder sub /pdf@ury exch def %
10971   HyperBorder add /pdf@urx exch def %
10972   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
10973 } def%
10974 }%
10975 }
10976 </dvipsone>

```

## 46.13 TeX4ht

```

10977 <*tex4ht>
10978 \providecommand*{\XR@ext}{html}
10979 \def\Hy@raisedlink{}
10980 \ifpackageloaded{tex4ht}{%
10981   \typeout{hyperref tex4ht: tex4ht already loaded}%
10982 }{%
10983   \RequirePackage[hx4ht]{tex4ht}%
10984 }
10985 \hyperlinkfileprefix{}
10986 \def\PDF@FinishDoc{}
10987 \def\PDF@SetupDoc{%
10988   \ifx\@baseurl\@empty
10989     \else
10990     \special{t4ht=<base href="\@baseurl">}%
10991   \fi
10992 }
10993 \def\hyper@anchor#1{%
10994   \Hy@SaveLastskip
10995   \Hy@VerboseAnchor{#1}%
10996   \begingroup
10997     \let\protect=\string
10998     \special{t4ht=<a name=%
10999       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11000   \endgroup
11001   \Hy@activeanchortrue
11002   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11003   \special{t4ht=</a>}%
11004   \Hy@activeanchorfalse
11005   \Hy@RestoreLastskip
11006 }
11007 \def\hyper@anchorstart#1{%
11008   \Hy@SaveLastskip
11009   \Hy@VerboseAnchor{#1}%
11010   \begingroup
11011     \hyper@chars\special{t4ht=<a name=%
11012       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11013   \endgroup
11014   \Hy@activeanchortrue
11015 }
11016 \def\hyper@anchorend{%
11017   \special{t4ht=</a>}%
11018   \Hy@activeanchorfalse
11019   \Hy@RestoreLastskip
11020 }
11021 \def\@urlltype{url}

```

```

11022 \def\hyper@linkstart#1#2{%
11023   \Hy@VerboseLinkStart{#1}{#2}%
11024   \expandafter\Hy@colorlink\csname @#1color\endcsname
11025   \def\Hy@tempa{#1}%
11026   \ifx\Hy@tempa\@urlltype
11027     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
11028   \else
11029     \begingroup
11030       \hyper@chars
11031       \special{t4ht=<a href=%
11032         \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>}%
11033     \endgroup
11034   \fi
11035 }
11036 \def\hyper@linkend{%
11037   \special{t4ht=</a>}%
11038   \Hy@endcolorlink
11039 }
11040 \def\hyper@linkfile#1#2#3{%
11041   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
11042 }
11043 \def\hyper@linkurl#1#2{%
11044   \leavevmode
11045   \ifHy@raiselinks
11046     \setbox\@tempboxa=\color@hbox #1\color@endbox
11047     \@linkdim\dp\@tempboxa
11048     \lower\@linkdim\hbox{%
11049       \begingroup
11050         \hyper@chars
11051         \special{%
11052           t4ht=<a href=\hyper@quote#2\hyper@quote>%
11053         }%
11054       \endgroup
11055     }%
11056     \Hy@colorlink\@urllcolor#1\Hy@endcolorlink
11057     \@linkdim\ht\@tempboxa
11058     \advance\@linkdim by -6.5\p@
11059     \raise\@linkdim\hbox{\special{t4ht=</a>}}%
11060   \else
11061     \begingroup
11062       \hyper@chars
11063       \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
11064       \Hy@colorlink\@urllcolor#1\Hy@endcolorlink
11065       \special{t4ht=</a>}%
11066     \endgroup
11067   \fi
11068 }

```

Poor implementation of \hyper@link without considering #1.

```

11069 \def\hyper@link#1#2#3{%
11070   \Hy@VerboseLinkStart{#1}{#2}%
11071   \hyper@linkurl{#3}{\#\Hy@DestNameFilter{#2}}%
11072 }
11073 \def\hyper@image#1#2{%
11074   \begingroup
11075     \hyper@chars
11076     \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
11077   \endgroup

```

```

11078 }
11079 \let\autoref\ref
11080 \ifx \rEfLiNK \UnDef
11081 \def\rEfLiNK #1#2{#2}%
11082 \fi
11083 \def\backref#1{}
11084 </tex4ht>
11085 <*tex4htcfg>
11086 \IfFileExists{\jobname.cfg}{\endinput}{}
11087 \Preamble{html}
11088 \begin{document}%
11089 \EndPreamble
11090 \def\TeX{TeX}
11091 \def\OMEGA{Omega}
11092 \def\LaTeX{LaTeX}
11093 \def\LaTeXe{LaTeX2e}
11094 \def\eTeX{e-TeX}
11095 \def\MF{Metafont}
11096 \def\MP{MetaPost}
11097 </tex4htcfg>

```

## 47 Driver-specific form support

### 47.1 pdfmarks

```

11098 <*pdfmark>
11099 \long\def\@Form[#1]{%
11100 \g@addto@macro\Hy@FirstPageHook{%
11101 \headerps@out{%
11102 [%
11103 /__objdef{pdfDocEncoding}%
11104 /type/dict%
11105 /OBJ pdfmark%
11106 [%
11107 {pdfDocEncoding}%
11108 <<%
11109 /Type/Encoding%
11110 /Differences%
11111 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
11112 /tilde %
11113 39/quotesingle %
11114 96/grave %
11115 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11116 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11117 /quotedblbase/quotedblleft/quotedblright/quoteleft%
11118 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
11119 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11120 164/currency %
11121 166/brokenbar %
11122 168/dieresis/copyright/ordfeminine %
11123 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11124 /twosuperior/threesuperior/acute/mu %
11125 183/periodcentered/cedilla/onesuperior/ordmasculine %
11126 188/onequarter/onehalf/threequarters %
11127 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11128 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11129 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11130 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%

```

```

11131      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11132      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11133      /cedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11134      /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
11135      /ocircumflex/otilde/odieresis/divide/oshlash/ugrave/uacute%
11136      /ucircumflex/udieresis/yacute/thorn/ydieresis%
11137  ]%
11138  >>%
11139  /PUT pdfmark%
11140  [%
11141    /_objdef{ZaDb}%
11142    /type/dict%
11143  /OBJ pdfmark%
11144  [%
11145    {ZaDb}%
11146    <<%
11147      /Type/Font%
11148      /Subtype/Type1%
11149      /Name/ZaDb%
11150      /BaseFont/ZapfDingbats%
11151    >>%
11152  /PUT pdfmark%
11153  [%
11154    /_objdef{Helv}%
11155    /type/dict%
11156  /OBJ pdfmark%
11157  [%
11158    {Helv}%
11159    <<%
11160      /Type/Font%
11161      /Subtype/Type1%
11162      /Name/Helv%
11163      /BaseFont/Helvetica%
11164      /Encoding{pdfDocEncoding}%
11165    >>%
11166  /PUT pdfmark%
11167  [%
11168    /_objdef{aform}%
11169    /type/dict%
11170  /OBJ pdfmark%
11171  [%
11172    /_objdef{afields}%
11173    /type/array%
11174  /OBJ pdfmark%
11175  {%
11176    [%
11177      /BBox[0 0 100 100]%
11178      /_objdef{Check}%
11179    /BP pdfmark %
11180    1 0 0 setrgbcolor%
11181    /ZapfDingbats 80 selectfont %
11182    20 20 moveto%
11183    (4)show%
11184  [/EP pdfmark%
11185  [%
11186    /BBox[0 0 100 100]%
11187    /_objdef{Cross}%

```

```

11188 /BP pdfmark %
11189 1 0 0 setrgbcolor%
11190 /ZapfDingbats 80 selectfont %
11191 20 20 moveto%
11192 (8)show%
11193 [/EP pdfmark%
11194 [%
11195 /BBox[0 0 250 100]%
11196 /_objdef{Submit}%
11197 /BP pdfmark %
11198 0.6 setgray %
11199 0 0 250 100 rectfill %
11200 1 setgray %
11201 2 2 moveto %
11202 2 98 lineto %
11203 248 98 lineto %
11204 246 96 lineto %
11205 4 96 lineto %
11206 4 4 lineto %
11207 fill %
11208 0.34 setgray %
11209 248 98 moveto %
11210 248 2 lineto %
11211 2 2 lineto %
11212 4 4 lineto %
11213 246 4 lineto %
11214 246 96 lineto %
11215 fill%
11216 /Helvetica 76 selectfont %
11217 0 setgray %
11218 8 22.5 moveto%
11219 (Submit)show%
11220 [/EP pdfmark%
11221 [%
11222 /BBox[0 0 250 100]%
11223 /_objdef{SubmitP}%
11224 /BP pdfmark %
11225 0.6 setgray %
11226 0 0 250 100 rectfill %
11227 0.34 setgray %
11228 2 2 moveto %
11229 2 98 lineto %
11230 248 98 lineto %
11231 246 96 lineto %
11232 4 96 lineto %
11233 4 4 lineto %
11234 fill %
11235 1 setgray %
11236 248 98 moveto %
11237 248 2 lineto %
11238 2 2 lineto %
11239 4 4 lineto %
11240 246 4 lineto %
11241 246 96 lineto %
11242 fill%
11243 /Helvetica 76 selectfont %
11244 0 setgray %

```

```

11245 10 20.5 moveto%
11246 (Submit)show%
11247 [/EP pdfmark%
11248 } ?pdfmark%
11249 [%
11250 {aform}%
11251 <<%
11252 /Fields{afields}%
11253 /DR<<%
11254 /Font<<%
11255 /ZaDb{ZaDb}%
11256 /Helv{Helv}%
11257 >>%
11258 >>%
11259 /DA(/Helv 10 Tf 0 g)%
11260 /CO{corder}%
11261 \ifHy@pdfa
11262 \else
11263 /NeedAppearances true%
11264 \fi
11265 >>%
11266 /PUT pdfmark%
11267 [%
11268 {Catalog}%
11269 <<%
11270 /AcroForm{aform}%
11271 >>%
11272 /PUT pdfmark%
11273 [%
11274 /_objdef{corder}%
11275 /type/array%
11276 /OBJ pdfmark% dps
11277 }}%
11278 \setkeys{Form}{#1}%
11279 }
11280 \def\@endForm{}
11281 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11282 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
11283 }
11284 \def\@TextField[#1]#2{% parameters, label
11285 \def\Fld@name{#2}%
11286 \def\Fld@default{}%
11287 \let\Fld@value\@empty
11288 \def\Fld@width{\DefaultWidthofText}%
11289 \def\Fld@height{%
11290 \ifFld@multiline
11291 \DefaultHeightofTextMultiline
11292 \else
11293 \DefaultHeightofText
11294 \fi
11295 }%
11296 \begingroup
11297 \Field@toks={ }%
11298 \expandafter\HyField@SetKeys\expandafter{%
11299 \DefaultOptionsofText,#1%
11300 }%
11301 \HyField@FlagsText

```

```

11302 \ifFld@hidden\def\Fld@width{1sp}\fi
11303 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11304 \LayoutTextField{#2}{%
11305   \Hy@escapeform\PDFForm@Text
11306   \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
11307     pdfmark=/ANN,Raw={\PDFForm@Text}%
11308   }%
11309 }%
11310 \endgroup
11311 }
11312 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11313   \def\Fld@name{#2}%
11314   \let\Fld@default\relax
11315   \let\Fld@value\relax
11316   \def\Fld@width{\DefaultWidthofChoiceMenu}%
11317   \def\Fld@height{\DefaultHeightofChoiceMenu}%
11318   \begingroup
11319     \Fld@menulength=0 %
11320     \@tempdima\z@
11321     \@for\@curropt:=#3\do{%
11322       \expandafter\Fld@checkequals\@curropt==\%
11323       \Hy@StepCount\Fld@menulength
11324       \settowidth{\@tempdimb}{\@currDisplay}%
11325       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11326     }%
11327     \advance\@tempdima by 15\p@
11328     \Field@toks={ }%
11329     \begingroup
11330       \HyField@SetKeys{#1}%
11331     \edef\x{\endgroup
11332       \noexpand\expandafter
11333       \noexpand\HyField@SetKeys
11334       \noexpand\expandafter{%
11335         \expandafter\noexpand\csname DefaultOptionsof%
11336           \ifFld@radio
11337             Radio%
11338           \else
11339             \ifFld@combo
11340               \ifFld@popdown
11341                 PopdownBox%
11342               \else
11343                 ComboBox%
11344               \fi
11345             \else
11346               ListBox%
11347             \fi
11348           \fi
11349         \endcsname
11350       }%
11351     }\x
11352     \HyField@SetKeys{#1}%
11353   \ifFld@hidden\def\Fld@width{1sp}\fi
11354   \ifx\Fld@value\relax
11355     \let\Fld@value\Fld@default
11356   \fi
11357   \LayoutChoiceField{#2}{%
11358     \ifFld@radio

```



```

11359     \HyField@FlagsRadioButton
11360     \@@Radio{#3}%
11361   \else
11362     \begingroup
11363     \HyField@FlagsChoice
11364     \ifdim\Fld@width<\@tempdima
11365       \ifdim\@tempdima<1cm\@tempdima1cm\fi
11366       \edef\Fld@width{\the\@tempdima}%
11367     \fi
11368     \ifFld@combo
11369     \else
11370       \@tempdima=\the\Fld@menulength\Fld@charsize
11371       \advance\@tempdima by \Fld@borderwidth bp %
11372       \advance\@tempdima by \Fld@borderwidth bp %
11373       \edef\Fld@height{\the\@tempdima}%
11374     \fi
11375     \@@ListBox{#3}%
11376   \endgroup
11377 \fi
11378 }%
11379 \endgroup
11380 }
11381 \def\@@Radio#1{%
11382   \Fld@listcount=0 %
11383   \@for\@curropt=#1\do{%
11384     \expandafter\Fld@checkequals\@curropt==\%
11385     \Hy@StepCount\Fld@listcount
11386     \@currDisplay\space
11387     \Hy@escapeform\PDFForm@Radio
11388     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
11389       pdfmark=/ANN,%
11390       Raw={%
11391         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
11392       }%
11393     } % deliberate space between radio buttons
11394   }%
11395 }
11396 \newcount\Fld@listcount
11397 \def\@@ListBox#1{%
11398   \HyField@PDFChoices{#1}%
11399   \Hy@escapeform\PDFForm@List
11400   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
11401     pdfmark=/ANN,Raw={\PDFForm@List}%
11402   }%
11403 }
11404 \def\@PushButton[#1]#2{% parameters, label
11405   \def\Fld@name{#2}%
11406   \begingroup
11407     \Field@toks={ }%
11408     \expandafter\HyField@SetKeys\expandafter{%
11409       \DefaultOptionsofPushButton,#1%
11410     }%
11411     \ifHy@pdfa
11412       \PackageError{hyperref}{%
11413         PDF/A: Push button with JavaScript is prohibited%
11414       }\@ehc
11415     \LayoutPushButtonField{%

```

```

11416     \leavevmode
11417     \MakeButtonField{#2}%
11418   }%
11419 \else
11420   \HyField@FlagsPushButton
11421   \ifFld@hidden\def\Fld@width{1sp}\fi
11422   \LayoutPushButtonField{%
11423     \leavevmode
11424     \Hy@escapeform\PDFForm@Push
11425     \pdfmark[\MakeButtonField{#2}]{%
11426       pdfmark=/ANN,Raw={\PDFForm@Push}%
11427     }%
11428   }%
11429 \fi
11430 \endgroup
11431 }
11432 \def\@Submit[#1]#2{%
11433   \Field@toks={ }%
11434   \def\Fld@width{\DefaultWidthofSubmit}%
11435   \def\Fld@height{\DefaultHeightofSubmit}%
11436   \begingroup
11437     \expandafter\HyField@SetKeys\expandafter{%
11438       \DefaultOptionsofSubmit,#1%
11439     }%
11440     \HyField@FlagsPushButton
11441     \HyField@FlagsSubmit
11442     \ifFld@hidden\def\Fld@width{1sp}\fi
11443     \Hy@escapeform\PDFForm@Submit
11444     \pdfmark[\MakeButtonField{#2}]{%
11445       pdfmark=/ANN,%
11446       Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
11447     }%
11448   \endgroup
11449 }
11450 \def\@Reset[#1]#2{%
11451   \Field@toks={ }%
11452   \def\Fld@width{\DefaultWidthofReset}%
11453   \def\Fld@height{\DefaultHeightofReset}%
11454   \begingroup
11455     \expandafter\HyField@SetKeys\expandafter{%
11456       \DefaultOptionsofReset,#1%
11457     }%
11458     \leavevmode
11459     \ifHy@pdfa
11460       \PackageError{hyperref}{%
11461         PDF/A: Reset action is prohibited%
11462       }\@ehc
11463       \MakeButtonField{#2}%
11464     \else
11465       \HyField@FlagsPushButton
11466       \ifFld@hidden\def\Fld@width{1sp}\fi
11467       \Hy@escapeform\PDFForm@Reset
11468       \pdfmark[\MakeButtonField{#2}]{%
11469         pdfmark=/ANN,Raw={\PDFForm@Reset}%
11470       }%
11471     \fi
11472   \endgroup

```

```

11473 }%
11474 \def\@CheckBox[#1]#2{% parameters, label
11475   \def\Fld@name{#2}%
11476   \def\Fld@default{0}%
11477   \begingroup
11478     \def\Fld@width{\DefaultWidthofCheckBox}%
11479     \def\Fld@height{\DefaultHeightofCheckBox}%
11480     \Field@toks={ }%
11481     \expandafter\HyField@SetKeys\expandafter{%
11482       \DefaultOptionsofCheckBox,#1%
11483     }%
11484     \HyField@FlagsCheckBox
11485     \ifFld@hidden\def\Fld@width{1sp}\fi
11486     \LayoutCheckField{#2}{%
11487       \Hy@escapeform\PDFForm@Check
11488       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
11489         pdfmark=/ANN,Raw={\PDFForm@Check}%
11490       }%
11491     }%
11492   \endgroup
11493 }
11494 \pdfmark

```

## 47.2 HyperTeX

```

11495 \hypertex
11496 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
11497 \def\@endForm{}
11498 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11499   \typeout{Sorry, HyperTeX does not support FORM gauges}%
11500 }
11501 \def\@TextField[#1]#2{% parameters, label
11502   \typeout{Sorry, HyperTeX does not support FORM text fields}%
11503 }
11504 \def\@CheckBox[#1]#2{% parameters, label
11505   \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
11506 }
11507 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11508   \typeout{Sorry, HyperTeX does not support FORM choice menus}%
11509 }
11510 \def\@PushButton[#1]#2{% parameters, label
11511   \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
11512 }
11513 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
11514 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
11515 \hypertex

```

## 47.3 TeX4ht

```

11516 \tex4ht
11517 \def\@Form[#1]{%
11518   \setkeys{Form}{#1}%
11519   \HCode{<form action="\Form@action" method="\Form@method">}%
11520 }
11521 \def\@endForm{\HCode{</form>}}
11522 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11523   \typeout{Sorry, TeX4ht does not support gauges}%
11524 }
11525 \def\@TextField[#1]#2{% parameters, label

```

```

11526 \let\Hy@reserved@a\@empty
11527 \def\Fld@name{#2}%
11528 \def\Fld@default{}%
11529 \bgroup
11530 \Field@toks={ }%
11531 \setkeys{Field}{#1}%
11532 \HCode{<label for="\Fld@name">#2</label>}%
11533 \ifFld@password
11534 \@@PasswordField
11535 \else
11536 \@@TextField
11537 \fi
11538 \egroup
11539 }
11540 \def\@@PasswordField{%
11541 \HCode{%
11542 <input type="password" %
11543 id="\Fld@name" %
11544 name="\Fld@name" %
11545 \ifFld@hidden type="hidden" \fi
11546 value="\Fld@default" %
11547 \the\Field@toks
11548 >%
11549 }%
11550 }
11551 \def\@@TextField{%
11552 \ifFld@multiline
11553 \HCode{<textarea %
11554 \ifFld@readonly readonly \fi
11555 id="\Fld@name" %
11556 name="\Fld@name" %
11557 \ifFld@hidden type="hidden" \fi
11558 \the\Field@toks>%
11559 }%
11560 \Fld@default
11561 \HCode{</textarea>}%
11562 \else
11563 \HCode{<input type="text" %
11564 \ifFld@readonly readonly \fi
11565 id="\Fld@name" %
11566 name="\Fld@name" %
11567 \ifFld@hidden type="hidden" \fi
11568 value="\Fld@default" %
11569 \the\Field@toks>%
11570 }%
11571 \fi
11572 }
11573 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11574 \def\Fld@name{#2}%
11575 \def\Fld@default{}%
11576 \let\Hy@reserved@a\relax
11577 \begingroup
11578 \expandafter\Fld@findlength#3\\%
11579 \Field@toks={ }%
11580 \setkeys{Field}{#1}%
11581 #2%
11582 \ifFld@radio

```

```

11583     \expandafter\@@Radio#3\\%
11584     \else
11585     \expandafter\@@Menu#3\\%
11586     \fi
11587 \endgroup
11588 }
11589 \def\Fld@findlength#1\\{%
11590 \Fld@menulength=0 %
11591 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
11592 }
11593 \def\@@Menu#1\\{%
11594 \HCode{<select size="\the\Fld@menulength" %
11595     name="\Fld@name" %
11596     \the\Field@toks>%
11597 }%
11598 \@for\@curropt:=#1\do{%
11599     \expandafter\Fld@checkequals\@curropt==\\%
11600     \HCode{<option %
11601         \ifx\@curropt\Fld@default selected \fi
11602         value="\@currValue">\@currDisplay</option>%
11603     }%
11604 }%
11605 \HCode{</select>}%
11606 }
11607 \def\@@Radio#1\\{%
11608 \@for\@curropt:=#1\do{%
11609     \expandafter\Fld@checkequals\@curropt==\\%
11610     \HCode{<input type="radio" %
11611         \ifx\@curropt\Fld@default checked \fi
11612         name="\Fld@name" %
11613         value="\@currValue" %
11614         \the\Field@toks>%
11615     }%
11616     \@currDisplay
11617 }%
11618 }
11619 \def\@PushButton[#1]#2{% parameters, label
11620 \def\Fld@name{#2}%
11621 \bgroup
11622 \Field@toks={ }%
11623 \setkeys{Field}{#1}%
11624 \HCode{<input type="button" %
11625     name="\Fld@name" %
11626     value="#2" %
11627     \the\Field@toks>%
11628 }%
11629 \HCode{</button>}%
11630 \egroup
11631 }
11632 \def\@Submit[#1]#2{%
11633 \HCode{<button type="submit">#2</button>}%
11634 }
11635 \def\@Reset[#1]#2{%
11636 \HCode{<button type="reset">#2</button>}%
11637 }
11638 \def\@CheckBox[#1]#2{% parameters, label
11639 \let\Hy@reserved@a\@empty

```

```

11640 \def\Fld@name{#2}%
11641 \def\Fld@default{0}%
11642 \bgroup
11643 \Field@toks={ }%
11644 \setkeys{Field}{#1}%
11645 \HCode{<input type="checkbox" %
11646 \ifFld@checked checked \fi
11647 \ifFld@disabled disabled \fi
11648 \ifFld@readonly readonly \fi
11649 name="\Fld@name" %
11650 \ifFld@hidden type="hidden" \fi
11651 value="\Fld@default" %
11652 \the\Field@toks>%
11653 #2%
11654 }%
11655 \egroup
11656 }
11657 </tex4ht>

```

## 47.4 pdfTeX

```

11658 <*pdfTeX>
11659 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11660 \typeout{Sorry, pdfTeX does not support FORM gauges}%
11661 }
11662 \def\MakeFieldObject#1#2{\sbox0{#1}%
11663 \immediate\pdfxform0 %
11664 \expandafter\edef\csname #2Object\endcsname{%
11665 \the\pdfastxform\space 0 R%
11666 }%
11667 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}}%
11668 }%
11669 \def\HyField@afields{}
11670 \begingroup\expandafter\expandafter\expandafter\endgroup
11671 \expandafter\ifx\csname pdfastlink\endcsname\relax
11672 \let\HyField@AddToFields\relax
11673 \PackageInfo{hyperref}{%
11674 You need pdfTeX 1.40.0 for setting the /Fields entry.%
11675 \MessageBreak
11676 Adobe Reader/Acrobat accepts an empty /Field array,%
11677 \MessageBreak
11678 but other PDF viewers might complain%
11679 }%
11680 \else
11681 \def\HyField@AuxAddToFields#1{%
11682 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
11683 \Hy@AtBeginDocument{%
11684 \if@filesw
11685 \immediate\write\@mainaux{%
11686 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
11687 }%
11688 \fi
11689 \let\HyField@AfterAuxOpen\@firstofone
11690 \def\HyField@AuxAddToFields#1{%
11691 \xdef\HyField@afields{%
11692 \ifx\HyField@afields\@empty
11693 \else
11694 \HyField@afields

```

```

11695     \space
11696     \fi
11697     #1 0 R%
11698   }%
11699 }%
11700}%
11701 \def\HyField@AddToFields{%
11702   \expandafter\HyField@@AddToFields\expandafter{%
11703     \the\pdfastlink
11704   }%
11705 }%
11706 \def\HyField@@AddToFields#1{%
11707   \HyField@AfterAuxOpen{%
11708     \if@filesw
11709       \write\@mainaux{%
11710         \string\HyField@AuxAddToFields{#1}%
11711       }%
11712     \fi
11713   }%
11714 }%
11715 \fi
11716 \def\@Form[#1]{%
11717   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
11718   \setkeys{Form}{#1}%
11719   \Hy@FormObjects
11720   \ifnum\pdfTeXversion>13 %
11721     \pdfrefobj\OBJ@pdfdocencoding
11722     \pdfrefobj\OBJ@ZaDb
11723     \pdfrefobj\OBJ@Helv
11724   \fi
11725   \AtVeryEndDocument{%
11726     \immediate\pdfobj{%
11727       <<%
11728         /Fields[\HyField@afields]%
11729         /DR<<%
11730         /Font<<%
11731           /ZaDb \OBJ@ZaDb\space 0 R%
11732           /Helv \OBJ@Helv\space 0 R%
11733         >>%
11734       >>%
11735       /DA(/Helv 10 Tf 0 g)%
11736       \ifHy@pdfa
11737       \else
11738         /NeedAppearances true%
11739       \fi
11740     >>%
11741   }%
11742   \edef\OBJ@acroform{\the\pdfastobj}%
11743   \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
11744 }%
11745 \MakeFieldObject{%
Same as \ding{123} of package pifont.
11746   \begingroup
11747     \fontfamily{pzd}%
11748     \fontencoding{U}%
11749     \fontseries{m}%
11750     \fontshape{n}%

```

```

11751 \selectfont
11752 \char123 %
11753 \endgroup
11754 }{Ding}%
11755 \MakeFieldObject{%
11756 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
11757 }{Submit}%
11758 \MakeFieldObject{%
11759 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
11760 }{SubmitP}%
11761 }
11762 \def\@endForm{}
11763 \def\@TextField[#1]#2{% parameters, label
11764 \def\Fld@name{#2}%
11765 \def\Fld@default{}%
11766 \let\Fld@value\@empty
11767 \def\Fld@width{\DefaultWidthofText}%
11768 \def\Fld@height{%
11769 \ifFld@multiline
11770 \DefaultHeightofTextMultiline
11771 \else
11772 \DefaultHeightofText
11773 \fi
11774 }%
11775 \begingroup
11776 \Field@toks={}%
11777 \expandafter\HyField@SetKeys\expandafter{%
11778 \DefaultOptionsofText,#1%
11779 }%
11780 \PDFForm@Name
11781 \HyField@FlagsText
11782 \ifFld@hidden\def\Fld@width{1sp}\fi
11783 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11784 \LayoutTextField{#2}{%
11785 \Hy@escapeform\PDFForm@Text
11786 \pdfstartlink user {\PDFForm@Text}\relax
11787 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
11788 \HyField@AddToFields
11789 }%
11790 \endgroup
11791 }
11792 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11793 \def\Fld@name{#2}%
11794 \let\Fld@default\relax
11795 \let\Fld@value\relax
11796 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11797 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11798 \begingroup
11799 \Fld@menulength=0 %
11800 \@tempdima\z@
11801 \@for\@curropt:=#3\do{%
11802 \expandafter\Fld@checkequals\@curropt==\%
11803 \Hy@StepCount\Fld@menulength
11804 \settowidth{\@tempdimb}{\@currDisplay}%
11805 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11806 }%
11807 \advance\@tempdima by 15\p@

```



```

11808 \Field@toks={ }%
11809 \begingroup
11810 \HyField@SetKeys{#1}%
11811 \edef\x{\endgroup
11812 \noexpand\expandafter
11813 \noexpand\HyField@SetKeys
11814 \noexpand\expandafter{%
11815 \expandafter\noexpand\csname DefaultOptionsof%
11816 \ifFld@radio
11817 Radio%
11818 \else
11819 \ifFld@combo
11820 \ifFld@popdown
11821 PopdownBox%
11822 \else
11823 ComboBox%
11824 \fi
11825 \else
11826 ListBox%
11827 \fi
11828 \fi
11829 \endcsname
11830 }%
11831 }\x
11832 \HyField@SetKeys{#1}%
11833 \PDFForm@Name
11834 \ifFld@hidden\def\Fld@width{1sp}\fi
11835 \ifx\Fld@value\relax
11836 \let\Fld@value\Fld@default
11837 \fi
11838 \LayoutChoiceField{#2}{%
11839 \ifFld@radio
11840 \HyField@FlagsRadioButton
11841 \@@Radio{#3}%
11842 \else
11843 \begingroup
11844 \HyField@FlagsChoice
11845 \ifdim\Fld@width<\@tempdima
11846 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11847 \edef\Fld@width{\the\@tempdima}%
11848 \fi
11849 \ifFld@combo
11850 \else
11851 \@tempdima=\the\Fld@menulength\Fld@charsize
11852 \advance\@tempdima by \Fld@borderwidth bp %
11853 \advance\@tempdima by \Fld@borderwidth bp %
11854 \edef\Fld@height{\the\@tempdima}%
11855 \fi
11856 \@@Listbox{#3}%
11857 \endgroup
11858 \fi
11859 }%
11860 \endgroup
11861 }
11862 \def\@@Radio#1{%
11863 \Fld@listcount=0 %
11864 \@for\@curropt=#1\do{%

```

```

11865 \expandafter\Fld@checkequals\@curropt==\\%
11866 \Hy@StepCount\Fld@listcount
11867 \@currDisplay\space
11868 \leavevmode
11869 \Hy@escapeform\PDFForm@Radio
11870 \pdfstartlink user {%
11871 \PDFForm@Radio
11872 /AP<<%
11873 /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.

```

11874 \/\@currValue\space \DingObject
11875 >>%
11876 >>%
11877 }%
11878 \relax
11879 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
11880 \ifnum\Fld@listcount=1 %
11881 \HyField@AddToFields
11882 \fi
11883 \space % deliberate space between radio buttons
11884 }%
11885 }
11886 \newcount\Fld@listcount
11887 \def\@@ListBox#1{%
11888 \HyField@PDFChoices{#1}%
11889 \leavevmode
11890 \Hy@escapeform\PDFForm@List
11891 \pdfstartlink user {\PDFForm@List}\relax
11892 \MakeChoiceField{\Fld@width}{\Fld@height}%
11893 \pdfendlink
11894 \HyField@AddToFields
11895 }
11896 \def\@PushButton[#1]#2{% parameters, label
11897 \def\Fld@name{#2}%
11898 \begingroup
11899 \Field@toks={ }%
11900 \expandafter\HyField@SetKeys\expandafter{%
11901 \DefaultOptionsofPushButton,#1%
11902 }%
11903 \PDFForm@Name
11904 \ifHy@pdfa
11905 \PackageError{hyperref}{%
11906 PDF/A: Push button with JavaScript is prohibited%
11907 }\@ehc
11908 \LayoutPushButtonField{%
11909 \leavevmode
11910 \MakeButtonField{#2}%
11911 }%
11912 \else
11913 \HyField@FlagsPushButton
11914 \ifFld@hidden\def\Fld@width{1sp}\fi
11915 \LayoutPushButtonField{%
11916 \leavevmode
11917 \Hy@escapeform\PDFForm@Push
11918 \pdfstartlink user {\PDFForm@Push}\relax

```

```

11919 \MakeButtonField{#2}%
11920 \pdfendlink
11921 \HyField@AddToFields
11922 }%
11923 \fi
11924 \endgroup
11925 }
11926 \def\@Submit[#1]#2{%
11927 \Field@toks={ }%
11928 \def\Fld@width{\DefaultWidthofSubmit}%
11929 \def\Fld@height{\DefaultHeightofSubmit}%
11930 \begingroup
11931 \expandafter\HyField@SetKeys\expandafter{%
11932 \DefaultOptionsofSubmit,#1%
11933 }%
11934 \HyField@FlagsPushButton
11935 \HyField@FlagsSubmit
11936 \ifFld@hidden\def\Fld@width{1sp}\fi
11937 \leavevmode
11938 \Hy@escapeform\PDFForm@Submit
11939 \pdfstartlink user {%
11940 \PDFForm@Submit
11941 /AP<</N \SubmitObject/D \SubmitPObject>>%
11942 }%
11943 \relax
11944 \MakeButtonField{#2}%
11945 \pdfendlink
11946 \HyField@AddToFields
11947 \endgroup
11948 }
11949 \def\@Reset[#1]#2{%
11950 \Field@toks={ }%
11951 \def\Fld@width{\DefaultWidthofReset}%
11952 \def\Fld@height{\DefaultHeightofReset}%
11953 \begingroup
11954 \expandafter\HyField@SetKeys\expandafter{%
11955 \DefaultOptionsofReset,#1%
11956 }%
11957 \leavevmode
11958 \ifHy@pdfa
11959 \PackageError{hyperref}{%
11960 PDF/A: Reset action is prohibited%
11961 }{\@ehc}
11962 \MakeButtonField{#2}%
11963 \else
11964 \HyField@FlagsPushButton
11965 \ifFld@hidden\def\Fld@width{1sp}\fi
11966 \Hy@escapeform\PDFForm@Reset
11967 \pdfstartlink user {\PDFForm@Reset}\relax
11968 \MakeButtonField{#2}%
11969 \pdfendlink
11970 \HyField@AddToFields
11971 \fi
11972 \endgroup
11973 }
11974 \def\@CheckBox[#1]#2{% parameters, label
11975 \def\Fld@name{#2}%

```

```

11976 \def\Fld@default{0}%
11977 \begingroup
11978 \def\Fld@width{\DefaultWidthofCheckBox}%
11979 \def\Fld@height{\DefaultHeightofCheckBox}%
11980 \Field@toks={ }%
11981 \expandafter\HyField@SetKeys\expandafter{%
11982 \DefaultOptionsofCheckBox,#1%
11983 }%
11984 \PDFForm@Name
11985 \HyField@FlagsCheckBox
11986 \ifFld@hidden\def\Fld@width{1sp}\fi
11987 \LayoutCheckField{#2}{%
11988 \Hy@escapeform\PDFForm@Check
11989 \pdfstartlink user {\PDFForm@Check}\relax
11990 \MakeCheckField{\Fld@width}{\Fld@height}%
11991 \pdfendlink
11992 \HyField@AddToFields
11993 }%
11994 \endgroup
11995 }
11996 \def\Hy@FormObjects{%
11997 \pdfobj {%
11998 <<%
11999 /Type/Encoding%
12000 /Differences%
12001 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
12002 /ring/tilde %
12003 39/quotesingle %
12004 96/grave %
12005 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12006 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12007 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12008 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
12009 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12010 164/currency %
12011 166/brokenbar %
12012 168/dieresis/copyright/ordfeminine %
12013 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12014 /twosuperior/threesuperior/acute/mu %
12015 183/periodcentered/cedilla/onesuperior/ordmasculine %
12016 188/onequarter/onehalf/threequarters %
12017 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12018 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12019 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12020 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12021 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12022 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12023 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12024 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12025 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
12026 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
12027 ]%
12028 >>%
12029 }%
12030 \xdef\OBJ@pdfdocencoding{\the\pdfflastobj}%
12031 \pdfobj{%
12032 <<%

```

```

12033 /Type/Font%
12034 /Subtype/Type1%
12035 /Name/ZaDb%
12036 /BaseFont/ZapfDingbats%
12037 >>%
12038 }%
12039 \xdef\OBJ@ZaDb{\the\pdfastobj}%
12040 \pdfobj{%
12041 <<%
12042 /Type/Font%
12043 /Subtype/Type1%
12044 /Name/Helv%
12045 /BaseFont/Helvetica%
12046 /Encoding \OBJ@pdfdocencoding\space 0 R%
12047 >>%
12048 }%
12049 \xdef\OBJ@Helv{\the\pdfastobj}%
12050 \global\let\Hy@FormObjects\relax
12051 }
12052 \pdfTeX

```

## 47.5 dvipdfm, xetex

D. P. Story adapted the pdf<sub>T</sub>E<sub>X</sub> forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

12053 (*dvipdfm | xetex)

```

\@Gauge

```

12054 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12055 \typeout{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
12056 }

```

\@Form

```

12057 \def\@Form[#1]{%
12058 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12059 \setkeys{Form}{#1}%
12060 \Hy@FormObjects
12061 \@pdfm@mark{obj @afields []}%
12062 \@pdfm@mark{obj @corder []}%
12063 \@pdfm@mark{%
12064 obj @aform <<%
12065 /Fields @afields%
12066 /DR<<%
12067 /Font<<%
12068 /ZaDb @OBJZaDb%
12069 /Helv @OBJHelv%
12070 >>%
12071 >>%
12072 /DA(/Helv 10 Tf 0 g)%
12073 /CO @corder%
12074 \ifHy@pdfa
12075 \else
12076 /NeedAppearances true%
12077 \fi
12078 >>%
12079 }%
12080 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
12081 }

```

\@endForm

12082 \def\@endForm{}

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

12083 \def\dvipdfm@setdim{%  
12084 height \the\ht\pdfm@box\space  
12085 width \the\wd\pdfm@box\space  
12086 depth \the\dp\pdfm@box\space  
12087 }

\HyField@AnnotCount

12088 \newcount\HyField@AnnotCount  
12089 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount

12090 \def\HyField@AdvanceAnnotCount{%  
12091 \global\advance\HyField@AnnotCount\@ne  
12092 }

\HyField@TheAnnotCount

12093 \def\HyField@TheAnnotCount{%  
12094 \the\HyField@AnnotCount  
12095 }

\@TextField

12096 \def\@TextField[#1]#2{% parameters, label  
12097 \def\Fld@name{#2}%  
12098 \def\Fld@default{}%  
12099 \let\Fld@value\@empty  
12100 \def\Fld@width{\DefaultWidthofText}%  
12101 \def\Fld@height{%  
12102 \ifFld@multiline  
12103 \DefaultHeightofTextMultiline  
12104 \else  
12105 \DefaultHeightofText  
12106 \fi  
12107 }%  
12108 \begingroup  
12109 \Field@toks={ }%  
12110 \expandafter\HyField@SetKeys\expandafter{%  
12111 \DefaultOptionsofText,#1%  
12112 }%  
12113 \PDFForm@Name  
12114 \HyField@FlagsText  
12115 \ifFld@hidden\def\Fld@width{1sp}\fi  
12116 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi  
12117 \setbox\pdfm@box=\hbox{%  
12118 \MakeTextField{\Fld@width}{\Fld@height}%  
12119 }%  
12120 \HyField@AdvanceAnnotCount  
12121 \LayoutTextField{#2}{%  
12122 \Hy@escapeform\PDFForm@Text  
12123 \@pdfm@mark{%  
12124 ann @text\HyField@TheAnnotCount\space  
12125 \dvipdfm@setdim << \PDFForm@Text >>%  
12126 }%

```

12127 }%
12128 \unhbox\pdfm@box
12129 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
12130 % record in @afields array
12131 \endgroup
12132 }

```

\@ChoiceMenu

```

12133 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12134 \def\Fld@name{#2}%
12135 \let\Fld@default\relax
12136 \let\Fld@value\relax
12137 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12138 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12139 \begingroup
12140 \Fld@menulength=0 %
12141 \@tempdima\z@
12142 \@for\@curropt:=#3\do{%
12143 \expandafter\Fld@checkequals\@curropt==\%
12144 \Hy@StepCount\Fld@menulength
12145 \settowidth{\@tempdimb}{\@currDisplay}%
12146 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12147 }%
12148 \advance\@tempdima by 15\p@
12149 \Field@toks={ }%
12150 \begingroup
12151 \HyField@SetKeys{#1}%
12152 \edef\x{\endgroup
12153 \noexpand\expandafter
12154 \noexpand\HyField@SetKeys
12155 \noexpand\expandafter{%
12156 \expandafter\noexpand\csname DefaultOptionsof%
12157 \ifFld@radio
12158 Radio%
12159 \else
12160 \ifFld@combo
12161 \ifFld@popdown
12162 PopdownBox%
12163 \else
12164 ComboBox%
12165 \fi
12166 \else
12167 ListBox%
12168 \fi
12169 \fi
12170 \endcsname
12171 }%
12172 }\x
12173 \HyField@SetKeys{#1}%
12174 \PDFForm@Name
12175 \ifFld@hidden\def\Fld@width{1sp}\fi
12176 \ifx\Fld@value\relax
12177 \let\Fld@value\Fld@default
12178 \fi
12179 \LayoutChoiceField{#2}{%
12180 \ifFld@radio
12181 \HyField@FlagsRadioButton

```

```

12182 \@@Radio{#3}%
12183 \else
12184 \beginingroup
12185 \HyField@FlagsChoice
12186 \ifdim\Fld@width<\@tempdima
12187 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12188 \edef\Fld@width{\the\@tempdima}%
12189 \fi
12190 \ifFld@combo
12191 \else
12192 \@tempdima=\the\Fld@menulength\Fld@charsize
12193 \advance\@tempdima by \Fld@borderwidth bp %
12194 \advance\@tempdima by \Fld@borderwidth bp %
12195 \edef\Fld@height{\the\@tempdima}%
12196 \fi
12197 \@@ListBox{#3}%
12198 \endgroup
12199 \fi
12200 }%
12201 \endgroup
12202 }

```

\@@Radio

```

12203 \def\@@Radio#1{%
12204 \Fld@listcount=0 %
12205 \setbox\pdfm@box=\hbox{%
12206 \MakeRadioField{\Fld@width}{\Fld@height}%
12207 }%
12208 \@for\@curropt:=#1\do{%
12209 \expandafter\Fld@checkequals\@curropt==\%
12210 \Hy@StepCount\Fld@listcount
12211 \@currDisplay\space
12212 \leavevmode
12213 \Hy@escapeform\PDFForm@Radio
12214 \ifnum\Fld@listcount=1 %
12215 \HyField@AdvanceAnnotCount
12216 \fi
12217 \@pdfm@mark{%
12218 ann %
12219 \ifnum\Fld@listcount=1 %
12220 @radio\HyField@TheAnnotCount%
12221 \space
12222 \fi
12223 \dvi pdfm@setdim
12224 <<%
12225 \PDFForm@Radio
12226 /AP<</N<</\@currValue /null>>>>%
12227 >>%
12228 }%
12229 \unhcopy\pdfm@box\space% deliberate space between radio buttons
12230 \ifnum\Fld@listcount=1 %
12231 \@pdfm@mark{%
12232 put @aflds @radio\HyField@TheAnnotCount
12233 }%
12234 \fi
12235 }%
12236 }

```



\Fld@listcount

12237 \newcount\Fld@listcount

\@@Listbox

```
12238 \def\@@Listbox#1{%
12239   \HyField@PDFChoices{#1}%
12240   \setbox\pdfm@box=\hbox{%
12241     \MakeChoiceField{\Fld@width}{\Fld@height}%
12242   }%
12243   \leavevmode
12244   \Hy@escapeform\PDFForm@List
12245   \HyField@AdvanceAnnotCount
12246   \@pdfm@mark{%
12247     ann @list\HyField@TheAnnotCount\space
12248     \dvipdfm@setdim
12249     <<\PDFForm@List>>%
12250   }%
12251   \unhbox\pdfm@box
12252   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
12253 }
```

\@PushButton

```
12254 \def\@PushButton[#1]#2{% parameters, label
12255   \def\Fld@name{#2}%
12256   \begingroup
12257     \Field@toks={ }%
12258     \expandafter\HyField@SetKeys\expandafter{%
12259       \DefaultOptionsofPushButton,#1%
12260     }%
12261     \PDFForm@Name
12262     \ifHy@pdfa
12263       \PackageError{hyperref}{%
12264         PDF/A: Push button with JavaScript is prohibited%
12265       }\@ehc
12266       \LayoutPushButtonField{%
12267         \leavevmode
12268         \MakeButtonField{#2}%
12269       }%
12270     \else
12271       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12272       \HyField@FlagsPushButton
12273       \ifFld@hidden\def\Fld@width{1sp}\fi
12274       \HyField@AdvanceAnnotCount
12275       \LayoutPushButtonField{%
12276         \leavevmode
12277         \Hy@escapeform\PDFForm@Push
12278         \@pdfm@mark{%
12279           ann @push\HyField@TheAnnotCount\space
12280           \dvipdfm@setdim
12281           <<\PDFForm@Push>>%
12282         }%
12283       }%
12284       \unhbox\pdfm@box
12285       \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
12286     \fi
12287   \endgroup
12288 }
```

\@Submit

```
12289 \def\@Submit[#1]#2{%
12290   \Field@toks={ }%
12291   \def\Fld@width{\DefaultWidthofSubmit}%
12292   \def\Fld@height{\DefaultHeightofSubmit}%
12293   \begingroup
12294     \expandafter\HyField@SetKeys\expandafter{%
12295       \DefaultOptionsofSubmit,#1%
12296     }%
12297     \HyField@FlagsPushButton
12298     \HyField@FlagsSubmit
12299     \ifFld@hidden\def\Fld@width{1sp}\fi
12300     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12301     \leavevmode
12302     \Hy@escapeform\PDFForm@Submit
12303     \HyField@AdvanceAnnotCount
12304     \@pdfm@mark{%
12305       ann @submit\HyField@TheAnnotCount\space
12306       \dvipdfm@setdim
12307       <<\PDFForm@Submit>>%
12308     }%
12309     \unhbox\pdfm@box%
12310     \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
12311   \endgroup
12312 }
```

\@Reset

```
12313 \def\@Reset[#1]#2{%
12314   \Field@toks={ }%
12315   \def\Fld@width{\DefaultWidthofReset}%
12316   \def\Fld@height{\DefaultHeightofReset}%
12317   \begingroup
12318     \expandafter\HyField@SetKeys\expandafter{%
12319       \DefaultOptionsofReset,#1%
12320     }%
12321     \leavevmode
12322     \ifHy@pdfa
12323       \PackageError{hyperref}{%
12324         PDF/A: Reset action is prohibited%
12325       }\@ehc
12326       \MakeButtonField{#2}%
12327     \else
12328       \HyField@FlagsPushButton
12329       \ifFld@hidden\def\Fld@width{1sp}\fi
12330       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12331       \Hy@escapeform\PDFForm@Reset
12332       \HyField@AdvanceAnnotCount
12333       \@pdfm@mark{%
12334         ann @reset\HyField@TheAnnotCount\space
12335         \dvipdfm@setdim
12336         <<\PDFForm@Reset>>%
12337       }%
12338       \unhbox\pdfm@box
12339       \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
12340     \fi
12341   \endgroup
12342 }
```

\@CheckBox

```
12343 \def\@CheckBox[#1]#2{% parameters, label
12344 \def\Fld@name{#2}%
12345 \def\Fld@default{0}%
12346 \begingroup
12347 \def\Fld@width{\DefaultWidthofCheckBox}%
12348 \def\Fld@height{\DefaultHeightofCheckBox}%
12349 \Field@toks={ }%
12350 \expandafter\HyField@SetKeys\expandafter{%
12351 \DefaultOptionsofCheckBox,#1%
12352 }%
12353 \PDFForm@Name
12354 \HyField@FlagsCheckBox
12355 \ifFld@hidden\def\Fld@width{1sp}\fi
12356 \setbox\pdfm@box=\hbox{%
12357 \MakeCheckField{\Fld@width}{\Fld@height}%
12358 }%
12359 \HyField@AdvanceAnnotCount
12360 \LayoutCheckField{#2}{%
12361 \Hy@escapeform\PDFForm@Check
12362 \@pdfm@mark{%
12363 ann @check\HyField@TheAnnotCount\space
12364 \dvipdfm@setdim
12365 <<\PDFForm@Check>>%
12366 }%
12367 \unhbox\pdfm@box
12368 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
12369 }%
12370 \endgroup
12371 }

12372 \def\Hy@FormObjects{%
12373 \@pdfm@mark{obj @OBJpdfdocencoding%
12374 <<%
12375 /Type/Encoding%
12376 /Differences[%
12377 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
12378 39/quotesingle %
12379 96/grave %
12380 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12381 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12382 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
12383 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
12384 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12385 164/currency %
12386 166/brokenbar %
12387 168/dieresis/copyright/ordfeminine %
12388 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12389 /twosuperior/threesuperior/acute/mu %
12390 183/periodcentered/cedilla/onesuperior/ordmasculine %
12391 188/onequarter/onehalf/threequarters %
12392 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12393 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
12394 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
12395 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
12396 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
12397 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
```

```

12398      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
12399      /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
12400      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
12401      /thorn/ydieresis%
12402      ]%
12403      >>%
12404      }%
12405      \@pdfm@mark{obj @OBJZaDb%
12406      <<%
12407      /Type/Font%
12408      /Subtype/Type1%
12409      /Name/ZaDb%
12410      /BaseFont/ZapfDingbats%
12411      >>%
12412      }%
12413      \@pdfm@mark{obj @OBJHelv%
12414      <<%
12415      /Type/Font%
12416      /Subtype/Type1%
12417      /Name/Helv%
12418      /BaseFont/Helvetica%
12419      /Encoding @OBJpdfdocencoding%
12420      >>%
12421      }%
12422      \global\let\Hy@FormObjects\relax
12423      }
12424      </dvipdfm | xetex>

```

## 47.6 Common forms part

```

12425 <*pdfmform>

```

\Hy@escapestring

```

12426 \begingroup\expandafter\expandafter\expandafter\endgroup
12427 \expandafter\ifx\csname pdfescapestring\endcsname\relax
12428   \let\Hy@escapestring\@firstofone
12429   \def\Hy@escapeform#1{%
12430     \ifHy@escapeform
12431       \def\Hy@escapestring##1{%
12432         \noexpand\Hy@escapestring{\noexpand##1}%
12433       }%
12434       \edef\Hy@temp{#1}%
12435       \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
12436     \def\Hy@escapestring##1{%
12437       \ifundefined{Hy@esc@\string##1}{%
12438         ##1%
12439         \ThisShouldNotHappen
12440       }{%
12441         \csname Hy@esc@\string##1\endcsname
12442       }%
12443     }%
12444   \else
12445     \let\Hy@escapestring\@firstofone
12446   \fi
12447 }%
12448 \def\Hy@@@escapeform#1\Hy@escapestring#2#3\@nil{%
12449   \ifx\#3\%

```

```

12450 \else
12451 \expandafter
12452 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
12453 \Hy@ReturnAfterFi{%
12454 \Hy@@escapeform#3\@nil
12455 }%
12456 \fi
12457 }%
12458 \else
12459 \def\Hy@escapeform#1{%
12460 \ifHy@escapeform
12461 \let\Hy@escapestring\pdfescapestring
12462 \else
12463 \let\Hy@escapestring\@firstofone
12464 \fi
12465 }%
12466 \Hy@escapeform{}}%
12467 \fi

```

#### \PDFForm@Name

```

12468 \def\PDFForm@Name{%
12469 \begingroup
12470 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
12471 \ifHy@unicode
12472 \Hy@unicodedefalse
12473 \fi
12474 \fi
12475 \HyPsd@XeTeXBigCharstrue
12476 \pdfstringdef\Hy@gtemp\Fld@name
12477 \endgroup
12478 \let\Fld@name\Hy@gtemp
12479 }

```

#### \PDFForm@Check

```

12480 \def\PDFForm@Check{%
12481 /Subtype/Widget%
12482 \Fld@annotflags
12483 /T(\Fld@name)%
12484 /FT/Btn%
12485 \Fld@flags
12486 /Q \Fld@align
12487 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
12488 /MK<<%
12489 \ifnum\Fld@rotation=\z@
12490 \else
12491 /R \Fld@rotation
12492 \fi
12493 \ifx\Fld@bordercolor\relax
12494 \else
12495 /BC[\Fld@bordercolor]%
12496 \fi
12497 \ifx\Fld@bcolor\relax
12498 \else
12499 /BG[\Fld@bcolor]%
12500 \fi
12501 /CA(\Hy@escapestring{\Fld@cbsymbol})%
12502 >>%

```

```

12503 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
12504 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12505 /H/P%
12506 \ifFld@checked /V/Yes\else /V/Off\fi
12507 }

```

#### \PDFForm@Push

```

12508 \ifHy@pdfa
12509 \else
12510 \def\PDFForm@Push{%
12511 /Subtype/Widget%
12512 \Fld@annotflags
12513 /T(\Fld@name)%
12514 /FT/Btn%
12515 \Fld@flags
12516 /H/P%
12517 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12518 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12519 \ifx\Fld@bordercolor\relax\else 1\fi
12520 \space
12521 \else
12522 /MK<<%
12523 \ifnum\Fld@rotation=\z@
12524 \else
12525 /R \Fld@rotation
12526 \fi
12527 \ifx\Fld@bordercolor\relax
12528 \else
12529 /BC[\Fld@bordercolor]%
12530 \fi
12531 >>%
12532 \fi
12533 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
12534 }%
12535 \fi

```

#### \Fld@additionalactions

```

12536 \def\Fld@@additionalactions{%
K input (keystroke) format
12537 \ifx\Fld@keystroke@code\@empty
12538 \else
12539 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
12540 \fi
F display format
12541 \ifx\Fld@format@code\@empty
12542 \else
12543 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
12544 \fi
V validation
12545 \ifx\Fld@validate@code\@empty
12546 \else
12547 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
12548 \fi
C calculation
12549 \ifx\Fld@calculate@code\@empty

```

```

12550 \else
12551   /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
12552 \fi

```

Fo receiving the input focus

```

12553 \ifx\Fld@onfocus@code\@empty
12554 \else
12555   /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
12556 \fi

```

Bl loosing the input focus (blurred)

```

12557 \ifx\Fld@onblur@code\@empty
12558 \else
12559   /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
12560 \fi

```

D pressing the mouse button (down)

```

12561 \ifx\Fld@onmousedown@code\@empty
12562 \else
12563   /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
12564 \fi

```

U releasing the mouse button (up)

```

12565 \ifx\Fld@onmouseup@code\@empty
12566 \else
12567   /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
12568 \fi

```

E cursor enters the annotation's active area.

```

12569 \ifx\Fld@onenter@code\@empty
12570 \else
12571   /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
12572 \fi

```

X cursor exits the annotation's active area.

```

12573 \ifx\Fld@onexit@code\@empty
12574 \else
12575   /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
12576 \fi
12577 }

```

```

12578 \def\Fld@additionalactions{%
12579 \if\Fld@@additionalactions-%
12580 \else
12581   \ifHy@pdfa
12582   \else
12583     /AA<<\Fld@@additionalactions>>%
12584   \fi
12585 \fi
12586 }

```

\PDFForm@List

```

12587 \def\PDFForm@List{%
12588   /Subtype/Widget%
12589   \Fld@annotflags
12590   /T(\Fld@name)%
12591   /FT/Ch%
12592   \Fld@flags
12593   /Q \Fld@align
12594   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12595   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi

```

```

12596     \ifx\Fld@bordercolor\relax\else 1\fi
12597     \ifx\Fld@bcolor\relax    \else 1\fi
12598     \space
12599 \else
12600 /MK<<%
12601   \ifnum\Fld@rotation=\z@
12602   \else
12603     /R \Fld@rotation
12604   \fi
12605   \ifx\Fld@bordercolor\relax
12606   \else
12607     /BC[\Fld@bordercolor]%
12608   \fi
12609   \ifx\Fld@bcolor\relax
12610   \else
12611     /BG[\Fld@bcolor]%
12612   \fi
12613 >>%
12614 \fi
12615 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12616   \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12617 \Fld@choices
12618 \Fld@additionalactions
12619 }

```

#### \PDFForm@Radio

```

12620 \def\PDFForm@Radio{%
12621 /Subtype/Widget%
12622 \Fld@annotflags
12623 /T(\Fld@name)%
12624 /FT/Btn%
12625 \Fld@flags
12626 /H/P%
12627 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12628 /MK<<%
12629   \ifnum\Fld@rotation=\z@
12630   \else
12631     /R \Fld@rotation
12632   \fi
12633   \ifx\Fld@bordercolor\relax
12634   \else
12635     /BC[\Fld@bordercolor]%
12636   \fi
12637   \ifx\Fld@bcolor\relax
12638   \else
12639     /BG[\Fld@bcolor]%
12640   \fi
12641   /CA(\Fld@radiosymbol)%
12642 >>%
12643 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
12644   \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12645 \ifx\@currValue\Fld@default
12646 /V/\Fld@default
12647 \else
12648 /V/Off%
12649 \fi
12650 \Fld@additionalactions

```



12651 }

\PDFForm@Text

```
12652 \def\PDFForm@Text{%
12653   /Subtype/Widget%
12654   \Fld@annotflags
12655   /T(\Fld@name)%
12656   /FT/Tx%
12657   \Fld@flags
12658   /Q \Fld@align
12659   /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
12660   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12661     \ifx\Fld@bordercolor\relax\else 1\fi
12662     \ifx\Fld@bcolor\relax \else 1\fi
12663     \space
12664   \else
12665     /MK<<%
12666     \ifnum\Fld@rotation=\z@
12667     \else
12668       /R \Fld@rotation
12669     \fi
12670     \ifx\Fld@bordercolor\relax
12671     \else
12672       /BC[\Fld@bordercolor]%
12673     \fi
12674     \ifx\Fld@bcolor\relax
12675     \else
12676       /BG[\Fld@bcolor]%
12677     \fi
12678     >>%
12679   \fi
12680   /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12681     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12682   /DV(\Hy@escapestring{\Fld@default})%
12683   /V(\Hy@escapestring{\Fld@value})%
12684   \Fld@additionalactions
12685   \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
12686 }
```

\PDFForm@Submit

```
12687 \def\PDFForm@Submit{%
12688   /Subtype/Widget%
12689   \Fld@annotflags
12690   /T(\Fld@name)%
12691   /FT/Btn%
12692   \Fld@flags
12693   /H/P%
12694   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12695   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12696     \ifx\Fld@bordercolor\relax\else 1\fi
12697     \space
12698   \else
12699     /MK<<%
12700     \ifnum\Fld@rotation=\z@
12701     \else
12702       /R \Fld@rotation
12703     \fi
```

```

12704 \ifx\Fld@bordercolor\relax
12705 \else
12706 /BC[\Fld@bordercolor]%
12707 \fi
12708 >>%
12709 \fi
12710 /A<<%
12711 /S/SubmitForm%
12712 /F<<%
12713 /FS/URL%
12714 /F(\Hy@escapestring{\Form@action})%
12715 >>%
12716 \Fld@submitflags
12717 >>%
12718 }

```

\PDFForm@Reset

```

12719 \ifHy@pdfa
12720 \else
12721 \def\PDFForm@Reset{%
12722 /Subtype/Widget%
12723 \Fld@annotflags
12724 /T(\Fld@name)%
12725 /FT/Btn%
12726 \Fld@flags
12727 /H/P%
12728 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
12729 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12730 \ifx\Fld@bordercolor\relax\else 1\fi
12731 \space
12732 \else
12733 /MK<<%
12734 \ifnum\Fld@rotation=\z@
12735 \else
12736 /R \Fld@rotation
12737 \fi
12738 \ifx\Fld@bordercolor\relax
12739 \else
12740 /BC[\Fld@bordercolor]%
12741 \fi
12742 % /CA (Clear)
12743 % /AC (Done)
12744 >>%
12745 \fi
12746 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12747 /A<</S/ResetForm>>%
12748 }%
12749 \fi

12750 </pdfform>
12751 <*package>

```

## 48 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in  $\text{\LaTeX}$  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`

```
12752 \def\phantomsection{%
12753   \Hy@MakeCurrentHrefAuto{section*}%
12754   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
12755 }
12756 \end{package}
```

## 48.1 Bookmarks

```
12757 \begin{outlines}
```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.

When using the right-to-left typesetting based on  $\varepsilon$ -TeX, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of  $\varepsilon$ -TeX's implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document). The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

To work around this problem, the `bookmark@seq@number` counter is used to write the bookmark's sequential number into a comment in the `\@outlinefile`, which could be used to post-process it to achieve the proper ordering of `\BOOKMARK` commands in that file.

```
12758 \def\Hy@writebookmark#1#2#3#4#5{%
12759   % section number, text, label, level, file
12760   \ifx\WriteBookmarks\relax%
12761     \else
12762       \ifnum#4>\Hy@bookmarksdepth\relax
12763       \else
12764         \@@writetorep{#1}{#2}{#3}{#4}{#5}%
12765       \fi
12766     \fi
12767 }
12768 \def\Hy@currentbookmarklevel{0}
12769 \def\Hy@numberline#1{#1 }
12770 \def\@@@writetorep#1#2#3#4#5{%
12771   \begingroup
12772     \edef\Hy@tempa{#5}%
12773     \ifx\Hy@tempa\Hy@bookmarkstype
12774       \edef\Hy@level{#4}%
12775       \ifx\Hy@levelcheck Y%
12776         \@tempcnta\Hy@level\relax
12777         \advance\@tempcnta by -1 %
12778         \ifnum\Hy@currentbookmarklevel<\@tempcnta
12779           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
12780           \advance\@tempcnta by 1 %
12781         \Hy@Warning{%
12782           Difference (\the\@tempcnta) between bookmark levels is %
12783           greater \MessageBreak than one, level fixed%
12784         }%
12785         \@tempcnta\Hy@currentbookmarklevel
```

```

12786     \advance\@tempcnta by 1 %
12787     \edef\Hy@level{\the\@tempcnta}%
12788     \fi
12789     \else
12790     \global\let\Hy@levelcheck Y%
12791     \fi
12792     \global\let\Hy@currentbookmarklevel\Hy@level
12793     \@tempcnta\Hy@level\relax
12794     \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
12795     \advance\@tempcnta by -1 %
12796     \edef\Hy@tempa{#3}%
12797     \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
12798     \ifx\Hy@tempa\Hy@tempb
12799     \Hy@Warning{%
12800     The anchor of a bookmark and its parent's must not%
12801     \MessageBreak be the same. Added a new anchor%
12802     }%
12803     \phantomsection
12804     \fi
12805     \ifHy@bookmarksnumbered
12806     \let\numberline\Hy@numberline
12807     \let\partnumberline\Hy@numberline
12808     \let\chapternumberline\Hy@numberline
12809     \else
12810     \let\numberline\@gobble
12811     \let\partnumberline\@gobble
12812     \let\chapternumberline\@gobble
12813     \fi
12814     \HyPsd@XeTeXBigCharstrue
12815     \pdfstringdef\Hy@tempa{#2}%
12816     \HyPsd@SanitizeForOutFile\Hy@tempa
12817     \if@filesw
12818     \stepcounter{bookmark@seq@number}%
12819     \@ifundefined{@outlinefile}{%
12820     }{%
12821     \protected@write\@outlinefile}{%
12822     \protect\BOOKMARK
12823     [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
12824     {\Hy@tempa}{\Hy@tempb}%
12825     \@percentchar\space\thebookmark@seq@number
12826     }%
12827     }%
12828     \fi
12829     \fi
12830     \endgroup
12831 }
12832 \newcounter{bookmark@seq@number}
12833 \begingroup
12834 \lccode'('= '{%
12835 \lccode'='}%
12836 \lccode'1=\z@
12837 \lccode'2=\z@
12838 \lccode'3=\z@
12839 \lccode'5=\z@
12840 \lccode'7=\z@
12841 \lccode'\#=\z@
12842 \lccode'\='=\z@

```

```

12843 \lccode'\{=\z@
12844 \lccode'\}=\z@
12845 \lowercase{%
12846 \endgroup
12847 \def\HyPsd@SanitizeForOutFile#1{%
12848   \@onelevel@sanitize\Hy@tempa
12849   \escapechar'\%
12850   \edef\Hy@tempa{%
12851     \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
12852   }%
12853   \edef\Hy@tempa{%
12854     \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
12855   }%
12856 }%
12857 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
12858   #1%
12859   \ifx\#2\%
12860     \expandafter\ltx@gobble
12861   \else
12862     \expandafter\ltx@firstofone
12863   \fi
12864   {%
12865     \string\173%
12866     \HyPsd@SanitizeOut@BraceLeft#2\@nil
12867   }%
12868 }%
12869 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
12870   #1%
12871   \ifx\#2\%
12872     \expandafter\ltx@gobble
12873   \else
12874     \expandafter\ltx@firstofone
12875   \fi
12876   {%
12877     \string\175%
12878     \HyPsd@SanitizeOut@BraceRight#2\@nil
12879   }%
12880 }%
12881 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

12882 \newcommand{\currentpdfbookmark}{%
12883   \pdfbookmark[\Hy@currentbookmarklevel]%
12884 }
12885 \newcommand{\subpdfbookmark}{%
12886   \@tempcnta\Hy@currentbookmarklevel
12887   \Hy@StepCount\@tempcnta
12888   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
12889 }
12890 \newcommand{\belowpdfbookmark}[2]{%
12891   \@tempcnta\Hy@currentbookmarklevel
12892   \Hy@StepCount\@tempcnta
12893   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
12894   \advance\@tempcnta by -1 %
12895   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
12896 }

```

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.

```

12897 \renewcommand\pdfbookmark[3][0]{%
12898   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
12899   \hyper@anchorstart{#3.#1}\hyper@anchorend
12900 }
12901 \def\BOOKMARK{%
12902   \@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
12903 }
12904 \def\@BOOKMARK[#1]{%
12905   \@ifnextchar[{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
12906 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

#### 48.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

12907 \RequirePackage{rerunfilecheck}[2009/12/10]
12908 \def\Hy@OutlineRerunCheck{%
12909   \RerunFileCheck{\jobname.out}{%
12910     \immediate\closeout\@outlinefile
12911   }{%
12912     Rerun to get outlines right\MessageBreak
12913     or use package ‘bookmark’%
12914   }%
12915 }

```

#### 48.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou ([denis.girou@idris.fr](mailto:denis.girou@idris.fr)), then by Taco Hoekwater ([taco.hoekwater@wkap.nl](mailto: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.

```

12916 <*vtex>
12917 \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.

```

12918 \begingroup
12919   \catcode'\=12 %
12920   \ifnum\Hy@VTeXversion<650 %
12921     \catcode'\=12 %
12922     \gdef\hv@pdf@char#1#2#3{%
12923       \char
12924       \ifcase'#1#2#3 %
12925         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
12926         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
12927         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
12928         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
12929         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
12930         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
12931         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
12932         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
12933         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%

```

```

12934 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
12935 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
12936 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
12937 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
12938 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
12939 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
12940 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
12941 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
12942 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
12943 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
12944 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
12945 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
12946 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
12947 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
12948 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
12949 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
12950 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
12951 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
12952 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
12953 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
12954 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
12955 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
12956 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
12957 \fi
12958 }%
12959 \else
12960 \gdef\hv@pdf@char{\char'}%
12961 \fi
12962 \endgroup

```

\@@BOOKMARK

```

12963 \def\@@BOOKMARK[#1][#2]#3#4#5{%
12964 \expandafter\edef\csname @count@#3\endcsname{%
12965 \the\@serial@counter
12966 }%
12967 \edef\@mycount{\the\@serial@counter}%
12968 \Hy@StepCount\@serial@counter
12969 \edef\@parcount{%
12970 \expandafter\ifx\csname @count@#5\endcsname\relax
12971 0%
12972 \else
12973 \csname @count@#5\endcsname
12974 \fi
12975 }%
12976 \immediate\special{%
12977 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
12978 s=\ifx#2-c\else o\fi,t=#4%
12979 }%
12980 }%

```

\ReadBookmarks

```

12981 \def\ReadBookmarks{%
12982 \begingroup
12983 \def\0{\hv@pdf@char 0}%
12984 \def\1{\hv@pdf@char 1}%
12985 \def\2{\hv@pdf@char 2}%
12986 \def\3{\hv@pdf@char 3}%

```

```

12987 \def\{(){}%
12988 \def\}(){}%
12989 \def\do###1{%
12990   \ifnum\catcode'###1=\active
12991     \@makeother###1%
12992   \else
12993     \ifnum\catcode'###1=6 %
12994       \@makeother###1%
12995     \fi
12996   \fi
12997 }%
12998 \dospecials
12999 \Hy@safe@activetrue
13000 \InputIfFileExists{\jobname.out}{-}{-}%
13001 \endgroup
13002 \ifx\WriteBookmarks\relax
13003 \else
13004   \if@filesw
13005     \newwrite\@outlinefile
13006     \Hy@OutlineRerunCheck
13007     \immediate\openout\@outlinefile=\jobname.out\relax
13008     \ifHy@typexml
13009       \immediate\write\@outlinefile{<relaxxml>\relax}%
13010     \fi
13011   \fi
13012 \fi
13013 }

13014 </vtex>
13015 <!*vtex>
13016 \def\ReadBookmarks{%
13017   \begingroup
13018     \def\do###1{%
13019       \ifnum\catcode'###1=\active
13020         \@makeother###1%
13021       \else
13022         \ifnum\catcode'###1=6 %
13023           \@makeother###1%
13024         \fi
13025       \fi
13026     }%
13027     \dospecials
13028     \Hy@safe@activetrue
13029     \escapechar='\\%
13030     \let\escapechar\@gobble %
13031     \def\@@BOOKMARK[##1][##2]##3##4##5{%
13032       \calc@bm@number{##5}%
13033     }%
13034     \InputIfFileExists{\jobname.out}{-}{-}%
13035     \ifx\WriteBookmarks\relax
13036       \global\let\WriteBookmarks\relax
13037     \fi
13038     \def\@@BOOKMARK[##1][##2]##3##4##5{%
13039       \def\Hy@temp{##4}%
13040     }%
13041     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
13042     \Hy@OutlineName{}\Hy@pstringName{%
13043       ##2\check@bm@number{##3}%

```



```

13044 }{ %
13045 \expandafter\strip@prefix\meaning\Hy@temp
13046 } %
13047 </pdfTex>
13048 <*pdfmark>
13049 \pdfmark{ %
13050 pdfmark=/OUT, %
13051 Count={###2\check@bm@number{###3}}, %
13052 Dest={###3}, %
13053 Title=\expandafter\strip@prefix\meaning\Hy@temp
13054 } %
13055 </pdfmark>
13056 <*dviPdfm | xetex>
13057 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{###3}} %
13058 \@pdfm@mark{ %
13059 outline \ifHy@dviPdfmOutlineOpen
13060 [ %
13061 \ifnum##21>\z@
13062 \else
13063 - %
13064 \fi
13065 ] %
13066 \fi
13067 ###1<< %
13068 /Title(\expandafter\strip@prefix\meaning\Hy@temp) %
13069 /A<< %
13070 /S/GoTo %
13071 /D(\Hy@pstringName) %
13072 >> %
13073 >> %
13074 } %
13075 </dviPdfm | xetex>
13076 } %
13077 { %
13078 \def\WriteBookmarks{0} %
13079 \InputIfFileExists{\jobname.out}{-}{-} %
13080 } %
13081 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}} %
13082 \ifx\WriteBookmarks\relax
13083 \else
13084 \if@filesW
13085 \newwrite\@outlinefile
13086 \Hy@OutlineRerunCheck
13087 \immediate\openout\@outlinefile=\jobname.out\relax
13088 \ifHy@typexml
13089 \immediate\write\@outlinefile{<relaxxml>\relax} %
13090 \fi
13091 \fi
13092 \fi
13093 \endgroup
13094 }
13095 <*pdfTex>
13096 \def\Hy@OutlineName#1#2#3#4{ %
13097 \pdfoutline goto name{#2}count#3{#4} %
13098 }
13099 </pdfTex>
13100 \def\check@bm@number#1{ %

```

```

13101 \expandafter\ifx\csname B_#1\endcsname\relax
13102 0%
13103 \else
13104 \csname B_#1\endcsname
13105 \fi
13106 }
13107 \def\calc@bm@number#1{%
13108 \@tempcnta=\check@bm@number{#1}\relax
13109 \advance\@tempcnta by 1 %
13110 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
13111 }
13112 </!vtex>

13113 \ifHy@implicit
13114 \else
13115 \expandafter\endinput
13116 \fi

13117 </outlines>
13118 <*outlines | hypertex>

13119 \newlength\Hy@SectionHShift
13120 \def\Hy@SectionAnchorHref#1{%
13121 \ifx\protect\@typeset@protect
13122 \Hy@@@SectionAnchor{#1}%
13123 \fi
13124 }
13125 \DeclareRobustCommand*\Hy@@@SectionAnchor{1}{%
13126 \leavevmode
13127 \hbox to 0pt{%
13128 \kern-\Hy@SectionHShift
13129 \Hy@raisedlink{%
13130 \hyper@anchorstart{#1}\hyper@anchorend
13131 }%
13132 \hss
13133 }%
13134 }
13135 \let\H@old@ssect\@ssect
13136 \def\@ssect#1#2#3#4#5{%
13137 \Hy@MakeCurrentHrefAuto{section*}%
13138 \setlength{\Hy@SectionHShift}{#1}%
13139 \begingroup
13140 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
13141 \toks\tw@\expandafter{%
13142 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13143 #5%
13144 }%
13145 \edef\x{\endgroup
13146 \the\toks@\the\toks\tw@}%
13147 }\x
13148 }
13149 \let\H@old@schapter\@schapter
13150 \def\@schapter#1{%
13151 \begingroup
13152 \let\@mkboth\@gobbletwo
13153 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13154 \Hy@raisedlink{%
13155 \hyper@anchorstart{\@currentHref}\hyper@anchorend
13156 }%

```

```

13157 \endgroup
13158 \H@old@schapter{#1}%
13159 }

```

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:

```

13160 \ltx@ifundefined{@chapter}{-}{%
13161   \let\Hy@org@chapter\@chapter
13162   \def\@chapter{%
13163     \def\Hy@next{%
13164       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13165       \Hy@raisedlink{%
13166         \hyper@anchorstart{\@currentHref}\hyper@anchorend
13167       }%
13168     }%
13169     \ifnum\c@secnumdepth>\m@ne
13170       \ltx@ifundefined{if@mainmatter}%
13171       \iftrue{\csname if@mainmatter\endcsname}%
13172       \let\Hy@next\relax
13173     \fi
13174     \fi
13175     \Hy@next
13176     \Hy@org@chapter
13177   }%
13178 }

13179 \let\H@old@part\@part
13180 \begingroup\expandafter\expandafter\expandafter\endgroup
13181 \expandafter\ifx\csname chapter\endcsname\relax
13182   \let\Hy@secnum@part\z@
13183 \else
13184   \let\Hy@secnum@part\m@ne
13185 \fi
13186 \def\@part{%
13187   \ifnum\Hy@secnum@part>\c@secnumdepth
13188     \phantomsection
13189   \fi
13190   \H@old@part
13191 }

13192 \let\H@old@spart\@spart
13193 \def\@spart#1{%
13194   \Hy@MakeCurrentHrefAuto{part*}%
13195   \Hy@raisedlink{%
13196     \hyper@anchorstart{\@currentHref}\hyper@anchorend
13197   }%
13198   \H@old@spart{#1}%
13199 }

13200 \let\H@old@sect\@sect
13201 \def\@sect#1#2#3#4#5#6[#7]#8{%
13202   \ifnum #2>\c@secnumdepth
13203     \expandafter\@firstoftwo
13204   \else
13205     \expandafter\@secondoftwo
13206   \fi
13207   {%
13208     \Hy@MakeCurrentHrefAuto{section*}%
13209     \setlength{\Hy@SectionHShift}{#3}%

```

```

13210 \begingroup
13211 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}}%
13212 \toks\tw@\expandafter{%
13213 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13214 #8%
13215 }%
13216 \edef\x{\endgroup
13217 \the\toks@{\the\toks\tw@}}%
13218 }\x
13219 }{%
13220 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
13221 }%
13222 }

13223 </outlines | hypertex>
13224 <*outlines>

13225 \expandafter\def\csname Parent-4\endcsname{}
13226 \expandafter\def\csname Parent-3\endcsname{}
13227 \expandafter\def\csname Parent-2\endcsname{}
13228 \expandafter\def\csname Parent-1\endcsname{}
13229 \expandafter\def\csname Parent0\endcsname{}
13230 \expandafter\def\csname Parent1\endcsname{}
13231 \expandafter\def\csname Parent2\endcsname{}
13232 \expandafter\def\csname Parent3\endcsname{}
13233 \expandafter\def\csname Parent4\endcsname{}

13234 </outlines>

```

## 49 Compatibility with koma-script classes

```

13235 <*outlines | hypertex>

```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias Isenberg (Tobias.Isenberg@gmx.de). With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

13236 \def\Hy@tempa{%
13237 \def\@addchap[##1]##2{%
13238 \typeout{##2}%
13239 \if@twoside
13240 \@mkboth{##1}{}%
13241 \else
13242 \@mkboth{}{##1}%
13243 \fi
13244 \addtocontents{lof}{\protect\addvspace{10\p@}}%
13245 \addtocontents{lot}{\protect\addvspace{10\p@}}%
13246 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13247 \Hy@raisedlink{%
13248 \hyper@anchorstart{\@currentHref}\hyper@anchorend
13249 }%
13250 \if@twocolumn
13251 \@topnewpage[\@makeschapterhead{##2}]%
13252 \else
13253 \@makeschapterhead{##2}%
13254 \@afterheading
13255 \fi
13256 \addcontentsline{toc}{chapter}{##1}%

```

```

13257 }%
13258 }
13259 \@ifclassloaded{scrbook}{%
13260   \@ifclasslater{scrbook}{2001/01/01}{%
13261     \let\Hy@tempa\@empty
13262   }{}%
13263 }{%
13264   \@ifclassloaded{scrreprt}{%
13265     \@ifclasslater{scrreprt}{2001/01/01}{%
13266       \let\Hy@tempa\@empty
13267     }{}%
13268   }{%
13269     \let\Hy@tempa\@empty
13270   }%
13271 }%
13272 \Hy@tempa
13273 </outlines | hypertext>

```

## 50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 50.1 PD1 encoding

```

13274 <*pdlenc>
13275 \DeclareFontEncoding{PD1}{}{}

```

#### Accents

```

13276 \DeclareTextAccent{'}{PD1}{\textasciigrave}
13277 \DeclareTextAccent{''}{PD1}{\textacute}
13278 \DeclareTextAccent{`}{PD1}{\textasciicircum}
13279 \DeclareTextAccent{~}{PD1}{\texttilde}
13280 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
13281 \DeclareTextAccent{r}{PD1}{\textring}
13282 \DeclareTextAccent{v}{PD1}{\textasciicaron}
13283 \DeclareTextAccent{.}{PD1}{\textdotaccent}
13284 \DeclareTextAccent{c}{PD1}{\textcedilla}
13285 \DeclareTextAccent{=}{PD1}{\textasciimacron}
13286 \DeclareTextAccent{b}{PD1}{\textmacronbelow}
13287 \DeclareTextAccent{d}{PD1}{\textdotbelow}
13288 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
13289 \DeclareTextCompositeCommand{''}{PD1}{\@empty}{\textacute}
13290 \DeclareTextCompositeCommand{`}{PD1}{\@empty}{\textasciicircum}
13291 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
13292 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
13293 \DeclareTextCompositeCommand{r}{PD1}{\@empty}{\textring}
13294 \DeclareTextCompositeCommand{v}{PD1}{\@empty}{\textasciicaron}
13295 \DeclareTextCompositeCommand{.}{PD1}{\@empty}{\textdotaccent}
13296 \DeclareTextCompositeCommand{c}{PD1}{\@empty}{\textcedilla}
13297 \DeclareTextCompositeCommand{=}{PD1}{\@empty}{\textasciimacron}
13298 \DeclareTextCompositeCommand{b}{PD1}{\@empty}{\textmacronbelow}
13299 \DeclareTextCompositeCommand{d}{PD1}{\@empty}{\textdotbelow}
13300 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textasciigrave}
13301 \DeclareTextCompositeCommand{''}{PD1}{\ }{\textacute}
13302 \DeclareTextCompositeCommand{`}{PD1}{\ }{\textasciicircum}
13303 \DeclareTextCompositeCommand{~}{PD1}{\ }{\texttilde}
13304 \DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}

```

```

13305 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
13306 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
13307 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
13308 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
13309 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
13310 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
13311 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
13312 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
13313 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
13314 \DeclareTextCommand{\newtie}{PD1}[1]{%
13315   \TextSymbolUnavailable{\newtie{#1}}#1%
13316 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

13317 % U+0009 (CHARACTER TABULATION)
13318 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
13319 % U+000A (LINE FEED)
13320 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
13321 % U+000D (CARRIAGE RETURN)
13322 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

13323 % U+02D8 BREVE; breve
13324 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
13325 % U+02C7 CARON; caron
13326 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
13327 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
13328 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
13329 % U+02D9 DOT ABOVE; dotaccent
13330 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
13331 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
13332 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
13333 % U+02DB OGONEK; ogonek
13334 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
13335 % U+02DA RING ABOVE; ring
13336 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
13337 % U+02DC SMALL TILDE; ilde, *tilde
13338 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; \*space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

```

13339 % U+0022 QUOTATION MARK; quotedbl
13340 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
13341 % U+0023 NUMBER SIGN; numbersign
13342 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
13343 % U+0024 DOLLAR SIGN; dollar
13344 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
13345 % U+0025 PERCENT SIGN; percent
13346 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
13347 % U+0026 AMPERSAND; ampersand
13348 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026
\047: U+0027 APOSTROPHE; quotesingle

```

13349 % U+0028 LEFT PARENTHESIS; parenleft

```

13350 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028

```

13351 % U+0029 RIGHT PARENTHESIS; parenright

```

13352 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \051 U+0029

```

\052: U+002A ASTERISK; asterisk

\053: U+002B PLUS SIGN; plus

\054: U+002C COMMA; comma  
 \055: U+002D HYPHEN-MINUS; hyphen  
 \056: U+002E FULL STOP; period  
 13353 % U+002E FULL STOP; period  
 13354 \DeclareTextCommand{\textdotbelow}{PD1}{.}% \056 U+002E  
 \057: U+002F SOLIDUS; slash  
 \060: U+0030 DIGIT ZERO; zero  
 ...  
 \071: U+0039 DIGIT NINE; nine  
 \072: U+003A COLON; colon  
 \073: U+003B SEMICOLON; semicolon  
 13355 % U+003C LESS-THAN SIGN; less  
 13356 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 13357 % U+003E GREATER-THAN SIGN; greater  
 13358 \DeclareTextCommand{\textgreater}{PD1}{>}% \076 U+003E  
 \077: U+003F QUESTION MARK; question  
 \100: U+0040 COMMERCIAL AT; at  
 \101: U+0041 LATIN CAPITAL LETTER A; A  
 ...  
 \132: U+005A LATIN CAPITAL LETTER Z; Z  
 \133: U+005B LEFT SQUARE BRACKET; bracketleft  
 13359 % U+005C REVERSE SOLIDUS; backslash  
 13360 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 13361 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 13362 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 13363 % U+005F LOW LINE; underscore  
 13364 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 13365 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 13366 % U+0060 GRAVE ACCENT; grave  
 13367 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 13368 % U+0069 LATIN SMALL LETTER I; i  
 13369 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 13370 % U+007B LEFT CURLY BRACKET; braceleft  
 13371 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 13372 % U+007C VERTICAL LINE; \*bar, verticalbar  
 13373 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 13374 % U+007D RIGHT CURLY BRACKET; braceright  
 13375 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 13376 % U+007E TILDE; asciitilde  
 13377 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 13378 % U+2022 BULLET; bullet  
 13379 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 13380 % U+2020 DAGGER; dagger  
 13381 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 13382 % U+2021 DOUBLE DAGGER; daggerdbl

13383 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
13384 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
13385 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
13386 % U+2014 EM DASH; emdash  
13387 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
13388 % U+2013 EN DASH; endash  
13389 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
13390 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
13391 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
13392 % U+2044 FRACTION SLASH; fraction  
13393 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
13394 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
ingleft  
13395 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039  
13396 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
ingright  
13397 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A  
13398 % U+2212 MINUS SIGN; minus  
13399 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
13400 % U+2030 PER MILLE SIGN; perthousand  
13401 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
13402 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
13403 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
13404 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
13405 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
13406 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
13407 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
13408 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
13409 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
13410 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
13411 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
13412 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
13413 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
13414 % U+2122 TRADE MARK SIGN; trademark  
13415 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
13416 % U+FB01 LATIN SMALL LIGATURE FI; fi  
13417 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
13418 % U+FB02 LATIN SMALL LIGATURE FL; fl  
13419 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
13420 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
13421 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
13422 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
13423 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
13424 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
13425 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
13426 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
13427 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178  
13428 \DeclareTextCommand{\IJ}{PD1}{\230}  
13429 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
13430 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
13431 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
13432 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
13433 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
13434 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
13435 % U+0153 LATIN SMALL LIGATURE OE; oe  
13436 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
13437 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron



13438 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
 13439 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 13440 \DeclareTextCompositeCommand{\v}{PD1}{z}{\236}% U+017E

Slot \237 (0x9F) is not defined in PDFDocEncoding.

The euro \240 is inserted in version 1.3 of the pdf specification.

13441 % U+20AC EURO SIGN; \*Euro, euro  
 13442 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
 13443 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 13444 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
 13445 % U+00A2 CENT SIGN; cent  
 13446 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
 13447 % U+00A3 POUND SIGN; sterling  
 13448 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
 13449 % U+00A4 CURRENCY SIGN; currency  
 13450 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
 13451 % U+00A5 YEN SIGN; yen  
 13452 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
 13453 % U+00A6 BROKEN BAR; brokenbar  
 13454 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
 13455 % U+00A7 SECTION SIGN; section  
 13456 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
 13457 % U+00A8 DIAERESIS; dieresis  
 13458 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
 13459 % U+00A9 COPYRIGHT SIGN; copyright  
 13460 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
 13461 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 13462 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
 13463 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motleft  
 13464 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
 13465 % U+00AC NOT SIGN; logicalnot  
 13466 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
 13467 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not

No glyph \255 in PDFDocEncoding.

13468 % U+00AE REGISTERED SIGN; registered  
 13469 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
 13470 % U+00AF MACRON; \*macron, overscore  
 13471 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
 13472 % U+00B0 DEGREE SIGN; degree  
 13473 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
 13474 % U+00B1 PLUS-MINUS SIGN; plusminus  
 13475 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
 13476 % U+00B2 SUPERScript TWO; twosuperior  
 13477 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2  
 13478 % U+00B3 SUPERScript THREE; threesuperior  
 13479 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3  
 13480 % U+00B4 ACUTE ACCENT; acute  
 13481 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
 13482 % U+00B5 MICRO SIGN; mu, mu1  
 13483 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
 13484 % U+00B6 PILCROW SIGN; paragraph  
 13485 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
 13486 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 13487 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
 13488 % U+00B8 CEDILLA; cedilla  
 13489 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
 13490 % U+00B9 SUPERScript ONE; onesuperior

13491 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9  
13492 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
13493 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
13494 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
13495 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
13496 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
13497 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
13498 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
13499 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
13500 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
13501 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
13502 % U+00BF INVERTED QUESTION MARK; questiondown  
13503 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
13504 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
13505 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
13506 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
13507 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
13508 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
13509 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
13510 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
13511 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
13512 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
13513 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
13514 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
13515 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
13516 % U+00C6 LATIN CAPITAL LETTER AE; AE  
13517 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
13518 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
13519 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
13520 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
13521 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
13522 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
13523 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
13524 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
13525 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
13526 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
13527 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
13528 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
13529 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
13530 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
13531 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
13532 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
13533 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
13534 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
13535 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
13536 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
13537 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
13538 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
13539 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
13540 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
13541 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
13542 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
13543 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
13544 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
13545 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
13546 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4

13547 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
13548 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
13549 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
13550 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
13551 % U+00D7 MULTIPLICATION SIGN; multiply  
13552 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
13553 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
13554 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
13555 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
13556 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
13557 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
13558 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
13559 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
13560 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
13561 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
13562 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
13563 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
13564 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
13565 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
13566 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
13567 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
13568 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
13569 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
13570 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
13571 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
13572 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
13573 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
13574 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
13575 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
13576 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
13577 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
13578 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
13579 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
13580 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
13581 % U+00E6 LATIN SMALL LETTER AE; ae  
13582 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
13583 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
13584 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
13585 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
13586 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
13587 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
13588 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
13589 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
13590 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
13591 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
13592 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
13593 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
13594 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
13595 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
13596 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
13597 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
13598 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
13599 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
13600 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
13601 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
13602 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
13603 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF

13604 \DeclareTextCompositeCommand{"}{PD1}{\i}{\357}% U+00EF  
 13605 % U+00F0 LATIN SMALL LETTER ETH; eth  
 13606 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
 13607 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
 13608 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
 13609 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 13610 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2  
 13611 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 13612 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
 13613 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 13614 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
 13615 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 13616 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
 13617 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 13618 \DeclareTextCompositeCommand{"}{PD1}{o}{\366}% U+00F6  
 13619 % U+00F7 DIVISION SIGN; divide  
 13620 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
 13621 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 13622 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
 13623 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 13624 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9  
 13625 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 13626 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA  
 13627 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 13628 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB  
 13629 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 13630 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC  
 13631 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 13632 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD  
 13633 % U+00FE LATIN SMALL LETTER THORN; thorn  
 13634 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE  
 13635 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 13636 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF  
 13637 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

13638 \DeclareTextCommand{\SS}{PD1}{SS}  
 13639 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

13640 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}  
 13641 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}  
 13642 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}  
 13643 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}  
 13644 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}  
 13645 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}  
 13646 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}  
 13647 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

Aliases (math names)

13648 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}  
 13649 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}  
 13650 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}  
 13651 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}  
 13652 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}  
 13653 \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).

```

13654 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
13655 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
13656 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
13657 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
13658 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
13659 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
13660 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
13661 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
13662 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
13663 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
13664 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
13665 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
13666 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
13667 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
13668 \end{pdllenc}

```

## 50.2 PU encoding

```

13669 \newcommand{*puenc}
13670 \DeclareFontEncoding{PU}{}{}

```

### 50.2.1 NFSS2 accents

```

13671 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
13672 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
13673 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
13674 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
13675 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
13676 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
13677 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
13678 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
13679 % U+0304 COMBINING MACRON; macroncmb
13680 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
13681 % U+0306 COMBINING BREVE; brevecmb
13682 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
13683 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
13684 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
13685 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
13686 % U+0308 COMBINING DIAERESIS; dieresiscmb
13687 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
13688 % U+030A COMBINING RING ABOVE; ringcmb
13689 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
13690 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
13691 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
13692 % U+030C COMBINING CARON; caroncmb
13693 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
13694 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
13695 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
13696 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
13697 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
13698 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
13699 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
13700 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
13701 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
13702 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
13703 % U+0327 COMBINING CEDILLA; cedillacmb
13704 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
13705 % U+0328 COMBINING OGONEK; ogonekcmb

```

```

13706 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
13707 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
13708 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
13709 % U+20DD COMBINING ENCLOSING CIRCLE
13710 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

```

\@empty is an artefact of the NFSS2 machinery, it gets inserted for empty arguments and spaces.

```

13711 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}
13712 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
13713 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
13714 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
13715 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
13716 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textstring}
13717 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
13718 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
13719 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
13720 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
13721 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
13722 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
13723 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
13724 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
13725 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
13726 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
13727 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
13728 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
13729 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

13730 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
13731 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
13732 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
13733 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
13734 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
13735 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textstring}
13736 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
13737 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
13738 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
13739 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
13740 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
13741 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
13742 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
13743 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
13744 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
13745 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
13746 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
13747 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
13748 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

13749 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
13750 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
13751 \DeclareTextCommand{\capitalgrave}{PU}[1]{\'\{#1}}
13752 \DeclareTextCommand{\capitalacute}{PU}[1]{\'\{#1}}
13753 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\~{#1}}
13754 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
13755 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\">{#1}}
13756 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
13757 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
13758 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}

```

```

13759 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
13760 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
13761 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
13762 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
13763 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

### 50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

13764 % U+0009 (CHARACTER TABULATION)
13765 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
13766 % U+000A (LINE FEED)
13767 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
13768 % U+000D (CARRIAGE RETURN)
13769 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

13770 % U+0022 QUOTATION MARK; quotedbl
13771 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
13772 % U+0023 NUMBER SIGN; numbersign
13773 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
13774 % U+0024 DOLLAR SIGN; dollar
13775 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
13776 % U+0025 PERCENT SIGN; percent
13777 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
13778 % U+0026 AMPERSAND; ampersand
13779 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
13780 % U+0027 APOSTROPHE; quotesingle
13781 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
13782 % U+0028 LEFT PARENTHESIS; parenleft
13783 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
13784 % U+0029 RIGHT PARENTHESIS; parenright
13785 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
13786 % U+002A ASTERISK; asterisk
13787 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A (?)

\80\053: U+002B PLUS SIGN; plus
\80\054: U+002C COMMA; comma
\80\055: U+002D HYPHEN-MINUS; hyphen
\80\056: U+002E FULL STOP; period
\80\057: U+002F SOLIDUS; slash
\80\060: U+0030 DIGIT ZERO; zero

...
\80\071: U+0039 DIGIT NINE; nine
\80\072: U+003A COLON; colon
\80\073: U+003B SEMICOLON; semicolon

13788 % U+003C LESS-THAN SIGN; less
13789 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C

\80\075: U+003D EQUALS SIGN; equal

13790 % U+003E GREATER-THAN SIGN; greater
13791 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E

\80\077: U+003F QUESTION MARK; question
\80\100: U+0040 COMMERCIAL AT; at
\80\101: U+0041 LATIN CAPITAL LETTER A; A

...

```

\80\132: U+005A LATIN CAPITAL LETTER Z; Z  
 \80\133: U+005B LEFT SQUARE BRACKET; bracketleft  
 13792 % U+005C REVERSE SOLIDUS; backslash  
 13793 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 13794 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 13795 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 13796 % U+005F LOW LINE; underscore  
 13797 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 13798 % U+0060 GRAVE ACCENT; grave  
 13799 \DeclareTextCommand{\textasciigrave}{PU}{\80\140}% U+0060  
 \80\141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \80\150: U+0068 LATIN SMALL LETTER H; h  
 13800 % U+0069 LATIN SMALL LETTER I; i  
 13801 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % \80\151 U+0069  
 13802 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069  
 \80\152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \80\172: U+007A LATIN SMALL LETTER Z; z  
 13803 % U+007B LEFT CURLY BRACKET; braceleft  
 13804 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 13805 % U+007C VERTICAL LINE; \*bar, verticalbar  
 13806 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 13807 % U+007D RIGHT CURLY BRACKET; braceright  
 13808 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 13809 % U+007E TILDE; asciitilde  
 13810 \DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E

### 50.2.3 Latin-1 Supplement: U+0080 to U+00FF

\80\240: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace  
 13811 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 13812 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 13813 % U+00A2 CENT SIGN; cent  
 13814 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 13815 % U+00A3 POUND SIGN; sterling  
 13816 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 13817 % U+00A4 CURRENCY SIGN; currency  
 13818 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 13819 % U+00A5 YEN SIGN; yen  
 13820 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 13821 % U+00A6 BROKEN BAR; brokenbar  
 13822 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 13823 % U+00A7 SECTION SIGN; section  
 13824 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 13825 % U+00A8 DIAERESIS; diaeresis  
 13826 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
 13827 % U+00A9 COPYRIGHT SIGN; copyright  
 13828 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9  
 13829 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 13830 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
 13831 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motleft  
 13832 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB



13833 % U+00AC NOT SIGN; logicalnot  
 13834 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
 13835 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
 13836 % U+00AE REGISTERED SIGN; registered  
 13837 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
 13838 % U+00AF MACRON; \*macron, overscore  
 13839 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
 13840 % U+00B0 DEGREE SIGN; degree  
 13841 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
 13842 % U+00B1 PLUS-MINUS SIGN; plusminus  
 13843 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
 13844 % U+00B2 SUPERSCRIPT TWO; twosuperior  
 13845 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2  
 13846 % U+00B3 SUPERSCRIPT THREE; threesuperior  
 13847 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3  
 13848 % U+00B4 ACUTE ACCENT; acute  
 13849 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
 13850 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
 13851 % U+00B5 MICRO SIGN; mu, mu1  
 13852 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
 13853 % U+00B6 PILCROW SIGN; paragraph  
 13854 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
 13855 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 13856 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
 13857 % U+00B8 CEDILLA; cedilla  
 13858 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
 13859 % U+00B9 SUPERSCRIPT ONE; onesuperior  
 13860 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9  
 13861 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 13862 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
 13863 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motright  
 13864 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
 13865 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 13866 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
 13867 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 13868 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
 13869 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
 13870 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
 13871 % U+00BF INVERTED QUESTION MARK; questiondown  
 13872 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
 13873 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
 13874 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
 13875 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
 13876 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
 13877 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
 13878 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
 13879 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
 13880 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
 13881 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
 13882 \DeclareTextCompositeCommand{\\"}{PU}{A}{\80\304}% U+00C4  
 13883 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
 13884 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
 13885 % U+00C6 LATIN CAPITAL LETTER AE; AE  
 13886 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
 13887 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla

13888 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
13889 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
13890 \DeclareTextCompositeCommand{\' }{PU}{E}{\80\310}% U+00C8  
13891 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
13892 \DeclareTextCompositeCommand{\' }{PU}{E}{\80\311}% U+00C9  
13893 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
13894 \DeclareTextCompositeCommand{\^ }{PU}{E}{\80\312}% U+00CA  
13895 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
13896 \DeclareTextCompositeCommand{\" }{PU}{E}{\80\313}% U+00CB  
13897 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
13898 \DeclareTextCompositeCommand{\' }{PU}{I}{\80\314}% U+00CC  
13899 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
13900 \DeclareTextCompositeCommand{\' }{PU}{I}{\80\315}% U+00CD  
13901 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
13902 \DeclareTextCompositeCommand{\^ }{PU}{I}{\80\316}% U+00CE  
13903 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
13904 \DeclareTextCompositeCommand{\" }{PU}{I}{\80\317}% U+00CF  
13905 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
13906 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
13907 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
13908 \DeclareTextCompositeCommand{\~ }{PU}{N}{\80\321}% U+00D1  
13909 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
13910 \DeclareTextCompositeCommand{\' }{PU}{O}{\80\322}% U+00D2  
13911 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
13912 \DeclareTextCompositeCommand{\' }{PU}{O}{\80\323}% U+00D3  
13913 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
13914 \DeclareTextCompositeCommand{\^ }{PU}{O}{\80\324}% U+00D4  
13915 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
13916 \DeclareTextCompositeCommand{\~ }{PU}{O}{\80\325}% U+00D5  
13917 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
13918 \DeclareTextCompositeCommand{\" }{PU}{O}{\80\326}% U+00D6  
13919 % U+00D7 MULTIPLICATION SIGN; multiply  
13920 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
13921 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
13922 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
13923 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
13924 \DeclareTextCompositeCommand{\' }{PU}{U}{\80\331}% U+00D9  
13925 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
13926 \DeclareTextCompositeCommand{\' }{PU}{U}{\80\332}% U+00DA  
13927 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
13928 \DeclareTextCompositeCommand{\^ }{PU}{U}{\80\333}% U+00DB  
13929 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
13930 \DeclareTextCompositeCommand{\" }{PU}{U}{\80\334}% U+00DC  
13931 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
13932 \DeclareTextCompositeCommand{\' }{PU}{Y}{\80\335}% U+00DD  
13933 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
13934 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
13935 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
13936 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
13937 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
13938 \DeclareTextCompositeCommand{\' }{PU}{a}{\80\340}% U+00E0  
13939 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
13940 \DeclareTextCompositeCommand{\' }{PU}{a}{\80\341}% U+00E1  
13941 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
13942 \DeclareTextCompositeCommand{\^ }{PU}{a}{\80\342}% U+00E2  
13943 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
13944 \DeclareTextCompositeCommand{\~ }{PU}{a}{\80\343}% U+00E3

13945 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
13946 \DeclareTextCompositeCommand{"}{PU}{a}{\80\344}% U+00E4  
13947 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
13948 \DeclareTextCompositeCommand{r}{PU}{a}{\80\345}% U+00E5  
13949 % U+00E6 LATIN SMALL LETTER AE; ae  
13950 \DeclareTextCommand{ae}{PU}{\80\346}% U+00E6  
13951 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
13952 \DeclareTextCompositeCommand{c}{PU}{c}{\80\347}% U+00E7  
13953 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
13954 \DeclareTextCompositeCommand{'}{PU}{e}{\80\350}% U+00E8  
13955 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
13956 \DeclareTextCompositeCommand{'}{PU}{e}{\80\351}% U+00E9  
13957 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
13958 \DeclareTextCompositeCommand{^}{PU}{e}{\80\352}% U+00EA  
13959 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
13960 \DeclareTextCompositeCommand{"}{PU}{e}{\80\353}% U+00EB  
13961 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
13962 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}% U+00EC  
13963 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}% U+00EC  
13964 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
13965 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}% U+00ED  
13966 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}% U+00ED  
13967 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
13968 \DeclareTextCompositeCommand{^}{PU}{i}{\80\356}% U+00EE  
13969 \DeclareTextCompositeCommand{^}{PU}{i}{\80\356}% U+00EE  
13970 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
13971 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF  
13972 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF  
13973 % U+00F0 LATIN SMALL LETTER ETH; eth  
13974 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
13975 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
13976 \DeclareTextCompositeCommand{~}{PU}{n}{\80\361}% U+00F1  
13977 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
13978 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362}% U+00F2  
13979 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
13980 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}% U+00F3  
13981 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
13982 \DeclareTextCompositeCommand{^}{PU}{o}{\80\364}% U+00F4  
13983 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
13984 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365}% U+00F5  
13985 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
13986 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366}% U+00F6  
13987 % U+00F7 DIVISION SIGN; divide  
13988 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
13989 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
13990 \DeclareTextCommand{o}{PU}{\80\370}% U+00F8  
13991 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
13992 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371}% U+00F9  
13993 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
13994 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}% U+00FA  
13995 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
13996 \DeclareTextCompositeCommand{^}{PU}{u}{\80\373}% U+00FB  
13997 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
13998 \DeclareTextCompositeCommand{"}{PU}{u}{\80\374}% U+00FC  
13999 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
14000 \DeclareTextCompositeCommand{'}{PU}{y}{\80\375}% U+00FD  
14001 % U+00FE LATIN SMALL LETTER THORN; thorn

14002 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 14003 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 14004 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 50.2.4 Latin Extended-A: U+0080 to U+017F

14005 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 14006 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
 14007 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 14008 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
 14009 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 14010 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 14011 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 14012 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 14013 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 14014 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
 14015 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
 14016 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
 14017 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
 14018 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
 14019 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
 14020 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
 14021 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
 14022 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
 14023 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
 14024 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
 14025 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
 14026 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
 14027 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
 14028 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
 14029 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
 14030 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
 14031 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
 14032 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
 14033 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
 14034 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
 14035 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
 14036 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
 14037 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
 14038 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
 14039 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron  
 14040 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
 14041 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
 14042 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
 14043 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
 14044 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
 14045 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
 14046 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
 14047 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
 14048 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
 14049 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
 14050 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
 14051 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
 14052 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
 14053 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
 14054 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
 14055 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek

14056 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
14057 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
14058 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
14059 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
14060 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
14061 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
14062 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
14063 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
14064 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
14065 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
14066 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
14067 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
14068 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
14069 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
14070 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
14071 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
14072 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
14073 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaac-  
cent  
14074 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
14075 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
14076 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
14077 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
14078 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
14079 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
14080 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
14081 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
14082 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
14083 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar  
14084 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127  
14085 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
14086 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
14087 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
14088 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
14089 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
14090 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
14091 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
14092 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
14093 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
14094 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
14095 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
14096 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
14097 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
14098 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
14099 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
14100 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
14101 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
14102 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
14103 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
14104 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
14105 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
14106 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
14107 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
14108 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
14109 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
14110 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
14111 % U+0133 LATIN SMALL LIGATURE IJ; ij

14112 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
14113 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
14114 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
14115 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
14116 \DeclareTextCompositeCommand{\~}{PU}{j}{\81\065}% U+0135  
14117 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
14118 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
14119 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
14120 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
14121 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

The canonical name of U+0138, small letter kra, would be `\textkgreenlandic`, following the glyph naming convention. However `latex/base/inputenc.dtx` has chosen `\textkra`.

14122 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
14123 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
14124 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
14125 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
14126 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
14127 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
14128 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
14129 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
14130 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
14131 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
14132 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
14133 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
14134 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
14135 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E

There seems to be no variants of letters ‘L’ and ‘l’ with a dot above (reasonable). Therefore the `\.` accent is reused instead of making a separate accent macro `\textmiddledot`.

14136 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
14137 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
14138 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
14139 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
14140 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
14141 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
14142 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
14143 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
14144 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
14145 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
14146 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
14147 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
14148 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent  
14149 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
14150 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
14151 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
14152 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
14153 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
14154 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
14155 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
14156 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn  
14157 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
14158 % U+014A LATIN CAPITAL LETTER ENG; Eng

14159 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
14160 % U+014B LATIN SMALL LETTER ENG; eng  
14161 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
14162 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
14163 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
14164 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
14165 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
14166 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
14167 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
14168 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
14169 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
14170 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut  
14171 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
14172 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut  
14173 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
14174 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
14175 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
14176 % U+0153 LATIN SMALL LIGATURE OE; oe  
14177 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
14178 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
14179 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
14180 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
14181 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
14182 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent  
14183 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
14184 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
14185 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
14186 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
14187 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
14188 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
14189 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
14190 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
14191 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\132}% U+015A  
14192 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
14193 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\133}% U+015B  
14194 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
14195 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
14196 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
14197 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
14198 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
14199 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
14200 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
14201 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
14202 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
14203 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
14204 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
14205 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
14206 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent  
14207 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
14208 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
14209 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
14210 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
14211 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164

14212 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
14213 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
14214 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
14215 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
14216 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
14217 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
14218 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
14219 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
14220 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
14221 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
14222 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
14223 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
14224 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
14225 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
14226 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
14227 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
14228 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
14229 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
14230 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
14231 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
14232 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
14233 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
14234 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
14235 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
14236 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
14237 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
14238 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
14239 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
14240 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
14241 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
14242 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
14243 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
14244 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
14245 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
14246 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
14247 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
14248 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
14249 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
14250 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
14251 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
14252 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
14253 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
14254 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
14255 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
14256 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
14257 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
14258 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
14259 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
14260 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
14261 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
14262 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
14263 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
14264 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
14265 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F



## 50.2.5 Latin Extended-B: U+0180 to U+024F

14266 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
14267 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
14268 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
14269 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
14270 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
14271 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
14272 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
14273 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
14274 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
14275 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
14276 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
14277 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
14278 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
14279 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
14280 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
14281 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
14282 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
14283 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
14284 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
14285 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
14286 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
14287 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
14288 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
14289 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
14290 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
14291 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
14292 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
14293 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
14294 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
14295 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
14296 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
14297 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
14298 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
14299 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
14300 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
14301 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
14302 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
14303 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
14304 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
14305 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
14306 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
14307 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
14308 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
14309 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
14310 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
14311 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9  
14312 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
14313 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
14314 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
14315 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
14316 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; \*Oslashacute, Ostrokeacute  
14317 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
14318 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; \*oslashacute, ostrokeacute  
14319 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF

14320 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
 14321 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
 14322 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
 14323 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
 14324 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
 14325 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
 14326 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
 14327 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
 14328 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
 14329 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
 14330 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
 14331 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
 14332 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
 14333 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
 14334 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
 14335 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
 14336 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
 14337 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
 14338 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
 14339 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
 14340 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
 14341 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
 14342 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
 14343 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
 14344 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
 14345 % U+021E LATIN CAPITAL LETTER H WITH CARON  
 14346 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
 14347 % U+021F LATIN SMALL LETTER H WITH CARON  
 14348 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
 14349 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 14350 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 14351 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 14352 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 14353 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 14354 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 14355 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 14356 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 14357 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 14358 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 14359 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 14360 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 14361 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 14362 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 14363 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 14364 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 14365 % U+0237 LATIN SMALL LETTER DOTLESS J  
 14366 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

## 50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

14367 % U+02C7 CARON; caron  
 14368 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 14369 % U+02D8 BREVE; breve  
 14370 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 14371 % U+02D9 DOT ABOVE; dotaccent  
 14372 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 14373 % U+02DA RING ABOVE; ring  
 14374 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA

14375 % U+02DB OGONEK; ogonek  
 14376 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 14377 % U+02DC SMALL TILDE; ilde, \*tilde  
 14378 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 14379 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 14380 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 14381 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
 14382 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 14383 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 14384 % U+02F7 MODIFIER LETTER LOW TILDE  
 14385 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

### 50.2.7 Combining Diacritical Marks: U+0300 to U+036F

14386 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 14387 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 14388 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 14389 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 14390 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
 14391 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 14392 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 14393 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 14394 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 14395 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

### 50.2.8 Greek and Coptic: U+0370 to U+03FF

14396 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 14397 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 14398 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 14399 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 14400 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos  
 14401 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 14402 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 14403 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 14404 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 14405 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 14406 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 14407 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 14408 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos  
 14409 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 14410 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos  
 14411 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
 14412 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
 14413 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
 14414 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadieresis  
 14415 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390  
 14416 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
 14417 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
 14418 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
 14419 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
 14420 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma  
 14421 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393  
 14422 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta  
 14423 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394  
 14424 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
 14425 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395

14426 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
14427 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
14428 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
14429 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
14430 % U+0398 GREEK CAPITAL LETTER THETA; Theta  
14431 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398  
14432 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
14433 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
14434 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
14435 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
14436 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda  
14437 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B  
14438 % U+039C GREEK CAPITAL LETTER MU; Mu  
14439 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
14440 % U+039D GREEK CAPITAL LETTER NU; Nu  
14441 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
14442 % U+039E GREEK CAPITAL LETTER XI; Xi  
14443 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E  
14444 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
14445 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
14446 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
14447 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0  
14448 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
14449 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
14450 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma  
14451 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3  
14452 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
14453 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
14454 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon  
14455 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5  
14456 % U+03A6 GREEK CAPITAL LETTER PHI; Phi  
14457 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6  
14458 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
14459 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
14460 % U+03A8 GREEK CAPITAL LETTER PSI; Psi  
14461 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8  
14462 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega  
14463 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9  
14464 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
14465 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
14466 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA  
14467 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilonondieresis  
14468 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB  
14469 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphonos  
14470 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC  
14471 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilononon  
14472 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD  
14473 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etatonos  
14474 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE  
14475 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotatonos  
14476 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF  
14477 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilonondieresis  
14478 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0  
14479 % U+03B1 GREEK SMALL LETTER ALPHA; alpha  
14480 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1

14481 % U+03B2 GREEK SMALL LETTER BETA; beta  
14482 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2  
14483 % U+03B3 GREEK SMALL LETTER GAMMA; gamma  
14484 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3  
14485 % U+03B4 GREEK SMALL LETTER DELTA; delta  
14486 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4  
14487 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon  
14488 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5  
14489 % U+03B6 GREEK SMALL LETTER ZETA; zeta  
14490 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6  
14491 % U+03B7 GREEK SMALL LETTER ETA; eta  
14492 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7  
14493 % U+03B8 GREEK SMALL LETTER THETA; theta  
14494 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8  
14495 % U+03B9 GREEK SMALL LETTER IOTA; iota  
14496 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9  
14497 % U+03BA GREEK SMALL LETTER KAPPA; kappa  
14498 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA  
14499 % U+03BB GREEK SMALL LETTER LAMDA; lambda  
14500 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB  
14501 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu  
14502 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC  
14503 % U+03BD GREEK SMALL LETTER NU; nu  
14504 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD  
14505 % U+03BE GREEK SMALL LETTER XI; xi  
14506 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE  
14507 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
14508 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
14509 % U+03C0 GREEK SMALL LETTER PI; pi  
14510 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0  
14511 % U+03C1 GREEK SMALL LETTER RHO; rho  
14512 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1  
14513 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
14514 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2  
14515 % U+03C3 GREEK SMALL LETTER SIGMA; sigma  
14516 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3  
14517 % U+03C4 GREEK SMALL LETTER TAU; tau  
14518 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4  
14519 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon  
14520 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5  
14521 % U+03C6 GREEK SMALL LETTER PHI; phi  
14522 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6  
14523 % U+03C7 GREEK SMALL LETTER CHI; chi  
14524 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7  
14525 % U+03C8 GREEK SMALL LETTER PSI; psi  
14526 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8  
14527 % U+03C9 GREEK SMALL LETTER OMEGA; omega  
14528 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9  
14529 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis  
14530 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA  
14531 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-  
silondieresis  
14532 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB  
14533 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos  
14534 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC  
14535 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos  
14536 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD

14537 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}% U+03CD  
 14538 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos  
 14539 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}% U+03CE  
 14540 % U+03DA GREEK LETTER STIGMA; Stigmagreek  
 14541 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA  
 14542 % U+03DB GREEK SMALL LETTER STIGMA  
 14543 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB  
 14544 % U+03DC GREEK LETTER DIGAMMA; Digammagreek  
 14545 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC  
 14546 % U+03DD GREEK SMALL LETTER DIGAMMA  
 14547 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD  
 14548 % U+03DE GREEK LETTER KOPPA; Koppagreek  
 14549 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE  
 14550 % U+03DF GREEK SMALL LETTER KOPPA  
 14551 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF  
 14552 % U+03E0 GREEK LETTER SAMPI; Sampigreek  
 14553 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0  
 14554 % U+03E1 GREEK SMALL LETTER SAMPI  
 14555 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

## 50.2.9 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

14556 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE  
 14557 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400  
 14558 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, \*afii10023  
 14559 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401  
 14560 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\001}% ???  
 14561 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, \*afii10051  
 14562 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402  
 14563 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afii10052  
 14564 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403  
 14565 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, \*afii10053  
 14566 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
 14567 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afii10054  
 14568 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
 14569 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyril-  
 lic, \*afii10055  
 14570 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
 14571 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, \*afii10056  
 14572 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
 14573 \DeclareTextCompositeCommand{\'}{PU}{\CYRII}{\84\007}% U+0407  
 14574 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
 14575 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
 14576 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
 14577 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
 14578 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
 14579 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
 14580 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
 14581 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
 14582 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
 14583 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
 14584 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
 14585 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D  
 14586 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
 14587 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
 14588 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E

14589 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
14590 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
14591 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
14592 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
14593 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
14594 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
14595 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
14596 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
14597 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
14598 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
14599 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
14600 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
14601 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
14602 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
14603 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
14604 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
14605 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
14606 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
14607 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
14608 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
14609 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
14610 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
14611 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
14612 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
14613 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
14614 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
14615 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
14616 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
14617 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
14618 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
14619 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
14620 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
14621 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
14622 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
14623 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
14624 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
14625 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
14626 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
14627 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
14628 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
14629 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
14630 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
14631 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
14632 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
14633 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
14634 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
14635 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
14636 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
14637 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
14638 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
14639 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
14640 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
14641 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
14642 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
14643 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
14644 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, \*afii10044  
14645 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A

14646 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
14647 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
14648 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, \*afii10046  
14649 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
14650 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
14651 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
14652 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
14653 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
14654 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
14655 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
14656 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
14657 \DeclareTextCommand{\cyr a}{PU}{\84\060}% U+0430  
14658 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
14659 \DeclareTextCommand{\cyr b}{PU}{\84\061}% U+0431  
14660 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
14661 \DeclareTextCommand{\cyr v}{PU}{\84\062}% U+0432  
14662 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
14663 \DeclareTextCommand{\cyr g}{PU}{\84\063}% U+0433  
14664 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
14665 \DeclareTextCommand{\cyr d}{PU}{\84\064}% U+0434  
14666 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
14667 \DeclareTextCommand{\cyr e}{PU}{\84\065}% U+0435  
14668 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
14669 \DeclareTextCommand{\cyr zh}{PU}{\84\066}% U+0436  
14670 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
14671 \DeclareTextCommand{\cyr z}{PU}{\84\067}% U+0437  
14672 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
14673 \DeclareTextCommand{\cyr i}{PU}{\84\070}% U+0438  
14674 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
14675 \DeclareTextCommand{\cyr ishrt}{PU}{\84\071}% U+0439  
14676 \DeclareTextCompositeCommand{\U}{PU}{\cyr i}{\84\071}% U+0439  
14677 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
14678 \DeclareTextCommand{\cyr k}{PU}{\84\072}% U+043A  
14679 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
14680 \DeclareTextCommand{\cyr l}{PU}{\84\073}% U+043B  
14681 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
14682 \DeclareTextCommand{\cyr m}{PU}{\84\074}% U+043C  
14683 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
14684 \DeclareTextCommand{\cyr n}{PU}{\84\075}% U+043D  
14685 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
14686 \DeclareTextCommand{\cyr o}{PU}{\84\076}% U+043E  
14687 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
14688 \DeclareTextCommand{\cyr p}{PU}{\84\077}% U+043F  
14689 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
14690 \DeclareTextCommand{\cyr r}{PU}{\84\100}% U+0440  
14691 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
14692 \DeclareTextCommand{\cyr s}{PU}{\84\101}% U+0441  
14693 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
14694 \DeclareTextCommand{\cyr t}{PU}{\84\102}% U+0442  
14695 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
14696 \DeclareTextCommand{\cyr u}{PU}{\84\103}% U+0443  
14697 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
14698 \DeclareTextCommand{\cyr f}{PU}{\84\104}% U+0444  
14699 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
14700 \DeclareTextCommand{\cyr h}{PU}{\84\105}% U+0445  
14701 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
14702 \DeclareTextCommand{\cyr c}{PU}{\84\106}% U+0446



14703 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
14704 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
14705 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
14706 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
14707 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
14708 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
14709 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
14710 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A  
14711 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
14712 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B  
14713 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
14714 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% U+044C  
14715 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
14716 \DeclareTextCommand{\cyrev}{PU}{\84\115}% U+044D  
14717 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
14718 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E  
14719 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
14720 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F  
14721 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
14722 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
14723 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
14724 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451  
14725 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
14726 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
14727 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
14728 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
14729 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
14730 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
14731 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
14732 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
14733 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
14734 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; \*afii10103, icyrillic  
14735 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
14736 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
14737 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
14738 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
14739 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
14740 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
14741 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
14742 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459  
14743 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
14744 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
14745 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
14746 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
14747 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
14748 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
14749 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
14750 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
14751 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
14752 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
14753 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
14754 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
14755 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
14756 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
14757 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
14758 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic

14759 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
14760 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
14761 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
14762 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
14763 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
14764 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
14765 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
14766 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
14767 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
14768 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
14769 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
14770 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
14771 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
14772 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleio-  
tifiedcyrillic  
14773 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
14774 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleioti-  
fiedcyrillic  
14775 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
14776 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
14777 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
14778 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
14779 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
14780 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
cyrillic  
14781 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
14782 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyril-  
lic  
14783 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
14784 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
14785 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
14786 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
14787 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
14788 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
14789 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
14790 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
14791 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
14792 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
14793 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
14794 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
14795 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
14796 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
14797 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
14798 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
14799 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
14800 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-  
CENT; Izhitsadblgravecyrillic  
14801 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
14802 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-  
CENT; izhitsadblgravecyrillic  
14803 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
14804 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
14805 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
14806 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
14807 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
14808 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-  
lic

14809 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
14810 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
14811 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
14812 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-  
cyrillic  
14813 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
14814 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-  
cyrillic  
14815 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
14816 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
14817 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
14818 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
14819 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
14820 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
14821 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
14822 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
14823 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
14824 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
14825 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
\84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb  
\84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyril-  
liccmb  
\84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumata-  
cyrilliccmb  
\84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyril-  
liccmb  
\84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
\84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
\84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
14826 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
14827 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
14828 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
14829 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
14830 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
14831 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
14832 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
14833 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
14834 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
14835 \DeclareTextCommand{\CYRRRTICK}{PU}{\84\216}% U+048E  
14836 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
14837 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
14838 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-  
cyrillic, \*afii10050  
14839 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
14840 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, ghe-  
upturncyrillic  
14841 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
14842 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-  
cyrillic  
14843 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
14844 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
14845 \DeclareTextCommand{\cyrgghcrs}{PU}{\84\223}% U+0493  
14846 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemid-  
dlehookcyrillic  
14847 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494

14848 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemid-  
 dlehookcyrillic  
 14849 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
 14850 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescen-  
 dercyrillic  
 14851 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
 14852 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescen-  
 dercyrillic  
 14853 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
 14854 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-  
 dercyrillic  
 14855 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
 14856 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
 14857 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-  
 cyrillic  
 14858 \DeclareTextCommand{\cyrzds}{PU}{\84\231}% U+0499  
 14859 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
 14860 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-  
 dercyrillic  
 14861 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
 14862 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescender-  
 cyrillic  
 14863 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
 14864 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-  
 ticalstrokecyrillic  
 14865 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
 14866 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-  
 ticalstrokecyrillic  
 14867 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
 14868 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
 14869 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
 14870 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
 14871 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
 14872 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
 14873 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
 14874 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
 14875 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
 14876 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-  
 dercyrillic  
 14877 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
 14878 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-  
 cyrillic  
 14879 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
 14880 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
 14881 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
 14882 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
 14883 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
 14884 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-  
 dlehookcyrillic  
 14885 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
 14886 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddle-  
 hookcyrillic  
 14887 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
 14888 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyril-  
 lic  
 14889 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
 14890 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic

14891 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
14892 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
14893 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
14894 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
14895 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
14896 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
14897 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB  
14898 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
14899 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
14900 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
14901 \DeclareTextCommand{\cyrt dsc}{PU}{\84\255}% U+04AD  
14902 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
14903 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
14904 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
14905 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF  
14906 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
14907 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
14908 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic  
14909 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1  
14910 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesdescendercyrillic  
14911 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
14912 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
14913 \DeclareTextCommand{\cyrh dsc}{PU}{\84\263}% U+04B3  
14914 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
14915 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
14916 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
14917 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
14918 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic  
14919 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
14920 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
14921 \DeclareTextCommand{\cyrchr dsc}{PU}{\84\267}% U+04B7  
14922 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-  
14923 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
14924 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-  
14925 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
14926 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
14927 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
14928 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
14929 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
14930 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-  
14931 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
14932 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic  
14933 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD

14934 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-  
 DER; Chedescenderabkhasiancyrillic  
 14935 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
 14936 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
 14937 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-  
 DER; chedescenderabkhasiancyrillic  
 14938 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
 14939 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
 14940 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
 14941 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
 14942 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
 14943 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
 14944 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
 14945 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
 14946 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
 14947 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
 14948 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
 14949 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
 14950 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
 14951 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
 14952 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
 14953 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
 14954 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
 14955 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
 14956 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
 14957 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
 14958 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-  
 cyrillic  
 14959 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
 14960 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-  
 cyrillic  
 14961 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
 14962 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
 14963 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
 14964 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
 14965 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
 14966 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
 14967 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
 14968 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
 14969 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
 14970 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyril-  
 lic  
 14971 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2  
 14972 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
 14973 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3  
 14974 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
 14975 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
 14976 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
 14977 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
 14978 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevecyrillic  
 14979 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
 14980 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevecyrillic  
 14981 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
 14982 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
 14983 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
 14984 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic

14985 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
14986 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-  
siscyrillic  
14987 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
14988 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-  
siscyrillic  
14989 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB  
14990 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-  
siscyrillic  
14991 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC  
14992 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic  
14993 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD  
14994 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic  
14995 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE  
14996 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic  
14997 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF  
14998 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic  
14999 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
15000 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic  
15001 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
15002 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
15003 \DeclareTextCompositeCommand{=}{PU}{\CYRI}{\84\342}% U+04E2  
15004 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
15005 \DeclareTextCompositeCommand{=}{PU}{\cyri}{\84\343}% U+04E3  
15006 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
15007 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
15008 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
15009 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5  
15010 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
15011 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
15012 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
15013 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
15014 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
15015 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
15016 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
15017 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
15018 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic  
15019 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
15020 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic  
15021 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
15022 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
15023 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
15024 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
15025 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
15026 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
15027 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE  
15028 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
15029 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% U+04EF  
15030 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
15031 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
15032 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic

15033 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
 15034 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-  
 garumlautcyrillic  
 15035 \DeclareTextCompositeCommand{H}{PU}{\CYRU}{\84\362}% U+04F2  
 15036 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-  
 garumlautcyrillic  
 15037 \DeclareTextCompositeCommand{H}{PU}{\cyru}{\84\363}% U+04F3  
 15038 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-  
 siscyrillic  
 15039 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
 15040 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieres-  
 iscyrillic  
 15041 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 15042 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 15043 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 15044 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 15045 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
 15046 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-  
 siscyrillic  
 15047 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
 15048 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-  
 siscyrillic  
 15049 \DeclareTextCompositeCommand{"}{PU}{\cyrery}{\84\371}% U+04F9  
 \84\372: U+04FA CYRILLIC CAPITAL LETTER GHE WITH STROKE AND HOOK  
 \84\373: U+04FB CYRILLIC SMALL LETTER GHE WITH STROKE AND HOOK  
 15050 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 15051 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 15052 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 15053 \DeclareTextCommand{\cyrhkh}{PU}{\84\375}% U+04FD  
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE  
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

### 50.2.10 Thai: U+0E00 to U+0E7F

15054 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 15055 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

### 50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

15056 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 15057 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02  
 15058 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 15059 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03  
 15060 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 15061 \DeclareTextCompositeCommand{b}{PU}{B}{\9036\006}% U+1E06  
 15062 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
 15063 \DeclareTextCompositeCommand{b}{PU}{b}{\9036\007}% U+1E07  
 15064 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
 15065 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A  
 15066 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
 15067 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B  
 15068 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
 15069 \DeclareTextCompositeCommand{b}{PU}{D}{\9036\016}% U+1E0E  
 15070 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
 15071 \DeclareTextCompositeCommand{b}{PU}{d}{\9036\017}% U+1E0F  
 15072 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
 15073 \DeclareTextCompositeCommand{c}{PU}{D}{\9036\020}% U+1E10



15074 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
15075 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
15076 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
15077 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
15078 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
15079 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
15080 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
15081 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
15082 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
15083 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
15084 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
15085 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
15086 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
15087 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
15088 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
15089 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
15090 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
15091 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27  
15092 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
15093 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
15094 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
15095 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
15096 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
15097 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
15098 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
15099 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
15100 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
15101 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
15102 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
15103 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
15104 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
15105 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
15106 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
15107 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
15108 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
15109 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
15110 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
15111 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
15112 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
15113 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
15114 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
15115 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
15116 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
15117 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
15118 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
15119 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
15120 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
15121 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
15122 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
15123 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
15124 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
15125 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
15126 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
15127 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
15128 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
15129 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
15130 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent

15131 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
15132 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
15133 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
15134 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
15135 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
15136 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
15137 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
15138 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
15139 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
15140 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
15141 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
15142 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
15143 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
15144 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
15145 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
15146 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
15147 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
15148 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
15149 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
15150 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
15151 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
15152 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
15153 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
15154 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
15155 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
15156 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
15157 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
15158 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
15159 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
15160 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
15161 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
15162 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
15163 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
15164 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
15165 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
15166 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
15167 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
15168 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
15169 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
15170 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
15171 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
15172 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
15173 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
15174 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
15175 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
15176 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
15177 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
15178 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
15179 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
15180 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
15181 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90  
15182 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
15183 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
15184 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
15185 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
15186 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
15187 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95

15188 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
 15189 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
 15190 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
 15191 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97  
 15192 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
 15193 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
 15194 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
 15195 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
 15196 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-  
 cent  
 15197 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
 15198 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
 15199 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
 15200 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
 15201 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
 15202 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
 15203 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2  
 15204 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 15205 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
 15206 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 15207 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 15208 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 15209 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

## 50.2.12 General Punctuation: U+2000 to U+206F

15210 % U+200C ZERO WIDTH NON-JOINER; \*afi61664, zerowidthnonjoiner  
 15211 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 15212 % U+2013 EN DASH; endash  
 15213 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 15214 % U+2014 EM DASH; emdash  
 15215 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 15216 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 15217 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 15218 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 15219 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 15220 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 15221 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 15222 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 15223 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 15224 % U+201C LEFT DOUBLE QUOTATION MARK; quotedbleft  
 15225 \DeclareTextCommand{\textquotedbleft}{PU}{\9040\034}% U+201C  
 15226 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 15227 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 15228 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 15229 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 15230 % U+2020 DAGGER; dagger  
 15231 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020  
 15232 % U+2021 DOUBLE DAGGER; daggerdbl  
 15233 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 15234 % U+2022 BULLET; bullet  
 15235 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022  
 15236 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 15237 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 15238 % U+2030 PER MILLE SIGN; perthousand  
 15239 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 15240 % U+2031 PER TEN THOUSAND SIGN  
 15241 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031

15242 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 ingleft  
 15243 \DeclareTextCommand{\guilingleft}{PU}{\9040\071}% U+2039  
 15244 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guils-  
 ingright  
 15245 \DeclareTextCommand{\guilsingright}{PU}{\9040\072}% U+203A  
 15246 % U+203B REFERENCE MARK; referencemark  
 15247 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 15248 % U+203D INTERROBANG  
 15249 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 15250 % U+2044 FRACTION SLASH; fraction  
 15251 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 15252 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 15253 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 15254 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 15255 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 15256 % U+2052 COMMERCIAL MINUS SIGN  
 15257 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

### 50.2.13 Superscripts and Subscripts: U+2070 to U+209F

15258 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 15259 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070  
 15260 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 15261 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074  
 15262 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 15263 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075  
 15264 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 15265 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076  
 15266 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 15267 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077  
 15268 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 15269 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078  
 15270 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 15271 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079  
 15272 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 15273 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A  
 15274 % U+207B SUPERSCRIPT MINUS  
 15275 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}  
 15276 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 15277 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}  
 15278 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 15279 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}  
 15280 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 15281 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}  
 15282 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 15283 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}  
 15284 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 15285 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080  
 15286 % U+2081 SUBSCRIPT ONE; oneinferior  
 15287 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081  
 15288 % U+2082 SUBSCRIPT TWO; twoinferior  
 15289 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082  
 15290 % U+2083 SUBSCRIPT THREE; threeinferior  
 15291 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083  
 15292 % U+2084 SUBSCRIPT FOUR; fourinferior  
 15293 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084  
 15294 % U+2085 SUBSCRIPT FIVE; fiveinferior

15295 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085  
 15296 % U+2086 SUBSCRIPT SIX; sixinferior  
 15297 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086  
 15298 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 15299 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087  
 15300 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 15301 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088  
 15302 % U+2089 SUBSCRIPT NINE; nineinferior  
 15303 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089  
 15304 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 15305 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D  
 15306 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 15307 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

## 50.2.14 Currency Symbols: U+20A0 to U+20CF

15308 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 15309 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 15310 % U+20A4 LIRA SIGN; afii08941, \*lira  
 15311 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 15312 % U+20A6 NAIRA SIGN  
 15313 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 15314 % U+20A7 PESETA SIGN; peseta  
 15315 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 15316 % U+20A9 WON SIGN; won  
 15317 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 15318 % U+20AB DONG SIGN; dong  
 15319 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 15320 % U+20AC EURO SIGN; \*Euro, euro  
 15321 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 15322 % U+20B1 PESO SIGN  
 15323 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 15324 % U+20B2 GUARANI SIGN  
 15325 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

## 50.2.15 Letterlike Symbols: U+2100 to U+214F

15326 % U+2103 DEGREE CELSIUS; centigrade  
 15327 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 15328 % U+2116 NUMERO SIGN; \*afii61352, numero  
 15329 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 15330 % U+2117 SOUND RECORDING COPYRIGHT  
 15331 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 15332 % U+211E PRESCRIPTION TAKE; prescription  
 15333 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 15334 % U+2120 SERVICE MARK  
 15335 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 15336 % U+2122 TRADE MARK SIGN; trademark  
 15337 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 15338 % U+2126 OHM SIGN; Ohm, Omega  
 15339 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 15340 % U+2127 INVERTED OHM SIGN  
 15341 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127  
 15342 % U+212B ANGSTROM SIGN; angstrom  
 15343 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 15344 % U+212E ESTIMATED SYMBOL; estimated  
 15345 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 15346 % U+2135 ALEF SYMBOL; aleph  
 15347 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

## 50.2.16 Arrows: U+2190 to U+21FF

15348 % U+2190 LEFTWARDS ARROW; arrowleft  
15349 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190  
15350 % U+2191 UPWARDS ARROW; arrowup  
15351 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191  
15352 % U+2192 RIGHTWARDS ARROW; arrowright  
15353 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192  
15354 % U+2193 DOWNWARDS ARROW; arrowdown  
15355 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

## 50.2.17 Mathematical Operators: U+2200 to U+22FF

15356 % U+2212 MINUS SIGN; minus  
15357 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
15358 % U+221A SQUARE ROOT; radical  
15359 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

## 50.2.18 Miscellaneous Technical: U+2300 to U+23FF

15360 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft  
15361 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329  
15362 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright  
15363 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

## 50.2.19 Control Pictures: U+2400 to U+243F

15364 % U+2422 BLANK SYMBOL  
15365 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
15366 % U+2423 OPEN BOX; blank  
15367 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

## 50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

15368 % U+2460 CIRCLED DIGIT ONE; onecircle  
15369 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
15370 % U+2461 CIRCLED DIGIT TWO; twocircle  
15371 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
15372 % U+2462 CIRCLED DIGIT THREE; threecircle  
15373 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
15374 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
15375 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
15376 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
15377 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
15378 % U+2465 CIRCLED DIGIT SIX; sixcircle  
15379 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
15380 % U+2466 CIRCLED DIGIT SEVEN; sevenscircle  
15381 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
15382 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
15383 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
15384 % U+2468 CIRCLED DIGIT NINE; ninecircle  
15385 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
15386 % U+2469 CIRCLED NUMBER TEN; tencircle  
15387 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
15388 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
15389 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
15390 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
15391 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
15392 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
15393 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
15394 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle

15395 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
 15396 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
 15397 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
 15398 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
 15399 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
 15400 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
 15401 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
 15402 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
 15403 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
 15404 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
 15405 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
 15406 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
 15407 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
 15408 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
 15409 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
 15410 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
 15411 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
 15412 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
 15413 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
 15414 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
 15415 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
 15416 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
 15417 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
 15418 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
 15419 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
 15420 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
 15421 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
 15422 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
 15423 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
 15424 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
 15425 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
 15426 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
 15427 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
 15428 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
 15429 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
 15430 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
 15431 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
 15432 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
 15433 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
 15434 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
 15435 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
 15436 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
 15437 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
 15438 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
 15439 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
 15440 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
 15441 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
 15442 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
 15443 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
 15444 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
 15445 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
 15446 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
 15447 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
 15448 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
 15449 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
 15450 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
 15451 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB

15452 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 15453 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 15454 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 15455 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 15456 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 15457 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 15458 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 15459 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 15460 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 15461 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 15462 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 15463 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 15464 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 15465 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 15466 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 15467 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 15468 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 15469 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 15470 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 15471 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 15472 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 15473 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 15474 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 15475 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 15476 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 15477 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 15478 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 15479 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 15480 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 15481 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 15482 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 15483 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 15484 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 15485 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 15486 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 15487 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 15488 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 15489 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 15490 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 15491 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 15492 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 15493 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 15494 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 15495 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 15496 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 15497 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 15498 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 15499 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 15500 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 15501 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 15502 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 15503 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 15504 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 15505 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 15506 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 15507 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 15508 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle



15509 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 15510 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 15511 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 15512 % U+24EA CIRCLED DIGIT ZERO  
 15513 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

### 50.2.21 Box Drawing: U+2500 to U+257F

15514 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
 15515 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6  
 15516 % U+25EF LARGE CIRCLE; largecircle  
 15517 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

### 50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

15518 % U+266A EIGHTH NOTE; musicalnote  
 15519 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
 15520 % U+26AD MARRIAGE SYMBOL  
 15521 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 15522 % U+26AE DIVORCE SYMBOL  
 15523 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

### 50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

15524 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 15525 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6  
 15526 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 15527 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

### 50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

15528 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 15529 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 15530 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 15531 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 50.2.25 Miscellaneous

15532 \DeclareTextCommand{\SS}{PU}{SS}

### 50.2.26 Aliases

Aliases (german.sty)

15533 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}  
 15534 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}  
 15535 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}  
 15536 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}  
 15537 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}  
 15538 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}  
 15539 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}  
 15540 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

15541 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}  
 15542 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}  
 15543 \DeclareTextCommand{\textdiv}{PU}{\textdivide}  
 15544 \DeclareTextCommand{\textpm}{PU}{\textplusminus}  
 15545 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}  
 15546 </puenc>

### 50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```
15547 \langle *puvnc\rangle
15548 \DeclareTextCommand{\abreve}{PU}{\81\003}
15549 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
15550 \DeclareTextCommand{\dj}{PU}{\81\021}
15551 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
15552 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
15553 \DeclareTextCommand{\ohorn}{PU}{\81\241}
15554 \DeclareTextCommand{\uhorn}{PU}{\81\260}
15555 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
15556 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
15557 \DeclareTextCommand{\DJ}{PU}{\81\020}
15558 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
15559 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
15560 \DeclareTextCommand{\OHORN}{PU}{\81\240}
15561 \DeclareTextCommand{\UHORN}{PU}{\81\257}

15562 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
15563 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
15564 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
15565 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
15566 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
15567 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
15568 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
15569 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
15570 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
15571 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
15572 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
15573 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
15574 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
15575 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
15576 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
15577 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
15578 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
15579 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
15580 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
15581 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
15582 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
15583 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
15584 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
15585 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
15586 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
15587 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
15588 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
15589 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
15590 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
15591 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
15592 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
15593 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
15594 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
15595 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
15596 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
15597 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
15598 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
15599 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
15600 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
```

15601 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}  
15602 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}  
15603 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}  
15604 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}  
15605 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}  
15606 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}  
15607 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}  
15608 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}  
15609 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}  
15610 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}  
15611 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}  
15612 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}  
15613 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}  
15614 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}  
15615 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}  
15616 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}  
15617 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}  
15618 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}  
15619 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}  
15620 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}  
15621 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}  
15622 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}  
15623 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}  
15624 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}  
15625 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}  
15626 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}  
15627 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}  
15628 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}  
15629 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}  
15630 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}  
15631 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}  
15632 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}  
15633 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}  
15634 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}  
15635 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}  
15636 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}  
15637 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}  
15638 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}  
15639 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}  
15640 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}  
15641 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}  
15642 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}  
15643 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}  
15644 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}  
15645 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}  
15646 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}  
15647 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}  
15648 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}  
15649 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}  
15650 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}  
15651 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}  
15652 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}  
15653 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}  
15654 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}  
15655 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}  
15656 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}  
15657 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}

```

15658 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
15659 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
15660 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
15661 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
15662 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
15663 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
15664 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
15665 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
15666 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
15667 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
15668 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
15669 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
15670 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
15671 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
15672 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
15673 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
15674 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
15675 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}
15676 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
15677 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
15678 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
15679 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
15680 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
15681 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
15682 </puvnenc>

```

## 50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

15683 <*puarenc>
15684 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afi57409;ARABIC LET-
TER HAMZA
15685 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afi57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
15686 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afi57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
15687 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afi57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE
15688 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afi57413;ARABIC LET-
TER ALEF WITH HAMZA BELOW
15689 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afi57414;ARABIC LET-
TER YEH WITH HAMZA ABOVE
15690 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afi57415;ARABIC LETTER ALEF
15691 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afi57416;ARABIC LETTER BEH
15692 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afi57417;ARABIC LETTER TEH MARBUTA
15693 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afi57418;ARABIC LETTER TEH
15694 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afi57419;ARABIC LET-
TER THEH
15695 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afi57420;ARABIC LET-
TER JEEM
15696 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afi57421;ARABIC LETTER HAH
15697 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afi57422;ARABIC LETTER KHAH
15698 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afi57423;ARABIC LETTER DAL
15699 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afi57424;ARABIC LETTER THAL
15700 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afi57425;ARABIC LETTER REH
15701 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afi57426;ARABIC LETTER ZAIN

```

15702 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afi57427;ARABIC LETTER SEEN  
15703 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afi57428;ARABIC LET-  
TER SHEEN  
15704 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afi57429;ARABIC LETTER SAD  
15705 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afi57430;ARABIC LETTER DAD  
15706 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afi57431;ARABIC LETTER TAH  
15707 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afi57432;ARABIC LETTER ZAH  
15708 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afi57433;ARABIC LETTER AIN  
15709 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afi57434;ARABIC LET-  
TER GHAIN  
15710 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afi57440;ARABIC TATWEEL  
15711 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afi57441;ARABIC LETTER FEH  
15712 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afi57442;ARABIC LETTER QAF  
15713 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afi57443;ARABIC LETTER KAF  
15714 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afi57444;ARABIC LETTER LAM  
15715 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afi57445;ARABIC LET-  
TER MEEM  
15716 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afi57446;ARABIC LETTER NOON  
15717 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afi57470;ARABIC LETTER HEH  
15718 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afi57448;ARABIC LETTER WAW  
15719 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afi57449;ARABIC LET-  
TER ALEF MAKSURA  
15720 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afi57450;ARABIC LETTER YEH  
15721 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afi57451;ARABIC FATHATAN  
15722 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afi57452;ARABIC DAMMATAN  
15723 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afi57453;ARABIC KASRATAN  
15724 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afi57454;ARABIC FATHA  
15725 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afi57455;ARABIC DAMMA  
15726 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afi57456;ARABIC KASRA  
15727 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afi57457;ARABIC SHADDA  
15728 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afi57458;ARABIC SUKUN  
  
Farsi  
15729 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afi57506;ARABIC LETTER PEH  
15730 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afi57507;ARABIC LET-  
TER TCHEH  
15731 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afi57508;ARABIC LETTER JEH  
15732 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afi????;FARSI LET-  
TER KAF  
15733 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afi57509;ARABIC LETTER GAF  
15734 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afi????;FARSI LET-  
TER YEH  
  
15735 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%  
15736 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ  
  
15737 </puarenc>

## 51 End of file hycheck.tex

15738 <\*check>  
15739 \typeout{}  
15740 \begin{document}  
15741 \end{document}  
15742 </check>

## 52 Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

Symbols				
\!	195, 220	14401, 14403, 14405, 14407, 14409, 14411, 14413, 14415, 14470, 14472, 14474, 14476, 14534, 14537, 14539, 14564, 14583, 14729, 14748, 15097, 15099, 15109, 15111, 15125, 15127, 15157, 15159, 15562, 15567, 15572, 15577, 15582, 15587, 15592, 15597, 15602, 15607, 15612, 15617, 15622, 15627, 15632, 15637, 15642, 15647, 15652, 15657, 15662, 15667, 15672, 15677	\@@Menu . . . . . 11585, 11593	\@@Menu . . . . . 11585, 11593
\"	202, 227, 2898, 12921, 13280, 13292, 13304, 13427, 13513, 13527, 13535, 13550, 13562, 13578, 13592, 13603, 13604, 13618, 13630, 13636, 13687, 13715, 13734, 13755, 13882, 13896, 13904, 13918, 13930, 13946, 13960, 13971, 13972, 13986, 13998, 14004, 14251, 14466, 14468, 14478, 14530, 14532, 14560, 14573, 14725, 14738, 14971, 14973, 14987, 14989, 14991, 14993, 14995, 14997, 15007, 15009, 15011, 15013, 15019, 15021, 15023, 15025, 15031, 15033, 15039, 15041, 15047, 15049, 15089, 15091, 15161, 15163, 15173, 15175, 15191	\( . . 190, 215, 626, 629, 631, 12987, 13350	\@@PasswordField . 11534, 11540	\@@PasswordField . 11534, 11540
\#	427, 1993, 1994, 4123, 4134, 4136, 4152, 4184, 4242, 7751, 7753, 8506, 8515, 8543, 9268, 10761, 10772, 10801, 11032, 11041, 11071, 12841	\) . . 191, 216, 598, 604, 607, 12988, 13352	\@@Radio . . 11360, 11381, 11583, 11607, 11841, 11862, 12182, 12203	\@@Radio . . 11360, 11381, 11583, 11607, 11841, 11862, 12182, 12203
\\$	184, 209, 428, 4125, 4241	\+ . . . . . 200, 225	\@@TextField . . . . . 11536, 11551	\@@TextField . . . . . 11536, 11551
\%	429, 1968, 1969, 4122, 4131, 4133, 4185, 7753	\- . . . . . 201, 226	\@@commahyperpage . 7260, 7261	\@@commahyperpage . 7260, 7261
\&	185, 210, 430, 4126, 4137, 4139, 10811	\. . . . 198, 223, 1094, 13283, 13295, 13307, 13369, 13660, 13667, 13685, 13718, 13737, 13761, 13801, 13802, 14026, 14028, 14050, 14052, 14070, 14072, 14106, 14137, 14139, 14257, 14259, 14350, 14352, 14358, 14360, 15057, 15059, 15065, 15067, 15077, 15079, 15085, 15087, 15113, 15115, 15117, 15119, 15129, 15131, 15133, 15135, 15141, 15143, 15165, 15167, 15169, 15171, 15177, 15179, 15197	\@Alpha . . . 5944, 5945, 5948, 5949	\@@hyperref . . . . . 4276, 4277
\'	203, 228, 2838, 2852, 2893, 2895, 2896, 2897, 2898, 2903, 2904, 2906, 2911, 2917, 2921, 2922, 2925, 2968, 2969, 2974, 2975, 2976, 2977, 2978, 2979, 2980, 2981, 2983, 2987, 3000, 12919, 13277, 13289, 13301, 13507, 13523, 13531, 13544, 13558, 13564, 13572, 13588, 13597, 13598, 13612, 13626, 13632, 13655, 13657, 13658, 13659, 13662, 13664, 13665, 13666, 13674, 13712, 13731, 13752, 13876, 13892, 13900, 13912, 13926, 13932, 13940, 13956, 13965, 13966, 13980, 13994, 14000, 14018, 14020, 14125, 14127, 14145, 14147, 14179, 14181, 14191, 14193, 14253, 14255, 14305, 14307, 14313, 14315, 14317, 14319,	\@Alpha@bul . . . . . 5948	\@@wrindex . . . . . 7188, 7189	\@@wrindex . . . . . 7188, 7189
		\@BIBLABEL . . 6683, 6689, 6695	\@@writetorep . . . . 12764, 12770	\@@writetorep . . . . 12764, 12770
		\@BOOKMARK . . 12902, 12904	\@Alph . . . 5944, 5945, 5948, 5949	\@Alph . . . 5944, 5945, 5948, 5949
		\@CITE . . . . . 6760, 6768	\@Alph@bul . . . . . 5948	\@Alph@bul . . . . . 5948
		\@CITEX . . . . . 6762	\@BIBLABEL . . 6683, 6689, 6695	\@BIBLABEL . . 6683, 6689, 6695
		\@CheckBox . . 5168, 9333, 11474, 11504, 11638, 11974, 12343	\@BOOKMARK . . 12902, 12904	\@BOOKMARK . . 12902, 12904
		\@ChoiceMenu . 5165, 9336, 11312, 11507, 11573, 11792, 12133	\@CITE . . . . . 6760, 6768	\@CITE . . . . . 6760, 6768
		\@Form . 4939, 9323, 11099, 11496, 11517, 11716, 12057	\@CITEX . . . . . 6762	\@CITEX . . . . . 6762
		\@Gauge 5174, 9327, 11281, 11498, 11522, 11659, 12054	\@CheckBox . . 5168, 9333, 11474, 11504, 11638, 11974, 12343	\@CheckBox . . 5168, 9333, 11474, 11504, 11638, 11974, 12343
		\@Localurifalse . . . . . 9276	\@ChoiceMenu . 5165, 9336, 11312, 11507, 11573, 11792, 12133	\@ChoiceMenu . 5165, 9336, 11312, 11507, 11573, 11792, 12133
		\@Localurltrue . . . . . 9273	\@Form . 4939, 9323, 11099, 11496, 11517, 11716, 12057	\@Form . 4939, 9323, 11099, 11496, 11517, 11716, 12057
		\@M . . . . . 999, 2255, 4230, 6318	\@Gauge 5174, 9327, 11281, 11498, 11522, 11659, 12054	\@Gauge 5174, 9327, 11281, 11498, 11522, 11659, 12054
		\@MM . . . . . 6446	\@Localurifalse . . . . . 9276	\@Localurifalse . . . . . 9276
		\@PushButton . 5171, 9339, 11404, 11510, 11619, 11896, 12254	\@Localurltrue . . . . . 9273	\@Localurltrue . . . . . 9273
		\@Refstar . . . . . 7560, 7567	\@M . . . . . 999, 2255, 4230, 6318	\@M . . . . . 999, 2255, 4230, 6318
		\@Reset . 5180, 9342, 11450, 11513, 11635, 11949, 12313	\@MM . . . . . 6446	\@MM . . . . . 6446
		\@Roman . . . . . 502	\@PushButton . 5171, 9339, 11404, 11510, 11619, 11896, 12254	\@PushButton . 5171, 9339, 11404, 11510, 11619, 11896, 12254
		\@SCTR . . . . . 7307, 7359	\@Refstar . . . . . 7560, 7567	\@Refstar . . . . . 7560, 7567
		\@SetMaxRnhefLabel . . . . 6757	\@Reset . 5180, 9342, 11450, 11513, 11635, 11949, 12313	\@Reset . 5180, 9342, 11450, 11513, 11635, 11949, 12313
		\@Submit 5177, 9345, 11432, 11514, 11632, 11926, 12289	\@Roman . . . . . 502	\@Roman . . . . . 502
		\@TextField . . . 5162, 9330, 11284, 11501, 11525, 11763, 12096	\@SCTR . . . . . 7307, 7359	\@SCTR . . . . . 7307, 7359
		\@addchap . . . . . 13237	\@SetMaxRnhefLabel . . . . 6757	\@SetMaxRnhefLabel . . . . 6757
		\@addtoreset . . 7082, 7083, 7097, 7304	\@Submit 5177, 9345, 11432, 11514, 11632, 11926, 12289	\@Submit 5177, 9345, 11432, 11514, 11632, 11926, 12289
		\@afterheading . . . . . 13254	\@TextField . . . 5162, 9330, 11284, 11501, 11525, 11763, 12096	\@TextField . . . 5162, 9330, 11284, 11501, 11525, 11763, 12096
		\@alph . . . . . 5951, 5952	\@addchap . . . . . 13237	\@addchap . . . . . 13237
		\@alph@bul . . . . . 5951	\@addtoreset . . 7082, 7083, 7097, 7304	\@addtoreset . . 7082, 7083, 7097, 7304
		\@anchorcolor . 8475, 8563, 9390, 10729, 11002	\@afterheading . . . . . 13254	\@afterheading . . . . . 13254
		\@arabic 969, 974, 978, 5945, 5949, 5952	\@alph . . . . . 5951, 5952	\@alph . . . . . 5951, 5952

<code>\@auxout</code> . 2210, 4321, 5390, 5392, 6035, 6063, 6703, 6718, 6734, 6744, 6774, 6797, 6823, 6829, 6853	6089, 6126, 6136, 6138, 6177, 6188, 6192, 6199, 6223, 6287, 6311, 6375, 6385, 6387, 6388, 6431, 6459, 6557, 6583, 6587, 6602, 6604, 6832, 6958, 6981, 6994, 7001, 7052, 7076, 7078, 12754, 13142, 13155, 13166, 13196, 13213, 13248	<code>\@footnotetext</code> . 6327, 6334, 6363, 6481, 6483, 6497, 6498, 6518
<code>\@backslashchar</code> . . . 720, 723, 726, 1218, 1888, 1892, 1895, 2015, 2032, 2038, 2042, 2050, 4147, 7766, 7776	<code>\@currentlabel</code> . 6449, 6825, 6832, 7057, 7064, 7313, 7365	<code>\@for</code> 3213, 4547, 6769, 6792, 11321, 11383, 11591, 11598, 11608, 11801, 11864, 12142, 12208
<code>\@baseurl</code> . . . . . 3194, 3196, 4415, 8198, 8201, 8460, 8462, 8713, 8715, 9181, 9191, 9241, 9243, 9755, 9757, 10120, 10134, 10714, 10716, 10908, 10922, 10988, 10990	<code>\@currentlabelname</code> . . 2208, 6376, 6432, 6460, 6562	<code>\@fourthoffive</code> . 4075, 4309, 7624, 7631
<code>\@begintheorem</code> . . . . . 6282, 6289	<code>\@currentlabstr</code> . . . . . 2207, 2215	<code>\@gobble</code> . . . . . 49, 56, 117, 445, 446, 447, 448, 485, 486, 487, 488, 514, 515, 516, 525, 527, 684, 797, 833, 844, 985, 989, 992, 1357, 1418, 1437, 1450, 1454, 1516, 1579, 1580, 1587, 1592, 1606, 1611, 2245, 2477, 2489, 3526, 3679, 3681, 3733, 4113, 4890, 5070, 5324, 5328, 5346, 5348, 5364, 5365, 5366, 5368, 5369, 5371, 5810, 5825, 5829, 6271, 6539, 6628, 6957, 7689, 8372, 9635, 9638, 11717, 12058, 12810, 12811, 12812, 13030
<code>\@bibitem</code> . . . . . 6710, 6741	<code>\@curropt</code> . . 11321, 11322, 11383, 11384, 11591, 11598, 11599, 11601, 11608, 11609, 11611, 11801, 11802, 11864, 11865, 12142, 12143, 12208, 12209	<code>\@gobblefour</code> 451, 550, 1114, 1115, 1116, 3345, 7428
<code>\@biblabel</code> . . . . . 6683, 6730	<code>\@dblarg</code> . . . . . 2308, 6552, 6633	<code>\@gobbleopt</code> . . . . . 5371, 5373
<code>\@bookmarkopenstatus</code> . . . 3961, 3978, 12823	<code>\@definecounter</code> . . . . . 7037, 7038	<code>\@gobbletwo</code> . . . . . 449, 518, 543, 551, 552, 697, 1113, 1534, 1611, 1615, 2362, 3343, 3344, 3683, 4836, 5350, 5359, 5367, 5371, 7612, 13152
<code>\@bookmarksopenlevel</code> 3157, 3159, 3964	<code>\@ehc</code> . . . . . 2537, 3731, 4379, 4651, 4775, 4971, 5117, 5153, 11414, 11462, 11907, 11961, 12265, 12325	<code>\@harvarditem</code> . . . . . 6842, 6844
<code>\@bsphack</code> . . . . . 2203, 4314, 6827	<code>\@ehd</code> . . . . . 63, 6538, 6627	<code>\@hyper@anchor</code> . . . 4442, 4443
<code>\@capstartfalse</code> . . . . . 6577	<code>\@endForm</code> . . . 4940, 9326, 11280, 11497, 11521, 11762, 12082	<code>\@hyper@itemfalse</code> . . . 5861, 5877, 5891
<code>\@caption</code> 6542, 6554, 6597, 6633, 6635	<code>\@endpary</code> . . . . . 6278	<code>\@hyper@itemtrue</code> . . . . . 5862
<code>\@capytype</code> 2212, 6537, 6541, 6545, 6552, 6559, 6601, 6626, 6630, 6633	<code>\@eqncr</code> . . . . . 6207	<code>\@hyper@launch</code> 4385, 4394, 8091, 9533, 10450
<code>\@car</code> 1499, 1515, 1533, 1553, 3136, 4557, 8150, 8161	<code>\@eqnstarfalse</code> . . . . . 6183, 6210	<code>\@hyper@linkfile</code> 4366, 4369, 4373, 4405
<code>\@cdr</code> . . . . . 8151, 8162	<code>\@eqnstartrue</code> . . . . . 6207	<code>\@hyper@readexternallink</code> . 4360, 4364
<code>\@chapter</code> . . . . . 13161, 13162	<code>\@eqnswtrue</code> . . . . . 6153, 6162	<code>\@hyperdef</code> . . . . . 4284, 4285
<code>\@cite</code> . . . . 6760, 6791, 6888, 6894	<code>\@esphack</code> . 2224, 4325, 6837, 7200	<code>\@hyperpage</code> . . . . . 7252, 7253
<code>\@cite@opt</code> . 6889, 6895, 6899, 6909	<code>\@extra@b@citeb</code> 6668, 6671, 6688, 6693, 6713, 6761, 6783, 6799, 6806	<code>\@hyperref</code> . . . . . 4265, 4276
<code>\@citea</code> . . 6763, 6770, 6771, 6790, 6793, 6794	<code>\@extra@b@info</code> . . 6667, 6670, 6674	<code>\@ifclasslater</code> . . . . . 13260, 13265
<code>\@citeb</code> . . 6769, 6772, 6774, 6776, 6780, 6783, 6792, 6795, 6797, 6799, 6803, 6806	<code>\@fifthoffive</code> 3691, 4076, 4308, 7514, 7629	<code>\@ifclassloaded</code> . . . . . 2195, 6007, 6044, 6752, 7288, 7292, 8375, 13259, 13264
<code>\@citebordercolor</code> . . . . . 3618	<code>\@filebordercolor</code> 3616, 8067, 8069, 9037, 9039, 9469, 9471, 10438	<code>\@ifnextchar</code> . . . 12, 88, 103, 123, 544, 4235, 4265, 4284, 4333, 4939, 5162, 5165, 5168, 5171, 5174, 5177, 5180, 5371, 5443, 5452, 6484, 6502, 6842, 6900, 10145, 10376, 10390, 12902, 12905
<code>\@citedata@opt</code> . 6890, 6896, 6898	<code>\@filecolor</code> 3186, 8087, 8661, 8673, 9049, 9475	<code>\@ifpackagelater</code> . 855, 2226, 5998, 7107
<code>\@citedatax</code> . . . . . 6905, 6910	<code>\@firstoffive</code> 4072, 4081, 7553, 7634	
<code>\@citedatax@opt</code> . . . . . 6902, 6908	<code>\@firstofone</code> . . . . . 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 492, 680, 835, 846, 1079, 1083, 1087, 1420, 3538, 3963, 4905, 4911, 5080, 5831, 5942, 5955, 6022, 6550, 6631, 6772, 6795, 6921, 7143, 8370, 11689, 12428, 12445, 12463	
<code>\@citeseppen</code> . . . . . 6887, 6893	<code>\@firstoftwo</code> . . 511, 790, 961, 1627, 5360, 13203	
<code>\@citex</code> . . . . . 6789	<code>\@footnotemark</code> 6328, 6381, 6468, 6480, 6482, 6494, 6495, 6525, 6527	
<code>\@clubpenalty</code> . . . . . 6320		
<code>\@commahyperpage</code> . . 7255, 7260		
<code>\@currDisplay</code> 4994, 11324, 11386, 11602, 11616, 11804, 11867, 12145, 12211		
<code>\@currValue</code> . . 4996, 4998, 11391, 11602, 11613, 11874, 12226, 12645		
<code>\@currentHlabel</code> . . . . . 5996		
<code>\@currentHref</code> . . . . . 2218, 5270, 5915, 5976, 5978, 5987, 5989, 5996, 6077, 6079,		

<code>\@ifpackageloaded</code> . 381, 750, 854, 2198, 2589, 3113, 3117, 3670, 3813, 5899, 5997, 6010, 6072, 6105, 6109, 6117, 6149, 6263, 6324, 6395, 6438, 6598, 6812, 6885, 7049, 7106, 7148, 7149, 7150, 7297, 7559, 7702, 7706, 10980	<code>\@makeschapterhead</code> 13251, 13253 <code>\@menubordercolor</code> . . 3615, 8430, 8432, 9092, 9094, 9567, 9569 <code>\@menucolor</code> . . . 8443, 9098, 9573 <code>\@minipagefalse</code> . . . . . 6295 <code>\@mkboth</code> 518, 7410, 13152, 13240, 13242 <code>\@mpfn</code> . . . . . 6331, 6503, 6515 <code>\@mpfootnotetext</code> 6334, 6347, 6348 <code>\@mycount</code> . . . . . 12967, 12977 <code>\@namedef</code> 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 4657, 4658, 4659, 4660, 4982, 4983, 6008, 6206, 6209, 6817, 6818, 6819, 6820 <code>\@nameuse</code> . 2212, 2609, 4663, 4974 <code>\@ne</code> . 968, 2556, 2651, 8974, 8979, 9734, 10569, 12091 <code>\@newctr</code> . . . . . 7042, 7043 <code>\@newl@bel</code> . . . . . 5437, 6670 <code>\@newlistfalse</code> . . . . . 6296 <code>\@nil</code> 367, 371, 376, 380, 395, 1412, 1415, 1423, 1499, 1517, 1535, 1551, 1553, 1556, 1559, 1562, 2079, 2081, 2097, 2099, 3136, 4169, 4173, 4178, 4432, 4440, 4557, 5061, 5064, 5083, 5462, 5465, 5472, 5474, 5475, 5560, 5607, 5608, 5610, 5633, 5650, 5698, 5700, 6121, 6130, 6132, 6144, 7239, 7241, 7248, 7271, 7274, 7284, 7493, 7496, 7648, 7679, 7762, 7768, 7772, 7778, 8150, 8151, 8161, 8162, 9600, 9602, 12435, 12448, 12454, 12851, 12854, 12857, 12866, 12869, 12878 <code>\@nbreakfalse</code> . . . . . 5434, 6318 <code>\@nocnterr</code> . . . . . 7096, 7110 <code>\@nocounterr</code> . . . . . 7095, 7109 <code>\@noparitemfalse</code> . . . . . 6297 <code>\@number</code> . . . . . 5942, 6022, 6921 <code>\@nx</code> . . . . . 7099, 7113, 7116, 7118 <code>\@onelevel@sanitize</code> . . 2355, 2359, 2571, 3135, 3708, 3738, 4203, 4427, 4430, 4647, 4883, 4967, 5660, 5662, 5983, 6987, 7539, 8831, 12848 <code>\@oparg</code> . . . . . 6282, 6289 <code>\@outlinefile</code> . 12821, 12910, 13005, 13007, 13009, 13085, 13087, 13089 <code>\@pagerefstar</code> . . . 4099, 7555, 7583 <code>\@pagesetref</code> . . . . . 7505 <code>\@parboxrestore</code> . 6448, 6570, 6641 <code>\@parcount</code> . . . . . 12969, 12977 <code>\@part</code> . . . . . 13179, 13186	<code>\@pdfauthor</code> . . . . . 3361, 3621, 8257, 8695, 9128, 9796, 10046, 10839 <code>\@pdfborder</code> 2735, 3239, 3242, 3244, 4044, 7953, 8849, 9378, 9915, 10007, 10368, 10380, 10395, 10416, 10435, 10460, 10488, 10575, 10663, 10816 <code>\@pdfborderstyle</code> 3240, 3246, 3248, 4045, 7954, 8850, 9379, 9916, 10008, 10369, 10381, 10396, 10417, 10436, 10461, 10489, 10576, 10664, 10817 <code>\@pdfcreationdate</code> . . . . . . . . . . 3378, 3624, 8261, 8263, 8687, 8689, 9120, 9122, 10021, 10023, 10831, 10833 <code>\@pdfcreator</code> . . . . . 3373, 3623, 8260, 8686, 9119, 9799, 10045, 10830 <code>\@pdfdirection</code> . 8221, 8751, 9161, 9767, 10100, 10888 <code>\@pdfduplex</code> . . 8227, 8757, 9167, 9773, 10106, 10894 <code>\@pdfhighlight</code> . . . . . 3232, 3619, 7973, 7975, 8034, 8063, 8065, 8099, 8101, 8426, 8428, 9914, 10006, 10367, 10415, 10434, 10459 <code>\@pdfhighlight</code> . . . . . 8032 <code>\@pdfkeywords</code> . . . . . 3397, 3627, 8273, 8684, 9133, 9804, 10047, 10828 <code>\@pdflang</code> . . . . 3605, 3633, 8247, 8249, 8779, 8781, 9201, 9203, 10130, 10132, 10918, 10920 <code>\@pdfm@dest</code> . . . 8793, 8852, 8856 <code>\@pdfm@mark</code> . . . . . 5781, 8792, 8844, 8864, 8878, 8880, 8894, 8896, 8901, 8902, 8932, 8956, 8958, 8963, 8981, 9003, 9031, 9058, 9082, 9115, 9182, 9209, 12061, 12062, 12063, 12080, 12123, 12129, 12217, 12231, 12246, 12252, 12278, 12285, 12304, 12310, 12333, 12339, 12362, 12368, 12373, 12405, 12413, 13058 <code>\@pdfmoddate</code> . 3384, 3625, 8265, 8267, 8691, 8693, 9124, 9126, 10025, 10029, 10835, 10837 <code>\@pdfnonfullscreenpagemode</code> . . . . . . . 8220, 8750, 9160, 9766, 10099, 10887 <code>\@pdfnumcopies</code> 8236, 8238, 8766, 8768, 9176, 9178, 9782, 9784, 10115, 10117, 10903, 10905
--	---	--



\@pdfpageduration . . .	3202, 8316, 8320, 8325, 9691, 9693, 9696, 9951, 9953, 9961	
\@pdfpagelayout	8246, 8778, 9200, 9787, 9789, 10129, 10917	
\@pdfpagemode	3801, 3802, 3974, 3975, 3984, 3985, 8200, 8734, 9195, 9754, 10083, 10871	
\@pdfpagescrop . . . . .	3559, 3629, 8185, 8189, 8717, 8718, 8739, 8741, 9207, 9209, 9743, 9745, 10088, 10090, 10876, 10878	
\@pdfpagetransition . .	3200, 8292, 8296, 8301, 9580, 9582, 9584, 9934, 9936, 9944	
\@pdfpicktraybypdfsize . . . . .	8228, 8230, 8758, 8760, 9168, 9170, 9774, 9776, 10107, 10109, 10895, 10897	
\@pdfprintarea .	8224, 8754, 9164, 9770, 10103, 10891	
\@pdfprintclip .	8225, 8755, 9165, 9771, 10104, 10892	
\@pdfprintpagerange . . . . .	3313, 3632, 8232, 8234, 8762, 8764, 9172, 9174, 9778, 9780, 10111, 10113, 10899, 10901	
\@pdfprintscaling	8226, 8756, 9166, 9772, 10105, 10893	
\@pdfproducer . . . . .	3367, 3622, 8126, 8269, 8271, 8677, 8678, 8696, 8698, 9104, 9105, 9109, 9129, 9131, 9711, 9712, 9716, 9719, 9720, 9800, 9802, 10032, 10036, 10485, 10486, 10568, 10570, 10572, 10660, 10661, 10821, 10822, 10840, 10842	
\@pdfstartpage . . . . .	3547, 3549, 3631, 8206, 8210, 8721, 8726, 9184, 9188, 9747, 9751, 10070, 10075, 10858, 10863	
\@pdfstartview . . . . .	3554, 3556, 3630, 8080, 8208, 8210, 8723, 8727, 9044, 9186, 9188, 9749, 10072, 10076, 10444, 10860, 10864	
\@pdfsubject . . . . .	3391, 3626, 8259, 8700, 9118, 9798, 10044, 10844	
\@pdftempa . . . . .	4371, 4372, 4375	
\@pdftempwordfile . . .	4362, 4372	
\@pdftempwordrun . .	4363, 4375	
\@pdftitle	3355, 3620, 8258, 8685, 9117, 9797, 10043, 10829	
\@pdftrapped . .	3402, 3405, 3408, 3417, 3426, 3628, 8274, 8276, 9134, 9136, 10048	
\@pdfview . . . . .	3528, 7941, 7946, 8799, 8803, 8807, 8811, 8815, 8819, 8820, 8823, 8824, 8827, 8831, 8833, 8848, 9377, 9387, 9399, 9861, 9881, 10490, 10577, 10665, 10930	
\@pdfviewarea .	8222, 8752, 9162, 9768, 10101, 10889	
\@pdfviewclip .	8223, 8753, 9163, 9769, 10102, 10890	
\@pdfviewparams . . . . .	3530, 3532, 9861, 9881, 10491, 10578, 10666, 10931	
\@percentchar .	4132, 4133, 4185, 12825	
\@processme . .	4990, 4991, 8298, 8304, 8322, 8328, 8344, 8350, 10148, 10149, 10218, 10219, 10222, 10223	
\@protected@testopt . . . . .	547	
\@protected@testopt@xargs .	548	
\@refstar . . . . .	4097, 7552	
\@runbordercolor	3617, 8103, 8105, 9551, 9553, 10463	
\@runcolor . . . . .	8122, 9557	
\@safe@activesfalse . . . .	500, 4078	
\@safe@activestrue . . . .	499, 4077	
\@chapter . . . . .	13149, 13150	
\@secondoffive .	3692, 4073, 4086, 7515, 7516, 7556	
\@secondoftwo .	489, 517, 788, 964, 1625, 3691, 3692, 13205	
\@sect . . . . .	13200, 13201	
\@seqncr . . . . .	6207	
\@serial@counter . .	12917, 12965, 12967, 12968	
\@seteqlabel . . . . .	7073, 7074	
\@setminipage . . . . .	6572, 6643	
\@setref . .	4081, 4086, 7484, 7485, 7522	
\@sharp . . . . .	6121, 6127	
\@skiphyperreffalse . .	5878, 6699, 6711	
\@skiphyperreftrue . .	6685, 6711	
\@spart . . . . .	13192, 13193	
\@ssect . . . . .	13135, 13136	
\@startlos . . . . .	7422, 7429, 7478	
\@starttoc . . . . .	5422	
\@tempa .	6281, 6288, 6292, 6397, 6401, 6404, 6419	
\@tempb . . . . .	6235, 6239	
\@tempboxa	8520, 8521, 8527, 8591, 8594, 8597, 8598, 8604, 8609, 8610, 8621, 8623, 8626, 8627, 8633, 8638, 8639, 8651, 8653, 8656, 8657, 8663, 8668, 8669,	
	10778, 10779, 10785, 11046, 11047, 11057	
\@tempcnta .	12776, 12777, 12778, 12779, 12780, 12782, 12785, 12786, 12787, 12793, 12795, 12797, 12886, 12887, 12888, 12891, 12892, 12893, 12894, 12895, 13108, 13109, 13110	
\@tempdima . . . . .	2258, 5202, 5203, 5204, 5205, 5206, 5207, 5208, 5209, 7934, 11320, 11325, 11327, 11364, 11365, 11366, 11370, 11371, 11372, 11373, 11800, 11805, 11807, 11845, 11846, 11847, 11851, 11852, 11853, 11854, 12141, 12146, 12148, 12186, 12187, 12188, 12192, 12193, 12194, 12195	
\@tempdimb	11324, 11325, 11804, 11805, 12145, 12146	
\@tempswafalse . . . . .	6904	
\@tempswattrue	6874, 6877, 6880, 6901	
\@temptokena .	3005, 3010, 3013, 3015	
\@tfor . . . . .	6236	
\@the@H@page . . . . .	6923, 6925	
\@thefnmark . .	6332, 6343, 6409, 6410, 6449, 6466, 6473, 6504, 6516, 6523	
\@thirdoffive . . . . .	4074	
\@thm . . . . .	6264	
\@topnewpage . . . . .	13251	
\@topsep . . . . .	6277	
\@topsepadd . . . . .	6278	
\@typeset@protect . . . . .	13121	
\@undefined . .	257, 260, 553, 3009, 5361, 5396, 5409, 5421, 5622, 5640, 5679, 6537, 6600, 6612, 6617, 6626, 7547, 7932, 8130, 8139, 9350, 9722, 9736	
\@undottedtocline . . . . .	7474	
\@unprocessedoptions . . . .	3923	
\@urlbordercolor	3614, 8036, 8038, 9064, 9066, 9488, 9490, 10418	
\@urlcolor . . . . .	8051, 8526, 8535, 8631, 8643, 9074, 9494, 10784, 10793, 11056, 11064	
\@urltype . . . . .	8495, 8500, 9246, 9272, 9407, 9421, 10749, 10754, 11021, 11026	
\@vpageref . . . . .	7577	
\@whilenum . . . . .	1130	
\@wrindex . . . . .	7156, 7157, 7188	
\@writefile . . . . .	6830	
\@x@sf . . . . .	6383, 6392, 6529, 6531	

\@xfootnote . . . . . 6502  
\@xfootnotemark . . . . 6340, 6520  
\@xfootnotenext . . . . 6329, 6513  
\@xp 7063, 7098, 7099, 7112, 7113,  
7115, 7116  
\l . . . . . 192, 217  
\{ . . . . . 424, 12843  
\} . . . . . 425, 12844  
\j . . . . . 193, 218  
\^ . . . . . 186, 211, 2008,  
2009, 2916, 4120, 4121, 4129,  
13278, 13290, 13302, 13509,  
13525, 13533, 13546, 13560,  
13574, 13590, 13600, 13601,  
13614, 13628, 13676, 13713,  
13732, 13753, 13878, 13894,  
13902, 13914, 13928, 13942,  
13958, 13968, 13969, 13982,  
13996, 14022, 14024, 14062,  
14064, 14078, 14080, 14114,  
14116, 14117, 14195, 14197,  
14243, 14245, 14247, 14249,  
15181, 15183  
\u . 187, 212, 432, 4124, 4141, 4142  
\v . . . . . 166, 172, 179, 182,  
2852, 2986, 2989, 2991, 2999,  
12842, 13276, 13288, 13300,  
13505, 13521, 13529, 13542,  
13556, 13570, 13586, 13594,  
13595, 13610, 13624, 13672,  
13711, 13730, 13751, 13874,  
13890, 13898, 13910, 13924,  
13938, 13954, 13962, 13963,  
13978, 13992, 14309, 14311,  
14557, 14585, 14722, 14750,  
15153, 15155, 15203, 15205,  
15564, 15569, 15574, 15579,  
15584, 15589, 15594, 15599,  
15604, 15609, 15614, 15619,  
15624, 15629, 15634, 15639,  
15644, 15649, 15654, 15659,  
15664, 15669, 15674, 15679  
\l 188, 213, 1834, 1950, 2798, 3656,  
7152, 7737, 7747  
\~ . . . . . 431, 1132, 2058, 2910,  
2918, 2919, 2920, 3752, 4145,  
13279, 13291, 13303, 13511,  
13540, 13548, 13576, 13608,  
13616, 13678, 13714, 13733,  
13754, 13880, 13908, 13916,  
13944, 13976, 13984, 14086,  
14088, 14089, 14219, 14221,  
15149, 15151, 15199, 15201,  
15207, 15209, 15566, 15571,  
15576, 15581, 15586, 15591,  
15596, 15601, 15606, 15611,  
15616, 15621, 15626, 15631,

15636, 15641, 15646, 15651,  
15656, 15661, 15666, 15671,  
15676, 15681

# Numbers

\3 . . . . . 409, 1176, 1177,  
1178, 1179, 1180, 1181, 1182,  
1183, 1292, 1293, 1294, 1295,  
1296, 1297, 1298, 1299, 2172,  
12986, 13505, 13507, 13509,  
13511, 13513, 13515, 13517,  
13519, 13521, 13523, 13525,  
13527, 13529, 13531, 13533,  
13535, 13537, 13538, 13540,  
13542, 13544, 13546, 13548,  
13550, 13552, 13554, 13556,  
13558, 13560, 13562, 13564,  
13566, 13568, 13570, 13572,  
13574, 13576, 13578, 13580,  
13582, 13584, 13586, 13588,  
13590, 13592, 13594, 13595,  
13597, 13598, 13600, 13601,  
13603, 13604, 13606, 13608,  
13610, 13612, 13614, 13616,  
13618, 13620, 13622, 13624,  
13626, 13628, 13630, 13632,  
13634, 13636, 13637, 13710,  
13874, 13876, 13878, 13880,  
13882, 13884, 13886, 13888,  
13890, 13892, 13894, 13896,  
13898, 13900, 13902, 13904,  
13906, 13908, 13910, 13912,  
13914, 13916, 13918, 13920,  
13922, 13924, 13926, 13928,  
13930, 13932, 13934, 13936,  
13938, 13940, 13942, 13944,  
13946, 13948, 13950, 13952,  
13954, 13956, 13958, 13960,  
13962, 13963, 13965, 13966,  
13968, 13969, 13971, 13972,  
13974, 13976, 13978, 13980,  
13982, 13984, 13986, 13988,  
13990, 13992, 13994, 13996,  
13998, 14000, 14002, 14004,  
14269, 14271, 14273, 14275,  
14276, 14278, 14280, 14282,  
14284, 14286, 14288, 14290,  
14292, 14294, 14296, 14298,  
14300, 14302, 14303, 14305,  
14307, 14309, 14311, 14313,  
14315, 14317, 14319, 14368,  
14370, 14372, 14374, 14376,  
14378, 14380, 14383, 14385,  
14510, 14512, 14514, 14516,  
14518, 14520, 14522, 14524,  
14526, 14528, 14530, 14532,  
14534, 14536, 14537, 14539,  
14541, 14543, 14545, 14547,

14549, 14551, 14553, 14555,  
14941, 14943, 14945, 14947,  
14949, 14951, 14953, 14955,  
14957, 14959, 14961, 14963,  
14965, 14967, 14969, 14971,  
14973, 14975, 14977, 14979,  
14981, 14983, 14985, 14987,  
14989, 14991, 14993, 14995,  
14997, 14999, 15001, 15003,  
15005, 15007, 15009, 15011,  
15013, 15015, 15017, 15019,  
15021, 15023, 15025, 15027,  
15029, 15031, 15033, 15035,  
15037, 15039, 15041, 15043,  
15045, 15047, 15049, 15051,  
15053, 15203, 15205, 15207,  
15209, 15429, 15431, 15433,  
15435, 15437, 15439, 15441,  
15443, 15445, 15447, 15449,  
15451, 15453, 15455, 15457,  
15459, 15461, 15463, 15465,  
15467, 15469, 15471, 15473,  
15475, 15477, 15479, 15481,  
15483, 15485, 15487, 15489,  
15491, 15493, 15495, 15497,  
15499, 15501, 15503, 15505,  
15507, 15509, 15511, 15513,  
15515, 15517, 15525, 15527,  
15549, 15551, 15552, 15556,  
15558, 15559, 15562, 15564,  
15566, 15577, 15579, 15583,  
15584, 15585, 15586, 15587,  
15588, 15589, 15590, 15592,  
15593, 15594, 15595, 15596,  
15597, 15598, 15599, 15600,  
15601, 15602, 15603, 15604,  
15605, 15606, 15607, 15608,  
15609, 15610, 15612, 15613,  
15614, 15615, 15616, 15617,  
15618, 15619, 15620, 15621,  
15622, 15624, 15626, 15637,  
15639, 15643, 15644, 15645,  
15646, 15647, 15648, 15649,  
15650, 15652, 15653, 15654,  
15655, 15656, 15657, 15658,  
15659, 15660, 15661, 15662,  
15663, 15664, 15665, 15666,  
15667, 15668, 15669, 15670,  
15672, 15673, 15674, 15675,  
15676, 15677, 15678, 15679,  
15680, 15681, 15734, 15736

\9 . . . . . 412, 1196, 1199, 1230,  
2100, 2115, 2124, 2152, 2172,  
13710, 15055, 15057, 15059,  
15061, 15063, 15065, 15067,  
15069, 15071, 15073, 15075,  
15077, 15079, 15081, 15083,

15085, 15087, 15089, 15091, 15093, 15095, 15097, 15099, 15101, 15103, 15105, 15107, 15109, 15111, 15113, 15115, 15117, 15119, 15121, 15123, 15125, 15127, 15129, 15131, 15133, 15135, 15137, 15139, 15141, 15143, 15145, 15147, 15149, 15151, 15153, 15155, 15157, 15159, 15161, 15163, 15165, 15167, 15169, 15171, 15173, 15175, 15177, 15179, 15181, 15183, 15185, 15187, 15189, 15191, 15193, 15195, 15197, 15199, 15201, 15203, 15205, 15207, 15209, 15211, 15213, 15215, 15217, 15219, 15221, 15223, 15225, 15227, 15229, 15231, 15233, 15235, 15237, 15239, 15241, 15243, 15245, 15247, 15249, 15251, 15253, 15255, 15257, 15259, 15261, 15263, 15265, 15267, 15269, 15271, 15273, 15275, 15277, 15279, 15281, 15283, 15285, 15287, 15289, 15291, 15293, 15295, 15297, 15299, 15301, 15303, 15305, 15307, 15309, 15311, 15313, 15315, 15317, 15319, 15321, 15323, 15325, 15327, 15329, 15331, 15333, 15335, 15337, 15339, 15341, 15343, 15345, 15347, 15349, 15351, 15353, 15355, 15357, 15359, 15361, 15363, 15365, 15367, 15369, 15371, 15373, 15375, 15377, 15379, 15381, 15383, 15385, 15387, 15389, 15391, 15393, 15395, 15397, 15399, 15401, 15403, 15405, 15407, 15409, 15411, 15413, 15415, 15417, 15419, 15421, 15423, 15425, 15427, 15429, 15431, 15433, 15435, 15437, 15439, 15441, 15443, 15445, 15447, 15449, 15451, 15453, 15455, 15457, 15459, 15461, 15463, 15465, 15467, 15469, 15471, 15473, 15475, 15477, 15479, 15481, 15483, 15485, 15487, 15489, 15491, 15493, 15495, 15497, 15499, 15501, 15503, 15505, 15507, 15509, 15511, 15513, 15515, 15517, 15519, 15521, 15523, 15525, 15527, 15529, 15531, 15563, 15565, 15567, 15568,	15569, 15570, 15571, 15572, 15573, 15574, 15575, 15576, 15578, 15580, 15581, 15582, 15583, 15584, 15585, 15586, 15588, 15590, 15593, 15595, 15597, 15598, 15599, 15600, 15601, 15602, 15603, 15604, 15605, 15606, 15608, 15610, 15612, 15613, 15614, 15615, 15616, 15618, 15619, 15620, 15621, 15623, 15625, 15627, 15628, 15629, 15630, 15631, 15632, 15633, 15634, 15635, 15636, 15638, 15640, 15641, 15642, 15643, 15644, 15645, 15646, 15648, 15650, 15653, 15655, 15657, 15658, 15659, 15660, 15661, 15662, 15663, 15664, 15665, 15666, 15668, 15670, 15672, 15673, 15674, 15675, 15676, 15678, 15679, 15680, 15681, 15735	  
---	--	--

15121, 15123, 15137, 15139, 15145, 15147, 15185, 15187, 15189	\c@slidesection . . 7306, 7434, 7435	\CJK@eight . . . . 1313, 1316, 1430
\baa . . . . . 15691	\c@slidesubsection . . . . . 7358	\CJK@five . . . . . 1313, 1315, 1430
\back@none . . . . 2743, 2753, 2766	\c@tocdepth . . . . . 3127, 3132	\CJK@four . . . . . 1312, 1315, 1429
\back@page . . . . . 2745, 2758	\calc@bm@number . . 13032, 13107	\CJK@hundred . . . . . 1379
\back@section . . 2744, 2750, 2756, 2762	\calculate@pdfview . . 3524, 3527	\CJK@hundredmillion . . . . 1342
\back@slide . . . . . 2746, 2755	\capitalacute . . . . . 13752	\CJK@ignorespaces . . . . . 1112
\backcite . . . . . 6831	\capitalbreve . . . . . 13759	\CJK@kern . . . . . 1100
\backref . . . . . 6862, 11083	\capitalcaron . . . . . 13758	\CJK@minus . . . . . 1304
\baselineskip . . 2250, 5216, 5217, 5218, 5219, 5220, 5221, 8582, 9877, 9900, 10524	\capitalcedilla . . . . . 13749	\CJK@nine . . . . . 1313, 1317, 1430
\bbl@cite@choice . . . . . 6678	\capitalcircumflex . . . . . 13753	\CJK@null . . . . . 1406
\BeforeTeXIVht . . . . . 2625	\capitaldieresis . . . . . 13755	\CJK@one . . . . . 1312, 1314, 1429
\begin . . . . . 11088, 15740	\capitaldotaccent . . . . . 13761	\CJK@punctchar . . . . . 1115
\belowpdfbookmark . . . . . 12890	\capitalgrave . . . . . 13751	\CJK@punctcharx . . . . . 1116
\bfseries . . . 467, 6777, 6800, 7488, 7508, 7525, 7639	\capitalhungarumlaut . . . 13756	\CJK@seven . . . 1313, 1316, 1430
\bgroup . . . . . 541, 4235, 6440, 6452, 9318, 9891, 11529, 11621, 11642	\capitalmacron . . . . . 13760	\CJK@six . . . . . 1313, 1316, 1430
\bibcite . . 6669, 6675, 6679, 6704, 6719, 6735, 6745	\capitalnewtie . . . . . 13763	\CJK@ten 1314, 1315, 1316, 1317, 1394
\bitsetGetDec . . 4559, 4692, 4710, 4724, 4737, 4753, 4785, 4810	\capitalogonek . . . . . 13750	\CJK@tenthousand . . 1327, 1348
\bitsetGetHex . . . . . 4560	\capitalring . . . . . 13757	\CJK@thousand . . . . . 1364
\bitsetGetSetBitList . . . . . 4548	\capitaltie . . . . . 13762	\CJK@three . . . . 1312, 1315, 1429
\bitsetIsEmpty 4689, 4707, 4721, 4734, 4750, 4782, 4807	\capitaltilde . . . . . 13754	\CJK@two . . . . . 1312, 1314, 1429
\bitsetReset . . . 4662, 4696, 4715, 4729, 4742, 4758, 4790	\caption . . . 6536, 6538, 6625, 6627	\CJK@zero 1312, 1330, 1347, 1351, 1367, 1382, 1404
\bitsetSetValue . . . . . 4528, 4538	\catcode . . . . . 172, 173, 184, 185, 186, 187, 206, 677, 678, 814, 1110, 1117, 1834, 1835, 1950, 1951, 2007, 2008, 2009, 3994, 3996, 4120, 4121, 4122, 4123, 4124, 4125, 4126, 4129, 4131, 4134, 4142, 4152, 4241, 4242, 7737, 9927, 9928, 12919, 12921, 12990, 12993, 13019, 13022	\CJK@digits . . . . . 1189
\BOOKMARK . . . . 12822, 12901	\cf@encoding . . . . . 1435	\CJKkern . . . . . 1101
\box 5210, 5513, 7920, 8961, 10201	\chapterautorefname . 2809, 2827, 2845, 2863, 2881, 2899, 2917, 2946, 2975, 2993, 7722	\CJKnumber . . . . . 1188
\bullet . . . . 7440, 7448, 7458, 7466	\chapternumberline 12808, 12812	\close@pdfink . . 7987, 8012, 8021, 8052, 8088, 8123, 8444
<b>C</b>	\char . . . . . 11752, 12923, 12960	\closeout . . . . . 5388, 12910
\C . . . . . 13696, 14801, 14803	\chardef . . 2441, 2442, 2443, 2444, 2651, 2653	\clubpenalty . . . . . 6318, 6320
\c . . . . . 752, 756, 762, 2910, 2918, 2919, 2920, 5465, 5472, 13284, 13296, 13308, 13519, 13584, 13704, 13719, 13738, 13749, 13888, 13952, 14074, 14076, 14119, 14121, 14129, 14131, 14149, 14151, 14183, 14185, 14199, 14201, 14207, 14209, 14354, 14356, 14856, 14859, 15073, 15075, 15093, 15095	\check@bm@number 13043, 13051, 13100, 13108	\codeof . . . . . 6853
\c@footnote 6342, 6399, 6407, 6522	\checkBox . . . . . 5167	\color@endbox . . . . . 7913, 8520, 8591, 8621, 8651, 8954, 10778, 11046
\c@page . . 5559, 5577, 5578, 5582, 5594, 5596, 5601, 5608, 5610, 5612, 5641, 6918	\checkCommand . . . . . 6396	\color@hbox 7906, 8520, 8591, 8621, 8651, 8947, 10778, 11046
\c@secnumdepth . . 13169, 13187, 13202	\checkcommand . . 42, 6061, 6513, 6520, 6527, 6625, 6635, 6729, 6741, 7031, 7034, 7094, 7522	\columnwidth . . . . . 6447
	\checklatex . . 4, 6512, 6624, 6728, 7030, 7521	\comma@entry . . 4876, 4883, 4885
	\checkpackage . . . . 9, 6060, 7093	\comma@parse . . . . . 4875
	\ChoiceBox . . . . . 4885	\contentsline . . 5397, 5398, 5410, 7001, 7005, 7032, 7034
	\ChoiceMenu . . . . . 5164	\copy 6132, 6140, 7916, 8450, 8931, 8957
	\citation . . . . . 6774, 6797, 6823	\count@ . . . . . 716, 718, 719, 722, 725, 728, 731, 1129, 1130, 1131, 1132, 1724, 3143, 3144, 3149, 3150, 4506, 4507, 4522, 4818, 4833, 4835, 4859, 4881, 4897, 8170, 8171, 8172, 8173, 8174, 8175, 8178, 9714, 9715, 9716, 9717, 9718, 9721
	\citeauthoryear . . . . 6889, 6895	\CurrentBorderColor . 7977, 7979, 8006, 8008, 8016, 8018, 8023, 9380, 9414, 9416, 9427, 9429, 9448, 9450, 9501, 9503, 9520, 9522
	\citeN . . . . . 6886	\currentpdfbookmark . . . . 12882
	\CJK@char . . . . . 1113	
	\CJK@charx . . . . . 1114	
	\CJK@CJK . . . . . 1102	

\curu	14753	\cyrfita	14795	\CYRКСI	14785
\cyr	501, 2928, 2930, 2933, 2936, 2939, 2940, 2941, 2942, 2943, 2944, 2945, 2946, 2947, 2948, 2950, 2952, 2953, 2954, 2955, 2956, 2957, 2958, 2959, 2960, 2961, 2962, 2963, 2964, 2965	\CYRG	14564, 14598	\cyrksi	14787
\CYRA	14592, 14967, 14971	\cyrgh	2946, 14663, 14729	\CYRKVCRS	14865
\cyra	2930, 2937, 2939, 2944, 2947, 2952, 2953, 2959, 2963, 14657, 14969, 14973	\CYRGDSC	15043	\cyrkvcrs	14867
\CYRABHCH	14931, 14936	\cyrghdsc	15045	\CYRL	14615
\cyrabhch	14933, 14939	\CYRGHCRS	14843	\cyrl	2944, 2946, 2948, 2950, 14680
\CYRABHCHDSC	14935	\cyrghcrs	14845	\CYRLDSC	14951
\cyrabhchdsc	14938	\CYRGHK	14847	\cyrlidsc	14953
\CYRABHDZE	14999	\cyrghk	14849	\CYRLJE	14577
\cyrabhdze	15001	\CYRGUP	14839	\cyrlje	14742
\CYRABHHA	14889	\cyrgup	14841	\CYRLYUS	14769
\cyrabhha	14891	\CYRH	14635	\cyrlyus	14771
\CYRAE	14975	\cyrh	14700	\CYRM	14617
\cyrae	14977	\CYRHDSC	14911	\cyrm	2933, 2937, 2963, 2964, 14682
\CYRB	14594	\cyrhdsc	14913	\CYRMDSC	14963
\cyrb	2944, 14659	\CYRHHK	15051	\cyrmdsc	14965
\CYRBYUS	14777	\cyrhhk	15053	\CYRN	14619
\cyrbyus	14779	\CYRHRDSN	14645	\cyrn	2930, 2936, 2937, 2939, 2940, 2942, 2950, 2956, 2957, 14684
\CYRC	14637	\cyrhrdsn	14710	\CYRNDSC	14877
\cyrch	14639, 15039	\CYRI	14585, 14608, 14611, 15003, 15007	\cyrndsc	14879
\cyrch	2936, 2937, 2945, 14704, 15041	\cyri	2930, 2933, 2937, 2943, 2948, 2950, 14673, 14676, 14750, 15005, 15009	\CYRNG	14881
\CYRCHLDSC	14959	\CYRIE	14566	\cyrng	14883
\cyrchldsc	14961	\cyrrie	14731	\CYRNHK	14955
\CYRCHRDSC	14919	\CYRII	14570, 14573	\cyrnhk	14957
\cyrchrdsc	14921	\cyrii	14735, 14738	\CYRNJE	14579
\CYRCHVCRS	14923	\CYRIOTBYUS	14781	\cyrnje	14744
\cyrchvcrs	14925	\cyriotbyus	14783	\CYRO	14621, 15011
\CYRD	14600	\CYRIOTE	14765	\cyro	2933, 2936, 2939, 2940, 2950, 2959, 2960, 2962, 2963, 2964, 14686, 15013
\cyrd	2933, 2936, 2947, 2952, 2953, 14665	\cyriote	14767	\CYROMEGA	14757
\CYRDJE	14562	\CYRIOTLYUS	14773	\cyromega	14759
\cyrdje	14727	\cyriotlyus	14775	\CYROMEGARND	14809
\CYRDZE	14568	\CYRISHRT	14610	\cyromegarnd	14811
\cyrdze	14733	\cyrishrt	14675	\CYROMEGATITLO	14813
\CYRDZHE	14590	\CYRISHRTDSC	14827	\cyromegatitlo	14815
\cyrdzhe	14755	\cyrishrtdsc	14829	\CYROT	14817
\CYRE	14557, 14560, 14602, 14979	\CYRIZH	14797, 14801	\cyrot	14819
\cyre	2930, 2936, 2937, 2950, 2962, 2963, 2964, 14667, 14722, 14725, 14981	\cyrizh	14799, 14803	\CYROTLD	15015, 15019
\cyreref	15025	\CYRJE	14575	\cyrotld	15017, 15021
\CYREREV	14651, 15023	\cyrje	14740	\CYRP	14623
\cyrerev	14716	\CYRK	14583, 14613	\cyrp	2933, 2936, 2937, 2941, 2942, 2948, 2950, 2954, 2955, 2956, 2957, 14688
\CYRERY	14647, 15047	\cyrk	2939, 2940, 2942, 2956, 2957, 2959, 2960, 2961, 14678, 14748	\CYRpalachka	14941
\cyrery	2928, 2930, 14712, 15049	\CYRKBEAK	14873	\CYRPHK	14885
\CYRF	14633	\cyrkbeak	14875	\cyrphk	14887
\cyrf	14698	\CYRKDSC	14861	\CYRPSI	14789
\CYRFITA	14793	\cyrkdsc	14863	\cyrpsi	14791
		\CYRKHCRC	14869	\CYRR	14625
		\cyrkhcrs	14871	\cyrr	2928, 2930, 2933, 2936, 2937, 2943, 2947, 2948, 2950, 2952, 2953, 2958, 2959, 2960, 2961, 2962, 2963, 2964, 14690
		\CYRKHK	14947	\CYRRTICK	14835
		\cyrkhk	14949	\cyrrtick	14837
		\CYRKOPPA	14821		
		\cyrkoppa	14823		



\CYRS	14627, 14894	\CYRZDSC	14855	\DefaultOptionsofCheckBox	5226, 11482, 11982, 12351		
\cyrS	2933, 2936, 2939, 2940, 2943, 2958, 2959, 2960, 2961, 2965, 14692, 14897	\cyrzDSC	14858	\DefaultOptionsofComboBox	5229		
\CYRSCHWA	14983, 14987	\CYRZH	14604, 14943, 14991	\DefaultOptionsofListBox	5228		
\cyrSchwa	14985, 14989	\cyrzh	2930, 2950, 14669, 14945, 14993	\DefaultOptionsofPopdownBox	5230		
\CYRSDSC	14893, 14894	\CYRZHDSC	14851	\DefaultOptionsofPushButton	5225, 11409, 11901, 12259		
\cyrsdsc	14896	\cyrzhdsc	14853	\DefaultOptionsofRadio	5231		
\CYRSEMISFTSN	14831	<b>D</b>			\DefaultOptionsofReset	5224, 11456, 11955, 12319	
\cyrsemisftsn	14833	\d	753, 757, 763, 2988, 2992, 2994, 2995, 2996, 2997, 2998, 3000, 13287, 13299, 13311, 13700, 13726, 13745, 15563, 15568, 15573, 15578, 15583, 15588, 15593, 15598, 15603, 15608, 15613, 15618, 15623, 15628, 15633, 15638, 15643, 15648, 15653, 15658, 15663, 15668, 15673, 15678	\DefaultOptionsofSubmit	5223, 11438, 11932, 12295		
\CYRSFTSN	14649	\dad	15705	\DefaultOptionsofText	5227, 11299, 11778, 12111		
\cyrSftsn	14714	\dal	15698	\DefaultWidthofCheckBox	5217, 11478, 11978, 12347		
\CYRSH	14641	\damma	15725	\DefaultWidthofChoiceMenu	5219, 11316, 11796, 12137		
\cyrsh	14706	\declare@shorthand	869, 870, 875, 876, 881, 891, 892, 893, 898, 899, 904, 905, 910, 915, 916, 921, 926, 927, 928, 929, 930, 931, 936, 937, 942, 943, 948, 949	\DefaultWidthofReset	5215, 11452, 11951, 12315		
\CYRSHCH	14643	\DeclareFontEncoding			13275, 13670	\DefaultWidthofSubmit	5213, 11434, 11928, 12291
\cyrshch	14708	\DeclareFontFamily			773, 781, 2523	\DefaultWidthofText	5222, 11288, 11767, 12100
\CYRSHHA	14927	\DeclareFontShape			774, 782, 2524	\define@key	2340, 2342, 2385, 2400, 2403, 2406, 2414, 2417, 2427, 2430, 2433, 2450, 2462, 2464, 2467, 2470, 2487, 2491, 2494, 2497, 2500, 2503, 2506, 2509, 2544, 2601, 2621, 2622, 2636, 2639, 2642, 2645, 2648, 2656, 2659, 2662, 2665, 2669, 2697, 2713, 2724, 2727, 2730, 2733, 2737, 2740, 2747, 2776, 2795, 2798, 3024, 3055, 3063, 3071, 3078, 3081, 3096, 3121, 3124, 3128, 3156, 3161, 3165, 3168, 3175, 3187, 3195, 3198, 3201, 3203, 3206, 3215, 3225, 3232, 3239, 3240, 3312, 3321, 3351, 3357, 3363, 3369, 3375, 3381, 3387, 3393, 3399, 3432, 3439, 3473, 3524, 3525, 3545, 3552, 3559, 3560, 3563, 3566, 3569, 3572, 3575, 3578, 3581, 3604, 3607, 3610, 4500, 4588, 4644, 4946, 4951, 4964, 5001, 5004, 5007, 5010, 5013, 5016, 5019, 5023, 5026, 5029, 5032, 5035, 5038, 5041, 5044, 5047, 5050, 5053, 5056, 5086, 5089, 5092, 5095, 5114, 5120, 5134, 5150, 5156, 5732, 5743, 10229, 10231, 10234, 10236, 10238, 10247, 10255, 10262, 10264, 10266, 10268, 10270
\cyrshha	14929	\DeclareFontSubstitution			775, 783, 2525		
\CYRT	14629	\DeclareLocalOptions			3667		
\cyrT	2933, 2936, 2942, 2944, 2956, 2957, 2958, 2959, 2960, 2961, 2962, 2963, 2964, 14694	\DeclareRobustCommand			4097, 4098, 4234, 4251, 4253, 4255, 4264, 5161, 5164, 5167, 5170, 5173, 5176, 5179, 5304, 5308, 5376, 5380, 7566, 7592, 7611, 13125		
\CYRTDSC	14899	\DeclareTextAccent			13276, 13277, 13278, 13279, 13280, 13281, 13282, 13283, 13284, 13285, 13286, 13287		
\cyrtdsc	14901	\DefaultHeightofCheckBox			5216, 11479, 11979, 12348		
\CYRTETSE	14915	\DefaultHeightofChoiceMenu			5218, 11317, 11797, 12138		
\cyrTetse	14917	\DefaultHeightofReset			5214, 11453, 11952, 12316		
\cyrthousands	14825	\DefaultHeightofSubmit			5212, 11435, 11929, 12292		
\CYRTSHE	14581	\DefaultHeightofText			5220, 11293, 11772, 12105		
\cyrtshe	14746	\DefaultHeightofTextMultiline			5221, 11291, 11770, 12103		

10272, 10281, 10291, 10293,  
10295, 10296, 10302, 10311,  
10313, 10315, 10317, 10319,  
10321, 10323, 10325, 10327,  
10329, 10331, 10333, 10335,  
10337, 10339, 10341, 10342,  
10343, 10344, 10345, 10346,  
10347, 10348, 10349, 10350,  
10351, 10352

\df@tag . . . . . 7055, 7061

\DH . . . . . 13537, 13906

\dh . . . . . 13606, 13974

\dhal . . . . . 15699

\dimen@ 387, 388, 392, 1730, 1798,  
1799, 1802, 1804, 3642, 3643,  
3645, 3652, 3653, 9681, 9682,  
9684, 10192, 10204, 10207

\dimexpr . . 399, 2076, 2078, 2086,  
2091, 2094, 2096, 2110, 2112,  
2115, 2116, 2123, 2126, 2129,  
2130, 2131, 2132, 2142, 2147,  
2155, 2159, 2164, 2174, 2177,  
2182, 2185, 2190, 2191

\ding . . . . . 5061, 5064

\DingObject . . . . . 11874

\discretionary . . . . . 543

\divide . . . . . 8171, 9715

\DJ . . . 3000, 13538, 14038, 15557

\dj . . . . 2997, 2998, 14040, 15550

\do . . . . 1130, 2357, 2362, 2367,  
3213, 3234, 3235, 3236, 3237,  
3252, 3253, 3254, 3255, 3256,  
3257, 3260, 3261, 3262, 3263,  
3264, 3265, 3268, 3269, 3272,  
3273, 3274, 3275, 3276, 3279,  
3280, 3281, 3282, 3283, 3286,  
3287, 3288, 3289, 3290, 3293,  
3294, 3295, 3296, 3297, 3300,  
3301, 3304, 3305, 3306, 3309,  
3310, 3316, 3317, 3318, 3319,  
3597, 3598, 3599, 3600, 3601,  
3602, 4548, 6239, 6769, 6792,  
11321, 11383, 11591, 11598,  
11608, 11801, 11864, 12142,  
12208, 12989, 13018

\documentclass . . . . . 2

\dospecials . . . . . 12998, 13027

\dots . . . . . 435

\dp . . . . . 5206, 5209,  
6445, 8521, 8594, 8623, 8653,  
10193, 10196, 10779, 11047,  
12086

\dth@counter . . . 6279, 6280, 6306

\dth@everypar . . . . . 6294

\dvipdfm@setdim . . 12083, 12125,  
12223, 12248, 12280, 12306,  
12335, 12364

## E

\ECIRCUMFLEX . 15558, 15642,  
15643, 15644, 15645, 15646

\ecircumflex . 15551, 15582, 15583,  
15584, 15585, 15586

\EdefEscapeHex . . . . . 696

\EdefEscapeName . . . 3463, 3507

\EdefEscapeString . . . . 652, 661

\EdefUnescapeName . . . . 3464

\EdefUnescapeString . . . . 647

\egroup . . 542, 9318, 9923, 11538,  
11630, 11655

\em . . . . . 473

\emph . . . . . 452

\empty . . . . . 1112, 3131

\enc@html . . . . . 4950, 4953

\enc@update . . . . . 420

\END 1460, 1461, 1486, 1487, 1502,  
1503, 1520, 1521, 1538, 1539,  
1907, 1913, 1918, 2002, 2004,  
8295, 8308, 8312, 8319, 8332,  
8336, 8342, 8354, 8358

\end . . . . . 15741

\endeqnarray . . . 6185, 6203, 6210

\endequation . . . . . 6148, 6180

\endForm . . . . . 4940

\endingput . . 64, 2633, 2673, 2674,  
2687, 2691, 2692, 2701, 2702,  
2708, 2709, 3796, 3896, 7482,  
9867, 11086, 13115

\endlinechar . . . . . 4119

\endNoHyper . . . . . 5340

\EndPreamble . . . . . 11089

\endsubeqnarray . . . . 6214, 6225

\eqnarray . . . . . 6184, 6186, 6207

\equal . . . . . 6850

\equation . . 6147, 6156, 6160, 6169

\equationautorefname 2802, 2820,  
2838, 2856, 2874, 2892, 2910,  
2928, 2929, 2968, 2986, 7711,  
7715

\errmessage . . . . . 3021

\es@roman . . . . . 502

\es@save@dot . . . . . 1094

\escapechar 405, 701, 6232, 12849,  
13029, 13030, 13081

\eTeX . . . . . 441, 11094

\etex@unexpanded . . . 1662, 1669

\eTeXversion . . . 8130, 8132, 8134

\evensidemargin . . . . . 6942

\everypar . . . . . 6320

\ExecuteOptions 3658, 3659, 3663

\ext@figure . . . . . 7290

\ext@table . . . . . 7289

\extra@b@citeb . . . . . 6776

\extravietnam . . . . . 3064

\extravietnamese . . . . . 3056

## F

\fa . . . . . 15711

\FancyVerbLineautorefname 2815,  
2833, 2851, 2869, 2887, 2905,  
2923, 2958, 2961, 2981, 2999,  
7728

\farsikaf . . . . . 15732

\farsiya . . . . . 15734

\fatha . . . . . 15724

\fbox . . . . . 11756, 11759

\Field@addtoks 4989, 5011, 5014,  
5135, 5158

\Field@boolkey 4501, 4589, 4984,  
5005, 5008

\Field@toks . . . 4987, 4988, 4990,  
11297, 11328, 11407, 11433,  
11451, 11480, 11530, 11547,  
11558, 11569, 11579, 11596,  
11614, 11622, 11627, 11643,  
11652, 11776, 11808, 11899,  
11927, 11950, 11980, 12109,  
12149, 12257, 12290, 12314,  
12349

\Field@Width . . . . . 4925, 5021

\figureautorefname . . . 2805, 2823,  
2841, 2859, 2877, 2895, 2913,  
2943, 2971, 2989, 7718

\filename@area . . . . . 4411

\filename@base . . . . . 4411

\filename@ext . . 4408, 4409, 4411,  
4412

\filename@parse . . . . . 4407

\find@pdfink . . . 7956, 8010, 8020

\Fld@@@additionalactions . 12536,  
12579, 12583

\Fld@@@DingDef . 5061, 5064, 5083

\Fld@additionalactions . . . 12536,  
12618, 12650, 12684

\Fld@align . . . . 4929, 5048, 12486,  
12593, 12658

\Fld@annotflags 4708, 4710, 12482,  
12512, 12589, 12622, 12654,  
12689, 12723

\Fld@bcolor . . . 4931, 5090, 12497,  
12499, 12609, 12611, 12637,  
12639, 12662, 12674, 12676

\fid@bcolor . . . . . 12597

\Fld@bordercolor . . . . 4932, 5093,  
12493, 12495, 12519, 12527,  
12529, 12596, 12605, 12607,  
12633, 12635, 12661, 12670,  
12672, 12696, 12704, 12706,  
12730, 12738, 12740

\Fld@bordersep . . . . 4933, 5042

\Fld@borderstyle . . . . 4935, 5039,  
12487, 12517, 12594, 12627,  
12659, 12694, 12746

\Fld@borderwidth . . . 4934, 5036, 5200, 5203, 5204, 5207, 5208, 11371, 11372, 11852, 11853, 12193, 12194, 12487, 12517, 12594, 12627, 12659, 12694, 12746	\Fld@listcount . . . . 11382, 11385, 11396, 11863, 11866, 11880, 11886, 12204, 12210, 12214, 12219, 12230, 12237	\Fld@value 4841, 4848, 4850, 5051, 11287, 11303, 11315, 11354, 11355, 11766, 11783, 11795, 11835, 11836, 12099, 12116, 12136, 12176, 12177, 12683
\Fld@calculate@code 5101, 12549, 12551	\Fld@loc . . . . . 5002	\Fld@width . . 5020, 11288, 11302, 11306, 11316, 11353, 11364, 11366, 11388, 11400, 11421, 11434, 11442, 11452, 11466, 11478, 11485, 11488, 11767, 11782, 11787, 11796, 11834, 11845, 11847, 11879, 11892, 11914, 11928, 11936, 11951, 11965, 11978, 11986, 11990, 12100, 12115, 12118, 12137, 12175, 12186, 12188, 12206, 12241, 12273, 12291, 12299, 12315, 12329, 12347, 12355, 12357
\Fld@cbsymbol 4936, 5054, 12501	\Fld@maxlen . . 4928, 5024, 12685	\float@caption . . . . . 6546, 6606
\Fld@charsize . . 4926, 4927, 5033, 11370, 11851, 12192, 12503, 12615, 12643, 12680, 12728	\Fld@menulength . . . . 4924, 5027, 11319, 11323, 11370, 11590, 11591, 11594, 11799, 11803, 11851, 12140, 12144, 12192	\float@makebox . . . . . 6608, 6609
\Fld@checkedfalse . . . . . 4922	\Fld@name . . 5017, 11285, 11313, 11405, 11475, 11527, 11532, 11543, 11544, 11555, 11556, 11565, 11566, 11574, 11595, 11612, 11620, 11625, 11640, 11649, 11764, 11793, 11897, 11975, 12097, 12134, 12255, 12344, 12476, 12478, 12483, 12513, 12590, 12623, 12655, 12690, 12724	\floatingpenalty . . . . . 6446
\Fld@checkequals . . . 4993, 11322, 11384, 11599, 11609, 11802, 11865, 12143, 12209	\Fld@norotatefalse . . . . . 4624	\flq . . . . . 509
\Fld@choices . . 4815, 4823, 4825, 4829, 4838, 4846, 4851, 4899, 4901, 4909, 4910, 12617	\Fld@norotatetrue . . . . . 4623	\flqq . . . . . 507
\Fld@color . . . . 4930, 5096, 12504, 12616, 12644, 12681	\Fld@noviewfalse . . . . . 4627	\fmtname . . . . . 7
\Fld@default . . . . . 4840, 4843, 4845, 5045, 11286, 11303, 11314, 11355, 11476, 11528, 11546, 11560, 11568, 11575, 11601, 11611, 11641, 11651, 11765, 11783, 11794, 11836, 11976, 12098, 12116, 12135, 12177, 12345, 12645, 12646, 12682	\Fld@noviewtrue . . . . . 4628	\fmtversion . . . . . 7
\Fld@DingDef . . 5054, 5057, 5059	\Fld@nozoomfalse . . . . . 4620	\fontencoding 413, 417, 445, 11748
\Fld@disabledfalse . . . . . 4923	\Fld@nozoomtrue . . . . . 4619	\fontfamily . . . . . 446, 11747
\Fld@export 4653, 4656, 4663, 4955	\Fld@onblur@code . . 5104, 12557, 12559	\fontseries . . . . . 447, 6272, 11749
\Fld@findlength . . . 11578, 11589	\Fld@onclick@code . . . 5098, 5157, 12533	\fontshape . . . . . 448, 4060, 11750
\Fld@flags . . . . . 4722, 4724, 4735, 4737, 4751, 4753, 4783, 4785, 4808, 4810, 12485, 12515, 12592, 12625, 12657, 12692, 12726	\Fld@onenter@code . 5107, 12569, 12571	\fontsize . . . . . 449
\Fld@format@code . . 5099, 12541, 12543	\Fld@onexit@code . . 5108, 12573, 12575	\fontsize . . . . . 6440
\Fld@getmethodfalse . . . . . 4975	\Fld@onfocus@code . 5103, 12553, 12555	\footnote . . . . . 4477
\Fld@getmethodtrue . . . . . 4977	\Fld@onmousedown@code . 5105, 12561, 12563	\footnoteautorefname 2803, 2821, 2839, 2857, 2875, 2893, 2911, 2932, 2935, 2969, 2987, 7712, 7716
\Fld@height . . 5030, 11289, 11306, 11317, 11373, 11388, 11400, 11435, 11453, 11479, 11488, 11768, 11787, 11797, 11854, 11879, 11892, 11929, 11952, 11979, 11990, 12101, 12118, 12138, 12195, 12206, 12241, 12292, 12316, 12348, 12357	\Fld@onmouseup@code . . . 5106, 12565, 12567	\footnotesep . . . . . 6444, 6451
\Fld@hiddenfalse . . . . . 4611	\Fld@printfalse . . . . . 4616	\footnotesize . . . . . 478, 6442
\Fld@hiddentrue . . . . . 4612	\Fld@printtrue . . . . . 4615	\footnotetext . . . . . 6399
\Fld@invisiblefalse . . . . . 4607	\Fld@radiosymbol . . . 4937, 5057, 12641	\footref . . . . . 6470, 6471
\Fld@invisibletrue . . . . . 4608	\Fld@rotation . 4938, 5087, 12489, 12491, 12518, 12523, 12525, 12595, 12601, 12603, 12629, 12631, 12660, 12666, 12668, 12695, 12700, 12702, 12729, 12734, 12736	\Form . . . . . 4939
\Fld@keystroke@code 5102, 12537, 12539	\Fld@submitflags . . . . 4690, 4692, 12716	\Form@action 4949, 11519, 12714
	\Fld@temp 5060, 5062, 5065, 5066, 5075, 5076	\Form@boolkey . . . . . 4943
	\Fld@validate@code . 5100, 12545, 12547	\Form@htmlfalse . . . . 4942, 4961
		\Form@htmltrue . . . . . 4954
		\Form@method 4973, 4981, 11519
		\frq . . . . . 510
		\frqq . . . . . 508
		\futurelet . . . . . 562, 1454
		\FV@SetLineNo . . . . . 6000
		\FV@StepLineNo 5999, 6001, 6002

## G

\G . . . 13695, 13721, 13740, 14321, 14323, 14325, 14327, 14329, 14331, 14332, 14334, 14336, 14338, 14340, 14342, 14344
--



<code>\g@addto@macro</code> . . . . .	5520, 5671, 6678, 6952, 8361, 9705, 9978, 10493, 10579, 10641, 10936, 11100
<code>\G@refundefinedtrue</code> .	4302, 6778, 6801, 7487, 7507, 7524, 7638
<code>\gaf</code> . . . . .	15733
<code>\Gauge</code> . . . . .	5173
<code>\GenericError</code> . . . . .	550, 3345
<code>\GenericInfo</code> . . . . .	552, 3343
<code>\GenericWarning</code> . . . .	551, 3344
<code>\getpagerefnumber</code> . . . .	6114
<code>\getrefbykeydefault</code> . .	6070, 6071
<code>\gexmode</code> . . . . .	9736, 9737, 9825
<code>\ghayn</code> . . . . .	15709
<code>\Gin@setfile</code> . . . . .	7132, 7133
<code>\glossary</code> . . . . .	516
<code>\glq</code> . . . . .	505
<code>\glqq</code> . . . . .	503
<code>\greek@Alph</code> . . . . .	5944
<code>\Greeknumeral</code> . . . . .	957
<code>\greeknumeral</code> . . . . .	956
<code>\grq</code> . . . . .	506
<code>\grqq</code> . . . . .	504
<code>\guill@spacing</code> . . . . .	886
<code>\guillemotleft</code> . . . . .	926, 13464, 13644, 13832, 15537
<code>\guillemotright</code> . . . .	927, 13495, 13645, 13864, 15538
<code>\guilsinglleft</code> . . . . .	13395, 13646, 15243, 15539
<code>\guilsinglright</code> . . . .	13397, 13647, 15245, 15540
<b>H</b>	
<code>\H</code> . . . . .	13691, 13723, 13742, 13756, 14171, 14173, 14235, 14237, 15035, 15037
<code>\h</code> . . . . .	2990, 15565, 15570, 15575, 15580, 15585, 15590, 15595, 15600, 15605, 15610, 15615, 15620, 15625, 15630, 15635, 15640, 15645, 15650, 15655, 15660, 15665, 15670, 15675, 15680
<code>\H@@footnotemark</code> . . .	6328, 6345, 6475, 6482, 6494, 6505
<code>\H@@footnotetext</code> . . .	6327, 6337, 6364, 6424, 6483, 6497, 6505
<code>\H@@mpfootnotetext</code> . .	6335, 6347, 6349
<code>\H@definecounter</code> . . . .	7037, 7039
<code>\H@endeqnarray</code> . . . .	6185, 6204
<code>\H@endequation</code> . . . .	6148, 6180
<code>\H@endsubeqnarray</code> . . .	6214, 6226
<code>\H@eqnarray</code> . . . . .	6184, 6189
<code>\H@equation</code> . . . . .	6147, 6171
<code>\H@item</code> . . . . .	5857, 5863, 6686, 6711
<code>\H@newctr</code> . . . . .	7042, 7044
<code>\H@old@part</code> . . . . .	13179, 13190
<code>\H@old@schapter</code> . . . .	13149, 13158
<code>\H@old@ssect</code> . . . . .	13200, 13211, 13220
<code>\H@old@spart</code> . . . . .	13192, 13198
<code>\H@old@ssect</code> . . . . .	13135, 13140
<code>\H@refstepcounter</code> . . . .	5872, 5882, 6001, 6124, 6170, 6285, 6541, 7303, 7356
<code>\H@seteqlabel</code> . . . . .	7073, 7075
<code>\H@subeqnarray</code> . . . . .	6213, 6217
<code>\ha</code> . . . . .	15717
<code>\Haa</code> . . . . .	15696
<code>\halign</code> . . . . .	525
<code>\hamza</code> . . . . .	15684
<code>\HAR@checkcitations</code> . . . .	6866
<code>\HAR@citetoaux</code> . . . . .	6822
<code>\HAR@tempa</code> . . . . .	6867, 6868, 6869, 6870, 6871, 6872
<code>\harvardcite</code> . . . . .	6816, 6853
<code>\harvarditem</code> . . . . .	6841
<code>\hbox</code> . . . . .	1722, 1728, 1734, 2262, 3142, 3148, 5021, 5194, 5195, 5196, 5197, 6806, 6937, 8449, 8522, 8529, 8595, 8606, 8624, 8635, 8654, 8665, 8930, 9891, 10196, 10207, 10780, 10787, 11048, 11059, 11667, 12117, 12205, 12240, 12271, 12300, 12330, 12356, 13127
<code>\hc@currentHref</code> . . . . .	6557
<code>\HCode</code> . . . . .	11519, 11521, 11532, 11541, 11553, 11561, 11563, 11594, 11600, 11605, 11610, 11624, 11629, 11633, 11636, 11645
<code>\headerps@out</code> . . . . .	5766, 10483, 10494, 10566, 10580, 10633, 10642, 10655, 10669, 10708, 10819, 10937, 11101
<code>\hfill</code> . . . . .	5194, 5195, 5196, 5197, 6697, 6730
<code>\Hfootnoteautorefname</code> . . .	7712
<code>\hhyperref</code> . . . . .	4482
<code>\hoffset</code> . . . . .	6938
<code>\hphantom</code> . . . . .	488
<code>\href</code> . . . . .	517, 4234, 4476, 4477, 5366
<code>\href@</code> . . . . .	4235, 4238, 4243
<code>\href@split</code> . . . . .	4243, 4244
<code>\hsize</code> . . . . .	6447
<code>\hskip</code> . . . . .	1733, 1811, 2298, 2299, 4231, 5200, 11667
<code>\hspace</code> . . . . .	513, 6856, 6857
<code>\hss</code> . . . . .	6946, 13132
<code>\ht</code> . . . . .	5202, 5205, 8527, 8598, 8604, 8610, 8627, 8633, 8639, 8657, 8663, 8669, 10192, 10785, 11057, 12084
<code>\htmladding</code> . . . . .	4475
<code>\htmladdnormallink</code> . . . .	4476
<code>\htmladdnormallinkfoot</code> . . .	4477
<code>\htmlref</code> . . . . .	4478
<code>\Huge</code> . . . . .	475
<code>\huge</code> . . . . .	479
<code>\Hurl</code> . . . . .	4250, 4252, 4254
<code>\hv@pdf@char</code> . . . . .	12918, 12983, 12984, 12985, 12986
<code>\hvtex@buffer</code> . . . . .	9600, 9604, 9612, 9615, 9624, 9628, 9644
<code>\hvtex@gettoken</code> . . . . .	9599, 9613, 9617, 9626, 9630
<code>\hvtex@gettoken@</code> . . . . .	9600, 9602
<code>\hvtex@par@dimension</code> . . . .	9595, 9636
<code>\hvtex@par@direction</code> . . . .	9596, 9639
<code>\hvtex@par@duration</code> . . . .	9597, 9631
<code>\hvtex@par@motion</code> . . . . .	9598, 9633
<code>\hvtex@param@dimension</code> . . . .	9608, 9637, 9655, 9658
<code>\hvtex@param@direction</code> . . . .	9609, 9640, 9666, 9674
<code>\hvtex@param@duration</code> . . . .	9610, 9632, 9679, 9681
<code>\hvtex@param@motion</code> . . . .	9611, 9634, 9655, 9662
<code>\hvtex@parse@trans</code> . . . . .	9584, 9606
<code>\hvtex@produce@trans</code> . . . . .	9645, 9651
<code>\hvtex@token</code> . . . . .	9603, 9614, 9620, 9627, 9632, 9635, 9638, 9640
<code>\hvtex@trans@code</code> . . . . .	9588, 9589, 9590, 9591, 9592, 9593, 9594, 9607, 9653, 9654, 9656, 9658, 9660, 9662, 9664, 9666, 9668, 9669, 9670, 9671, 9672, 9674
<code>\hvtex@trans@effect@Blinds</code> . . . .	9588
<code>\hvtex@trans@effect@Box</code> . . . .	9589
<code>\hvtex@trans@effect@Dissolve</code> . . . . .	9590
<code>\hvtex@trans@effect@Glitter</code> . . . .	9591
<code>\hvtex@trans@effect@R</code> . . . . .	9594
<code>\hvtex@trans@effect@Split</code> . . . .	9592
<code>\hvtex@trans@effect@Wipe</code> . . . .	9593
<code>\hvtex@trans@par</code> . . . . .	9627, 9631, 9633, 9636, 9639
<code>\hvtex@trans@params</code> . . . . .	9621, 9623, 9647
<code>\Hy@@boolkey</code> . . . . .	2308, 2309
<code>\Hy@@DefNameKey</code> . . . . .	2382, 2384
<code>\Hy@@escapeform</code> . . . . .	12435, 12448, 12454
<code>\Hy@@SectionAnchor</code> . . . . .	13122, 13125
<code>\Hy@@temp</code> . . . . .	3172, 3174, 5110, 5112
<code>\Hy@abspage</code> . . . . .	5540, 5605, 5715, 5792
<code>\Hy@Acrobatmenu</code> . . . . .	3704, 3745, 8422, 9080, 9561, 10363

\Hy@activeanchorfalse	4117, 8001, 8477, 8492, 8564, 8574, 8859, 9303, 9320, 9391, 9404, 9884, 10731, 10746, 11004, 11018	\Hy@BorderArrayPatch	.. 10242, 10245, 10492, 10935	8284, 8285, 8286, 8287, 8288, 8289, 8417, 8701, 8702, 8703, 8704, 8705, 8706, 8707, 8708, 8709, 8710, 8970, 9141, 9142, 9143, 9144, 9145, 9146, 9147, 9148, 9149, 9150, 9232, 9374, 9805, 9806, 9807, 9808, 9809, 9810, 9811, 9812, 9813, 9814, 10057, 10058, 10059, 10060, 10061, 10062, 10063, 10064, 10065, 10066, 10559, 10845, 10846, 10847, 10848, 10849, 10850, 10851, 10852, 10853, 10854	
\Hy@activeanchortrue	... 7997, 8474, 8488, 8562, 8571, 8855, 9299, 9317, 9389, 9401, 9874, 10728, 10742, 11001, 11014	\Hy@breaklinksfalse	... 313		
\Hy@ActiveCarriageReturn	4153, 4156	\Hy@breaklinksunhbox	.. 10183, 10199		
\Hy@AllowHyphens	.. 4227, 9872, 9895, 10188	\Hy@CatcodeWrapper	3989, 4048, 4092, 4105		
\Hy@AnchorName	... 4287, 4289, 4292, 4294, 4316, 4318, 4322, 4327, 4329	\Hy@centerwindowfalse	... 314		
\Hy@appendixstring	. 5925, 5932	\Hy@chapapp	.. 5926, 5932, 5939, 13153, 13164, 13246		
\Hy@AtBeginDocument	... 247, 865, 2528, 2588, 2629, 2683, 2731, 3084, 3639, 3677, 3792, 3798, 3892, 4028, 4102, 5272, 5385, 5799, 6006, 6813, 7558, 7705, 7901, 8368, 8942, 9372, 10668, 10706, 11682, 11683	\Hy@chapterstring	... 5921, 5923, 5926, 5938		
\Hy@AtBeginDocumentHook	248, 253, 259, 260	\Hy@CheckOptionValue	... 2352, 2389	\Hy@displaydoctitlefalse	... 344
\Hy@AtEndOfPackage	. 250, 759, 2196, 3057, 3065, 3072, 3780, 3806, 3812, 3957, 3980	\Hy@CJKbookmarksfalse	... 315	\Hy@DistillerDestFix	. 6914, 9818, 9820
\Hy@AtEndOfPackageHook	. 251, 254, 256, 257	\Hy@cjkpu	... 1123, 1125, 1146	\Hy@draftfalse	... 274
\Hy@author	... 5454, 5458	\Hy@colorlink	... 4052, 4060, 4064, 7902, 7982, 8051, 8087, 8122, 8443, 8475, 8498, 8526, 8535, 8563, 8579, 8601, 8613, 8631, 8643, 8661, 8673, 8943, 9019, 9049, 9074, 9098, 9390, 9412, 9475, 9494, 9527, 9557, 9573, 9893, 10167, 10169, 10729, 10752, 10784, 10793, 11002, 11024, 11056, 11064	\Hy@drafttrue	... 275
\Hy@babelnormalise	. 4265, 4267	\Hy@ColorList	... 3212, 3213	\Hy@driver	349, 2481, 2626, 2637, 2640, 2643, 2646, 2657, 2660, 2663, 2666, 2677, 2680, 2705, 2714, 2725, 2728, 2734, 3814, 3817, 3821, 3824, 3828, 3831, 3833, 3837, 3841, 3845, 3848, 3852, 3856, 3860, 3863, 3867, 3870, 3872, 3876, 3880, 3883, 3886, 3889, 3900, 3903, 3905, 3911, 3913, 3918, 3920, 3922
\Hy@backout	.. 4113, 5324, 5328, 6652	\Hy@CounterExists	.. 5822, 5835, 5838	\Hy@dth@currentHref	6287, 6311
\Hy@backreffalse	309, 2767, 2789, 3804	\Hy@currentbookmarklevel	12768, 12778, 12779, 12785, 12792, 12883, 12886, 12891, 12895	\Hy@DvipdfmxOutlineOpentru	... 3930, 3937
\Hy@backreftrue	2760, 2764, 2786	\Hy@defaultdriver	3881, 3905, 3911	\Hy@EndAnnot	8978, 9022, 9052, 9077, 9101
\Hy@BeginAnnot	8972, 8988, 9028, 9056, 9081	\Hy@DefFormAction	. 4947, 4949	\Hy@endcolorlink	... 4056, 4061, 4065, 7911, 7988, 8475, 8512, 8530, 8537, 8563, 8587, 8602, 8614, 8631, 8643, 8661, 8673, 8952, 8980, 9390, 9458, 9475, 9494, 9527, 9557, 9573, 9920, 10176, 10729, 10768, 10788, 10795, 11002, 11038, 11056, 11064
\Hy@bibcite	... 6675, 6679	\Hy@DefNameKey	... 2381, 3233, 3251, 3259, 3267, 3271, 3278, 3285, 3292, 3299, 3303, 3308, 3315, 3596	\Hy@EndWrap	. 3990, 3992, 3993, 4026
\Hy@bookmarksdepth	3127, 3132, 3144, 3150, 12762	\Hy@DEST	... 10184, 10209	\Hy@escapeform	.. 11305, 11387, 11399, 11424, 11443, 11467, 11487, 11785, 11869, 11890, 11917, 11938, 11966, 11988, 12122, 12213, 12244, 12277, 12302, 12331, 12361, 12429, 12459, 12466
\Hy@bookmarksnumberedfalse	... 310	\Hy@DestName	... 7946, 7950	\Hy@escapeformfalse	... 316
\Hy@bookmarksopenfalse	... 311	\Hy@DisableOption	.. 2338, 3697, 3698, 3699, 3701, 3785, 3811, 3940, 3941, 3942, 3943, 3944, 3945, 3946, 3947, 3948, 3949, 3950, 3951, 3952, 3953, 3954, 3955, 3956, 3958, 3988, 4041, 4069, 4070, 4115, 4116, 5276, 5277, 5278, 5279, 5280, 5281, 5282, 5283, 5284, 5285, 5286, 5287, 5288, 5289, 5290, 5291, 5292, 5293, 5294, 5295, 5296, 5297, 5298, 5299, 5478, 5673, 6509, 7137, 7235, 7236, 7828, 7929, 8280, 8281, 8282, 8283,	\Hy@escapestring	.. 12426, 12501, 12533, 12539, 12543, 12547, 12551, 12555, 12559, 12563, 12567, 12571, 12575, 12682,
\Hy@bookmarkstrue	... 312				
\Hy@bookmarkstype	. 3162, 3164, 6968, 12773				
\Hy@boolkey	.. 2308, 2401, 2404, 2407, 2428, 2431, 2434, 2465, 2468, 2471, 2488, 2492, 2495, 2498, 2501, 2504, 2507, 2510, 2738, 2741, 2796, 3079, 3082, 3097, 3122, 3125, 3166, 3169, 3207, 3322, 3561, 3564, 3567, 3570, 3573, 3576, 3579, 3587, 3608, 3611, 5733				

12683, 12714	\Hy@linkcounter . 351, 353, 5970, 5971, 5993, 5994, 7076, 7345, 7346, 7350, 7396, 7397, 7401	\Hy@pageanchortrue . . . . . 330
\Hy@EveryPageAnchor 6913, 6953	\Hy@linkfileprefix 3197, 4396, 4417, 8515, 9268, 10772, 11041	\Hy@pagecounter . 352, 354, 6032, 6928, 6930
\Hy@EveryPageBoxHook . . 5504, 5508, 5512, 6952, 9705, 9978	\Hy@linktoc . . . 2436, 2438, 2446, 2448, 2458, 7009	\Hy@pageheight . . . . 3653, 10581, 10670
\Hy@EveryPageHook . 5503, 5507, 5671, 8361	\Hy@linktoc@all . . . . . 2444	\Hy@pagelabelsfalse . . . . . 5527
\Hy@ExchangeLeftParenthesis . . . . . 7762, 7768	\Hy@linktoc@none . . . . . 2441	\Hy@pagelabelstrue . . . . . 331
\Hy@ExchangeRightParenthesis . . . . . 7772, 7778	\Hy@linktoc@page . . . 2436, 2443, 2446	\Hy@param 5937, 5938, 5939, 5967, 5971
\Hy@false . . 2244, 2319, 2752, 2788	\Hy@linktoc@section . 2438, 2442, 2448	\Hy@pdfafalse . . . . . 345
\Hy@figuresfalse . . . . . 317	\Hy@linktocpagefalse . . . . . 323	\Hy@pdfencoding@pdfdoc . 2583
\Hy@finalfalse . . . . . 275	\Hy@localanchornamfalse . . 324	\Hy@pdfmarkerrorfalse . . 10147
\Hy@finaltrue . . . . . 274	\Hy@LT@currentHref . 6126, 6136	\Hy@pdfmarkerrortrue . . . 10275, 10284
\Hy@FirstPage . . . . . 3715	\Hy@LT@footnotetext 6413, 6423	\Hy@pdfminorversion 7795, 7801, 7804, 7812, 7817, 7819, 7822, 7826
\Hy@FirstPageHook . . . . . 5505, 5518, 5520, 5764, 5765, 10493, 10579, 10641, 10936, 11100	\Hy@make@anchor . . . 7050, 7056, 7062	\Hy@pdfpagehiddenfalse . . . 332
\Hy@fitwindowfalse . . . . . 318	\Hy@make@df@tag@@ 7054, 7069	\Hy@pdfstringdef . 673, 4820, 4828
\Hy@FixNotFirstPage 8447, 8448, 8454	\Hy@make@df@tag@@@ 7060, 7070	\Hy@pdfstringfalse . . . . 333, 5301
\Hy@float@caption . . . 6547, 6597, 6599	\Hy@MakeCurrentHref 5981, 5994	\Hy@pdfstringtrue . . . . 529, 5273
\Hy@float@currentHref 6600, 6602, 6604, 6612, 6615, 6617	\Hy@MakeCurrentHrefAuto . . . . . 5992, 6074, 7051, 12753, 13137, 13153, 13164, 13194, 13208, 13246	\Hy@pdfversion 2609, 2620, 4822, 7817, 7819, 7823, 7826, 12470
\Hy@footnote@currentHref . 5271, 6352, 6357, 6367, 6372, 6375, 6387, 6389, 6415, 6456, 6459	\Hy@maketitle@end . . 6486, 6491, 6493	\Hy@plainpagesfalse . . . . . 334
\Hy@FormObjects . 11719, 11996, 12050, 12060, 12372, 12422	\Hy@maketitle@optarg 6484, 6489	\Hy@PrevPage . . . . . 3712
\Hy@Gin@setfile . . . . 7132, 7134	\Hy@MaybeStopNow . 2668, 2673, 2691, 2701, 2708, 3664	\Hy@ps@CR 10623, 10630, 10635, 10636, 10653, 10674, 10675, 10676, 10682, 10689, 10696, 10703
\Hy@GlobalStepCount 347, 5605, 5970, 5993, 6928, 7345, 7396	\Hy@menubartrue . . . . . 325	\Hy@pstringB . . . . . 8198, 8203, 9181, 9193, 10120, 10136, 10908, 10924
\Hy@gtemp . 674, 675, 4845, 4846, 4850, 4851, 4862, 4876, 7786, 7788, 12476, 12478	\Hy@naturalnamesfalse . . . . 326	\Hy@pstringD . 8058, 8082, 9030, 9044, 10428, 10444
\Hy@href . . . . . 4235, 4237	\Hy@nestingfalse . . . . . 327	\Hy@pstringdef . . . . . 7732, 7945, 7966, 8026, 8057, 8058, 8093, 8094, 8198, 8797, 8997, 9029, 9030, 9057, 9181, 9411, 9480, 9534, 9535, 10120, 10273, 10282, 10409, 10427, 10428, 10452, 10453, 10908, 12452, 13041, 13057
\Hy@hyperfootnotesfalse . . 6324	\Hy@newline@author . . . . . 5497	\Hy@pstringDest . . . . . 7945, 7946, 8797, 8844, 10273, 10274, 10278, 10282, 10283, 10287
\Hy@hyperfootnotestrue . . . 319	\Hy@newline@title . . . . . 5496	\Hy@pstringF . . . . . 8057, 8076, 8093, 8112, 8117, 9029, 9043, 9534, 9541, 9545, 10427, 10443, 10452, 10468, 10471
\Hy@hyperindextrue . . . . . 320	\Hy@newwindowfalse . . . . . 329	\Hy@pstringName . 13041, 13042, 13057, 13071
\Hy@hypertexnamesfalse . . 2200	\Hy@newwindowsetfalse 328, 3584	\Hy@pstringP . 8094, 8117, 9535, 9545, 10453, 10471
\Hy@hypertexnamestrue . . . 321	\Hy@newwindowsettrue . . . 3586	\Hy@pstringURI 8026, 8047, 9057, 9070, 9411, 9423, 9480, 9484,
\Hy@IfStringEndsWith 4412, 4424	\Hy@next 5621, 5631, 5636, 13163, 13172, 13175	
\Hy@implicittrue . . . . . 322	\Hy@nextfalse . . . . . 3747, 7147	
\Hy@Info . . 243, 2327, 3755, 3757, 3760, 3762, 3765, 3767, 3770, 3772, 3775, 3777, 3973, 3979, 4057, 4062, 4066, 4196, 4223, 4555, 5233, 5235, 5238, 5240, 5243, 5245, 5248, 5250, 5253, 5255, 5258, 5260, 5263, 5265, 6753, 6814, 6973, 6990	\Hy@nexttrue . . . 3748, 3749, 3750, 7148, 7149, 7150	
\Hy@LastPage . . . . . 3718	\Hy@number . . . 3537, 3541, 3549	
\Hy@level . . 12774, 12776, 12787, 12792, 12793, 12794, 12823	\Hy@numberline . . 12769, 12806, 12807, 12808	
\Hy@levelcheck . . . 12775, 12790	\Hy@ObsoletePaperOption 2410, 2418	
	\Hy@ocgcolor . . 7905, 7919, 8946, 8960	
	\Hy@ocgcolorlinksfalse . . . . 4036	
	\Hy@org@chapter . . 13161, 13176	
	\Hy@OutlineName . 13042, 13096	
	\Hy@OutlineRerunCheck . 12907, 13006, 13086	

10409, 10419

\Hy@PutCatalog 5667, 5675, 5781

\Hy@raisedlink . . . . . 2251, 5914,  
6076, 6097, 6098, 6099, 6102,  
6137, 6177, 6180, 6308, 6355,  
6370, 6428, 6454, 6585, 6663,  
6687, 6692, 6712, 7052, 7077,  
10481, 10564, 10815, 10979,  
12754, 13129, 13154, 13165,  
13195, 13247

\Hy@raiselinksfalse . . . 335, 6815

\Hy@RemoveDurPageAttr . 8319,  
8332

\Hy@RemoveHidPageAttr . 8342,  
8354

\Hy@RemovePercentCr . . . 4169,  
4173, 4178

\Hy@RemoveTransPageAttr 8294,  
8308

\Hy@Reserved@a 4332, 6187, 6216,  
11526, 11576, 11639

\Hy@RestoreCatcodes 205, 3660,  
3924

\Hy@RestoreLastskip . . . . .  
. . . . . 2266, 7947, 8478,  
8493, 8565, 8575, 8846, 9304,  
9321, 9392, 9405, 9865, 9885,  
10732, 10747, 11005, 11019

\Hy@ReturnAfterElseFi 355, 4157

\Hy@ReturnAfterElseFiFiEnd . .  
. . . . . 359, 1696

\Hy@ReturnAfterFi 355, 375, 1874,  
4161, 4177, 7247, 7283, 7767,  
7777, 12453

\Hy@ReturnAfterFiFiEnd . . 358,  
1688, 1702, 1780, 1787

\Hy@ReturnEnd . . 357, 358, 359,  
1708, 1792

\Hy@safe@activesfalse 360, 4082,  
4087, 4346, 7627

\Hy@safe@activestruer . . . . . 360,  
4080, 4085, 4149, 4186, 4194,  
4222, 4269, 4338, 7537, 7616,  
12999, 13028

\Hy@samed@currentHref . . . 6385,  
6388

\Hy@samed@footnotemark . 6480,  
6495

\Hy@samed@footnotetext . . 6481,  
6498

\Hy@samed@hook . . . . 5482, 5492

\Hy@SaveLastskip . . . . .  
. . . . . 2266, 7943, 8466,  
8481, 8556, 8568, 8794, 9291,  
9307, 9382, 9395, 9855, 9869,  
10721, 10735, 10994, 11008

\Hy@scanauthor . . . . . 5452, 5457

\Hy@scanoptauthor . . . 5452, 5453

\Hy@scanopttitle . . . . 5443, 5444

\Hy@scantitle . . . . . 5443, 5448

\Hy@secnum@part . 13182, 13184,  
13187

\Hy@SectionAnchorHref . . . . 527,  
13120, 13142, 13213

\Hy@SectionHShift 13119, 13128,  
13138, 13209

\Hy@seminarslidesfalse . . . 7295

\Hy@seminarslidestrue . . . . 7293

\Hy@setbreaklinks . . . 2473, 2477,  
2489, 7794, 8790

\Hy@SetCatcodes 181, 231, 3662

\Hy@SetNewWindow . . . . .  
3590, 8078, 8114, 9045, 9542,  
10442, 10467

\Hy@setouterhbox . 10182, 10188

\Hy@setpagesizetrue . . . . . 336

\Hy@setpdfborder . . . 3241, 7972,  
8031, 8062, 8098, 8425, 9008,  
9036, 9063, 9091, 9426, 9447,  
9468, 9487, 9519, 9550, 9566

\Hy@setpdfversiontrue . . . . 2608

\Hy@setref@link . . . . . 7493, 7496

\Hy@slidetitle . 7322, 7324, 7331,  
7339, 7349, 7373, 7375, 7382,  
7390, 7400

\Hy@StartlinkName . . 7970, 7984

\Hy@StepCount 346, 5582, 11323,  
11385, 11591, 11803, 11866,  
12144, 12210, 12887, 12892,  
12968

\Hy@temp . . . . . 557, 564, 677,  
749, 853, 856, 864, 865, 2416,  
2421, 2422, 2423, 2424, 2425,  
2426, 3171, 3180, 3181, 3182,  
3183, 3184, 3185, 3186, 3213,  
3214, 3215, 3218, 3220, 3223,  
3400, 3401, 3404, 3407, 3410,  
3435, 3443, 3444, 3445, 3446,  
3447, 3448, 3449, 3450, 3451,  
3582, 3583, 3736, 3740, 3741,  
3742, 3743, 3819, 3821, 3826,  
3828, 3831, 3843, 3845, 3850,  
3852, 3858, 3860, 3865, 3867,  
3870, 3912, 3913, 4545, 4549,  
4550, 4561, 4645, 4646, 4647,  
4649, 4653, 4965, 4966, 4967,  
4969, 4973, 4974, 5109, 5125,  
5126, 5127, 5128, 5129, 5130,  
5131, 5132, 5133, 5138, 5139,  
5140, 5141, 5142, 5143, 5144,  
5145, 5146, 5147, 5148, 5562,  
5565, 5574, 5576, 5580, 5584,  
5628, 5630, 6026, 6029, 6032,  
6038, 6150, 6156, 6464, 6470,  
7244, 7245, 8213, 8242, 8244,  
8720, 8725, 8731, 8735, 8738,  
8743, 8774, 8776, 9153, 9196,  
9198, 10020, 10023, 10027,  
10028, 10034, 10035, 10041,  
10069, 10074, 10080, 10084,  
10087, 10092, 10125, 10127,  
10239, 10240, 10248, 10249,  
10353, 10354, 10857, 10862,  
10868, 10872, 10875, 10880,  
10913, 10915, 12434, 12435,  
13039, 13045, 13053, 13068

\Hy@temp@a 588, 589, 1680, 1682,  
1693, 1695, 1700, 1701, 1704,  
3436, 3438, 7166, 7167, 7168,  
7175, 7203, 7204, 7205, 7214

\Hy@temp@B . . . . . 1681, 1682

\Hy@tempa . . . . . 2310, 2312,  
2314, 2315, 2317, 2319, 2321,  
2324, 2327, 2328, 2748, 2749,  
2750, 2752, 2753, 2755, 2756,  
2758, 2762, 2766, 2777, 2779,  
2781, 2782, 2784, 2788, 4155,  
4156, 4167, 4171, 4270, 4274,  
4337, 4340, 4349, 4351, 4952,  
4953, 5611, 5613, 5651, 5653,  
5792, 5794, 6234, 6236, 6237,  
6240, 6241, 6242, 6542, 6547,  
6552, 6967, 6968, 6986, 6987,  
6993, 7309, 7310, 7361, 7362,  
8499, 8500, 9272, 9420, 9421,  
10753, 10754, 11025, 11026,  
12772, 12773, 12796, 12798,  
12815, 12816, 12824, 12848,  
12850, 12851, 12853, 12854,  
13236, 13261, 13266, 13269,  
13272

\Hy@tempb 5612, 5613, 5652, 5653,  
12797, 12798, 12824

\Hy@tempcolor 9902, 9904, 9917,  
9990, 9992, 10004

\Hy@TempPageAnchor . . . 6918,  
6925, 6929, 6945

\Hy@testname . . . . . 7958, 7959,  
7964, 7966, 7967, 7981, 8989,  
8990, 8995, 8997, 8999, 9015,  
9434, 9435, 9440, 9444, 9506,  
9507, 9512, 9516, 9995, 9996,  
10001, 10012

\Hy@texhtfalse . . . . . 337

\Hy@texhttrue . . . . . 2623, 3815

\Hy@title . . . . . 5445, 5449

\Hy@toclevel . . . 6978, 6982, 6995

\Hy@toolbartrue . . . . . 338

\Hy@true . 2243, 2315, 2317, 2782,  
2784

\Hy@typexmlfalse . . . . . 339

\Hy@undefinedname . 7955, 7962, 7964, 8985, 8993, 8995, 9408, 9438, 9440, 9510, 9512, 9986, 9999, 10001	8832, 8991, 9436, 9508, 9997, 10276, 10285, 12781, 12799	\HyC@Toks . . 79, 90, 96, 106, 126
\Hy@unicodetrue . . 340, 654, 663, 2539, 2540, 2548, 3377, 3383, 6028, 6922, 12472	\Hy@WarningNoLine . 242, 2411, 2479, 2593, 3191, 3229, 3328, 3428, 3646, 3695, 3823, 3832, 3847, 3862, 3871, 5426, 5528, 5692, 5806, 6013, 6969, 7124, 10155	\HyCal@do . . . . . 376, 380
\Hy@unicodetrue 2540, 5726, 5740	\Hy@WarningPageBorderColor . . . . . 3226, 3228, 3230	\HyCal@scan . . . . . 367, 371, 395
\Hy@usehidkeyfalse . . . . . 3205	\Hy@WarningPageColor . . . 3188, 3190, 3192	\HyColor@FieldBColor 5090, 5093
\Hy@usehidkeytrue . . . . . 3209	\Hy@WarnOptionDisabled . 2344, 2346	\HyColor@FieldColor . . . . . 5096
\Hy@UseMaketitleInfos . . . . . 5498, 8254, 8682, 9113, 9794, 10018, 10826	\Hy@WarnOptionValue . . . 2325, 2331, 2769, 2791	\HyColor@HyperrefBorderColor . . . . . 3216
\Hy@UseMaketitleString . . 5479, 5499, 5500	\Hy@windowuitrue . . . . . 343	\HyColor@HyperrefColor . . 3176
\Hy@UseNameKey . . . . . 2394, 8220, 8221, 8222, 8223, 8224, 8225, 8226, 8227, 8246, 8750, 8751, 8752, 8753, 8754, 8755, 8756, 8757, 8778, 9160, 9161, 9162, 9163, 9164, 9165, 9166, 9167, 9200, 9766, 9767, 9768, 9769, 9770, 9771, 9772, 9773, 10099, 10100, 10101, 10102, 10103, 10104, 10105, 10106, 10129, 10887, 10888, 10889, 10890, 10891, 10892, 10893, 10894, 10917	\Hy@writebookmark . 2248, 6979, 7329, 7337, 7347, 7380, 7388, 7398, 12758, 12898	\HyColor@UseColor . . 4054, 7908, 7919, 8949, 8960
\Hy@usetitlefalse . . . . . 341	\HyC@cmd . . . . . 87, 109, 122	\HyField@@AddToFields . 11702, 11706
\Hy@varioref@undefined . . 6108, 6112, 7622	\HyC@check . . . . . 68, 71, 74	\HyField@@PDFChoices . . 4840, 4841, 4856
\Hy@VerboseAnchor . . . . . 4219, 7944, 8467, 8482, 8557, 8569, 8795, 9292, 9308, 9383, 9396, 9856, 9870, 10722, 10736, 10995, 11009	\HyC@checkcommand . 50, 57, 59	\HyField@@SetFlag . . 4535, 4537
\Hy@verbosefalse . . . . . 342	\HyC@checkFailed . . . . . 146, 157	\HyField@@UseFlag . . 4525, 4527
\Hy@VerboseGlobalTemp . . 4195, 4196, 4197, 4198, 4202	\HyC@checkItem . . 132, 133, 134, 135, 138	\HyField@AddToFields . . 11672, 11701, 11788, 11881, 11894, 11921, 11946, 11970, 11992
\Hy@VerboseLinkInfo 4202, 4203, 4206, 4213	\HyC@checklong . . . . . 45, 53	\HyField@AdvanceAnnotCount . . 12090, 12120, 12215, 12245, 12274, 12303, 12332, 12359
\Hy@VerboseLinkStart . . . . . 4191, 8004, 8014, 8497, 8542, 8578, 8590, 8987, 9248, 9271, 9410, 9499, 9888, 9988, 10751, 10800, 11023, 11070	\HyC@checkOk . . . . . 144, 154	\HyField@afields . . 11669, 11691, 11692, 11694, 11728
\Hy@VerboseLinkStop 4207, 7989	\HyC@checkPackage . . 12, 16, 18	\HyField@AfterAuxOpen . 11682, 11689, 11707
\Hy@vt@PutCatalog . 5698, 5700	\HyC@cmd 62, 75, 87, 95, 118, 131	\HyField@AnnotCount . . 12088, 12091, 12094
\Hy@VTeXversion . . 5678, 5690, 9464, 9577, 9713, 12920	\HyC@date . . . . 11, 15, 23, 29, 31	\HyField@AuxAddToFields 11681, 11686, 11690, 11710
\Hy@Warning . . . . . 241, 382, 1620, 2332, 2347, 2372, 2452, 2567, 2572, 3088, 3140, 3412, 3459, 3467, 4032, 4352, 4445, 4602, 4957, 5736, 5751, 6959, 7603, 7652, 7960, 8828,	\HyC@DeclareRobustCommand . . . . . 114	\HyField@FlagsAnnot 4695, 4714, 4728, 4741, 4757, 4789
	\HyC@def . . . . . 125	\HyField@FlagsCheckBox . 4727, 11484, 11985, 12354
	\HyC@defcmd . . . . . 47, 54, 93	\HyField@FlagsChoice . . . 4788, 11363, 11844, 12185
	\HyC@doCheck . . . . . 99, 130	\HyField@FlagsPushButton 4713, 11420, 11440, 11465, 11913, 11934, 11964, 12272, 12297, 12328
	\HyC@edef . . . . . 125	\HyField@FlagsRadioButton 4740, 11359, 11840, 12181
	\HyC@getDate . . . . . 12, 14	\HyField@FlagsSubmit . . . 4661, 11441, 11935, 12298
	\HyC@meaning . . . . . 152, 160	\HyField@FlagsText 4756, 11301, 11781, 12114
	\HyC@nc@default . . . . 103, 105	\HyField@NewBitsetFlag . . 4493, 4496, 4504
	\HyC@nc@noopt 88, 91, 103, 112, 123, 127	\HyField@NewFlag . . 4491, 4567, 4568, 4569, 4570, 4571, 4572, 4573, 4574, 4575, 4576, 4577, 4578, 4579, 4580, 4581, 4582, 4583, 4584, 4585, 4586, 4591, 4592, 4593, 4594, 4595, 4596, 4597, 4598, 4599, 4632, 4634, 4635, 4637, 4638, 4640, 4641, 4642, 4643
	\HyC@nc@opt . . . . . 88, 101, 123	
	\HyC@newcommand . . . . . 86	
	\HyC@next . . . . . 48, 55, 60, 83	
	\HyC@noValue . 80, 81, 82, 85, 139	
	\HyC@optcmd . . . . . 107, 111	
	\HyC@org@cmd . . . . . 76	
	\HyC@org@optcmd . . . . 80, 111	
	\HyC@org@robustcmd . . 81, 120	
	\HyC@org@robustoptcmd . . 82	
	\HyC@package 10, 22, 28, 34, 37, 38	
	\HyC@param . . . . . 78, 96, 102	
	\HyC@robustcmd . . 115, 120, 121, 122	
	\HyC@star . . . . . 67, 70, 94	
	\HyC@string . . 131, 152, 155, 158	



\HyField@NewFlagOnly . . . <a href="#">4495</a> , 4633, 4636, 4639	\HyInfo@AddonList . . . <a href="#">3481</a> , <a href="#">3482</a> , 3516, 3523	\HyOrg@maketitle . . . <a href="#">6478</a> , <a href="#">6485</a> , 6490
\HyField@NewOption <a href="#">4492</a> , <a href="#">4498</a>	\HyInfo@Addons <a href="#">3502</a> , <a href="#">3518</a> , <a href="#">8278</a> , <a href="#">9138</a> , <a href="#">10050</a> , <a href="#">10054</a>	\HyOrg@subequations <a href="#">6251</a> , <a href="#">6258</a>
\HyField@PDFAFlagWarning . . . 4601, 4609, 4613, 4617, 4621, 4625, 4629	\HyInfo@AddonUnsupportedtrue . . . <a href="#">8680</a> , <a href="#">9792</a> , <a href="#">10824</a>	\HyOrg@title . . . <a href="#">5441</a> , <a href="#">5446</a> , <a href="#">5450</a>
\HyField@PDFChoices . . . . <a href="#">4813</a> , 11398, 11888, 12239	\HyInfo@do . . . . <a href="#">3456</a> , <a href="#">3483</a> , <a href="#">3506</a>	\HyOrg@url . . . . . <a href="#">4249</a>
\HyField@PrintFlags . <a href="#">4542</a> , <a href="#">4688</a> , 4706, 4720, 4733, 4749, 4781, 4806	\HyInfo@GenerateAddons . <a href="#">3500</a> , <a href="#">8255</a> , <a href="#">9114</a> , <a href="#">10019</a>	\hyper@C@anchor <a href="#">3679</a> , <a href="#">4259</a> , <a href="#">4261</a> , <a href="#">4292</a> , <a href="#">4294</a> , <a href="#">4327</a> , <a href="#">4329</a> , <a href="#">4442</a> , <a href="#">5313</a> , <a href="#">5329</a> , <a href="#">5346</a> , <a href="#">6351</a> , <a href="#">6356</a> , <a href="#">6366</a> , <a href="#">6371</a> , <a href="#">6426</a> , <a href="#">6429</a> , <a href="#">6455</a> , <a href="#">6583</a> , <a href="#">6586</a> , <a href="#">6614</a> , <a href="#">6918</a> , <a href="#">6925</a> , <a href="#">6930</a> , <a href="#">7328</a> , <a href="#">7336</a> , <a href="#">7346</a> , <a href="#">7379</a> , <a href="#">7387</a> , <a href="#">7397</a>
\HyField@SetFlag . . . <a href="#">4534</a> , <a href="#">4674</a> , 4680, 4685, 4719, 4747	\HyInfo@Key . . . <a href="#">3464</a> , <a href="#">3465</a> , <a href="#">3473</a> , <a href="#">3478</a> , <a href="#">3483</a> , <a href="#">3486</a> , <a href="#">3493</a> , <a href="#">3507</a> , <a href="#">3511</a>	\hyper@C@link . . . <a href="#">4189</a> , <a href="#">4245</a> , <a href="#">4282</a> , <a href="#">4306</a> , <a href="#">4308</a> , <a href="#">4332</a> , <a href="#">6671</a> , <a href="#">6817</a> , <a href="#">6818</a> , <a href="#">6819</a> , <a href="#">6867</a> , <a href="#">6869</a> , <a href="#">6871</a> , <a href="#">7498</a> , <a href="#">7513</a> , <a href="#">7612</a>
\HyField@SetKeys . . <a href="#">4917</a> , <a href="#">11298</a> , <a href="#">11330</a> , <a href="#">11333</a> , <a href="#">11352</a> , <a href="#">11408</a> , <a href="#">11437</a> , <a href="#">11455</a> , <a href="#">11481</a> , <a href="#">11777</a> , <a href="#">11810</a> , <a href="#">11813</a> , <a href="#">11832</a> , <a href="#">11900</a> , <a href="#">11931</a> , <a href="#">11954</a> , <a href="#">11981</a> , <a href="#">12110</a> , <a href="#">12151</a> , <a href="#">12154</a> , <a href="#">12173</a> , <a href="#">12258</a> , <a href="#">12294</a> , <a href="#">12318</a> , <a href="#">12350</a>	\HyInfo@KeyEscaped . <a href="#">3463</a> , <a href="#">3464</a>	\hyper@C@normalise . . <a href="#">4158</a> , <a href="#">4162</a> , <a href="#">4166</a>
\HyField@TheAnnotCount <a href="#">12093</a> , <a href="#">12124</a> , <a href="#">12129</a> , <a href="#">12220</a> , <a href="#">12232</a> , <a href="#">12247</a> , <a href="#">12252</a> , <a href="#">12279</a> , <a href="#">12285</a> , <a href="#">12305</a> , <a href="#">12310</a> , <a href="#">12334</a> , <a href="#">12339</a> , <a href="#">12363</a> , <a href="#">12368</a>	\HyInfo@Trapped@false <a href="#">3404</a> , <a href="#">3423</a>	\hyper@C@anchor . . . . . <a href="#">4469</a> , <a href="#">5316</a> , <a href="#">5331</a> , <a href="#">5396</a> , <a href="#">5409</a> , <a href="#">7992</a> , <a href="#">8465</a> , <a href="#">8555</a> , <a href="#">8851</a> , <a href="#">9306</a> , <a href="#">9381</a> , <a href="#">9854</a> , <a href="#">10720</a> , <a href="#">10993</a>
\HyField@UseFlag . . . <a href="#">4524</a> , <a href="#">4665</a> , 4666, 4667, 4668, 4669, 4670, 4671, 4672, 4675, 4676, 4677, 4678, 4681, 4682, 4683, 4686, 4697, 4698, 4699, 4700, 4701, 4702, 4703, 4704, 4705, 4716, 4717, 4718, 4730, 4731, 4732, 4743, 4744, 4745, 4746, 4748, 4759, 4760, 4761, 4762, 4763, 4764, 4765, 4766, 4777, 4780, 4791, 4792, 4793, 4794, 4796, 4798, 4799, 4802, 4805	\HyInfo@Trapped@unknown <a href="#">3407</a> , <a href="#">3424</a>	\hyper@C@anchorend . . . . . <a href="#">3682</a> , <a href="#">5300</a> , <a href="#">5318</a> , <a href="#">5333</a> , <a href="#">5349</a> , <a href="#">5915</a> , <a href="#">6078</a> , <a href="#">6138</a> , <a href="#">6180</a> , <a href="#">6199</a> , <a href="#">6223</a> , <a href="#">6312</a> , <a href="#">6665</a> , <a href="#">6690</a> , <a href="#">6693</a> , <a href="#">6713</a> , <a href="#">6846</a> , <a href="#">7052</a> , <a href="#">7078</a> , <a href="#">7999</a> , <a href="#">8490</a> , <a href="#">8573</a> , <a href="#">8858</a> , <a href="#">9301</a> , <a href="#">9403</a> , <a href="#">9876</a> , <a href="#">10744</a> , <a href="#">11016</a> , <a href="#">12754</a> , <a href="#">12899</a> , <a href="#">13130</a> , <a href="#">13155</a> , <a href="#">13166</a> , <a href="#">13196</a> , <a href="#">13248</a>
\HyInd@@@wrindex . . <a href="#">7162</a> , <a href="#">7165</a> , <a href="#">7196</a> , <a href="#">7202</a>	\HyInfo@Value . . . . . <a href="#">3477</a> , <a href="#">3479</a>	\hyper@C@anchorstart . . . . . <a href="#">3681</a> , <a href="#">5300</a> , <a href="#">5317</a> , <a href="#">5332</a> , <a href="#">5348</a> , <a href="#">5915</a> , <a href="#">6077</a> , <a href="#">6138</a> , <a href="#">6177</a> , <a href="#">6199</a> , <a href="#">6223</a> , <a href="#">6309</a> , <a href="#">6663</a> , <a href="#">6688</a> , <a href="#">6693</a> , <a href="#">6713</a> , <a href="#">6846</a> , <a href="#">7052</a> , <a href="#">7078</a> , <a href="#">7995</a> , <a href="#">8480</a> , <a href="#">8567</a> , <a href="#">8854</a> , <a href="#">9290</a> , <a href="#">9394</a> , <a href="#">9868</a> , <a href="#">10734</a> , <a href="#">11007</a> , <a href="#">12754</a> , <a href="#">12899</a> , <a href="#">13130</a> , <a href="#">13155</a> , <a href="#">13166</a> , <a href="#">13196</a> , <a href="#">13248</a>
\HyInd@@hyperpage . <a href="#">7242</a> , <a href="#">7252</a>	\HyLang@addto <a href="#">3003</a> , <a href="#">3025</a> , <a href="#">3056</a> , <a href="#">3064</a>	\hyper@C@chars . . . . . <a href="#">4183</a> , <a href="#">8027</a> , <a href="#">8470</a> , <a href="#">8484</a> , <a href="#">8504</a> , <a href="#">8523</a> , <a href="#">8533</a> , <a href="#">8547</a> , <a href="#">8619</a> , <a href="#">8649</a> , <a href="#">9257</a> , <a href="#">9278</a> , <a href="#">9294</a> , <a href="#">9311</a> , <a href="#">9386</a> , <a href="#">9398</a> , <a href="#">9481</a> , <a href="#">10410</a> , <a href="#">10738</a> , <a href="#">10758</a> , <a href="#">10781</a> , <a href="#">10791</a> , <a href="#">10805</a> , <a href="#">11011</a> , <a href="#">11030</a> , <a href="#">11050</a> , <a href="#">11062</a> , <a href="#">11075</a>
\HyInd@@wrindex . . . <a href="#">7157</a> , <a href="#">7158</a>	\HyLang@afrikaans . . . . . <a href="#">2801</a>	\hyper@C@currentanchor <a href="#">9873</a> , <a href="#">9882</a> , <a href="#">9896</a> , <a href="#">9913</a>
\HyInd@EncapChar . . <a href="#">2799</a> , <a href="#">3656</a> , <a href="#">7152</a>	\HyLang@DeclareLang <a href="#">3017</a> , <a href="#">3032</a> , <a href="#">3033</a> , <a href="#">3034</a> , <a href="#">3035</a> , <a href="#">3036</a> , <a href="#">3037</a> , <a href="#">3038</a> , <a href="#">3039</a> , <a href="#">3040</a> , <a href="#">3041</a> , <a href="#">3042</a> , <a href="#">3043</a> , <a href="#">3044</a> , <a href="#">3045</a> , <a href="#">3046</a> , <a href="#">3047</a> , <a href="#">3048</a> , <a href="#">3049</a> , <a href="#">3050</a> , <a href="#">3051</a> , <a href="#">3052</a> , <a href="#">3053</a> , <a href="#">3054</a>	\hyper@C@currentlinktype . . . <a href="#">9897</a> , <a href="#">9901</a> , <a href="#">9905</a>
\HyInd@hyperpage . . . <a href="#">7239</a> , <a href="#">7241</a> , <a href="#">7248</a>	\HyLang@english . . . . . <a href="#">2819</a>	\hyper@C@hash . . . <a href="#">4135</a> , <a href="#">4136</a> , <a href="#">4184</a> , <a href="#">4388</a> , <a href="#">4400</a> , <a href="#">4417</a> , <a href="#">4420</a> , <a href="#">5267</a> , <a href="#">9251</a>
\HyInd@org@wrindex . <a href="#">7156</a> , <a href="#">7160</a> , <a href="#">7170</a> , <a href="#">7176</a> , <a href="#">7178</a> , <a href="#">7181</a>	\HyLang@french . . . . . <a href="#">2837</a>	\hyper@C@image . . <a href="#">4255</a> , <a href="#">4256</a> , <a href="#">8545</a> , <a href="#">9530</a> , <a href="#">9983</a> , <a href="#">10803</a> , <a href="#">11073</a>
\HyInd@pagelink <a href="#">7257</a> , <a href="#">7263</a> , <a href="#">7265</a> , <a href="#">7268</a>	\HyLang@german . . . . . <a href="#">2855</a>	\hyper@C@last . . . . . <a href="#">5416</a> , <a href="#">5421</a>
\HyInd@ParenLeft . . . <a href="#">7139</a> , <a href="#">7167</a> , <a href="#">7204</a>	\HyLang@italian . . . . . <a href="#">2873</a>	
\HyInd@ParenRight . . <a href="#">7140</a> , <a href="#">7168</a> , <a href="#">7175</a> , <a href="#">7205</a> , <a href="#">7214</a>	\HyLang@magyar . . . . . <a href="#">2891</a>	
\HyInd@removespaces <a href="#">7271</a> , <a href="#">7274</a> , <a href="#">7284</a>	\HyLang@portuges . . . . . <a href="#">2909</a>	
\HyInfo@AddonHandler . . . <a href="#">3454</a> , <a href="#">3457</a>	\HyLang@russian . . . . . <a href="#">2927</a>	
	\HyLang@spanish . . . . . <a href="#">2967</a>	
	\HyLang@vietnamese . <a href="#">2985</a> , <a href="#">3056</a> , <a href="#">3064</a>	
	\HyLinguex@OrgB . . . . . <a href="#">751</a> , <a href="#">755</a>	
	\HyLinguex@OrgC . . . . . <a href="#">752</a> , <a href="#">756</a>	
	\HyLinguex@OrgD . . . . . <a href="#">753</a> , <a href="#">757</a>	
	\HyLinguex@Restore . . <a href="#">754</a> , <a href="#">767</a> , <a href="#">771</a> , <a href="#">779</a> , <a href="#">2521</a>	
	\HyOrg@addtoreset . . <a href="#">7082</a> , <a href="#">7084</a> , <a href="#">7111</a>	
	\HyOrg@appendix . . . <a href="#">5927</a> , <a href="#">5933</a>	
	\HyOrg@author . <a href="#">5442</a> , <a href="#">5455</a> , <a href="#">5459</a>	
	\HyOrg@float@makebox . . . <a href="#">6608</a> , <a href="#">6610</a>	
	\HyOrg@hyperpage . . <a href="#">7142</a> , <a href="#">7144</a> , <a href="#">7145</a>	
	\HyOrg@languageshorthands <a href="#">823</a> , <a href="#">838</a> , <a href="#">849</a> , <a href="#">859</a>	
	\HyOrg@make@df@tag@@ . <a href="#">7067</a>	
	\HyOrg@make@df@tag@@@ <a href="#">7068</a>	

\hyper@link 3680, 4341, 5314, 5315, 5330, 5341, 5347, 8013, 8541, 8589, 9023, 9247, 9498, 9987, 10799, 11069	\hyper@refstepcounter 5890, 5893, 5900	\HyPL@Format 5623, 5624, 5625, 5626, 5627, 5639
\hyper@link@ . . 3687, 4333, 4335, 5312, 5323, 5327, 5338, 5354	\hyper@tilde 4144, 4145, 4146, 5268	\HyPL@found . 5622, 5629, 5633, 5640, 5650, 5652
\hyper@linkend 3684, 5320, 5335, 5351, 6391, 6657, 6660, 7013, 7017, 7021, 7023, 8012, 8510, 8586, 9022, 9024, 9283, 9456, 9899, 10766, 11036	\hypercalcbp . . . . . 362, 362	\HyPL@Labels . 5539, 5662, 5663, 5665, 5667, 5712, 5713, 5805, 5813, 5814
\hyper@linkfile . . . . . 3686, 4413, 5322, 5337, 5353, 8055, 8514, 8647, 9026, 9267, 9460, 10425, 10770, 11040	\hypercalcbpdef . . 364, 401, 3556	\HyPL@LastNumber . 5543, 5578, 5601
\hyper@linkstart 3683, 5319, 5334, 5350, 6389, 6653, 6660, 7013, 7017, 7021, 7023, 8003, 8496, 8577, 8986, 9024, 9270, 9409, 9887, 10750, 11022	\hyperdef . . . . . 4284, 5367	\HyPL@LastPrefix . . 5544, 5572, 5603
\hyper@linkurl . . . . . 3685, 4254, 4388, 4395, 4416, 4420, 5321, 5336, 5352, 8024, 8515, 8517, 8543, 8617, 9054, 9255, 9268, 9478, 9531, 9984, 10407, 10771, 10775, 10801, 11041, 11043, 11071	\HyperDestNameFilter . . . . . 3638, 4223, 7945, 7967, 8472, 8486, 8506, 8543, 8797, 8998, 9251, 9261, 9279, 9297, 9315, 9387, 9399, 9443, 9515, 10273, 10282, 10726, 10740, 10761, 10801, 10999, 11012, 11032, 11071, 12977, 13041, 13057	\HyPL@LastType 5542, 5563, 5602
\hyper@livelink . . . . . 5314, 5341	\HyperFirstAtBeginDocument . . . 5393, 5395, 5417, 5420	\HyPL@page . . 5553, 5555, 5560, 5568
\hyper@makecurrent . 5911, 5935, 6125, 6176, 6198, 6222, 6286, 6386, 6559, 6601	\hypergetpageref . . . . . 6071	\HyPL@Prefix . 5568, 5570, 5572, 5586, 5589, 5591, 5603, 5617, 5655
\hyper@n@rmalise . . . 4150, 4154	\hypergetref . . . . . 6070	\HyPL@Roman . . . . . 5546
\hyper@nat@current . . . . . 6654	\HyperGlobalCurrentHref . 5956, 5958, 5966, 5967, 5971, 5974, 5978, 5984, 5985, 5989	\HyPL@roman . . . . . 5547
\hyper@nat@anchorend . . . . 6665	\hyperimage . . . 4255, 4475, 7134	\HyPL@SetPageLabels 5661, 5720, 5808
\hyper@nat@anchorstart . . . . 6662	\hyperindexformat . . . . . 7141	\HyPL@storePageLabel . . . 5586, 5588, 5658, 5710, 5789
\hyper@nat@linkbreak . . . . . 6659	\hyperlink 4188, 5368, 7280, 7418, 7426, 7441, 7449, 7459, 7467, 7474	\HyPL@thisLabel 5536, 5538, 5552, 5555, 5556
\hyper@nat@linkend . . . . . 6656	\hyperlinkfileprefix . . 3197, 3198, 3199, 10985	\HyPL@Type . . 5558, 5563, 5567, 5585, 5593, 5602, 5616, 5654
\hyper@nat@linkstart . . . . . 6651	\HyperLocalCurrentHref . . 5974, 5976, 5982, 5983, 5984, 5985, 5987	\HyPL@Useless . . . . . 5659, 5665
\hyper@normalise . . . 3658, 3663, 4127, 4235, 4238, 4251, 4253, 4255, 4276, 4947	\hyperpage 5374, 7142, 7143, 7145, 7238	\HyPsd@@@autoref . . 1541, 1543, 1546
\hyper@pageduration . 8315, 8363, 9690, 9707, 9950, 9980	\HyperRaiseLinkDefault . . 2250, 2259	\HyPsd@@@CJKdigits 1412, 1415, 1423
\hyper@pagehidden . . 8339, 8364, 9700, 9708, 9967, 9981	\HyperRaiseLinkHook 2249, 2260	\HyPsd@@@nameref . . 1523, 1525, 1528
\hyper@pagetransition 8291, 8362, 9579, 9706, 9933, 9979	\HyperRaiseLinkLength . . 2258, 2259, 2262	\HyPsd@@@pageref . . 1505, 1507, 1510
\hyper@quote . 5269, 8472, 8486, 8501, 8506, 8524, 8534, 8548, 9251, 9261, 9274, 9297, 9315, 10726, 10740, 10755, 10761, 10782, 10792, 10806, 10999, 11012, 11027, 11032, 11052, 11063, 11076	\hyperref . 4264, 4482, 4483, 5370, 7570, 7574, 7584, 7598	\HyPsd@@@ref . . 1489, 1491, 1494
\hyper@readexternallink . . 4343, 4359	\hypersetup 2560, 3041, 3440, 3657, 3659, 5364	\HyPsd@@@UTFviii@four . . 2125, 2128
	\hypertarget . . . . . 4257, 5369	\HyPsd@@@AppendItalcorr . 1710
	\HyPL@@@CheckThePage . 5632, 5650	\HyPsd@@@autoref . . . 1538, 1539
	\HyPL@@CheckThePage . . 5608, 5610	\HyPsd@@@autorefname 1559, 1562
	\HyPL@Alph . . . . . 5548	\HyPsd@@@CJKdigits . 1404, 1406, 1409
	\HyPL@alph . . . . . 5549	\HyPsd@@@CJKNumber 1305, 1307, 1310, 1363, 1378, 1391, 1393, 1397
	\HyPL@arabic . . . . . 5545	\HyPsd@@@ConvertToUnicode . . . . . 2004
	\HyPL@CheckThePage 5560, 5607	\HyPsd@@@GetNextTwoTokens . . . . . 2002
	\HyPL@Entry . 5794, 5802, 5810, 5812	\HyPsd@@@GlyphProcessWarning . . . . . 1880, 1883
	\HyPL@EveryPage . . . 5550, 5671	\HyPsd@@@GreekNum . . 972, 981, 1080, 1084, 1088
		\HyPsd@@@hspace . . . . 1460, 1461

\HyPsd@@LetCommand . . 1583, 1604  
\HyPsd@nameref . . . 1520, 1521  
\HyPsd@pageref . . . 1502, 1503  
\HyPsd@@ProtectSpacesFi . 1632, 1636, 1654, 1660, 1665  
\HyPsd@@ref . . . . . 1486, 1487  
\HyPsd@@RemoveBraces . . 1678  
\HyPsd@@RemoveBracesFi 1675, 1678  
\HyPsd@@RemoveCmdPrefix . . . . . 1837, 1840  
\HyPsd@@ReplaceFi . 1907, 1913, 1918  
\HyPsd@@UTFviii@four . . . 2109, 2114  
\HyPsd@add@accent . . 423, 1449  
\HyPsd@AfterCountRemove 1723, 1794  
\HyPsd@AfterDimenRemove . . . . . 1729, 1797  
\HyPsd@AfterSkipRemove . 1735, 1809  
\HyPsd@AMSclassfix . 512, 1470, 1472  
\HyPsd@AppendItalcrr . . 1694, 1701, 1710  
\HyPsd@autoref . . . . . 522, 1538  
\HyPsd@autorefname . 1550, 1556  
\HyPsd@babel@danish . . . . . 868  
\HyPsd@babel@dutch . . . . . 874  
\HyPsd@babel@finnish . . . . . 880  
\HyPsd@babel@frenchb . . . . . 885  
\HyPsd@babel@german . . . . . 890  
\HyPsd@babel@macedonian . 897  
\HyPsd@babel@ngerman . . . 903  
\HyPsd@babel@portuges . . . 909  
\HyPsd@babel@russian . . . . 914  
\HyPsd@babel@slovene . . . . 920  
\HyPsd@babel@spanish . . . . 925  
\HyPsd@babel@swedish . . . . 935  
\HyPsd@babel@ukrainian . . . 941  
\HyPsd@babel@usorbian . . . 947  
\HyPsd@BabelPatch 498, 822, 858  
\HyPsd@CatcodeWarning . 1739, 1756, 1759, 1762, 1765, 1821  
\HyPsd@Char . . . . . 2006  
\HyPsd@CharOctByte 2026, 2028, 2031, 2040, 2045  
\HyPsd@CharSurrogate . . . 2020, 2037  
\HyPsd@CharTwoByte 2018, 2025  
\HyPsd@CheckCatcodes 575, 1716  
\HyPsd@CJK@Unicode 1187, 1191  
\HyPsd@CJKActiveChars . 1127, 1142  
\HyPsd@CJKdigit . . . 1416, 1426  
\HyPsd@CJKdigits . . 1189, 1402  
\HyPsd@CJKhook 528, 1098, 1109  
\HyPsd@CJKhook@bookmarks . . . . . 1104, 1138  
\HyPsd@CJKhook@unicode 1106, 1186  
\HyPsd@CJKnumber . 1188, 1302  
\HyPsd@CJKnumberFour . 1320, 1324, 1328, 1341, 1345, 1349, 1355  
\HyPsd@CJKnumberLarge . 1333, 1340  
\HyPsd@CJKnumberThree 1361, 1365, 1371  
\HyPsd@CJKnumberTwo . . 1376, 1380, 1386  
\HyPsd@ConvertToUnicode . 643, 1952  
\HyPsd@DecimalToOctal . . 1119, 1150  
\HyPsd@DecimalToOctalFirst . . . . . 1193, 1229  
\HyPsd@DecimalToOctalSecond . . . . . 1194, 1203, 1266  
\HyPsd@DefCommand . 558, 559, 560, 561, 1572  
\HyPsd@DisableCommands . 802, 804  
\HyPsd@DoConvert . . 1954, 1964  
\HyPsd@DoEscape . . . . . 1978  
\HyPsd@doxspace . . . . 615, 1925  
\HyPsd@empty 600, 602, 606, 607, 609, 617, 624  
\HyPsd@End 575, 579, 1633, 1636, 1639, 1642, 1645, 1658, 1668, 1675, 1678, 1716, 1724, 1730, 1736, 1781, 1788, 1794, 1797, 1809  
\HyPsd@EndWithElse 1439, 1448  
\HyPsd@fi . 1650, 1656, 1660, 1666  
\HyPsd@GetNextTwoTokens 2002  
\HyPsd@GetOneBye . . . . . 1997  
\HyPsd@GetTwoBytes . . . . 1993  
\HyPsd@GLYPHERR 580, 1436, 1450, 1457  
\HyPsd@GlyphProcess 582, 1868, 1881  
\HyPsd@GlyphProcessWarning . . . . . 1875, 1879  
\HyPsd@GobbleFiFi . 1441, 1447  
\HyPsd@GreekNum 961, 964, 966  
\HyPsd@greeknumeral . 957, 963  
\HyPsd@greeknumeral . . 956, 960  
\HyPsd@GreekNumI . 984, 1010, 1053, 1079  
\HyPsd@GreekNumII . 988, 1032, 1076, 1083  
\HyPsd@GreekNumIII 991, 1055, 1087  
\HyPsd@GreekNumIV 1000, 1078  
\HyPsd@GreekNumV . 1003, 1082  
\HyPsd@GreekNumVI 1005, 1086  
\HyPsd@GreekPatch 496, 953, 955  
\HyPsd@HighA . . . . . 1197, 1206  
\HyPsd@HighB . . . . . 1207, 1212  
\HyPsd@HighC . . . . . 1213, 1216  
\HyPsd@HighD . . . . . 1209, 1221  
\HyPsd@hspace . . . . . 513, 1460  
\HyPsd@hspacetest . . 1463, 1465, 1468  
\HyPsd@ifnextchar 544, 545, 546, 1609  
\HyPsd@ignorespaces . . . 526, 813  
\HyPsd@InitUnicode . . . . . 776  
\HyPsd@inmathwarn . . 422, 1433  
\HyPsd@ITALCORR . . 536, 540, 1457  
\HyPsd@langshort@system . . 829, 832  
\HyPsd@LanguageShorthands . . . . . 824, 830, 842  
\HyPsd@LetCommand . 562, 563, 1572  
\HyPsd@LetUnexpandableSpace . . . 531, 532, 533, 534, 1453, 1456  
\HyPsd@LoadStringEnc . . . 2564, 2584, 2586, 2590, 2592, 5731  
\HyPsd@LoadUnicode 2513, 2518, 2526, 2529, 2531, 2538, 5725  
\HyPsd@nameref . . . . . 521, 1520  
\HyPsd@pageref . . . . . 520, 1502  
\HyPsd@pdfencoding . 644, 2512, 2515, 2547, 2559, 2562, 2563, 2568, 2583, 5727, 5729, 5746, 5749  
\HyPsd@pdfencoding@auto . 644, 2553, 2563, 2580, 5729, 5748  
\HyPsd@pdfencoding@pdfdoc . . . . . 2546, 2568, 2581  
\HyPsd@pdfencoding@unicode . . . . . 2550, 2582, 5727, 5745  
\HyPsd@PrerenderUnicode 3338, 3354, 3360, 3366, 3372, 3390, 3396, 3476  
\HyPsd@protected@testopt . 547, 548, 1613  
\HyPsd@ProtectSpaces 568, 1630, 1651, 1700  
\HyPsd@ref . . . . . 519, 1486  
\HyPsd@RemoveBraces 570, 1672, 1689, 1697, 1703  
\HyPsd@RemoveCmdPrefix 1830, 1836



\HyPsd@RemoveMask	578, 1639, 1645, 1658, 1668	\HyPsd@UTFviii@@@three	2090, 2099	\if	1482, 2237, 5576, 5584, 6240, 6241, 9653, 9656, 9660, 9664, 9668, 9670, 9672, 12579
\HyPsd@RemoveSpaceWarning	1804, 1816, 1842	\HyPsd@UTFviii@@@two	2075, 2081	\if@eqnstar	6182, 6190
\HyPsd@ReplaceSpaceWarning	1799, 1811, 1855	\HyPsd@UTFviii@ccxliv@def	2065, 2071	\if@filesw	2205, 4320, 5386, 5430, 5790, 5800, 6020, 6700, 6715, 6731, 6743, 6773, 6796, 6823, 6828, 6847, 7190, 11684, 11708, 12817, 13004, 13084
\HyPsd@Rest	1717, 1777, 1785, 1788, 1795, 1800, 1806, 1812, 1818	\HyPsd@UTFviii@ccxliv@undef	2064, 2070	\if@hyper@item	5875, 5888
\HyPsd@SanitizeForOutFile	12816, 12847	\HyPsd@UTFviii@four	2063, 2108	\if@inlabel	6298
\HyPsd@SanitizeOut@BraceLeft	12851, 12857, 12866	\HyPsd@UTFviii@three	2062, 2089	\if@Localurl	9238, 9284
\HyPsd@SanitizeOut@BraceRight	12854, 12869, 12878	\HyPsd@UTFviii@two	2061, 2074	\if@mid@expandable	511
\HyPsd@SPACEOPTI	572, 587, 588, 590, 592, 594, 595, 634, 636, 1752, 1936	\HyPsd@Warning	1617, 1822, 1843, 1856, 1885, 1891	\if@minipage	6571, 6642
\HyPsd@spaceopti	636, 1899	\HyPsd@XeTeXBigCharsfalse	669, 683, 688	\if@nmbrlist	5862
\HyPsd@SpanishPatch	497, 1090	\HyPsd@XeTeXBigCharstrue	682, 691, 3353, 3359, 3365, 3371, 3389, 3395, 3475, 12475, 12814	\if@nbreak	6317
\HyPsd@String	569, 571, 574, 576, 581, 583, 1683, 1684, 1694, 1746, 1747, 1751, 1752, 1767, 1768, 1798, 1810, 1869, 1870	\HyPsd@XSPACE	538, 614, 1457	\if@skiphyperref	5876, 5886
\HyPsd@StringSubst	584, 586, 592, 598, 601, 604, 607, 626, 629, 631, 1922	\HyPsd@xspace	612, 614, 615	\if@twocolumn	13250
\HyPsd@Subst	580, 589, 593, 599, 605, 609, 613, 618, 619, 620, 621, 622, 623, 627, 630, 1906, 1923	\HyRef@@@StarSetRef	7541, 7546	\if@twoside	13239
\HyPsd@temp	647, 649, 650, 652, 653, 659, 661, 662, 2545, 2546, 2547, 2550, 2553, 2559, 2571, 2575, 5744, 5745, 5746, 5748, 5749, 5754	\HyRef@autopageref	7595, 7597	\ifcase	1017, 1039, 1062, 1151, 1200, 1222, 1225, 1231, 1267, 1311, 1427, 2103, 2550, 3137, 4663, 4768, 4897, 4974, 7009, 7167, 7204, 7433, 7622, 9726, 12518, 12595, 12660, 12695, 12729, 12924
\HyPsd@ToBigChar	702, 703, 712	\HyRef@autopagerefname	7594, 7598, 7600	\ifcat	1718, 1745, 1750, 1755, 1758, 1761, 1764, 4453, 4455
\HyPsd@ToBigChars	656, 694	\HyRef@autoref	7612, 7614	\ifdim	1468, 1798, 1802, 1810, 1814, 2269, 2288, 3643, 3928, 8381, 8385, 8390, 8394, 8401, 8404, 8408, 8411, 9218, 9219, 9224, 9225, 9357, 9360, 9364, 9367, 10193, 10204, 10545, 10546, 10551, 10552, 11325, 11364, 11365, 11805, 11845, 11846, 12146, 12186, 12187
\HyPsd@tocsection	1473, 1474, 1475, 1476, 1477, 1478, 1479, 1481	\HyRef@autosetref	7617, 7620	\ifetex@unexpanded	1624
\HyPsd@UnescapedString	649, 696, 697, 703	\HyRef@CaseStar	7681, 7687	\iffalse	689
\HyPsd@UnexpandableSpace	1456, 1641, 1665, 1800, 1812	\HyRef@currentHtag	7633, 7651, 7654, 7660, 7667, 7673, 7688	\IfFileExists	5425, 11086
\HyPsd@unichar	2067, 2134, 2140, 2145	\HyRef@MakeUppercaseFirstOfFive	7561, 7563	\ifFld@checked	4920, 11646, 12506
\HyPsd@unichar@first@byte	2153, 2173	\HyRef@name	7649, 7650, 7655, 7662, 7680, 7681, 7682, 7684	\ifFld@comb	4767
\HyPsd@unichar@octtwo	2175, 2183, 2189	\HyRef@Ref	7567, 7569	\ifFld@combo	4795, 4800, 11339, 11368, 11819, 11849, 12160, 12190
\HyPsd@unichar@second@byte	2161, 2181	\HyRef@ShowKeysInit	7690, 7703, 7707	\ifFld@disabled	4921, 11647
\HyPsd@UnicodeReplacementCharacter	2137, 2172	\HyRef@ShowKeysRef	7621, 7689	\ifFld@edit	4801
\HyPsd@UTFviii	414, 2055, 2060	\HyRef@StarSetRef	7535, 7553, 7556, 7561	\ifFld@fileselect	4770
		\HyRef@StripStar	7648, 7679	\ifFld@hidden	11302, 11353, 11421, 11442, 11466, 11485, 11545, 11557, 11567, 11650, 11782, 11834, 11914, 11936, 11965, 11986, 12115, 12175, 12273, 12299, 12329, 12355
		\HyRef@testrestype	7626, 7645	\ifFld@multiline	4768, 11290, 11552, 11769, 12102
		\HyRef@thisref	7623, 7626		
		\HyTmp@found	4867, 4877, 4880		
		\HyTmp@key	4861, 4862		
		\HyTmp@optitem	4817, 4833, 4860, 4865, 4871, 4892, 4903		
		\HyTmp@optlist	4816, 4831, 4832, 4863, 4864, 4869, 4870, 4878, 4879, 4899, 4901, 4908, 4911		
		\HyXeTeX@CheckUnicode	3324, 3335, 3352, 3358, 3364, 3370, 3388, 3394, 3474, 5759		
		I			
		\i	13432, 13595, 13598, 13601, 13604, 13801, 13963, 13966, 13969, 13972, 14089, 14094, 14099, 14104, 14108, 14275, 14331		

<code>\ifFld@multiselect</code> . . . . .	4839	<code>\ifHy@ocgcolorlinks</code> . .	291, 3087, 4029, 4039, 5257, 7811, 7829, 7904, 7912, 8862, 8945, 8953	1372, 1374, 1387, 1389, 1395, 2014, 2017, 2093, 2136, 2139, 2151, 2676, 2679, 2704, 3138, 3139, 3936, 3963, 4822, 4893, 4904, 5559, 5578, 5594, 5690, 7435, 7473, 7812, 7817, 8134, 8141, 8147, 8155, 8974, 8979, 9464, 9577, 9713, 9721, 9723, 9724, 9734, 9737, 9823, 9825, 9930, 10569, 11720, 11880, 12214, 12219, 12230, 12470, 12489, 12518, 12523, 12595, 12601, 12629, 12660, 12666, 12685, 12695, 12700, 12729, 12734, 12762, 12778, 12920, 12990, 12993, 13019, 13022, 13061, 13169, 13187, 13202	
<code>\ifFld@password</code> . . .	4769, 11533	<code>\ifHy@pageanchor</code> 292, 6011, 6023, 6038, 6915		<code>\ifodd</code> . . . . .	2117, 2122, 6939
<code>\ifFld@popdown</code> . . .	4587, 11340, 11820, 12161	<code>\ifHy@pagelabels</code> 293, 5524, 5710, 5788		<code>\ifpdf</code> . . . . .	2716, 3820, 3882
<code>\ifFld@radio</code> . . .	11336, 11358, 11582, 11816, 11839, 12157, 12180	<code>\ifHy@pdfa</code> 308, 3702, 4031, 4376, 4600, 5113, 5149, 5262, 7971, 8043, 8074, 8110, 8437, 9007, 9035, 9062, 9086, 9425, 9446, 9467, 9486, 9518, 9549, 9565, 10297, 11261, 11411, 11459, 11736, 11904, 11958, 12074, 12262, 12322, 12508, 12581, 12719		<code>\ifpdfstringunicode</code> . . . .	415, 418
<code>\ifFld@readonly</code> . . .	11554, 11564, 11648	<code>\ifHy@pdfmarkererror</code> 10144, 10152		<code>\ifportrait</code> . . . . .	8380
<code>\ifForm@html</code> . . . . .	4941	<code>\ifHy@pdfpagehidden</code> . .	294, 3208, 8343, 9702, 9973	<code>\ifthenelse</code> . . . . .	6850
<code>\ifhmode</code> . . . . .	2287, 2296, 4229, 6265, 6383, 6392, 6529, 6531	<code>\ifHy@pdfstring</code> . .	295, 787, 5880	<code>\iftrue</code> 692, 1631, 1653, 1917, 13171	
<code>\ifHy@activeanchor</code> . . .	264, 4466	<code>\ifHy@plainpages</code> 296, 3769, 6025, 6917		<code>\ifvmode</code> . . . . .	2252, 2268, 2277
<code>\ifHy@backref</code> . . .	265, 3774, 4110, 5247, 6824, 6860	<code>\ifHy@psize</code> . . . . .	297	<code>\ifvoid</code> . . . . .	6132, 6140, 6302
<code>\ifHy@bookmarks</code> . . . .	266, 3972	<code>\ifHy@raiselinks</code> . .	298, 8519, 8593, 8622, 8652, 10777, 11045	<code>\ifvtexhtml</code> . . . . .	3859, 3888
<code>\ifHy@bookmarksnumbered</code> .	267, 7321, 7372, 12805	<code>\ifHy@seminarslides</code> . . . . .	299	<code>\ifvtexpdf</code> . . . . .	3899
<code>\ifHy@bookmarksopen</code> .	268, 3962	<code>\ifHy@setpagesize</code> 300, 8369, 9215, 9354, 10542		<code>\ifvtexps</code> . . . . .	3902
<code>\ifHy@breaklinks</code> 269, 2478, 9889, 9921, 10187, 10198		<code>\ifHy@setpdfversion</code> . .	2600, 7816	<code>\ifxetex</code> 648, 679, 2718, 3325, 3844, 3885, 3927	
<code>\ifHy@centerwindow</code> . . . . .	270, 8218, 8748, 9158, 9764, 10097, 10885	<code>\ifHy@texht</code> 301, 4071, 4103, 5300, 7481		<code>\ignorespaces</code> . . .	526, 6106, 6260, 6461, 6567, 6578, 6581, 6638, 6646, 6708, 6723, 6739, 6748, 6858, 7306, 7358
<code>\ifHy@CJKbookmarks</code> .	271, 1103	<code>\ifHy@toolbar</code> . .	302, 8214, 8744, 9154, 9760, 10093, 10881	<code>\IJ</code> . . . . .	13428, 14110
<code>\ifHy@colorlinks</code> .	272, 4043, 5252, 10707	<code>\ifHy@typexml</code> . .	263, 3779, 4046, 4090, 5387, 13008, 13088	<code>\ij</code> . . . . .	13637, 14112
<code>\ifHy@displaydoctitle</code> . . . . .	307, 8219, 8749, 9159, 9765, 10098, 10886	<code>\ifHy@unicode</code> . . . .	303, 410, 585, 597, 625, 633, 642, 967, 1122, 1824, 1845, 1858, 1887, 1893, 2135, 2511, 2561, 3326, 5734, 12471	<code>\immediate</code> . . . . .	5388, 5389, 5390, 5392, 5432, 5703, 5793, 5801, 6035, 6063, 6703, 6718, 6734, 6744, 6774, 6797, 6823, 6853, 7830, 7845, 7860, 9828, 10566, 11663, 11685, 11726, 12910, 12976, 13007, 13009, 13087, 13089
<code>\ifHy@draft</code> . . . . .	273, 3678	<code>\ifHy@usehidkey</code> 3204, 8340, 9701, 9968		<code>\incr@eqnum</code> . . . . .	6151, 6164
<code>\ifHy@DvipdfmxOutlineOpen</code> . .	3926, 13059	<code>\ifHy@usetitle</code> . . . . .	304, 5440	<code>\index</code> . . . . .	515
<code>\ifHy@escapeform</code> . . .	276, 12430, 12460	<code>\ifHy@verbose</code> . .	305, 4192, 4208, 4220, 4543, 6984	<code>\indexentry</code> 7193, 7208, 7216, 7220, 7225	
<code>\ifHy@figures</code> 277, 3754, 5232, 7131		<code>\ifHy&gt;windowui</code> .	306, 8216, 8746, 9156, 9762, 10095, 10883	<code>\input</code> . . . . .	770, 778, 2520, 3059, 3067, 3074, 3922, 10484, 10567, 10658, 10820
<code>\ifHy@fitwindow</code> 278, 8217, 8747, 9157, 9763, 10096, 10884		<code>\ifHyInfo@AddonUnsupported</code> . .	3452, 3466, 3501	<code>\InputIfFileExists</code> . .	3661, 13000, 13034, 13079, 13081
<code>\ifHy@frenchlinks</code> . . . .	279, 4059	<code>\ifHyPsd@XeTeXBigChars</code> . .	687, 689, 692, 695	<code>\inputlineno</code> . . . . .	4199, 4458
<code>\ifHy@hyperfootnotes</code> .	280, 6325	<code>\ifmeasuring@</code> . . . . .	5899, 5912	<code>\insert</code> . . . . .	6440
<code>\ifHy@hyperindex</code> 281, 3764, 5242, 7138		<code>\ifnum</code> . . . . .	719, 722, 725, 728, 731, 843, 968, 971, 982, 983, 987, 995, 999, 1002, 1012, 1034, 1057, 1192, 1303, 1319, 1323, 1343, 1356, 1359,	<code>\IntCalcAdd</code> . . . . .	2043
<code>\ifHy@hypertextnames</code> 282, 5941, 6024, 6916, 7326, 7377				<code>\IntCalcDec</code> . . . . .	1214
<code>\ifHy@implicit</code> . .	283, 3786, 13113				
<code>\ifHy@linktocpage</code> 284, 2435, 2445					
<code>\ifHy@localanchorname</code> 285, 5975, 5986					
<code>\ifHy@menubar</code> .	286, 8215, 8745, 9155, 9761, 10094, 10882				
<code>\ifHy@naturalnames</code> . .	287, 5954, 7327, 7378				
<code>\ifHy@nesting</code> . .	288, 3759, 4258, 4291, 4326, 4451, 5237, 6350, 6365, 6425, 6582				
<code>\ifHy@newwindow</code> 290, 3593, 9464					
<code>\ifHy@newwindowset</code> . .	289, 3591				
<code>\ifHy@next</code> . . . .	866, 3751, 7155				

`\IntCalcDiv` 1208, 1217, 1222, 1325,  
 1334, 1346, 1363, 1378, 1393,  
 2027, 2033, 2039  
`\intcalcDiv` . 1198, 2034, 2041, 2044  
`\IntCalcMod` . 1210, 1219, 1225,  
 1329, 1335, 1350, 1366, 1381,  
 1395, 1397, 2029, 2034, 2035,  
 2041, 2044, 2046  
`\intcalcMod` . . . . . 1200  
`\intcalcSub` . . . . . 2021  
`\interfootnotelinepenalty` . . 6443  
`\interlinepenalty` . . . . . 6443  
`\item` 5857, 5860, 6730, 6742, 6845  
`\Itemautorefname` . . . . . 7713  
`\itemautorefname` . . . 2804, 2822,  
 2840, 2858, 2876, 2894, 2912,  
 2941, 2942, 2970, 2988, 7713,  
 7714, 7717  
`\itemindent` . . . . . 6303  
`\itshape` . . . . . 469

## J

`\j` . . . . . 14117, 14302, 14366  
`\jarr` . . . . . 15723  
`\jeem` . . . . . 15695  
`\jeh` . . . . . 15731  
`\jobname` 5389, 5425, 5432, 11086,  
 12909, 13000, 13007, 13034,  
 13079, 13081, 13087

## K

`\k` . . . 13312, 13654, 13656, 13661,  
 13663, 13706, 13724, 13743,  
 13750, 14014, 14016, 14054,  
 14056, 14101, 14103, 14104,  
 14239, 14241, 14298, 14300,  
 14897, 14936, 14939  
`\kaf` . . . . . 15713  
`\kasra` . . . . . 15726  
`\keepPDF@SetupDoc` 10711, 10718  
`\kern` 1727, 1799, 1804, 1816, 6303,  
 6934, 6935, 6936, 6938, 6939,  
 6944, 13128  
`\kernel@ifnextchar` . . . . . 545  
`\kha` . . . . . 15697  
`\KV@Hyp@draft` . . . . . 2409  
`\KV@Hyp@nolinks` . . . . . 2409  
`\kv@key` . . 3460, 3463, 3470, 4820,  
 4823, 4825, 4829, 4833  
`\kv@parse` . . . . . 4819  
`\kv@parse@normalized` 3485, 3492  
`\kv@processor@default` 3488, 3495  
`\kv@set@family@handler` . . 3453  
`\kv@value` . 3458, 4821, 4828, 4829  
`\kvsetkeys` . . . . . 3433

## L

`\L` . . . . . 13421, 14141

`\l` . . . . . 13434, 14143  
`\l@slide` . . 7306, 7416, 7421, 7425,  
 7432  
`\l@subslide` . 7358, 7421, 7428, 7472  
`\label` . . . . . 514, 6957  
`\label@hyperref` . . . . 4298, 4300  
`\label@hyperdef` . . . . 4284, 4312  
`\label@hyperref` . 4265, 4297, 4479  
`\labelsep` . . . . . 6857  
`\labelwidth` . . . . . 6856  
`\lam` . . . . . 15714  
`\language@group` . . . . . 494  
`\languageshorthands` 823, 824, 859  
`\LARGE` . . . . . 476  
`\Large` . . . . . 477  
`\large` . 480, 7438, 7446, 7456, 7464  
`\lastbox` . . . . . 6301  
`\lastpage@putlabel` . . . . 6006  
`\lastskip` . 2269, 2273, 2280, 2288,  
 2292, 2299  
`\LaTeX` . . . 439, 440, 11092, 11093  
`\LaTeXe` . . . . . 440, 11093  
`\LayoutCheckField` . 5188, 11486,  
 11987, 12360  
`\LayoutChoiceField` . 5185, 11357,  
 11838, 12179  
`\LayoutPushButtonField` . . 5191,  
 11415, 11422, 11908, 11915,  
 12266, 12275  
`\LayoutTextField` . . . 5182, 11304,  
 11784, 12121  
`\lccode` . . . . . 718,  
 1132, 2058, 5073, 7152, 7153,  
 12834, 12835, 12836, 12837,  
 12838, 12839, 12840, 12841,  
 12842, 12843, 12844  
`\ldots` . . . . . 434  
`\leavevmode` . . . . . 523, 2247, 3688, 3705, 3745,  
 4381, 5358, 6382, 6528, 6764,  
 7573, 7581, 7957, 8028, 8059,  
 8095, 8518, 8592, 8620, 8650,  
 9027, 9055, 9249, 9258, 9312,  
 9461, 9482, 9505, 9536, 9891,  
 10186, 10411, 10429, 10454,  
 10776, 11044, 11416, 11423,  
 11458, 11868, 11889, 11909,  
 11916, 11937, 11957, 12212,  
 12243, 12267, 12276, 12301,  
 12321, 13126  
`\LetLtxMacro` . 5303, 5307, 5375,  
 5379  
`\limits` . . . . . 4175  
`\listofslides` . . . . . 7407  
`\listslidenam` . 7406, 7409, 7411,  
 7413

`\literalps@out` . . . . . 2245, 9817,  
 9822, 9871, 9877, 9894, 9900,  
 10162, 10173, 10194, 10196,  
 10205, 10207, 10482, 10565,  
 10628, 10818  
`\lower` . . . 8522, 8595, 8624, 8654,  
 10196, 10780, 11048  
`\lowercase` . 738, 1133, 2059, 2311,  
 2748, 2778, 3400, 3436, 4492,  
 4493, 4496, 4501, 4525, 4535,  
 4589, 4645, 4965, 5005, 5008,  
 5074, 7154, 9929, 12845  
`\lslide@flag` 7433, 7436, 7454, 7473,  
 7477  
`\LT@array` . . . . . 6119  
`\LT@firsthead` . . . . . 6132, 6140  
`\LT@p@ftn` . 6398, 6401, 6405, 6418  
`\LT@p@ftntext` . . . . . 6396, 6403  
`\LT@start` . . . . . 6134, 6144  
`\ltx@firstofone` . . . . . 12862, 12874  
`\ltx@firstoftwo` . . . . . 4437  
`\ltx@gobble` . . . . . 12860, 12872  
`\ltx@ifpackageloaded` . . . . 1099  
`\ltx@ifUndefined` . . . . . 493, 535,  
 610, 645, 761, 762, 763, 867,  
 873, 879, 884, 889, 896, 902,  
 908, 913, 919, 924, 934, 940,  
 946, 952, 1469, 1563, 1564,  
 2199, 2232, 3748, 3749, 3750,  
 5480, 5841, 5929, 6212, 6666,  
 7601, 7602, 7646, 7647, 7649,  
 7650, 8005, 8015, 8400, 9356,  
 9413, 9500, 9867, 9901, 9989,  
 10166, 13160, 13170  
`\ltx@ifundefined` . . . . . 6310  
`\ltx@LocalAppendToMacro` . 248,  
 251  
`\ltx@secondoftwo` . . . . . 4435  
`\ltx@space` . . . . . 3918, 3920  
`\luatexrevision` . . . . . 8178  
`\luatexversion` . . . . . 8170, 8175

## M

`\m@ne` . . . 4211, 4507, 6051, 6232,  
 8983, 13081, 13169, 13184  
`\make@df@tag@@` . . . . 7067, 7069  
`\make@df@tag@@@` . . . 7068, 7070  
`\make@stripped@name` 5904, 6173,  
 6195, 6219, 6230  
`\makeatletter` . . . . . 3, 801, 5424  
`\MakeButtonField` . . 5198, 11417,  
 11425, 11444, 11463, 11468,  
 11910, 11919, 11944, 11962,  
 11968, 12268, 12271, 12300,  
 12326, 12330  
`\MakeCheckField` . . . 5195, 11488,  
 11990, 12357

\MakeChoiceField . . . 5197, 11400, 11892, 12241	N	\nobreakspace . . . 534, 7576, 7605, 7608
\MakeFieldObject . . 11662, 11745, 11755, 11758	\n . . . . . 729	\noexpand . . . . . 22, 93, 95, 108, 116, 169, 171, 172, 173, 176, 206, 707, 811, 1146, 1578, 1595, 1718, 2072, 2276, 2277, 2278, 2281, 2295, 2296, 2297, 2300, 3020, 3022, 3024, 3025, 3041, 3215, 3216, 3218, 3518, 4169, 4272, 4352, 4453, 4455, 4555, 5632, 5633, 5642, 5644, 5647, 5766, 6048, 6049, 6051, 6076, 6077, 6078, 6079, 6080, 6088, 6089, 6090, 6236, 6399, 6407, 6408, 6409, 6410, 6411, 6413, 6538, 6627, 6702, 6717, 6733, 7086, 7088, 7541, 7542, 7655, 7656, 7661, 7663, 7668, 7669, 7674, 7675, 8177, 8732, 10081, 10148, 10625, 10869, 11332, 11333, 11334, 11335, 11812, 11813, 11814, 11815, 12153, 12154, 12155, 12156, 12432
\MakeLowercase . . . . . 491	\name@of@eq . . . . . 5873, 5902	\nofrenchguillemets . . . . . 553, 555
\MakeLowercaseUnsupportedInPdfStrings . . . . . 491	\name@of@slide . . . . . 5874, 5884	\NoHy@OrgPageRef . . 5307, 5309, 5379, 5381
\MakeRadioField . . . 5194, 11388, 11879, 12206	\nameref . . . . . 521	\NoHy@OrgRef . . 5303, 5305, 5375, 5377
\makeslideheading . . . . . 7316	\nasb . . . . . 15721	\NoHyper . . . . . 5311
\makeslidesubheading . . . . 7368	\netscape . . . . . 8554	\nohyperpage . . . 5357, 7237, 7239, 7241
\maketag@@@ . . . . . 7056	\new@ifnextchar . . . . . 546	\nolinkurl . . . . . 4251
\MakeTextField . . . . 5196, 11306, 11787, 12118	\new@pdfink . . . 7942, 7993, 7996	\nolinkurl@ . . . . . 4251, 4252
\maketitle . . . . . 6478, 6479	\new@refstepcounter . 6146, 6178	\NomFancyVerbLineautorefname . . . . . 2959
\MakeUppercase . . 490, 7411, 7413, 7564	\newblock . . . . . 6861	\Nomfootnoteautorefname . 2939
\MakeUppercaseUnsupportedInPdfStrings . . . . . 490	\newcommand 4, 9, 42, 2246, 5362, 5836, 5839, 5842, 5843, 5844, 5846, 5847, 5848, 5849, 5851, 5852, 5853, 5854, 5855, 5856, 5865, 5866, 5867, 5868, 5869, 5870, 6228, 7094, 7293, 7298, 7299, 12882, 12885, 12890	\Nomtheoremautorefname . 2963
\MathBSuppress . . . . 9259, 9263	\newcount . . 351, 352, 4924, 5540, 11396, 11886, 12088, 12237, 12917	\nonumber . . . . . 6207, 6210
\mathdisplay . . . . . 6154, 6163	\newcounter . . . 5858, 6326, 8861, 12832	\normalfont . . . . . 463, 6268
\mathdisplay@push . . 6152, 6161	\newdimen . . . . . 348, 4925, 4926	\normalsize . . . . . 481, 6574, 6645
\mathversion . . . . . 485	\newif . . . . 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 687, 866, 2600, 3204, 3452, 3926, 4499, 4587, 4920, 4921, 4941, 5875, 5876, 5899, 6182, 9238, 10144	\NR@gettitle . . . . . 6564
\maxdimen . . . . . 3159, 11667	\newlabel . . 2211, 4322, 5402, 5403, 5411, 5437, 6036, 6064	\null . . . . . 6842, 6850, 7530, 7635
\MaybeStopEarly . . 350, 2627, 2681, 3790, 3890, 5821	\newlabelxx . . . . . 5404, 5405	\number . . . . . 985, 989, 992, 1000, 1003, 1005, 1305, 1307, 1334, 1335, 2018, 2076, 2077, 2078, 2079, 2083, 2084, 2085, 2086, 2087, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2101, 2102, 2103, 2104, 2105, 2106, 2109, 2111, 2115, 2116, 2118, 2120, 2122, 2125, 2129, 2130, 2131, 2132, 2141, 2142, 2146, 2147, 2154, 2155, 2159, 2162, 2163, 2164, 2174, 2176, 2177, 2182, 2184, 2185, 2190, 2191, 3538, 3928, 3964, 4513, 7823, 7826, 8582,
\mbox . . . . . 524, 6777, 6800, 7914, 8955	\newlength . . . . . 13119	
\mddefault . . . . . 6272	\newline . . . . . 437, 5485	
\mdseries . . . . . 468	\newname . . . . 5905, 6174, 6196, 6220, 6233, 6242	
\meaning . . . . . 62, 153, 159, 2208, 5464, 5967, 6237, 13045, 13053, 13068	\newsavebox . . . . . 8791, 10181	
\measuring@false . . . . . 5899	\newtie . . . . 13314, 13315, 13698, 13728, 13747, 13763	
\mediaheight . . . 9350, 9352, 9358, 9365	\newtoks . . . 90, 4987, 10016, 10214, 10215	
\mediawidth . . . . . 9361, 9368	\newwrite . . . 5431, 13005, 13085	
\meem . . . . . 15715	\next . . . . . 6851, 6852, 6853, 9645, 9647, 9649	
\message . . . . . 7434	\nfss@text . . 7488, 7508, 7525, 7639	
\MessageBreak . . . 383, 1830, 1851, 1864, 1887, 1892, 1894, 2333, 2334, 2348, 2370, 2373, 2375, 2453, 2454, 2480, 2481, 2533, 2534, 2535, 2573, 2574, 2594, 2604, 2770, 3089, 3329, 3413, 3468, 3469, 3648, 3824, 3825, 3833, 3834, 3848, 3849, 3863, 3864, 3872, 3873, 4033, 4546, 4551, 4560, 4603, 4649, 4773, 4886, 4958, 4969, 5529, 5737, 5752, 5753, 6014, 6961, 6991, 6992, 6993, 6994, 6995, 7126, 7961, 8992, 9437, 9509, 9998, 11675, 11677, 12783, 12801, 12912	\NG . . . . . 14159	
\MF . . . . . 443, 11095	\ng . . . . . 14161	
\MP . . . . . 444, 11096	\noboundary . . . . . 15736	
\multiply . . . . . 8174, 9682, 9717	\nobreak . . . 2270, 2278, 2289, 2297, 6383, 6529	

8597, 8598, 8609, 8610, 8626,  
8627, 8638, 8639, 8656, 8657,  
8668, 8669

\numberline . . . 6567, 6638, 12806,  
12810

\numberwithin . . . . . 7091

\numexpr . 2083, 2084, 2085, 2087,  
2093, 2101, 2102, 2103, 2104,  
2105, 2106, 2110, 2112, 2116,  
2118, 2120, 2122, 2126, 2129,  
2130, 2132, 2141, 2146, 2163,  
2177, 2185, 2191, 3542

\nun . . . . . 15716

**O**

\O . . . . . 13554, 13922, 14317

\o . . . . . 13622, 13990, 14319

\obeylines . . . . . 10624

\OBJ@acroform . . . 11742, 11743

\OBJ@Helv . 11723, 11732, 12049

\OBJ@OCG@print . . . 7859, 7862,  
7870, 7896, 8879, 8881, 8894,  
8898, 8907, 8936

\OBJ@OCG@view . . . 7844, 7862,  
7895, 8863, 8865, 8878, 8898,  
8935

\OBJ@OCGs . . . 7865, 7868, 7874,  
7879, 7884, 8895, 8897, 8901,  
8905, 8911, 8916, 8921

\OBJ@pdfdocencoding . . . 11721,  
12030, 12046

\OBJ@ZaDb 11722, 11731, 12039

\OCIRCUMFLEX . 15559, 15657,  
15658, 15659, 15660, 15661

\ocircumflex 15552, 15597, 15598,  
15599, 15600, 15601

\oddsidemargin . . . . . 6940

\OE . . . . . 13423, 14175

\oe . . . . . 13436, 14177

\offinterlineskip . . . . . 5511

\OHORN . . . 15560, 15662, 15663,  
15664, 15665, 15666

\ohorn . . . 2986, 2993, 15553, 15602,  
15603, 15604, 15605, 15606

\oldb . . . . . 761

\oldc . . . . . 762

\oldcontentsline . 5397, 5400, 5410

\oldd . . . . . 763

\oldnewlabel . . . 5402, 5407, 5411

\OMEGA . . . . . 11091

\on@line . . . . . 6988, 6989

\openout 5389, 5432, 13007, 13087

\OpMode . 2676, 2679, 2690, 2704,  
2707, 9734, 9825, 10569

\or . . . . . 1019, 1020, 1021,  
1022, 1023, 1024, 1025, 1026,  
1027, 1041, 1042, 1043, 1044,

1045, 1046, 1047, 1048, 1049,  
1064, 1065, 1066, 1067, 1068,  
1069, 1070, 1071, 1072, 1152,  
1153, 1154, 1155, 1156, 1157,  
1158, 1159, 1160, 1161, 1162,  
1163, 1164, 1165, 1166, 1167,  
1168, 1169, 1170, 1171, 1172,  
1173, 1174, 1175, 1176, 1177,  
1178, 1179, 1180, 1181, 1182,  
1183, 1201, 1223, 1226, 1232,  
1233, 1234, 1235, 1236, 1237,  
1238, 1239, 1240, 1241, 1242,  
1243, 1244, 1245, 1246, 1247,  
1248, 1249, 1250, 1251, 1252,  
1253, 1254, 1255, 1256, 1257,  
1258, 1259, 1260, 1261, 1262,  
1263, 1268, 1269, 1270, 1271,  
1272, 1273, 1274, 1275, 1276,  
1277, 1278, 1279, 1280, 1281,  
1282, 1283, 1284, 1285, 1286,  
1287, 1288, 1289, 1290, 1291,  
1292, 1293, 1294, 1295, 1296,  
1297, 1298, 1299, 1312, 1313,  
1314, 1315, 1316, 1428, 1429,  
1430, 4673, 4679, 4684, 4898,  
7011, 7015, 7453, 7462, 9727,  
12925, 12926, 12927, 12928,  
12929, 12930, 12931, 12932,  
12933, 12934, 12935, 12936,  
12937, 12938, 12939, 12940,  
12941, 12942, 12943, 12944,  
12945, 12946, 12947, 12948,  
12949, 12950, 12951, 12952,  
12953, 12954, 12955, 12956

## P

\P . . . . . 433

\p@ . 2142, 2147, 4927, 4933, 6274,  
8528, 8605, 8634, 8664, 9681,  
10786, 11058, 11327, 11807,  
12148, 13244, 13245

\p@equation . . . . . 7063

\PackageError 61, 2532, 3729, 4377,  
4648, 4772, 4968, 5115, 5151,  
11412, 11460, 11905, 11959,  
12263, 12323

\PackageInfo . . . 243, 7807, 7821,  
11673

\PackageWarning . 241, 2603, 4884

\PackageWarningNoLine . . . 242

\pageautorefname . . . 2817, 2835,  
2853, 2871, 2889, 2907, 2925,  
2965, 2983, 3001, 7608, 7730

\pagename . . . . . 7605

\pageref . . . 520, 3800, 4098, 5307,  
5308, 5379, 5380, 6014, 7594,  
7598

\paperheight . . . . . 3641, 8385,  
8387, 8390, 8392, 8404, 8405,  
9219, 9220, 9357, 9358, 9360,  
10546, 10547

\paperwidth . . . 8381, 8383, 8394,  
8396, 8401, 8402, 9218, 9220,  
9361, 10545, 10547

\par . 6266, 6566, 6594, 6636, 6646,  
6844, 6864

\paragraphautorefname . . . 2813,  
2831, 2849, 2867, 2885, 2903,  
2921, 2954, 2956, 2979, 2997,  
7726

\partautorefname 2807, 2825, 2843,  
2861, 2879, 2897, 2915, 2945,  
2973, 2991, 7720

\partnumberline . . . 12807, 12811

\PassOptionsToPackage . . . 2720,  
2759, 2763, 2785, 3672, 3915

\pdf@addtoks 10217, 10236, 10242,  
10251, 10258, 10262, 10264,  
10266, 10268, 10270, 10278,  
10287, 10291, 10293, 10295,  
10298, 10307, 10311, 10313,  
10315, 10317, 10319, 10321,  
10323, 10325, 10327, 10329,  
10331, 10333, 10335, 10337,  
10339, 10341, 10342, 10343,  
10344, 10345, 10346, 10347,  
10348, 10349, 10350, 10351,  
10356

\pdf@addtoksx 10211, 10221, 10234

\pdf@box . . . 10181, 10188, 10190,  
10192, 10193, 10196, 10203

\pdf@defaulttoks . . 10148, 10215,  
10216, 10226

\pdf@docset . . . . . 10016

\pdf@endanchor . 7949, 7993, 8000

\pdf@escapestring . . . . . 7786

\PDF@FinishDoc 2630, 2631, 2684,  
2685, 3635, 3690, 3793, 3794,  
3893, 3894, 5356, 5521, 5522,  
8253, 8458, 8681, 9112, 9239,  
9793, 10017, 10825, 10986

\pdf@linktype 10166, 10170, 10231,  
10232

\pdf@rect . . . 10158, 10172, 10185

\PDF@SetupDoc . . . . . 3634,  
3689, 5274, 5275, 5355, 8184,  
8459, 8712, 9152, 9240, 9742,  
10068, 10713, 10856, 10987

\PDF@SetupDox . . . . . 8184

\pdf@strcmp . . . . . 843

\pdf@toks . . 10148, 10163, 10174,  
10214, 10218, 10222

\pdf@type . . 10150, 10154, 10163,  
10174, 10209, 10229



\pdfannotlink . . . . .	7933	
\pdfbookmark . . . . .	2246, 5361, 5362, 12883, 12888, 12893, 12897	
\pdfcatalog 5675, 7866, 8199, 8241, 11743		
\PDFdefaults . . . . .	10225	
\pdfdest . . . . .	7951	
\pdfendlink . . . . .	7990, 11787, 11879, 11893, 11920, 11945, 11969, 11991	
\pdfescapestring . . . . .	12461	
\pdfform . . . . .	7935	
\PDFForm@Check . . . . .	11487, 11489, 11988, 11989, 12361, 12365, 12480	
\PDFForm@List . . . . .	11399, 11401, 11890, 11891, 12244, 12249, 12587	
\PDFForm@Name . . . . .	11780, 11833, 11903, 11984, 12113, 12174, 12261, 12353, 12468	
\PDFForm@Push . . . . .	11424, 11426, 11917, 11918, 12277, 12281, 12508	
\PDFForm@Radio . . . . .	11387, 11391, 11869, 11871, 12213, 12225, 12620	
\PDFForm@Reset . . . . .	11467, 11469, 11966, 11967, 12331, 12336, 12719	
\PDFForm@Submit 11443, 11446, 11938, 11940, 12302, 12307, 12687		
\PDFForm@Text . . . . .	11305, 11307, 11785, 11786, 12122, 12125, 12652	
\pdfhorigin . . . . .	8377	
\pdfinfo . . . . .	8256	
\pdflastform . . . . .	7936	
\pdflastlink . . . . .	11703	
\pdflastobj 7844, 7859, 7865, 11742, 12030, 12039, 12049		
\pdflastxform . . . . .	7936, 11665, 11667	
\pdflinkmargin . . . . .	7931, 7934, 7939	
\pdfliteral . . . . .	7915, 7917, 7922	
\pdfm@box . . . . .	8791, 12084, 12085, 12086, 12117, 12128, 12205, 12229, 12240, 12251, 12271, 12284, 12300, 12309, 12330, 12338, 12356, 12367	
\pdfmark . . . . .	5784, 8732, 8741, 8771, 9858, 9878, 9908, 9940, 9957, 9969, 10003, 10040, 10052, 10081, 10090, 10121, 10145, 10364, 10378, 10393, 10405, 10412, 10430, 10455, 10869, 10878, 10909, 11306, 11388, 11400, 11425, 11444, 11468, 11488, 13049	
\pdfmark@ . . . . .	10145, 10146	
\pdfminorversion . . . . .	7804	
\PDFNextPage . . . . .	10376	
\PDFNextPage@ . . . . .	10376, 10377	
\pdfobj . . . . .	7830, 7845, 7860, 11726, 11997, 12031, 12040	
\PDFOpen . . . . .	10404	
\pdfoptionpdfminorversion 7801		
\pdfoutline . . . . .	13097	
\pdfpageattr . . . . .	8295, 8299, 8300, 8310, 8319, 8323, 8324, 8334, 8342, 8345, 8346, 8356	
\pdfpageheight 8387, 8396, 8405, 8412		
\pdfpageresources . . . . .	7893	
\pdfpagesattr . . . . .	8188, 8190, 8192	
\pdfpagewidth . . . . .	8383, 8392, 8402, 8409	
\PDFPreviousPage . . . . .	10389	
\PDFPreviousPage@ 10390, 10392		
\pdfreform . . . . .	7937	
\pdfrefobj . . . . .	11721, 11722, 11723	
\pdfrefxform . . . . .	7937, 11667	
\pdfstartlink . . . . .	7932, 7933, 7985, 8029, 8060, 8096, 8423, 11786, 11870, 11891, 11918, 11939, 11967, 11989	
\pdfstringdef 403, 674, 3355, 3361, 3367, 3373, 3378, 3384, 3391, 3397, 3477, 4845, 4850, 4876, 5488, 5568, 5570, 6029, 6923, 12476, 12815		
\pdfstringdefDisableCommands . . . . . .	760, 799, 5359, 5483	
\pdfstringdefPostHook . . . . .	670, 793	
\pdfstringdefPreHook . . . . .	530, 793, 805, 807, 5482, 5492	
\pdfstringdefWarn . . . . .	436, 437, 525, 810, 1586, 1591, 1610, 1614	
\pdftexrevision . . . . .	8144, 8152, 8163	
\pdftexversion . . . . .	8139, 8141, 8144, 8147, 8150, 8151, 8155, 8161, 8162, 11720	
\pdfvorigin . . . . .	8378	
\pdfxform . . . . .	7935, 11663	
\peh . . . . .	15729	
\penalty . . . . .	1721, 2255, 4230, 6771, 6794	
\phantom . . . . .	486	
\phantomsection 3636, 5363, 6963, 12752, 12803, 13188		
\Preamble . . . . .	11087	
\PrerenderUnicode . . . . .	3346	
\process@me . . . . .	5462, 5474, 5475, 8187, 8196	
\ProcessKeyvalOptions . . . . .	3676	
\protect . . . . .	1719, 4302, 6567, 6638, 6702, 6717, 6733, 6849, 6856, 6857, 7001, 7032, 7306, 7358, 7487, 7507, 7513, 7524, 7638, 8469, 8559, 9310, 9385, 10724, 10997, 12822, 13121, 13244, 13245	
\protected@edef 4337, 5628, 6234, 6254, 7958, 8989, 9434, 9506, 9995		
\protected@write 2210, 4321, 6829, 7192, 7207, 7215, 7219, 7224, 12821		
\protected@xdef . . . . .	6408, 6410, 6504	
\providecommand . . . . .	2227, 2228, 2735, 3114, 3115, 3118, 3119, 3881, 4077, 4078, 4183, 4256, 5393, 5658, 5677, 5802, 6667, 6668, 6683, 6761, 7289, 7290, 7406, 7711, 7712, 7713, 7714, 7715, 7716, 7717, 7718, 7719, 7720, 7721, 7722, 7723, 7724, 7725, 7726, 7727, 7728, 7729, 7730, 7793, 7941, 7953, 7954, 8457, 8553, 8554, 8789, 8848, 8849, 8850, 9236, 9355, 9377, 9378, 9379, 9818, 10182, 10183, 10480, 10488, 10489, 10490, 10491, 10563, 10575, 10576, 10577, 10578, 10622, 10663, 10664, 10665, 10666, 10814, 10816, 10817, 10930, 10931, 10978, 11686	
\PushButton . . . . .	5170	
\put@me@back . . . . .	4448, 4461, 4471	
<b>Q</b>		
\qaf . . . . .	15712	
\quotedblbase 13403, 13640, 15229, 15533		
\quotesinglbase . . . . .	13413, 13642, 15223, 15535	
<b>R</b>		
\r . . . . .	732, 13281, 13293, 13305, 13515, 13580, 13689, 13716, 13735, 13757, 13884, 13948, 14231, 14233, 15193, 15195	
\ra . . . . .	15700	
\raff . . . . .	15722	
\raise 2262, 8529, 8606, 8635, 8665, 10207, 10787, 11059		
\ReadBookmarks 3675, 3693, 3807, 3981, 4106, 12981, 13016		
\real@setref . . . . .	7484, 7550	

<code>\realfootnote</code> . . . . .	6501		
<code>\Ref</code> . . . . .	7566, 7570, 7575		
<code>\ref</code> . . . . .	519, 3799, 4097, 4487, 5303, 5304, 5375, 5376, 6466, 6473, 7585, 11079		
<code>\ref@one</code> . . . . .	4278, 4279		
<code>\rEfLiNK</code> . . . . .	11080, 11081		
<code>\refstepcounter</code> . . . . .	5872, 5879, 6101, 6121, 6146, 6170, 6178, 6630		
<code>\rem@ptetc</code> . . . . .	9930, 9932		
<code>\renewcommand</code> . . . . .	2202, 6609, 7108, 12897		
<code>\RequirePackage</code> . . . . .			
. . . . .	22, 232, 233, 234, 235, 236, 237, 238, 239, 240, 826, 1097, 1623, 2196, 2585, 3665, 3781, 3782, 4049, 4093, 4111, 4248, 4490, 5345, 5502, 5718, 7733, 9237, 10983, 12907		
<code>\RerunFileCheck</code> . . . . .	12909		
<code>\Reset</code> . . . . .	5179		
<code>\reset@font</code> . . . . .	6777, 6800, 7488, 7508, 7525, 7639		
<code>\revtex@checking</code> . . . . .	6754		
<code>\Rightarrow</code> . . . . .	7440		
<code>\rlap</code> . . . . .	7916, 8957		
<code>\rm</code> . . . . .	474		
<code>\rmfamily</code> . . . . .	464		
<code>\Roman</code> . . . . .	5624		
<code>\roman</code> . . . . .	5625		
<code>\romannumeral</code> . . . . .	817, 818		
<code>\rule</code> . . . . .	6451		
<b>S</b>			
<code>\sad</code> . . . . .	15704		
<code>\sbox</code> . . . . .	3342, 5199, 10182, 10190, 11662		
<code>\scr@LT@array</code> . . . . .	6120		
<code>\scriptsize</code> . . . . .	482		
<code>\scriptstyle</code> . . . . .	6767		
<code>\scrollmode</code> . . . . .	1638, 1663, 1673, 1686, 1778, 1910		
<code>\scshape</code> . . . . .	470		
<code>\section</code> . . . . .	7408		
<code>\sectionautorefname</code> . . . . .	2810, 2828, 2846, 2864, 2882, 2900, 2918, 2947, 2976, 2994, 7723		
<code>\seen</code> . . . . .	15702		
<code>\selectfont</code> . . . . .	450, 4060, 11751		
<code>\setbox</code> . . . . .	1722, 1728, 1734, 3142, 3148, 5021, 5510, 6301, 7906, 8449, 8520, 8591, 8621, 8651, 8930, 8947, 10778, 11046, 12117, 12205, 12240, 12271, 12300, 12330, 12356		
<code>\setkeys</code> . . . . .	2624, 2715, 3332, 3657, 3703, 3914, 4030, 4918, 7813, 10151, 11278, 11518, 11531, 11580, 11623, 11644, 11718, 12059		
<code>\setlength</code> . . . . .	387, 388, 2259, 8377, 8378, 8383, 8387, 8392, 8396, 8402, 8405, 8409, 8412, 9358, 9361, 9365, 9368, 9681, 13138, 13209		
<code>\setpdfinkmargin</code> . . . . .	3525, 3526, 7931		
<code>\settowidth</code> . . . . .	11324, 11804, 12145		
<code>\SetupKeyvalOptions</code> . . . . .	3666		
<code>\sffamily</code> . . . . .	465		
<code>\shadda</code> . . . . .	15727		
<code>\sheen</code> . . . . .	15703		
<code>\shortciteN</code> . . . . .	6892		
<code>\SK@</code> . . . . .	7697		
<code>\SK@@ref</code> . . . . .	7697		
<code>\SK@ref</code> . . . . .	7694		
<code>\skip@</code> . . . . .	1736, 1810, 1811, 1814, 1816, 2273, 2279, 2292, 2298		
<code>\slide@cline</code> . . . . .	7426, 7439, 7447, 7457, 7465		
<code>\Slide@contents</code> . . . . .	7431		
<code>\slide@contents</code> . . . . .	7424		
<code>\slide@heading</code> . . . . .	7302		
<code>\slide@subheading</code> . . . . .	7355		
<code>\slide@undottedcline</code> . . . . .	7417		
<code>\slidenumberline</code> . . . . .	7418, 7426, 7440, 7448, 7458, 7466		
<code>\SliTeX</code> . . . . .	442		
<code>\slshape</code> . . . . .	471		
<code>\small</code> . . . . .	483		
<code>\smash</code> . . . . .	2256		
<code>\spacefactor</code> . . . . .	6383, 6392, 6529, 6531		
<code>\special@paper</code> . . . . .	3637		
<code>\SpecialDvipdfmxOutlineOpen</code> . . . . .	2651, 2653, 3936		
<code>\splitmaxdepth</code> . . . . .	6445		
<code>\splittopskip</code> . . . . .	6444		
<code>\SS</code> . . . . .	13638, 15532		
<code>\ss</code> . . . . .	2857, 13568, 13653, 13936		
<code>\st@rredfalse</code> . . . . .	6153, 6162		
<code>\stepcounter</code> . . . . .	5889, 6049, 6253, 6384, 6503, 8973, 12818		
<code>\stockheight</code> . . . . .	3641, 8411, 8412, 9225, 9226, 9364, 9365, 10552, 10553		
<code>\stockwidth</code> . . . . .	8408, 8409, 9224, 9226, 9367, 9368, 10551, 10553		
<code>\stop@hyper</code> . . . . .	5326		
<code>\StringEncodingConvertTest</code> . . . . .	650, 659		
<code>\strip@period</code> . . . . .	2215		
<code>\strip@prefix</code> . . . . .	62, 2208, 5464, 5967, 6237, 13045, 13053, 13068		
<code>\strip@pt</code> . . . . .	392, 399, 3653, 8383, 8387, 8392, 8396, 9684, 12503, 12615, 12643, 12680, 12728		
<code>\strip@pt@and@otherjunk</code> . . . . .	9877, 9900, 9932		
<code>\strutbox</code> . . . . .	6445		
<code>\sub@label</code> . . . . .	2202		
<code>\subeqnarray</code> . . . . .	6213, 6215		
<code>\subequations</code> . . . . .	6251, 6252		
<code>\subfig@oldlabel</code> . . . . .	2204		
<code>\Submit</code> . . . . .	5176		
<code>\SubmitObject</code> . . . . .	11941		
<code>\SubmitPObject</code> . . . . .	11941		
<code>\subparagraphautorefname</code> . . . . .	2814, 2832, 2850, 2868, 2886, 2904, 2922, 2955, 2957, 2980, 2998, 7727		
<code>\subpdfbookmark</code> . . . . .	12885		
<code>\subsection</code> . . . . .	10810		
<code>\subsectionautorefname</code> . . . . .	2811, 2829, 2847, 2865, 2883, 2901, 2919, 2952, 2977, 2995, 7724		
<code>\subsubsectionautorefname</code> . . . . .	2812, 2830, 2848, 2866, 2884, 2902, 2920, 2953, 2978, 2996, 7725		
<code>\sukun</code> . . . . .	15728		
<code>\surd</code> . . . . .	7448		
<b>T</b>			
<code>\T</code> . . . . .	15692		
<code>\t</code> . . . . .	13313, 13708, 13727, 13746, 13762		
<code>\T@pageref</code> . . . . .	4084, 4099, 7583		
<code>\T@ref</code> . . . . .	4079, 4097		
<code>\T@temp</code> . . . . .	6755, 6758		
<code>\Ta</code> . . . . .	15706		
<code>\taa</code> . . . . .	15693		
<code>\tableautorefname</code> . . . . .	2806, 2824, 2842, 2860, 2878, 2896, 2914, 2944, 2972, 2990, 7719		
<code>\tagform@</code> . . . . .	7062		
<code>\tatweel</code> . . . . .	15710		
<code>\tcheh</code> . . . . .	15730		
<code>\temp@online</code> . . . . .	6988, 6991		
<code>\TeX</code> . . . . .	438, 439, 441, 442, 11090, 11092, 11094		
<code>\texorpdfstring</code> . . . . .	786, 5360		
<code>\textacute</code> . . . . .	13277, 13289, 13301, 13481, 13712, 13731, 13849		
<code>\textacutedbl</code> . . . . .	14381		
<code>\textaleph</code> . . . . .	15347		
<code>\textAlpha</code> . . . . .	1019, 14401, 14417		
<code>\textalpha</code> . . . . .	1019, 14470, 14480		
<code>\textampersand</code> . . . . .	430, 13348, 13779		
<code>\textangstrom</code> . . . . .	15343		
<code>\textasciicute</code> . . . . .	13850		
<code>\textasciibreve</code> . . . . .	13324, 13720, 13739, 14370		

<code>\textasciicaron</code> . . . . .	13282, 13294, 13306, 13326, 13717, 13736, 14368
<code>\textasciicircum</code> . . . . .	13278, 13290, 13302, 13362, 13713, 13732, 13795
<code>\textasciidieresis</code> . . . . .	13280, 13292, 13304, 13458, 13715, 13734, 13826
<code>\textasciigrave</code> . . . . .	13276, 13288, 13300, 13367, 13711, 13730, 13799
<code>\textasciimacron</code> . . . . .	13285, 13297, 13309, 13471, 13722, 13741, 13839
<code>\textasciitilde</code> . . . . .	431, 4146, 13377, 13810
<code>\textasteriskcentered</code> . . . . .	13787
<code>\textbackslash</code> . . . . .	426, 584, 13360, 13793
<code>\textbaht</code> . . . . .	15055
<code>\textbar</code> . . . . .	13373, 13806
<code>\textbardbl</code> . . . . .	15217
<code>\textBeta</code> . . . . .	1020, 14419
<code>\textbeta</code> . . . . .	1020, 13653, 14482
<code>\textbf</code> . . . . .	457
<code>\textbigcircle</code> . . . . .	13729, 13748, 15517
<code>\textblank</code> . . . . .	15365
<code>\textbraceleft</code> . . . . .	424, 13371, 13804
<code>\textbraceright</code> . . . . .	425, 13375, 13808
<code>\textbrokenbar</code> . . . . .	13454, 13822
<code>\textbullet</code> . . . . .	13379, 15235
<code>\textcdot</code> . . . . .	13652, 15545
<code>\textcedilla</code> . . . . .	13284, 13296, 13308, 13489, 13719, 13738, 13858
<code>\textcelsius</code> . . . . .	13639, 15327
<code>\textcent</code> . . . . .	13446, 13814
<code>\textChi</code> . . . . .	1069, 14459
<code>\textchi</code> . . . . .	1069, 14524
<code>\textcircled</code> . . . . .	13710, 13729, 13748, 15369, 15371, 15373, 15375, 15377, 15379, 15381, 15383, 15385, 15387, 15389, 15391, 15393, 15395, 15397, 15399, 15401, 15403, 15405, 15407, 15409, 15411, 15413, 15415, 15417, 15419, 15421, 15423, 15425, 15427, 15429, 15431, 15433, 15435, 15437, 15439, 15441, 15443, 15445, 15447, 15449, 15451, 15453, 15455, 15457, 15459, 15461, 15463, 15465, 15467, 15469, 15471, 15473, 15475, 15477, 15479, 15481, 15483, 15485, 15487, 15489, 15491, 15493, 15495, 15497, 15499, 15501, 15503, 15505, 15507, 15509, 15511, 15513
<code>\textcircledP</code> . . . . .	15331
<code>\textcircumflex</code> . . . . .	13328
<code>\textcolonmonetary</code> . . . . .	15309
<code>\textcolor</code> . . . . .	489, 11717, 11756, 11759, 12058
<code>\textcompwordmark</code> . . . . .	15211
<code>\textcopyright</code> . . . . .	13460, 13828
<code>\textCR</code> . . . . .	13322, 13769
<code>\textcurrency</code> . . . . .	13450, 13818
<code>\textdagger</code> . . . . .	13381, 15231
<code>\textdaggerdbl</code> . . . . .	13383, 15233
<code>\textdegree</code> . . . . .	13473, 13639, 13841
<code>\textDelta</code> . . . . .	1022, 14423
<code>\textdelta</code> . . . . .	1022, 14486
<code>\textDigammagreek</code> . . . . .	14545
<code>\textdigammagreek</code> . . . . .	14547
<code>\textdiscount</code> . . . . .	15257
<code>\textdiv</code> . . . . .	13650, 15543
<code>\textdivide</code> . . . . .	13620, 13650, 13988, 15543
<code>\textdivorced</code> . . . . .	15523
<code>\textdollar</code> . . . . .	428, 13344, 13775
<code>\textdong</code> . . . . .	15319
<code>\textdotaccent</code> . . . . .	13283, 13295, 13307, 13330, 13718, 13737, 14372
<code>\textdotbelow</code> . . . . .	13287, 13299, 13311, 13354, 13726, 13745, 14391
<code>\textdoublegrave</code> . . . . .	13721, 13740, 14387
<code>\textdownarrow</code> . . . . .	15355
<code>\texteightinferior</code> . . . . .	15301
<code>\texteightsuperior</code> . . . . .	15269
<code>\textellipsis</code> . . . . .	434, 435, 13385, 15237
<code>\textemdash</code> . . . . .	618, 13387, 15215
<code>\textendash</code> . . . . .	619, 13389, 15213
<code>\textEpsilon</code> . . . . .	1023, 14403, 14425
<code>\textepsilon</code> . . . . .	1023, 14472, 14488
<code>\textequalssuperior</code> . . . . .	15277
<code>\textestimated</code> . . . . .	15345
<code>\textEta</code> . . . . .	1026, 14405, 14429
<code>\texteta</code> . . . . .	1026, 14474, 14492
<code>\texteuro</code> . . . . .	13442, 15321
<code>\textexclamdown</code> . . . . .	622, 930, 13444, 13812
<code>\textfi</code> . . . . .	620, 13417, 15529
<code>\TextField</code> . . . . .	5161
<code>\textfiveinferior</code> . . . . .	15295
<code>\textfivesuperior</code> . . . . .	15263
<code>\textfl</code> . . . . .	621, 13419, 15531
<code>\textflorin</code> . . . . .	13391, 14267
<code>\textflq</code> . . . . .	509, 13646, 15539
<code>\textflqq</code> . . . . .	507, 13644, 15537
<code>\textfourinferior</code> . . . . .	15293
<code>\textfoursuperior</code> . . . . .	15261
<code>\textfractionsolidus</code> . . . . .	13393, 15251
<code>\textfrq</code> . . . . .	510, 13647, 15540
<code>\textfrqq</code> . . . . .	508, 13645, 15538
<code>\textGamma</code> . . . . .	1021, 14421
<code>\textgamma</code> . . . . .	1021, 14484
<code>\textglq</code> . . . . .	505, 13642, 15535
<code>\textglqq</code> . . . . .	503, 13640, 15533
<code>\textgravedbl</code> . . . . .	14383
<code>\textgreater</code> . . . . .	13358, 13791
<code>\textgrq</code> . . . . .	506, 13643, 15536
<code>\textgrqq</code> . . . . .	504, 13641, 15534
<code>\textGslash</code> . . . . .	14286
<code>\textgslash</code> . . . . .	14288
<code>\textguarani</code> . . . . .	15325
<code>\textHslash</code> . . . . .	14082
<code>\texthslash</code> . . . . .	14084
<code>\textHT</code> . . . . .	13318, 13765
<code>\texthungarumlaut</code> . . . . .	13332, 13723, 13742, 14380, 14381
<code>\textinterrobang</code> . . . . .	15249
<code>\textIota</code> . . . . .	1041, 14407, 14433, 14466
<code>\textiota</code> . . . . .	1041, 14476, 14496, 14530
<code>\textIotadieresis</code> . . . . .	14415, 14465
<code>\textit</code> . . . . .	459
<code>\textKappa</code> . . . . .	1042, 14435
<code>\textkappa</code> . . . . .	1042, 14498
<code>\textKoppagreek</code> . . . . .	1049, 14549
<code>\textkoppagreek</code> . . . . .	1049, 14551
<code>\textkra</code> . . . . .	14123
<code>\textLambda</code> . . . . .	1043, 14437
<code>\textlambda</code> . . . . .	1043, 14500
<code>\textlangl</code> . . . . .	15361
<code>\textlatin</code> . . . . .	492, 5955
<code>\textlbrackdbl</code> . . . . .	15525
<code>\textleftarrow</code> . . . . .	15349
<code>\textless</code> . . . . .	13356, 13789
<code>\textLF</code> . . . . .	13320, 13767
<code>\textlira</code> . . . . .	15311
<code>\textlnot</code> . . . . .	13467, 13835
<code>\textlogicalnot</code> . . . . .	13466, 13648, 13834, 15541
<code>\textlongs</code> . . . . .	14265, 15197
<code>\textlquill</code> . . . . .	15253
<code>\textmacronbelow</code> . . . . .	13286, 13298, 13310, 13365, 13725, 13744, 14393
<code>\textmarried</code> . . . . .	15521
<code>\textmd</code> . . . . .	458
<code>\textmho</code> . . . . .	15341
<code>\textminus</code> . . . . .	13399, 15357
<code>\textminussuperior</code> . . . . .	15275
<code>\textMu</code> . . . . .	1044, 14439
<code>\textmu</code> . . . . .	1044, 13483, 13852
<code>\textmugreek</code> . . . . .	14502
<code>\textmultiply</code> . . . . .	13552, 13649, 13920, 15542
<code>\textmusicalnote</code> . . . . .	15519
<code>\textnaira</code> . . . . .	15313



<code>\textnapostrophe</code> . . . . .	14157	<code>\textquotedblleft</code> . .	13405, 13641, 15225, 15534	<code>\textunderscore</code> .	432, 4140, 4141, 4143, 13364, 13797
<code>\textneg</code> . . . . .	13648, 15541	<code>\textquotedblright</code> .	13407, 15227	<code>\textup</code> . . . . .	462
<code>\textnewtie</code> .	13728, 13747, 14389	<code>\textquoteleft</code> 13409, 13643, 15219, 15536		<code>\textuparrow</code> . . . . .	15351
<code>\textnineinferior</code> . . . . .	15303	<code>\textquoteright</code> . . .	13411, 15221	<code>\textUpsilon</code> .	1067, 14411, 14455, 14468
<code>\textninesuperior</code> . . . . .	15271	<code>\textquotesingle</code> . . . . .	13781	<code>\textupsilon</code> . .	1067, 14520, 14532, 14537
<code>\textnormal</code> . . . . .	453	<code>\texttriangle</code> . . . . .	15363	<code>\textupsilonacute</code> . .	14478, 14536
<code>\textnsuperior</code> . . . . .	15283	<code>\texttrbrackdbl</code> . . . . .	15527	<code>\textvarsigma</code> . . . . .	14514
<code>\textNu</code> . . . . .	1045, 14441	<code>\textrecipe</code> . . . . .	15333	<code>\textvisiblespace</code> . . . . .	15367
<code>\textnu</code> . . . . .	1045, 14504	<code>\textreferencemark</code> . . . . .	15247	<code>\textwon</code> . . . . .	15317
<code>\textnumbersign</code> 427, 13342, 13773		<code>\textregistered</code> . . . .	13469, 13837	<code>\textXi</code> . . . . .	1046, 14443
<code>\textnumeralsigngreek</code> 996, 14397		<code>\textRho</code> . . . . .	1064, 14449	<code>\textxi</code> . . . . .	1046, 14506
<code>\textnumeralsignlowergreek</code> 1013, 1035, 1058, 14399		<code>\textrho</code> . . . . .	1064, 14512	<code>\textyen</code> . . . . .	13452, 13820
<code>\textnumero</code> . . . . .	15329	<code>\textrightarrow</code> . . . . .	15353	<code>\textzeroinferior</code> . . . . .	15285
<code>\textogonek</code> .	13334, 13724, 13743, 14376	<code>\textring</code> . . .	13281, 13293, 13305, 13336, 13716, 13735, 14374	<code>\textzerosuperior</code> . . . . .	15259
<code>\textohm</code> . . . . .	15339	<code>\textrm</code> . . . . .	454	<code>\textZeta</code> . . . . .	1025, 14427
<code>\textOmega</code> . .	1071, 14413, 14463	<code>\textrquill</code> . . . . .	15255	<code>\textzeta</code> . . . . .	1025, 14490
<code>\textomega</code> . .	1071, 14528, 14539	<code>\textSampigreek</code> . . .	1072, 14553	<code>\TH</code> . . . . .	13566, 13934
<code>\textOmicron</code> .	1047, 14409, 14445	<code>\textsampigreek</code> . . . .	1072, 14555	<code>\th</code> . . . . .	13634, 14002
<code>\textomicron</code> .	1047, 14508, 14534	<code>\textsc</code> . . . . .	460	<code>\thaa</code> . . . . .	15694
<code>\textonehalf</code> . . . . .	13499, 13868	<code>\textsection</code> . . . . .	13456, 13824	<code>\thebookmark@seq@number</code> 12825	
<code>\textoneinferior</code> . . . . .	15287	<code>\textservicemark</code> . . . . .	15335	<code>\theequation</code> . .	5904, 6173, 6195, 6219, 6255
<code>\textonequarter</code> . . .	13497, 13866	<code>\textseveninferior</code> . . . . .	15299	<code>\thefootnote</code> . . . . .	6343, 6523
<code>\textonesuperior</code> . .	13491, 13860	<code>\textsevensuperior</code> . . . . .	15267	<code>\theHchapter</code> . .	5846, 5847, 5848, 5849, 5931
<code>\textopenbullet</code> . . . . .	15515	<code>\textsf</code> . . . . .	455, 11756, 11759	<code>\theHenumi</code> . . . . .	5865
<code>\textordfeminine</code> . .	13462, 13830	<code>\textSigma</code> . . . . .	1065, 14451	<code>\theHenumii</code> . . . . .	5866
<code>\textordmasculine</code> .	13493, 13862	<code>\textsigma</code> . . . . .	1065, 14516	<code>\theHenumiii</code> . . . . .	5867
<code>\textparagraph</code> 433, 13485, 13854		<code>\textsixinferior</code> . . . . .	15297	<code>\theHenumiv</code> . . . . .	5868
<code>\textparenleft</code> . .	626, 627, 13350, 13783	<code>\textsixsuperior</code> . . . . .	15265	<code>\theHequation</code> .	5836, 5905, 6174, 6196, 6220, 6228, 6255, 6259
<code>\textparenleftinferior</code> . . . .	15305	<code>\textsl</code> . . . . .	461	<code>\theHfigure</code> . . . . .	5843, 5847
<code>\textparenleftsuperior</code> . . .	15279	<code>\textsterling</code> . . . . .	13448, 13816	<code>\theHHfootnote</code> . . . . .	5869, 5871
<code>\textparenright</code> . .	13352, 13785	<code>\textStigmagreek</code> . . .	1024, 14541	<code>\theHHmpfootnote</code> . . . . .	5871
<code>\textparenrightinferior</code> . . .	15307	<code>\textstigmagreek</code> . . .	1024, 14543	<code>\theHItem</code> 5859, 5865, 5866, 5867, 5868	
<code>\textparenrightsuperior</code> . .	15281	<code>\textsurd</code> . . . . .	15359	<code>\theHlisting</code> . . . . .	3118
<code>\textpercent</code> . .	429, 13346, 13777	<code>\TextSymbolUnavailable</code> .	13312, 13313, 13315	<code>\theHlstlisting</code> . . . . .	3114
<code>\textperiodcentered</code> 13487, 13652, 13856, 15545		<code>\textTau</code> . . . . .	1066, 14453	<code>\theHmpfootnote</code> . . . . .	5870
<code>\textpertenthousand</code> . . . .	15241	<code>\texttau</code> . . . . .	1066, 14518	<code>\theHparagraph</code> . . . . .	5853, 5854
<code>\textperthousand</code> . .	13401, 15239	<code>\textTheta</code> . . . . .	1027, 14431	<code>\theHparentequation</code> .	6254, 6259
<code>\textpeseta</code> . . . . .	15315	<code>\texttheta</code> . . . . .	1027, 14494	<code>\theHpart</code> . . . . .	5839
<code>\textpeso</code> . . . . .	15323	<code>\textthreeinferior</code> . . . . .	15291	<code>\theHsection</code> . .	5836, 5842, 5849, 5851, 5855, 5856, 5930
<code>\textPhi</code> . . . . .	1068, 14457	<code>\textthreequarters</code> .	13501, 13870	<code>\theHslide</code> . . . . .	7293
<code>\textphi</code> . . . . .	1068, 14522	<code>\textthreesuperior</code> .	13479, 13847	<code>\theHslidesection</code> 7298, 7300, 7336, 7340	
<code>\textPi</code> . . . . .	1048, 14447	<code>\texttie</code> . . .	13727, 13746, 14395	<code>\theHslidesubsection</code> .	7299, 7387, 7391
<code>\textpi</code> . . . . .	1048, 14510	<code>\texttilde</code> . . .	3752, 13279, 13291, 13303, 13338, 13714, 13733, 14378	<code>\theHsubequation</code> . . . . .	6228
<code>\textplusminus</code> . .	13475, 13651, 13843, 15544	<code>\texttildelow</code> . . . . .	14385	<code>\theHsubparagraph</code> . . . . .	5854
<code>\textplussuperior</code> . . . . .	15273	<code>\texttimes</code> . . . . .	13649, 15542	<code>\theHsubsection</code> . . . .	5851, 5852
<code>\textpm</code> . . . . .	13651, 15544	<code>\texttrademark</code> . . .	13415, 15337	<code>\theHsubsubsection</code> . .	5852, 5853
<code>\textPsi</code> . . . . .	1070, 14461	<code>\textTslash</code> . . . . .	14215	<code>\theHtable</code> . . . . .	5844, 5848
<code>\textpsi</code> . . . . .	1070, 14526	<code>\texttslash</code> . . . . .	14217		
<code>\textquestiondown</code> . . . .	623, 931, 13503, 13872	<code>\texttt</code> . . . . .	456		
<code>\textquotedbl</code> . . . .	13340, 13771	<code>\texttwoinferior</code> . . . . .	15289		
		<code>\texttwosuperior</code> . .	13477, 13845		



\wd . 8597, 8609, 8626, 8638, 8656,  
8668, 12085  
\write 4211, 5390, 5392, 5793, 5801,  
6035, 6063, 6703, 6718, 6734,  
6744, 6774, 6797, 6823, 6853,  
11685, 11709, 13009, 13089  
\WriteBookmarks . . . . .  
. . . . . 3694, 3808, 3960, 3982,  
12760, 13002, 13035, 13036,  
13078, 13082  
\wwwbrowser . . . 8554, 8628, 8640

## X

\x . . . . . 21, 25, 92, 98, 168, 169,  
176, 178, 206, 209, 210, 211,  
212, 213, 214, 215, 216, 217,  
218, 219, 220, 221, 222, 223,  
224, 225, 226, 227, 228, 389,  
394, 702, 705, 709, 714, 746,  
815, 821, 1573, 1601, 2010,  
2012, 2274, 2284, 2293, 2303,  
2354, 2355, 2360, 2376, 3019,  
3029, 3130, 3131, 3134, 3135,  
3136, 3140, 3143, 3149, 3508,  
3514, 3517, 3520, 3641, 3642,  
3647, 3648, 3707, 3708, 3709,  
3712, 3715, 3718, 4210, 4216,  
4339, 4350, 4354, 4357, 4426,  
4427, 4428, 4440, 4508, 4522,  
4547, 4551, 4554, 4564, 5463,  
5464, 5469, 6047, 6054, 6087,

6094, 6121, 6130, 6132, 6144,  
7277, 7278, 7500, 7503, 7538,  
7539, 7540, 7542, 7544, 7892,  
7900, 8172, 8173, 8176, 8178,  
8181, 8798, 8799, 8800, 8802,  
8803, 8804, 8806, 8807, 8808,  
8810, 8811, 8812, 8814, 8815,  
8816, 8818, 8819, 8820, 8822,  
8823, 8824, 8826, 8827, 8829,  
8835, 8844, 9822, 9827, 9831,  
10304, 10305, 11331, 11351,  
11811, 11831, 12152, 12172,  
13145, 13147, 13216, 13218

\XeTeXrevision . . . . . 3928, 9109  
\XeTeXversion . . . . . 3928, 9109  
\XR@dURL . . . . . 2234, 2235  
\XR@addURL . . . . . 2234  
\XR@ext . . . . .  
2462, 2463, 4409, 4412, 5677,  
7793, 8457, 8553, 8789, 9236,  
10480, 10563, 10622, 10814,  
10978  
\XR@URL . . . . . 2239  
\xspace . . . . . 536, 538

## Y

\y 717, 720, 723, 726, 729, 732, 741,  
2356, 2361, 2366, 3136, 3137,  
3138, 3139, 3710, 3713, 3716,  
3719, 3721, 3727, 4429, 4430,

4431, 4432, 4440, 5464,  
6119, 6120, 6123, 6130

\ya . . . . .  
\yahamza . . . . .

## Z

\z . . 2358, 2359, 2360, 4432  
\z@ . . . . . 678, 718, 843, 995  
1034, 1057, 1303, 1343  
1372, 1387, 1395, 1468  
1728, 1734, 1798, 1802  
1814, 2269, 2288, 2551  
2653, 3142, 3148, 3643  
5680, 5683, 6301, 6302  
8381, 8385, 8390, 8394  
8404, 8408, 8411, 9218  
9224, 9225, 9713, 9737  
10193, 10204, 10545,  
10551, 10552, 11320,  
12089, 12141, 12489,  
12523, 12595, 12601,  
12660, 12666, 12685,  
12700, 12729, 12734,  
12837, 12838, 12839,  
12841, 12842, 12843,  
13061, 13182

\z@skip . . . . .  
\za . . . . .  
\zay . . . . .  
\ZWNJ . . . . .