

# Hypertext marks in $\text{\LaTeX}$

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## 1 Documentation overview for `hyperref`

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

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

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

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

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

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

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

Source code documentation:

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

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

**`nameref.dtx`** “Section name references in  $\text{\LaTeX}$ ”

## 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 . . . . .	12
<b>5</b>	<b>Common help macros</b>	<b>14</b>
5.1	Macros for recursions . . . . .	14
5.2	Babel's protection of shorthand characters . . . . .	14
5.3	Coordinate transformations . . . . .	14
<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> . . . . .	16
6.2.1	Preprocessing . . . . .	17
6.2.2	Expansion . . . . .	22
6.2.3	Postprocessing . . . . .	23
6.3	Encodings . . . . .	27
6.3.1	Workaround for package <code>linguex</code> . . . . .	27
6.3.2	PD1 encoding . . . . .	27
6.3.3	PU encoding . . . . .	27
6.4	Additional user commands . . . . .	28
6.4.1	<code>\texorpdfstring</code> . . . . .	28
6.4.2	Hooks for <code>\pdfstringdef</code> . . . . .	28
6.5	Help macros for expansion . . . . .	29
6.5.1	<code>\ignorespaces</code> . . . . .	29
6.5.2	Babel languages . . . . .	29
6.5.3	CJK bookmarks . . . . .	33
6.5.4	<code>\@inmathwarn-Patch</code> . . . . .	35
6.5.5	Unexpandable spaces . . . . .	36
6.5.6	Marker for commands . . . . .	36
6.5.7	<code>\hspace fix</code> . . . . .	37
6.5.8	Fix for AMS classes . . . . .	37
6.5.9	Reference commands . . . . .	37
6.5.10	Redefining the defining commands . . . . .	39
6.5.11	<code>\ifnextchar</code> . . . . .	41
6.5.12	<code>\@protected@testoptifnextchar</code> . . . . .	41
6.6	Help macros for postprocessing . . . . .	41
6.6.1	Generic warning. . . . .	41
6.6.2	Protecting spaces . . . . .	41
6.6.3	Remove grouping braces . . . . .	42
6.6.4	Catcode check . . . . .	44
6.6.5	Check for wrong glyphs . . . . .	47
6.6.6	Replacing tokens . . . . .	48
6.6.7	Support for package <code>xspace</code> . . . . .	48
6.6.8	Converting to Unicode . . . . .	49
6.6.9	Support for UTF-8 input encoding . . . . .	50

<b>7</b>	<b>Support of other packages</b>	<b>54</b>
7.1	Class memoir . . . . .	54
7.2	Package subfigure . . . . .	54
7.3	Package xr and xr-hyper . . . . .	54
<b>8</b>	<b>Help macros for links</b>	<b>55</b>
<b>9</b>	<b>Options</b>	<b>56</b>
9.1	Help macros . . . . .	56
9.2	Defining the options . . . . .	58
<b>10</b>	<b>Options for different drivers</b>	<b>63</b>
<b>11</b>	<b>Options to add extra features</b>	<b>65</b>
<b>12</b>	<b>Language options</b>	<b>66</b>
<b>13</b>	<b>Options to change appearance of links</b>	<b>72</b>
<b>14</b>	<b>Bookmarking</b>	<b>73</b>
<b>15</b>	<b>PDF-specific options</b>	<b>75</b>
15.1	PDF/A . . . . .	81
15.2	Patch for babel's <code>\texttilde</code> . . . . .	82
15.3	Patch for babel 3.8j . . . . .	82
15.3.1	Driver loading . . . . .	84
15.3.2	Bookmarks . . . . .	86
<b>16</b>	<b>User hypertext macros</b>	<b>89</b>
<b>17</b>	<b>Underlying basic hypertext macros</b>	<b>93</b>
<b>18</b>	<b>Compatibility with the <i>BT<sub>E</sub>X2html</i> package</b>	<b>96</b>
<b>19</b>	<b>Forms creation</b>	<b>96</b>
19.1	Field flags . . . . .	96
19.1.1	Declarations of field flags . . . . .	98
19.1.2	Set submit flags . . . . .	100
19.1.3	Set annot flags in fields . . . . .	101
19.1.4	Pushbutton field . . . . .	101
19.1.5	Check box field . . . . .	102
19.1.6	Radio button field . . . . .	102
19.1.7	Text fields . . . . .	102
19.1.8	Choice fields . . . . .	103
19.2	Choice field . . . . .	103
19.3	Forms . . . . .	105
<b>20</b>	<b>Setup</b>	<b>111</b>
<b>21</b>	<b>Low-level utility macros</b>	<b>111</b>
<b>22</b>	<b>Localized nullifying of package</b>	<b>112</b>
<b>23</b>	<b>Package nohyperref</b>	<b>113</b>

<b>24 The Mangling Of Aux and Toc Files</b>	<b>113</b>
<b>25 Title strings</b>	<b>115</b>
<b>26 Page numbers</b>	<b>116</b>
<b>27 Every page</b>	<b>116</b>
27.1 PDF /PageLabels . . . . .	117
27.1.1 pdfTeX and VTeX . . . . .	120
27.1.2 pdfmarkbase, dvipdfm . . . . .	121
<b>28 Automated L<sup>A</sup>T<sub>E</sub>X hypertext cross-references</b>	<b>122</b>
<b>29 Package lastpage support</b>	<b>126</b>
<b>30 Package ifthen support</b>	<b>128</b>
<b>31 Package titlesec and titletoc support</b>	<b>128</b>
<b>32 Package varioref support</b>	<b>128</b>
<b>33 Package longtable support</b>	<b>129</b>
<b>34 Equations</b>	<b>129</b>
<b>35 Footnotes</b>	<b>133</b>
<b>36 Float captions</b>	<b>137</b>
<b>37 Bibliographic references</b>	<b>139</b>
37.1 Package harvard . . . . .	142
37.2 Package chicago . . . . .	144
<b>38 Page numbers</b>	<b>144</b>
<b>39 Table of contents</b>	<b>145</b>
<b>40 New counters</b>	<b>147</b>
<b>41 AMSL<sup>A</sup>T<sub>E</sub>X compatibility</b>	<b>147</b>
41.1 \@addtoreset and \numberwithin patches . . . . .	148
<b>42 Included figures</b>	<b>149</b>
<b>43 hyperindex entries</b>	<b>149</b>
<b>44 Compatibility with foiltex</b>	<b>151</b>
<b>45 Compatibility with seminar slide package</b>	<b>152</b>
<b>46 Configuration files</b>	<b>160</b>
46.1 PS/PDF strings . . . . .	160
46.2 pdftex . . . . .	161
46.2.1 Fix for problem with different nesting levels . . . . .	173
46.3 hypertext . . . . .	174
46.4 dviwindo . . . . .	176

46.5	dvipdfm dvi to PDF converter	180
46.6	VTeX typesetting system	188
46.7	Fix for Adobe bug number 466320	199
46.8	Direct pdfmark support	200
46.9	Rokicki's dvips	212
46.10	VTeX's vtexpdfmark driver	213
46.11	Textures	215
46.12	dvipsone	219
46.13	TeX4ht	222
<b>47</b>	<b>Driver-specific form support</b>	<b>224</b>
47.1	pdfmarks	224
47.2	HyperTeX	231
47.3	TeX4ht	231
47.4	pdfTeX	234
47.5	dvipdfm	240
47.6	Common forms part	247
<b>48</b>	<b>Bookmarks in the PDF file</b>	<b>254</b>
48.1	Bookmarks	254
<b>49</b>	<b>Compatibility with koma-script classes</b>	<b>261</b>
<b>50</b>	<b>Encoding definition files for encodings of PDF strings</b>	<b>262</b>
50.1	PD1 encoding	262
50.2	PU encoding	269
50.2.1	NFSS2 accents	269
50.2.2	Basic Latin: U+0000 to U+007F	271
50.2.3	Latin-1 Supplement: U+0080 to U+00FF	273
50.2.4	Latin Extended-A: U+0080 to U+017F	276
50.2.5	Latin Extended-B: U+0180 to U+024F	281
50.2.6	Spacing Modifier Letters: U+02B0 to U+02FF	283
50.2.7	Combining Diacritical Marks: U+0300 to U+036F	283
50.2.8	Greek and Coptic: U+0370 to U+03FF	283
50.2.9	Cyrillic: U+0400 to U+04FF	286
50.2.10	Thai: U+0E00 to U+0E7F	295
50.2.11	Latin Extended Additional: U+1E00 to U+1EFF	295
50.2.12	General Punctuation: U+2000 to U+206F	298
50.2.13	Superscripts and Subscripts: U+2070 to U+209F	299
50.2.14	Currency Symbols: U+20A0 to U+20CF	300
50.2.15	Letterlike Symbols: U+2100 to U+214F	300
50.2.16	Arrows: U+2190 to U+21FF	301
50.2.17	Mathematical Operators: U+2200 to U+22FF	301
50.2.18	Miscellaneous Technical: U+2300 to U+23FF	301
50.2.19	Control Pictures: U+2400 to U+243F	301
50.2.20	Enclosed Alphanumerics: U+2460 to U+24FF	301
50.2.21	Box Drawing: U+2500 to U+257F	304
50.2.22	Miscellaneous Symbols: U+2600 to U+26FF	304
50.2.23	Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF	304
50.2.24	Alphabetic Presentation Forms: U+FB00 to U+FB4F	304
50.2.25	Miscellaneous	304
50.2.26	Aliases	304
50.3	PU encoding, additions for VnTeX	305

50.4 PU encoding, additions for Arabi . . . . .	307
<b>51 End of file hycheck.tex</b>	<b>308</b>
<b>52 Index</b>	<b>309</b>

### 3 File hycheck.tex

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

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

`\checklatex` Optional argument: release date of  $\LaTeX$ .

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

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

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

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

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

`\HyC@checkPackage`

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

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

```

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

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

```

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

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

```

59 \def\HyC@checkcommand{%
60   \ifx\HyC@next\relax
61     \PackageError{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 `\cmd_` with an space at the end of the command name, defined by `\newcommand`. Therefore the further parsing is done by `\HyC@nc@opt` or `\HyC@nc@noopt` of the `\HyC@newcommand` chain.

```

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

```

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

```

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

```

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

`\HyC@meaning`

```

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

```

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

```

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

```

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

```

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

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

```

## 4 Package options and setup

### 4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```
231 \Hy@SetCatcodes
```

It needs the December 95 release of L<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{keyval}[1997/11/10]
233 \RequirePackage{ifpdf}[2006/02/20]
234 \RequirePackage{ifvtex}
235 \RequirePackage{ifxetex}[2006/08/21]
236 \RequirePackage{hycolor}
237 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
238 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
239 \def\Hy@Info#1{\PackageInfo{hyperref}{#1}}

```

## 4.2 Compatibility with format dumps

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

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

```

240 \@ifundefined{AfterBeginDocument}{%
241   \def\AfterBeginDocument{\AtBeginDocument}%
242 }{}%

```

## 4.3 Switches

```

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

```

```

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

```

Defaults for the switches are now set.

```

288 \Hy@backreffalse
289 \Hy@bookmarksnumberedfalse
290 \Hy@bookmarksopenfalse
291 \Hy@bookmarkstrue
292 \Hy@breaklinksfalse
293 \Hy@centerwindowfalse
294 \Hy@CJKbookmarksfalse
295 \Hy@escapeformfalse
296 \Hy@figuresfalse
297 \Hy@fitwindowfalse
298 \Hy@hyperfootnotetrue
299 \Hy@hyperindextrue
300 \Hy@hypertextnametrue
301 \Hy@implicittrue
302 \Hy@linktocpagefalse
303 \Hy@menubartrue
304 \Hy@naturalnamesfalse
305 \Hy@nestingfalse
306 \Hy@newwindowsetfalse
307 \Hy@newwindowfalse
308 \Hy@pageanchortrue
309 \Hy@pagelabelstrue
310 \Hy@pdfpagehiddenfalse
311 \Hy@pdfstringfalse

```

```

312 \Hy@plainpagesfalse
313 \Hy@raiselinksfalse
314 \Hy@setpagesizetrue
315 \Hy@texhtfalse
316 \Hy@toolbartrue
317 \Hy@typexmlfalse
318 \Hy@unicodetrue
319 \Hy@usetitlefalse
320 \Hy@verbosefalse
321 \Hy@windowuitrue
322 \Hy@displaydoctitlefalse
323 \Hy@pdfafalse

```

## 5 Common help macros

`\Hy@StepCount`

```

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

```

`\Hy@GlobalStepCount`

```

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

326 \newdimen\@linkdim
327 \let\Hy@driver\@empty
328 \let\MaybeStopEarly\relax
329 \newcount\Hy@linkcounter
330 \newcount\Hy@pagecounter
331 \Hy@linkcounter0
332 \Hy@pagecounter0

```

### 5.1 Macros for recursions

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

```

333 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
334 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

335 \let\Hy@ReturnEnd\@empty
336 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
337 \long\def\Hy@ReturnAfterElseFiFiEnd#1\else#2\Hy@ReturnEnd{\fi\fi#1}

```

### 5.2 Babel's protection of shorthand characters

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

```

338 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
339 \def\Hy@safe@activesfalse{\csname @safe@activesfalse\endcsname}

```

### 5.3 Coordinate transformations

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

`\hypercalcbp` The user macro `\hypercalcbp` can be used, for example, inside option values:  
`pdfstartview={FitBH \hypercalcbp{\paperheight-\topmargin-1in}}`

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

Example (T<sub>E</sub>X):

```

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

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

```

```

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

```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

Email: oberdiek@uni-freiburg.de.

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

### 6.1 Description of PDF strings

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

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

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

### 6.2 Definition of `\pdfstringdef`

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

Important: In  $\text{\TeX}$ '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 processed by  $\text{\TeX}$ , because the tokens have only catcodes 10 until 12.



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

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

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

```
382 \begingroup
```

### 6.2.1 Preprocessing

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

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

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

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

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

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

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

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

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

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

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

```
388 \ifHy@unicode
```

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

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

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

```
392 \HyPsd@UTFviii
```

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

```
394 \else
```

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

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

```
397 \fi
```

```
398 \enc@update
```

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

```

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

```

**Package color.**

```

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

```

**Upper- and lowercase.**

```

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

```

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

```

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

```

```

468 \let\@safe@activetrue\relax
469 \let\@safe@activesfalse\relax
    Disable \cyr, used in russianb.ldf.
470 \let\cyr\relax
    Redefine \es@roman, used in spanish.ldf.
471 \let\es@roman\@Roman

```

#### Package german.

```

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

```

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

**Package FrenchPro.** This package uses:

```

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

```

#### AMS classes.

```

481 \HyPsd@AMSclassfix

```

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

```

482 \let\hspace\HyPsd@hspace

```

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

```

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

```

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

```

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

```

#### Miscellaneous commands.

```

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

```

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

```

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

```

### Patch for cjk bookmarks.

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

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

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

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

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

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

### Package xspace.

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

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

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

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

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

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

```
514 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
515 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
516 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
517 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

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

## 6.2.2 Expansion

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

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

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

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

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

```
519 \begingroup
520 \let\GenericError\@gobblefour
521 \let\GenericWarning\@gobbletwo
522 \let\GenericInfo\@gobbletwo
```

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

```
523 \ifx\nofrenchguillemets\@undefined
524 \else
525 \nofrenchguillemets
526 \fi
```

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

```
527 \let\Hy@temp\xdef
528 \let\def\HyPsd@DefCommand
529 \let\gdef\HyPsd@DefCommand
```

```

530      \let\edef\HyPsd@DefCommand
531      \let\xdef\HyPsd@DefCommand
532      \let\futurelet\HyPsd@LetCommand
533      \let\let\HyPsd@LetCommand
534      \Hy@temp#1{#2}%
535      \endgroup

```

### 6.2.3 Postprocessing

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

```

536      \ifx#1\@empty
537      \else

```

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

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

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

```

538      \HyPsd@ProtectSpaces#1%
539      \let\HyPsd@String\@empty
540      \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
541      \global\let#1\HyPsd@String

```

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

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

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

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

```

542 \let\HyPsd@SPACEOPTI\relax
543 {%
544 \let\HyPsd@String\@empty
545 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
546 \global\let#1\HyPsd@String
547 }%
548 \expandafter\HyPsd@RemoveMask\expandafter
549 |\expandafter\@empty#1\HyPsd@End#1%

```

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

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

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

```

550 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
551 \let\HyPsd@String\@empty
552 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
553 \global\let#1\HyPsd@String

```

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

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

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

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

```

555 \ifHy@unicode
556 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
557 \HyPsd@SPACEOPTI#1%
558 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
559 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
560 {\HyPsd@SPACEOPTI\80\273}#1%
561 \else
562 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
563 \expandafter\HyPsd@Subst\expandafter{%
564 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
565 \string\273}\HyPsd@SPACEOPTI\273}#1%
566 \fi

```

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



```

567 \ifHy@unicode
568 \HyPsd@StringSubst{\}){\80\051}#1%
569 \HyPsd@Subst){\80\051}#1%
570 \let\HyPsd@empty\relax
571 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
572 {\HyPsd@empty\80\051}#1%
573 \else
574 \HyPsd@StringSubst{\}){\051}#1%
575 \HyPsd@Subst){\051}#1%
576 \let\HyPsd@empty\relax
577 \HyPsd@StringSubst{\051}{\HyPsd@empty\string\})#1%
578 \fi

```

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

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

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

```

579 \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
580 \@ifundefined{@xspace}{%
581 }{%
582 \let\HyPsd@xspace\relax
583 \expandafter\HyPsd@Subst\expandafter
584 {\HyPsd@XSPACE}\HyPsd@xspace#1%
585 \let\HyPsd@xspace\HyPsd@doxspace
586 }%
587 \xdef#1{#1\HyPsd@empty}%

```

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

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

```

588 \HyPsd@Subst{---}\textemdash#1%
589 \HyPsd@Subst{--}\textendash#1%
590 % \HyPsd@Subst{fi}\textfi#1%
591 % \HyPsd@Subst{fl}\textfl#1%
592 \HyPsd@Subst{!'}\texttexclamdown#1%
593 \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

594 \let\HyPsd@empty\@empty

```

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

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

```

595     \ifHy@unicode
596         \HyPsd@StringSubst\(\textparenleft#1%
597         \HyPsd@Subst(\textparenleft#1%
598     \else
599         \HyPsd@StringSubst\({\050}#1%
600         \HyPsd@Subst({\050}#1%
601         \HyPsd@StringSubst{\050}{\string\()}#1%
602     \fi

```

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

With Unicode the spaces are replaced by their octal sequences.

```

603     \ifHy@unicode
604         \edef\HyPsd@SPACEOPTI{\80\040}%
605     \else
606         \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
607     \fi
608     \xdef#1{#1\@empty}%
609 \fi

```

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

```

610 \endgroup
611 \begingroup
612     \ifHy@unicode
613         \HyPsd@ConvertToUnicode#1%

```

**Try conversion back to PDFDocEncoding.**

```

614     \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
615         \ifundefined{StringEncodingConvertTest}{%
616             {%
617                 \EdefUnescapeString\HyPsd@temp#1%
618                 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
619                     {utf16be}{pdfdoc}{%
620                     \EdefEscapeString\HyPsd@temp\HyPsd@temp
621                     \global\let#1\HyPsd@temp
622                     \Hy@unicodedefalse
623                 }{}%
624             }%
625         \fi
626     \fi

```

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

```

627     \pdfstringdefPostHook#1%
628 \endgroup
629 }

```

`\Hy@pdfstringdef`

```
630 \def\Hy@pdfstringdef#1#2{%
631   \pdfstringdef\Hy@gtemp{#2}%
632   \let#1\Hy@gtemp
633 }
```

## 6.3 Encodings

### 6.3.1 Workaround for package linguex

```
634 \@ifpackageloaded{linguex}{%
635   \let\HyLinguex@OrgB\b
636   \let\HyLinguex@OrgC\c
637   \let\HyLinguex@OrgD\d
638   \def\HyLinguex@Restore{%
639     \let\b\HyLinguex@OrgB
640     \let\c\HyLinguex@OrgC
641     \let\d\HyLinguex@OrgD
642   }%
643   \AtEndOfPackage{%
644     \pdfstringdefDisableCommands{%
645       \@ifundefined{oldb}{\let\b\oldb}%
646       \@ifundefined{oldc}{\let\c\oldc}%
647       \@ifundefined{oldd}{\let\d\oldd}%
648     }%
649   }%
650 }{%
651   \let\HyLinguex@Restore\relax
652 }%
```

### 6.3.2 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>'s NFSS. Because the informational strings are not set by T<sub>E</sub>X's typesetting mechanism but for interpreting by the PDF reader, the glyphs of the PD1 encoding are implemented to be safely written to a file (PDF output file, .out file).

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

```
653 \@ifundefined{T@PD1}{%
654   \input{pd1enc.def}%
655   \HyLinguex@Restore
656 }{}
657 \DeclareFontFamily{PD1}{pdf}{}
658 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
659 \DeclareFontSubstitution{PD1}{pdf}{m}{n}
```

### 6.3.3 PU encoding

The PU encoding implements the Unicode encoding for use with L<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.

```
660 \def\HyPsd@InitUnicode{%
661   \@ifundefined{T@PU}{%
```

```

662 \input{puenc.def}%
663 \HyLinguex@Restore
664 }{}%
665 \DeclareFontFamily{PU}{pdf}{}%
666 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
667 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
668 \let\HyPsd@InitUnicode\relax
669 }

```

## 6.4 Additional user commands

### 6.4.1 `\texorpdfstring`

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

```

670 \def\texorpdfstring{%
671 \ifHy@pdfstring
672 \expandafter\@secondoftwo
673 \else
674 \expandafter\@firstoftwo
675 \fi
676 }

```

### 6.4.2 Hooks for `\pdfstringdef`

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

```

677 \@ifundefined{pdfstringdefPreHook}{%
678 \let\pdfstringdefPreHook\@empty
679 }{}
680 \@ifundefined{pdfstringdefPostHook}{%
681 \let\pdfstringdefPostHook\@gobble
682 }{}

```

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

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

```

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

```

In the argument of `\pdfstringdefDisableCommands` the character `@` can be used in command names. So it is easy to use useful L<sup>A</sup>T<sub>E</sub>X commands like `\@gobble` or `\@firstofone`.

```

683 \def\pdfstringdefDisableCommands{%
684 \begingroup
685 \makeatletter
686 \HyPsd@DisableCommands
687 }

```

`\HyPsd@DisableCommands`

```
688 \long\def\HyPsd@DisableCommands#1{%
689   \toks0=\expandafter{\pdfstringdefPreHook}%
690   \toks1={#1}%
691   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
692 \endgroup
693 }
```

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

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

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

```
694 \def\pdfstringdefWarn#1{%
695   \expandafter\noexpand\csname\<>-string#1\endcsname
696 }
```

## 6.5 Help macros for expansion

### 6.5.1 `\ignorespaces`

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

```
697 \begingroup
698   \catcode0=12 %
699   \def\x{\endgroup
700     \def\HyPsd@ignorespaces{%
701       \romannumeral\expandafter'\expandafter^^@%
702       \romannumeral'^^@%
703     }%
704   }%
705 \x
```

### 6.5.2 Babel languages

```
706 \newif\ifHy@next

Nothing to do for english.
707 \@ifundefined{danish@sh@"@sel}{-}{%
708   \def\HyPsd@babel@danish{%
709     \declare@shorthand{danish}{-}{-}%
710     \declare@shorthand{danish}{-}{-}%
711   }%
712 }
713 \@ifundefined{dutch@sh@"@sel}{-}{%
714   \def\HyPsd@babel@dutch{%
715     \declare@shorthand{dutch}{-}{-}%
716     \declare@shorthand{dutch}{-}{-}%
717   }%
718 }
```

```

719 \@ifundefined{finnish@sh@"@sel}{-}{%
720   \def\HyPsd@babel@finnish{%
721     \declare@shorthand{finnish}{-}{-}%
722   }%
723 }
724 \@ifundefined{french@sh@"@sel}{-}{%
725   \def\HyPsd@babel@frenchb{%
726     \def\guill@spacing{ }%
727   }%
728 }
729 \@ifundefined{german@sh@"@sel}{-}{%
730   \def\HyPsd@babel@german{%
731     \declare@shorthand{german}{f}{f}%
732     \declare@shorthand{german}{-}{-}%
733     \declare@shorthand{german}{~}{-}%
734   }%
735 }
736 \@ifundefined{macedonian@sh@"@sel}{-}{%
737   \def\HyPsd@babel@macedonian{%
738     \declare@shorthand{macedonian}{-}{-}%
739     \declare@shorthand{macedonian}{~}{-}%
740   }%
741 }{-}
742 \@ifundefined{ngerman@sh@"@sel}{-}{%
743   \def\HyPsd@babel@ngerman{%
744     \declare@shorthand{ngerman}{-}{-}%
745     \declare@shorthand{ngerman}{~}{-}%
746   }%
747 }
748 \@ifundefined{portuges@sh@"@sel}{-}{%
749   \def\HyPsd@babel@portuges{%
750     \declare@shorthand{portuges}{-}{-}%
751   }%
752 }
753 \@ifundefined{russian@sh@"@sel}{-}{%
754   \def\HyPsd@babel@russian{%
755     \declare@shorthand{russian}{-}{-}%
756     \declare@shorthand{russian}{~}{-}%
757   }%
758 }
759 \@ifundefined{slovene@sh@"@sel}{-}{%
760   \def\HyPsd@babel@slovene{%
761     \declare@shorthand{slovene}{-}{-}%
762   }%
763 }

```

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

```

764 \@ifundefined{spanish@sh@>@sel}{-}{%
765   \def\HyPsd@babel@spanish{%
766     \declare@shorthand{spanish}{<<}{\guillemotleft}%
767     \declare@shorthand{spanish}{>>}{\guillemotright}%
768     \declare@shorthand{spanish}{=}{-}%
769     \declare@shorthand{spanish}{~}{-}%
770     \declare@shorthand{spanish}{!}{\textexclamdown}%
771     \declare@shorthand{spanish}{?}{\textquestiondown}%
772   }%
773 }
774 \@ifundefined{swedish@sh@"@sel}{-}{%

```

```

775 \def\HyPsd@babel@swedish{%
776   \declare@shorthand{swedish}{"}{|}%
777   \declare@shorthand{swedish}{"}{|}%
778 }%
779 }
780 \@ifundefined{ukrainian@sh@"@sel}{|}%
781 \def\HyPsd@babel@ukrainian{%
782   \declare@shorthand{ukrainian}{"}{|}%
783   \declare@shorthand{ukrainian}{"}{|}%
784 }%
785 }
786 \@ifundefined{usorbian@sh@"@sel}{|}%
787 \def\HyPsd@babel@usorbian{%
788   \declare@shorthand{usorbian}{"}{|}%
789   \declare@shorthand{usorbian}{"}{|}%
790 }%
791 }
792 \@ifundefined{greek@sh@\string~@sel}{|}%
793 \let\HyPsd@GreekPatch\@empty
794 }{|}%
795 \def\HyPsd@GreekPatch{%
796   \let\greeknumeral\HyPsd@greeknumeral
797   \let\Greeknumeral\HyPsd@Greeknumeral
798 }%
799 }
800 \def\HyPsd@greeknumeral#1{%
801   \HyPsd@GreekNum\@firstoftwo{#1}%
802 }
803 \def\HyPsd@Greeknumeral#1{%
804   \HyPsd@GreekNum\@secondoftwo{#1}%
805 }
806 \def\HyPsd@GreekNum#1#2{%
807   \ifHy@unicode
808     \ifnum#2<\@one
809       \@arabic{#2}%
810     \else
811       \ifnum#2<1000000 %
812         \HyPsd@@GreekNum#1{#2}%
813       \else
814         \@arabic{#2}%
815       \fi
816     \fi
817   \else
818     \@arabic{#2}%
819   \fi
820 }
821 \def\HyPsd@@GreekNum#1#2{%
822   \ifnum#2<\@m
823     \ifnum#2<10 %
824       \expandafter\HyPsd@GreekNumI
825       \expandafter\@gobble\expandafter#1\number#2%
826     \else
827       \ifnum#2<100 %
828         \expandafter\HyPsd@GreekNumII
829         \expandafter\@gobble\expandafter#1\number#2%
830       \else
831         \expandafter\HyPsd@GreekNumIII

```

```

832         \expandafter\@gobble\expandafter#1\number#2%
833     \fi
834 \fi
835 \ifnum#2>\z@
836     \textnumeralsigngreek
837 \fi
838 \else
839     \ifnum#2<\@M
840         \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
841     \else
842         \ifnum#2<100000 %
843             \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
844         \else
845             \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
846         \fi
847     \fi
848 \fi
849 }
850 \def\HyPsd@GreekNumI#1#2#3{%
851     #1{%
852         \ifnum#3>\z@
853             \textnumeralsignlowergreek
854         \fi
855     }%
856     \expandafter#2%
857     \ifcase#3 %
858         {}{}%
859     \or\textalpha\textAlpha
860     \or\textbeta\textBeta
861     \or\textgamma\textGamma
862     \or\textdelta\textDelta
863     \or\textepsilon\textEpsilon
864     \or\textstigmagreek\textStigmagreek
865     \or\textzeta\textZeta
866     \or\texteta\textEta
867     \or\texttheta\textTheta
868     \else
869         {}{}%
870     \fi
871 }
872 \def\HyPsd@GreekNumII#1#2#3#4{%
873     #1{%
874         \ifnum#3>\z@
875             \textnumeralsignlowergreek
876         \fi
877     }%
878     \expandafter#2%
879     \ifcase#3 %
880         {}{}%
881     \or\textiota\textIota
882     \or\textkappa\textKappa
883     \or\textlambda\textLambda
884     \or\textmu\textMu
885     \or\textnu\textNu
886     \or\textxi\textXi
887     \or\textomicron\textOmicron
888     \or\textpi\textPi

```



```

889 \or\textkoppagreek\textKoppagreek
890 \else
891   {}{}%
892 \fi
893 \HyPsd@GreekNumI#1#2#4%
894 }
895 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
896   #1{%
897     \ifnum#3>\z@
898       \textnumeralsignlowergreek
899     \fi
900   }%
901   \expandafter#2%
902   \ifcase#3 %
903     {}{}%
904   \or\textrho\textRho
905   \or\textsigma\textSigma
906   \or\texttau\textTau
907   \or\textupsilon\textUpsilon
908   \or\textphi\textPhi
909   \or\textchi\textChi
910   \or\textpsi\textPsi
911   \or\textomega\textOmega
912   \or\textsampigreek\textSampigreek
913   \else
914     {}{}%
915   \fi
916   \HyPsd@GreekNumII#1#2#4#5%
917 }
918 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
919   \HyPsd@GreekNumI\@firstofone#1#2%
920   \HyPsd@GreekNum#1{#3#4#5}%
921 }
922 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
923   \HyPsd@GreekNumII\@firstofone#1#2#3%
924   \HyPsd@GreekNum#1{#4#5#6}%
925 }
926 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
927   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
928   \HyPsd@GreekNum#1{#5#6#7}%
929 }

```

### 6.5.3 CJK bookmarks

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

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

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

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

```

930 \begingroup
931   \catcode"7F=\active
932   \toks@{%
933     \let\CJK@ignorespaces\empty

```

```

934 \def\CJK@char#1{\@gobbletwo}%
935 \let\CJK@charx\@gobblefour
936 \let\CJK@punctchar\@gobblefour
937 \def\CJK@punctcharx#1{\@gobblefour}%
938 \catcode"7F=\active
939 \def^^7f#1^^7f#2^^7f{%
940   \string #1\HyPsd@DecimalToOctal{#2}%
941 }%
942 % ... ?
943 \ifHy@unicode
944   \def\Hy@cjkpu{\80}%
945   \else
946     \let\Hy@cjkpu\@empty
947   \fi
948   \HyPsd@CJKActiveChars
949 }%
950 \count@=127 %
951 \@whilenum\count@<255 \do{%
952   \advance\count@ by 1 %
953   \lccode'\~=\count@
954   \lowercase{%
955     \toks@\expandafter{\the\toks@ ~}%
956   }%
957 }%
958 \toks@\expandafter{\the\toks@ !}%
959 \xdef\HyPsd@CJKhook{\the\toks@}%
960 \endgroup

```

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

```

961 \def\HyPsd@CJKActiveChars#1{%
962   \ifx#1!%
963     \let\HyPsd@CJKActiveChars\relax
964   \else
965     \edef#1{\noexpand\Hy@cjkpu\string#1}%
966   \fi
967   \HyPsd@CJKActiveChars
968 }

```

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

```

969 \def\HyPsd@DecimalToOctal#1{%
970   \ifcase #1 %
971     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
972     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
973     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
974     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
975     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
976     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
977     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
978     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
979     \or @\or A\or B\or C\or D\or E\or F\or G%
980     \or H\or I\or J\or K\or L\or M\or N\or O%
981     \or P\or Q\or R\or S\or T\or U\or V\or W%
982     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
983     \or \140\or a\or b\or c\or d\or e\or f\or g%
984     \or h\or i\or j\or k\or l\or m\or n\or o%
985     \or p\or q\or r\or s\or t\or u\or v\or w%

```

```

986 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
987 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
988 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
989 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
990 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
991 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
992 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
993 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
994 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
995 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
996 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
997 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
998 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
999 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1000 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1001 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1002 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1003 \fi
1004 }

```

#### 6.5.4 \@inmathwarn-Patch

\HyPsd@inmathwarn The patch of \@inmathwarn is needed to get rid of the infinite error loop with glyphs of other encodings (see the explanation above). Potentially the patch is dangerous, if the code in ltoutenc.dtx changes. Checked with L<sup>A</sup>T<sub>E</sub>X 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 (L<sup>A</sup>T<sub>E</sub>X 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}

1005 \def\HyPsd@inmathwarn#1#2{%
1006   \ifx#2\expandafter
1007     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1008       \HyPsd@GLYPHERR
1009       \expandafter\@gobble\string#1%
1010       >%
1011       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1012     \else
1013       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1014     \fi
1015   \else
1016     \expandafter#2%
1017   \fi
1018 }
1019 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1020 \def\HyPsd@EndWithElse#1\else\else{}

```

`\HyPsd@add@accent`

```

1021 \def\HyPsd@add@accent#1#2{%
1022   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1023   #2%
1024 }%

```

### 6.5.5 Unexpandable spaces

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

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

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

```

1025 \def\HyPsd@LetUnexpandableSpace#1{%
1026   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1027 }

```

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

```

1028 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

### 6.5.6 Marker for commands

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

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

```

1029 \edef\HyPsd@XSPACE{\string#\string X}
1030 \edef\HyPsd@ITALCORR{\string#\string I}
1031 \edef\HyPsd@GLYPHERR{\string#\string G}

```

### 6.5.7 \hspace fix

\HyPsd@hspace

```
1032 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1033 \def\HyPsd@@hspace#1*#2\END{%
1034   \ifx\#2\%
1035     \HyPsd@hspacetest{#1}%
1036   \else
1037     \expandafter\HyPsd@hspacetest
1038   \fi
1039 }
```

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

```
1040 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

### 6.5.8 Fix for AMS classes

```
1041 \@ifundefined{tocsection}{%
1042   \let\HyPsd@AMSclassfix\relax
1043 }{%
1044   \def\HyPsd@AMSclassfix{%
1045     \let\tocpart\HyPsd@tocsection
1046     \let\tocchapter\HyPsd@tocsection
1047     \let\tocappendix\HyPsd@tocsection
1048     \let\tocsection\HyPsd@tocsection
1049     \let\tocsubsection\HyPsd@tocsection
1050     \let\tocsubsubsection\HyPsd@tocsection
1051     \let\tocparagraph\HyPsd@tocsection
1052   }%
1053   \def\HyPsd@tocsection#1#2#3{%
1054     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1055     #3%
1056   }%
1057 }
```

### 6.5.9 Reference commands

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

```
1058 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1059 \def\HyPsd@@ref#1*#2\END{%
1060   \ifx\#2\%
1061     \HyPsd@@@ref{#1}%
1062   \else
1063     \expandafter\HyPsd@@@ref
1064   \fi
1065 }
```

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

```
1066 \def\HyPsd@@@ref#1{%
1067   \expandafter\ifx\csname r@#1\endcsname\relax
1068     ??%
```

```

1069 \else
1070   \expandafter\expandafter\expandafter
1071   \@car\csname r@#1\endcsname\@nil
1072 \fi
1073 }

\HyPsd@pageref Macro \HyPsd@pageref calls the macro \HyPsd@@pageref for star checking. The same
methods like in \HyPsd@hspace is used.
1074 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

\HyPsd@@pageref Macro \HyPsd@@pageref checks if a star is present.
1075 \def\HyPsd@@pageref#1*#2\END{%
1076   \ifx\#2\%
1077     \HyPsd@@pageref{#1}%
1078   \else
1079     \expandafter\HyPsd@@pageref
1080   \fi
1081 }

\HyPsd@@@pageref \HyPsd@@@pageref does the work and extracts the second argument.
1082 \def\HyPsd@@@pageref#1{%
1083   \expandafter\ifx\csname r@#1\endcsname\relax
1084     ??%
1085   \else
1086     \expandafter\expandafter\expandafter\expandafter
1087     \expandafter\expandafter\expandafter\@car
1088     \expandafter\expandafter\expandafter\@gobble
1089     \csname r@#1\endcsname{}\@nil
1090   \fi
1091 }

\HyPsd@nameref Macro \HyPsd@nameref calls the macro \HyPsd@@nameref for star checking. The same
methods like in \HyPsd@hspace is used.
1092 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

\HyPsd@@nameref Macro \HyPsd@@nameref checks if a star is present.
1093 \def\HyPsd@@nameref#1*#2\END{%
1094   \ifx\#2\%
1095     \HyPsd@@nameref{#1}%
1096   \else
1097     \expandafter\HyPsd@@nameref
1098   \fi
1099 }

\HyPsd@@@nameref \HyPsd@@@nameref does the work and extracts the third argument.
1100 \def\HyPsd@@@nameref#1{%
1101   \expandafter\ifx\csname r@#1\endcsname\relax
1102     ??%
1103   \else
1104     \expandafter\expandafter\expandafter\expandafter
1105     \expandafter\expandafter\expandafter\@car
1106     \expandafter\expandafter\expandafter\@gobbletwo
1107     \csname r@#1\endcsname{}\@nil
1108   \fi
1109 }

```

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

```
1110 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```
1111 \def\HyPsd@@autoref#1*#2\END{%
1112   \ifx\#2\%
1113     \HyPsd@@@autoref{#1}%
1114   \else
1115     \expandafter\HyPsd@@@autoref
1116   \fi
1117 }
```

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

```
1118 \def\HyPsd@@@autoref#1{%
1119   \expandafter\ifx\csname r@#1\endcsname\relax
1120     ??%
1121   \else
1122     \expandafter\expandafter\expandafter\HyPsd@autorefname
1123       \csname r@#1\endcsname{}{}{}{}\@nil
1124     \expandafter\expandafter\expandafter
1125       \@car\csname r@#1\endcsname\@nil
1126   \fi
1127 }
```

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

```
1128 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1129   \ifx\#4\%
1130   \else
1131     \HyPsd@@autorefname#4.\@nil
1132   \fi
1133 }
```

`\HyPsd@@autorefname`

```
1134 \def\HyPsd@@autorefname#1.#2\@nil{%
1135   \@ifundefined{#1autorefname}{%
1136     \@ifundefined{#1name}{%
1137       }{%
1138         \csname#1name\endcsname\space
1139       }%
1140     }{%
1141       \csname#1autorefname\endcsname\space
1142     }%
1143 }
```

### 6.5.10 Redefining the defining commands

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

Active characters cannot be defined with this trick. It is possible to define all undefined active characters (perhaps that they have the meaning of `\relax`). To avoid side

effects this should be done in `\pdfstringdef` shortly before the `\xdef` job. But checking and defining all possible active characters of the full range (0 until 255) would take a while. `\pdfstringdef` is slow enough, so this isn't done.

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

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

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

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

```
\HyPsd@DefCommand
\HyPsd@LetCommand 1144 \begingroup
1145   \def\x#1#2{%
1146     \endgroup
1147     \let#1\def
1148     \def\HyPsd@DefCommand##1##2##{%
1149       #1%
1150       \expandafter\noexpand
1151       \csname\expandafter@gobble\string##1\@empty\endcsname
1152       \@gobble
1153     }%
1154     \let#2\let
1155     \def\HyPsd@@LetCommand##1{%
1156       \expandafter\ifx\csname##1\expandafter\endcsname
1157         \csname iftrue\endcsname
1158         \pdfstringdefWarn\let
1159         \expandafter@gobble
1160       \else
1161         \expandafter\ifx\csname##1\expandafter\endcsname
1162           \csname iffalse\endcsname
1163           \pdfstringdefWarn\let
1164           \expandafter\expandafter\expandafter@gobble
1165         \else
1166           #2%
1167           \expandafter\noexpand
1168           \csname##1\expandafter\expandafter\expandafter\endcsname
1169         \fi
1170       \fi
1171     }%
1172   }%
1173   \expandafter\x\csname <def>-command\expandafter\endcsname
1174     \csname <let>-command\endcsname
1175   \def\HyPsd@LetCommand#1{%
1176     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1177     \expandafter\expandafter\expandafter{%
1178     \expandafter@gobble\string#1\@empty
```



```

1179 }%
1180 }

```

### 6.5.11 \ifnextchar

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

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

```

1181 \def\HyPsd@ifnextchar#1{%
1182   \pdfstringdefWarn#1%
1183   \expandafter\@gobbletwo\@gobble
1184 }

```

### 6.5.12 \@protected@testoptifnextchar

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

```

1185 \def\HyPsd@protected@testopt#1{%
1186   \pdfstringdefWarn#1%
1187   \@gobbletwo
1188 }

```

## 6.6 Help macros for postprocessing

### 6.6.1 Generic warning.

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

```

1189 \def\HyPsd@Warning#1{%
1190   \begingroup
1191     \def\space{ }%
1192     \Hy@Warning{#1}%
1193   \endgroup
1194 }

```

### 6.6.2 Protecting spaces

```

1195 \RequirePackage{etexcmds}[2007/09/09]
1196 \ifetex@unexpanded
1197   \expandafter\@secondoftwo
1198 \else
1199   \expandafter\@firstoftwo
1200 \fi
1201 {%

```

`\HyPsd@ProtectSpaces` `\HyPsd@ProtectSpaces` calls with the expanded string `\HyPsd@@ProtectSpacesFi`. The expanded string is protected by `|` at the beginning and end of the expanded string.

Because of this there can be no group at the beginning or end of the string and grouping characters are not removed by the call of `\HyPsd@@ProtectSpacesFi`.

```

1202 \def\HyPsd@ProtectSpaces#1{%
1203   \iftrue
1204     \expandafter\HyPsd@@ProtectSpacesFi
1205     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1206   \fi
1207 }%

```

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

```

1208 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1209   \fi
1210   \ifx\scrollmode#2\scrollmode
1211     \HyPsd@RemoveMask#1\HyPsd@End#3%
1212   \else
1213     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1214     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1215   \fi
1216 }%

```

### Remove mask.

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

```

1217 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1218   \toks@{\expandafter{#1}}%
1219   \xdef#2{\the\toks@}%
1220 }%

1221 }{%
1222 \let\HyPsd@fi\fi
1223 \def\HyPsd@ProtectSpaces#1{%
1224   \xdef#1{%
1225     \iftrue
1226       \expandafter\HyPsd@@ProtectSpacesFi
1227       \expandafter|\expandafter\@empty#1| %
1228     \HyPsd@fi
1229   }%
1230   \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1231 }%
1232 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1233   \fi
1234   \etex@unexpanded{#1}%
1235   \ifx\scrollmode#2\scrollmode
1236   \else
1237     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1238   \HyPsd@fi
1239 }%
1240 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1241   \xdef#2{\etex@unexpanded\expandafter{#1}}%
1242 }%
1243 }

```

### 6.6.3 Remove grouping braces

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

```

1244 \def\HyPsd@RemoveBraces#1{%
1245   \ifx\scrollmode#1\scrollmode
1246   \else
1247     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1248   \fi
1249 }

```

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

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

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

```

1250 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1251   \fi
1252   \def\Hy@temp@A{#1#2}%
1253   \def\Hy@temp@B{#3}%
1254   \ifx\Hy@temp@A\Hy@temp@B
1255     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1256       \HyPsd@String#1%
1257     }%
1258     \ifx\scrollmode#2\scrollmode
1259     \else
1260       \Hy@ReturnAfterFiFiEnd{%
1261         \HyPsd@RemoveBraces{#2}%
1262       }%
1263     \fi
1264   \else
1265     \def\Hy@temp@A{#1}%
1266     \HyPsd@AppendItalcorr\HyPsd@String
1267     \ifx\Hy@temp@A\@empty
1268       \Hy@ReturnAfterElseFiFiEnd{%
1269         \HyPsd@RemoveBraces{#2}%
1270       }%
1271     \else
1272       \HyPsd@ProtectSpaces\Hy@temp@A
1273       \HyPsd@AppendItalcorr\Hy@temp@A
1274       \Hy@ReturnAfterFiFiEnd{%
1275         \expandafter\HyPsd@RemoveBraces\expandafter
1276           {\Hy@temp@A#2}%
1277       }%
1278     \fi
1279   \fi
1280   \Hy@ReturnEnd
1281 }

```

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

```

1282 \def\HyPsd@AppendItalcorr#1{%
1283   \expandafter\HyPsd@@AppendItalcorr\expandafter{\/}#1%
1284 }
1285 \def\HyPsd@@AppendItalcorr#1#2{%
1286   \expandafter\def\expandafter#2\expandafter{#2#1}%
1287 }

```

## 6.6.4 Catcode check

### Check catcodes.

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

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

```

1288 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1289   \global\let\HyPsd@Rest\relax
1290   \ifcat\relax\noexpand#1\relax
1291     \ifx#1\protect
1292     \else
1293       \ifx#1\penalty
1294         \setbox\z@=\hbox{%
1295           \afterassignment\HyPsd@AfterCountRemove
1296           \count@=#2\HyPsd@End
1297         }%
1298       \else
1299         \ifx#1\kern
1300         \setbox\z@=\hbox{%
1301           \afterassignment\HyPsd@AfterDimenRemove
1302           \dimen@=#2\HyPsd@End
1303         }%
1304       \else
1305         \ifx#1\hskip
1306         \setbox\z@=\hbox{%
1307           \afterassignment\HyPsd@AfterSkipRemove
1308           \skip@=#2\HyPsd@End
1309         }%
1310       \else
1311         \HyPsd@CatcodeWarning{#1}%
1312       \fi
1313     \fi
1314   \fi
1315 \fi
1316 \else
1317   \ifcat#1A% letter
1318   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1319     \HyPsd@String#1%
1320   }%
1321 \else
1322   \ifcat#1 % SPACE
1323   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1324     \HyPsd@String\HyPsd@SPACEOPTI
1325   }%
1326 \else
1327   \ifcat$#1%
1328   \HyPsd@CatcodeWarning{math shift}%
1329 \else
1330   \ifcat&#1%
1331   \HyPsd@CatcodeWarning{alignment tab}%

```

```

1332         \else
1333             \ifcat^#1%
1334                 \HyPsd@CatcodeWarning{superscript}%
1335             \else
1336                 \ifcat_#1%
1337                     \HyPsd@CatcodeWarning{subscript}%
1338                 \else
1339                     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1340                         \HyPsd@String#1%
1341                     }%
1342                 \fi
1343             \fi
1344         \fi
1345     \fi
1346 \fi
1347 \fi
1348 \fi
1349 \ifx\HyPsd@Rest\relax
1350     \ifx\scrollmode#2\scrollmode
1351     \else
1352         \Hy@ReturnAfterFiFiEnd{%
1353             \HyPsd@CheckCatcodes#2\HyPsd@End
1354         }%
1355     \fi
1356 \else
1357     \ifx\HyPsd@Rest\@empty
1358     \else
1359         \Hy@ReturnAfterFiFiEnd{%
1360             \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1361         }%
1362     \fi
1363 \fi
1364 \Hy@ReturnEnd
1365 }

```

### Remove counts, dimens, skips.

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

```

1366 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1367     \gdef\HyPsd@Rest{#1}%
1368 }

```

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

```

1369 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1370     \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@ \fi>1ex %
1371         \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1372         \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1373     \else
1374         \ifdim\dimen@=\z@
1375         \else
1376             \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1377         \fi
1378         \gdef\HyPsd@Rest{#1}%
1379     \fi

```

1380 }

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

```
1381 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1382   \ifdim\ifx\HyPsd@String\@empty\z@else\skip@fi>1ex %
1383     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1384     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1385   \else
1386     \ifdim\skip@=\z@
1387     \else
1388       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1389     \fi
1390     \gdef\HyPsd@Rest{#1}%
1391   \fi
1392 }
```

### Catcode warnings.

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

```
1393 \def\HyPsd@CatcodeWarning#1{%
1394   \HyPsd@Warning{%
1395     Token not allowed in a PDF string (%
1396     \ifHy@unicode
1397       Unicode%
1398     \else
1399       PDFDocEncoding%
1400     \fi
1401     ):%
1402     \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1403   }%
1404 }
1405 \begingroup
1406   \catcode'\|=0 %
1407   \catcode'\|=12 %
1408   \gdef\HyPsd@RemoveCmdPrefix#1{%
1409     \expandafter\HyPsd@@RemoveCmdPrefix
1410     \string#1\@empty\<>-|@empty|@empty
1411   }%
1412   \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1413 \endgroup
```

`\HyPsd@RemoveSpaceWarning`

```
1414 \def\HyPsd@RemoveSpaceWarning#1{%
1415   \HyPsd@Warning{%
1416     Token not allowed in a PDF string (%
1417     \ifHy@unicode
1418       Unicode%
1419     \else
1420       PDFDocEncoding%
1421     \fi
1422     ):%
1423     \MessageBreak #1\MessageBreak
1424     removed%
1425   }%
1426 }
```

\HyPsd@ReplaceSpaceWarning

```
1427 \def\HyPsd@ReplaceSpaceWarning#1{%
1428   \HyPsd@Warning{%
1429     Token not allowed in a PDF string (%)
1430     \ifHy@unicode
1431       Unicode%
1432     \else
1433       PDFDocEncoding%
1434     \fi
1435   }:%
1436   \MessageBreak #1\MessageBreak
1437   replaced by space%
1438 }%
1439 }
```

### 6.6.5 Check for wrong glyphs

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

```
1440 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1441   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1442     \HyPsd@String#1%
1443   }%
1444   \ifx\#2\%
1445   \else
1446     \Hy@ReturnAfterFi{%
1447       \HyPsd@GlyphProcessWarning#2\@empty
1448     }%
1449   \fi
1450 }
1451 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1452   \HyPsd@@GlyphProcessWarning#1++>%
1453   \HyPsd@GlyphProcess#2\@empty
1454 }
1455 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1456   \ifx\#2\%
1457     \HyPsd@Warning{%
1458       Glyph not defined in %
1459       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1460       removing ‘\@backslashchar#1’%
1461     }%
1462   \else
1463     \HyPsd@Warning{%
1464       Composite letter ‘\@backslashchar#1+#2’\MessageBreak
1465       not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1466       \MessageBreak
1467       removing ‘\@backslashchar#1’%
1468     }%
1469   \fi
1470 }
```

### Spaces.

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

```

1471 \def\HyPsd@spaceopti#1{ % first space
1472   \ifx\HyPsd@spaceopti#1%
1473     \040%
1474   \else
1475     #1%
1476   \fi
1477 }%

```

### 6.6.6 Replacing tokens

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

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

```

1478 \def\HyPsd@Subst#1#2#3{%
1479   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1480     \fi
1481     ##1%
1482     \ifx\scrollmode##2\scrollmode
1483     \else
1484       #2%
1485       \HyPsd@@ReplaceFi##2\END
1486     \fi
1487   }%
1488   \xdef#3{%
1489     \iftrue
1490       \expandafter\HyPsd@@ReplaceFi#3#1\END
1491     \fi
1492   }%
1493 }

```

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

```

1494 \def\HyPsd@StringSubst#1{%
1495   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1496 }

```

### 6.6.7 Support for package `xspace`

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

```

1497 \def\HyPsd@doxspace#1{%
1498   \ifx#1\relax\else
1499   \ifx#1.\else
1500   \ifx#1:\else
1501   \ifx#1,\else
1502   \ifx#1;\else
1503   \ifx#1!\else
1504   \ifx#1?\else
1505   \ifx#1/\else
1506   \ifx#1-\else
1507   \ifx#1'\else
1508     \HyPsd@SPACEOPTI
1509   \fi

```



```

1510         \fi
1511         \fi
1512         \fi
1513         \fi
1514         \fi
1515         \fi
1516         \fi
1517         \fi
1518         \fi
1519         #1%
1520 }%

```

## 6.6.8 Converting to Unicode

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

```

1521 \begingroup
1522   \catcode'\|=0 %
1523   \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

1524 |gdef|HyPsd@ConvertToUnicode#1{%
1525   |xdef#1{%
1526     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1527   }%
1528   |ifx#1|@empty
1529   |else
1530     |xdef#1{%
1531       \376\377%
1532       #1%
1533     }%
1534   |fi
1535 }%

```

\HyPsd@DoConvert

```

1536 |gdef|HyPsd@DoConvert#1{%
1537   |ifx#1|@empty
1538   |else
1539     |Hy@ReturnAfterFi{%
1540       |ifx#1\%%
1541       \%%
1542       |expandafter|HyPsd@DoEscape
1543     |else
1544       \000#1%
1545       |expandafter|HyPsd@DoConvert
1546     |fi
1547   }%
1548   |fi
1549 }%

```

\HyPsd@DoEscape

```

1550 |gdef|HyPsd@DoEscape#1{%
1551   |ifx#19%
1552   |expandafter|HyPsd@GetTwoBytes
1553   |else

```

```

1554 |Hy@ReturnAfterFi{%
1555 |ifx#18%
1556 00%
1557 |expandafter|HyPsd@GetTwoBytes
1558 |else
1559 #1%
1560 |expandafter|HyPsd@GetOneByte
1561 |fi
1562 }%
1563 |fi
1564 }%

```

`\HyPsd@GetTwoBytes`

```

1565 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1566 #1\#2#3#4%
1567 |HyPsd@DoConvert
1568 }%

```

`\HyPsd@GetOneByte`

```

1569 |gdef|HyPsd@GetOneByte#1#2{%
1570 #1#2%
1571 |HyPsd@DoConvert
1572 }%
1573 |endgroup

```

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

```

1574 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1575 \xdef#4{#4#1#2}%
1576 \HyPsd@@ConvertToUnicode#3\END#4%
1577 }

```

## 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 $\TeX$ here` for performance reasons. Unhappily the results of divisions are rounded. Thus a circumvention via `\dimexpr` is used, e.g.:

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

```

1578 \begingroup\expandafter\expandafter\expandafter\endgroup
1579 \expandafter\ifx\csname numexpr\endcsname\relax
1580 \let\HyPsd@UTFviii\relax
1581 \else
1582 \begingroup
1583 \lccode'\~='^^f4\relax
1584 \lowercase{\endgroup
1585 \def\HyPsd@UTFviii{%
1586 \let\UTFviii@two@octets\HyPsd@UTFviii@two
1587 \let\UTFviii@three@octets\HyPsd@UTFviii@three
1588 \let\UTFviii@four@octets\HyPsd@UTFviii@four
1589 \ifx~\HyPsd@UTFviii@ccxliv@undef
1590 \let~\HyPsd@UTFviii@ccxliv@def

```

```

1591 \fi
1592 \let\unichar\HyPsd@unichar
1593 }%
1594 }%
1595 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1596 \edef\HyPsd@UTFviii@ccxliv@def{%
1597 \noexpand\UTFviii@four@octets\string ^^f4%
1598 }%

```

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.

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

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

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

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

$$(5)$$

```

1599 \def\HyPsd@UTFviii@two#1#2{%
1600 \expandafter\HyPsd@UTFviii@@two
1601 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1602 \number'#1\expandafter|
1603 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|
1604 \number'#2 \@nil
1605 }%
1606 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1607 \expandafter\8%
1608 \number\numexpr #1-48\expandafter\relax
1609 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1610 \number\numexpr #3-8*%
1611 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1612 \number\numexpr #4-8*#3\relax
1613 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1614 \def\HyPsd@UTFviii@three#1#2#3{%
1615 \expandafter\HyPsd@UTFviii@@three
1616 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1617 \number'#1\expandafter|
1618 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|
1619 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|
1620 \number'#2\expandafter|
1621 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|
1622 \number'#3 \@nil

```

```

1623 }%
1624 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1625   \expandafter\9%
1626   \number\numexpr #1-56\expandafter\relax
1627   \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1628   \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1629   \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1630   \number\numexpr #6-16\expandafter\relax
1631   \number\numexpr #7-8*#6\relax
1632 }%

```

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

```

```

1633 \def\HyPsd@UTFviii@four#1#2{%
1634   \expandafter\HyPsd@UTFviii@four\number
1635   \numexpr-1+(' #1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1636   \expandafter|\number
1637   \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp|%
1638 }%
1639 \def\HyPsd@UTFviii@four#1|#2|#3{%
1640   \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1641   \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1642   \ifodd#2 %
1643     \number\numexpr(#2-1)/2\relax
1644   \else
1645     \number\numexpr#2/2\relax
1646   \fi
1647   \number\numexpr\ifodd#2 4+\fi
1648   \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1649   \933%
1650   \expandafter\HyPsd@UTFviii@four\number
1651   \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp|%
1652 }%
1653 \def\HyPsd@UTFviii@four#1|#2{%
1654   \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1655   \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1656   \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1657   \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1658 }%

```

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

```

1659 \def\HyPsd@unichar#1{%
1660   \ifHy@unicode
1661     \ifnum#1>"10FFFF %
1662       \HyPsd@UnicodeReplacementCharacter % illegal
1663     \else
1664       \ifnum#1>"FFFF %

```

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

```

1665   \expandafter\HyPsd@unichar\expandafter{%
1666     \number\numexpr 55296+%
1667     \dimexpr.0009765625\dimexpr\number#1sp-\p@

```

```

1668             \relax\relax\relax
1669         }%
Low-surrogate code point. ("DC00 = 56320, "DC00 - 65536 = -9216)
1670         \expandafter\HyPsd@unichar\expandafter{%
1671             \number\numexpr#1-9216%
1672             -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1673             \relax\relax\relax
1674     }%
1675     \else
1676         \ifnum#1>"7FF %
1677             \9%
1678             \expandafter\HyPsd@unichar@first@byte\expandafter{%
1679                 \number
1680                 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1681             }%
1682         \else
1683             \8%
1684             \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1685         \fi
1686         \expandafter\HyPsd@unichar@second@byte\expandafter{%
1687             \number
1688             \numexpr#1-256*\number
1689             \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1690         }%
1691     \fi
1692 \fi
1693 \else
1694 .% unsupported (Unicode -> PDF Doc Encoding)
1695 \fi
1696 }%
1697 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1698 \def\HyPsd@unichar@first@byte#1{%
1699     \number\dimexpr.015625\dimexpr#1sp\relax\relax
1700     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1701         \number
1702         \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1703         \relax\relax\relax
1704     }%
1705 }%
1706 \def\HyPsd@unichar@second@byte#1{%
1707     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1708     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1709         \number
1710         \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1711         \relax\relax\relax
1712     }%
1713 }%
1714 \def\HyPsd@unichar@octtwo#1{%
1715     \number\dimexpr.125\dimexpr#1sp\relax\relax
1716     \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1717     \relax\relax\relax
1718 }%
1719 \fi

```

## 7 Support of other packages

### 7.1 Class memoir

```
1720 \@ifclassloaded{memoir}{%
1721   \AtEndOfPackage{\RequirePackage{memhfixc}}%
1722 }{}
```

### 7.2 Package subfigure

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

```
1723 \@ifpackageloaded{subfigure}{%
1724   \@ifundefined{sub@label}{%
1725     \Hy@hypertextnamesfalse
1726   }{%
1727     \renewcommand*{\sub@label}[1]{%
1728       \@bsphack
1729       \subfig@oldlabel{#1}%
1730       \if@filesw
1731         \begin{group}
1732           \edef\@currentlabstr{%
1733             \expandafter\strip@prefix\meaning\@currentlabelname
1734           }%
1735           \protected@write\@auxout{}{%
1736             \string\newlabel{sub@#1}{%
1737               {\@nameuse{@@thesub\@capttype}}%
1738               {\thepage}%
1739             }%
1740             \expandafter\strip@period\@currentlabstr
1741             \relax.\relax\@@%
1742           }%
1743           {\@currentHref}%
1744           {}%
1745         }%
1746       }%
1747     \end{group}
1748     \fi
1749     \@esphack
1750   }%
1751   \@ifpackagelater{subfigure}{2002/03/26}{%
1752     \providecommand*{\toclevel@subfigure}{1}%
1753     \providecommand*{\toclevel@subtable}{1}%
1754   }%
1755 }%
1756 }
```

### 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:

```
1757 \@ifundefined{XR@addURL}{%
1758 }
```

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.

```
1759 \def\xr@addURL#1{\xr@dURL#1{}{}{}{}\\}%
1760 \def\xr@dURL#1#2#3#4#5\\{%
1761   {#1}{#2}%
1762 }
```

```

1762 \if!#4!%
1763 \else
1764   {#3}{#4}{\XR@URL}%
1765 \fi
1766 }%
1767 }

1768 \def\Hy@true{true}
1769 \def\Hy@false{false}

    Providing dummy definitions.

1770 \let\literalps@out\@gobble
1771 \newcommand\pdfbookmark[3][]{ }
1772 \def\Acrobatmenu#1#2{\leavevmode#2}
1773 \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

```

1774 \let\HyperRaiseLinkHook\@empty
1775 \def\HyperRaiseLinkDefault{\baselineskip}

```

`\HyperRaiseLinkHook` allows the user to reassign `\HyperRaiseLinkLength`.

```

1776 \def\Hy@raisedlink#1{%
1777   \ifvmode
1778     #1%
1779   \else
1780     \penalty\@M
1781     \smash{%
1782       \begingroup
1783         \let\HyperRaiseLinkLength\@tempdima
1784         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1785         \HyperRaiseLinkHook
1786       \expandafter\endgroup
1787     \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
1788   }%
1789 \fi
1790 }

```

```

\Hy@SaveLastskip Inserting a \special command to set a destination destroys the \lastskip value.
\Hy@RestoreLastskip
1791 \def\Hy@SaveLastskip{%
1792   \let\Hy@RestoreLastskip\relax
1793   \ifvmode
1794     \ifdim\lastskip=\z@
1795       \let\Hy@RestoreLastskip\nobreak
1796     \else

```

```

1797     \begingroup
1798     \skip@=-\lastskip
1799     \edef\x{%
1800     \endgroup
1801     \def\noexpand\Hy@RestoreLastskip{%
1802     \noexpand\ifvmode
1803     \noexpand\nobreak
1804     \vskip\the\skip@
1805     \vskip\the\lastskip\relax
1806     \noexpand\fi
1807     }%
1808     }%
1809     \x
1810     \fi
1811 \else
1812   \ifhmode
1813     \ifdim\lastskip=\z@
1814       \let\Hy@RestoreLastskip\nobreak
1815     \else
1816       \begingroup
1817       \skip@=-\lastskip
1818       \edef\x{%
1819       \endgroup
1820       \def\noexpand\Hy@RestoreLastskip{%
1821       \noexpand\ifhmode
1822       \noexpand\nobreak
1823       \hskip\the\skip@
1824       \hskip\the\lastskip\relax
1825       \noexpand\fi
1826       }%
1827       }%
1828       \x
1829       \fi
1830     \fi
1831 \fi
1832 }%

```

## 9 Options

### 9.1 Help macros

\Hy@boolkey

```

1833 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
1834 \def\Hy@@boolkey[#1]#2#3{%
1835   \edef\Hy@tempa{#3}%
1836   \lowercase\expandafter{%
1837     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
1838   }%
1839   \ifx\Hy@tempa\@empty
1840     \let\Hy@tempa\Hy@true
1841   \fi
1842   \ifx\Hy@tempa\Hy@true
1843   \else
1844     \ifx\Hy@tempa\Hy@false
1845     \else
1846       \let\Hy@tempa\relax

```



```

1847 \fi
1848 \fi
1849 \ifx\Hy@tempa\relax
1850 \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
1851 \else
1852 \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
1853 \csname Hy@#2\Hy@tempa\endcsname
1854 \fi
1855 }

```

\Hy@WarnOptionValue

```

1856 \def\Hy@WarnOptionValue#1#2#3{%
1857 \Hy@Warning{%
1858 Unexpected value ‘#1’\MessageBreak
1859 of option ‘#2’ instead of\MessageBreak
1860 #3%
1861 }%
1862 }

```

\Hy@DisableOption

```

1863 \def\Hy@DisableOption#1{%
1864 \@ifundefined{KV@Hyp@#1@default}{%
1865 \define@key{Hyp}{#1}%
1866 }{%
1867 \define@key{Hyp}{#1}[]%
1868 }%
1869 {\Hy@WarnOptionDisabled{#1}}%
1870 }

```

\Hy@WarnOptionDisabled

```

1871 \def\Hy@WarnOptionDisabled#1{%
1872 \Hy@Warning{%
1873 Option ‘#1’ has already been used,\MessageBreak
1874 setting the option has no effect%
1875 }%
1876 }

```

\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.

```

1877 \def\Hy@CheckOptionValue#1#2#3{%
1878 \begingroup
1879 \edef\x{#1}%
1880 \@onelevel@sanitize\x
1881 \let\y=y%
1882 \def\do##1##2{%
1883 \def\z{##1}%
1884 \@onelevel@sanitize\z
1885 \ifx\x\z
1886 \let\y=n%
1887 \let\do\@gobbletwo
1888 \fi
1889 }%
1890 #3%
1891 \ifx\y y%
1892 \def\do##1##2{%
1893 * ‘##1’%
1894 \ifx\\##2\\\else\space(##2)\fi

```

```

1895         \MessageBreak
1896     }%
1897     \Hy@Warning{%
1898         Values of option '#2':\MessageBreak
1899         #3%
1900         * An empty value disables the option.\MessageBreak
1901         Unknown value '\x'%
1902     }%
1903     \fi
1904 \endgroup
1905 }

\Hy@DefNameKey #1: option name
#2: \do list with known values, first argument of \do is value, second argument is a
comment.
1906 \def\Hy@DefNameKey#1{%
1907     \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
1908 }

\Hy@@DefNameKey #1: macro for value storage
#2: option name
#3: \do list with known values.
1909 \def\Hy@@DefNameKey#1#2#3{%
1910     \define@key{Hyp}{#2}{%
1911         \edef#1{##1}%
1912         \ifx#1\@empty
1913             \else
1914                 \Hy@CheckOptionValue{##1}{#2}{#3}%
1915             \fi
1916     }%
1917     \let#1\@empty
1918 }

\Hy@UseNameKey
1919 \def\Hy@UseNameKey#1#2{%
1920     \ifx#2\@empty
1921     \else
1922         /#1/#2%
1923     \fi
1924 }

```

## 9.2 Defining the options

```

1925 \define@key{Hyp}{implicit}[true]{%
1926     \Hy@boolkey{implicit}{#1}%
1927 }
1928 \define@key{Hyp}{draft}[true]{%
1929     \Hy@boolkey{draft}{#1}%
1930 }
1931 \define@key{Hyp}{final}[true]{%
1932     \Hy@boolkey{final}{#1}%
1933 }
1934 \let\KV@Hyp@nolinks\KV@Hyp@draft
1935 \define@key{Hyp}{a4paper}[true]{%
1936     \def\special@paper{210mm,297mm}%
1937     \def\Hy@pageheight{842}%

```

```

1938 }
1939 \define@key{Hyp}{a5paper}[true]{%
1940   \def\special@paper{148mm,210mm}%
1941   \def\Hy@pageheight{595}%
1942 }
1943 \define@key{Hyp}{b5paper}[true]{%
1944   \def\special@paper{176mm,250mm}%
1945   \def\Hy@pageheight{709}%
1946 }
1947 \define@key{Hyp}{letterpaper}[true]{%
1948   \def\special@paper{8.5in,11in}%
1949   \def\Hy@pageheight{792}%
1950 }
1951 \define@key{Hyp}{legalpaper}[true]{%
1952   \def\special@paper{8.5in,14in}%
1953   \def\Hy@pageheight{1008}%
1954 }
1955 \define@key{Hyp}{executivepaper}[true]{%
1956   \def\special@paper{7.25in,10.5in}%
1957   \def\Hy@pageheight{720}%
1958 }
1959 \define@key{Hyp}{setpagesize}[true]{%
1960   \Hy@boolkey{setpagesize}{#1}%
1961 }
1962 \define@key{Hyp}{debug}[true]{%
1963   \Hy@boolkey[debug]{verbose}{#1}%
1964 }
1965 \define@key{Hyp}{linktocpage}[true]{%
1966   \Hy@boolkey{linktocpage}{#1}%
1967   \ifHy@linktocpage
1968     \let\Hy@linktoc\Hy@linktoc@page
1969   \else
1970     \let\Hy@linktoc\Hy@linktoc@section
1971   \fi
1972 }
1973 \chardef\Hy@linktoc@none=0 %
1974 \chardef\Hy@linktoc@section=1 %
1975 \chardef\Hy@linktoc@page=2 %
1976 \chardef\Hy@linktoc@all=3 %
1977 \ifHy@linktocpage
1978   \let\Hy@linktoc\Hy@linktoc@page
1979 \else
1980   \let\Hy@linktoc\Hy@linktoc@section
1981 \fi
1982 \define@key{Hyp}{linktoc}{%
1983   \@ifundefined{Hy@linktoc@#1}{%
1984     \Hy@Warning{%
1985       Unexpected value ‘#1’ of\MessageBreak
1986       option ‘linktoc’ instead of ‘none’,\MessageBreak
1987       ‘section’, ‘page’ or ‘all’%
1988     }%
1989   }{%
1990     \expandafter\let\expandafter\Hy@linktoc
1991     \csname Hy@linktoc@#1\endcsname
1992   }%
1993 }
1994 \define@key{Hyp}{extension}{\def\XR@ext{#1}}

```

```

1995 \let\XR@ext\relax
1996 \define@key{Hyp}{verbose}[true]{%
1997   \Hy@boolkey{verbose}{#1}%
1998 }
1999 \define@key{Hyp}{typexml}[true]{%
2000   \Hy@boolkey{typexml}{#1}%
2001 }

```

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.

```

2002 \define@key{Hyp}{raiselinks}[true]{%
2003   \Hy@boolkey{raiselinks}{#1}%
2004 }

```

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

```

2005 \def\Hy@setbreaklinks#1{%
2006   \csname breaklinks#1\endcsname
2007 }

2008 \def\Hy@breaklinks@unsupported{%
2009   \ifx\Hy@setbreaklinks\@gobble
2010     \ifHy@breaklinks
2011       \Hy@WarningNoLine{%
2012         You have enabled option 'breaklinks'.\MessageBreak
2013         But driver '\Hy@driver.def' does not support this.\MessageBreak
2014         Expect trouble with the link areas of broken links%
2015       }%
2016     \fi
2017   \fi
2018 }

2019 \define@key{Hyp}{breaklinks}[true]{%
2020   \Hy@boolkey{breaklinks}{#1}%
2021   \let\Hy@setbreaklinks\@gobble
2022 }

```

Determines whether an automatic anchor is put on each page

```

2023 \define@key{Hyp}{pageanchor}[true]{%
2024   \Hy@boolkey{pageanchor}{#1}%
2025 }

```

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.

```

2026 \define@key{Hyp}{plainpages}[true]{%
2027   \Hy@boolkey{plainpages}{#1}%
2028 }

```

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?

```

2029 \define@key{Hyp}{naturalnames}[true]{%
2030   \Hy@boolkey{naturalnames}{#1}%
2031 }

```

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

```

2032 \define@key{Hyp}{hypertextnames}[true]{%
2033   \Hy@boolkey{hypertextnames}{#1}%
2034 }

```

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

```

2035 \define@key{Hyp}{nesting}[true]{%
2036   \Hy@boolkey{nesting}{#1}%
2037 }

2038 \define@key{Hyp}{unicode}[true]{%
2039   \Hy@boolkey{unicode}{#1}%
2040   \ifHy@unicode
2041     \def\HyPsd@pdfencoding{unicode}%
2042   \else
2043     \def\HyPsd@pdfencoding{pdfdoc}%
2044   \fi
2045   \HyPsd@LoadUnicode
2046 }

2047 \def\HyPsd@LoadUnicode{%
2048   \@ifundefined{T@PU}{%
2049     \input{puenc.def}%
2050     \HyLinguex@Restore
2051   }{}%
2052   \DeclareFontFamily{PU}{pdf}{}%
2053   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
2054   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2055   \global\let\HyPsd@LoadUnicode\relax
2056 }

2057 \AtBeginDocument{%
2058   \ifx\HyPsd@LoadUnicode\relax
2059   \else
2060     \def\HyPsd@LoadUnicode{%
2061       \PackageError{hyperref}{%
2062         Unicode support for bookmarks is not available.\MessageBreak
2063         Activate unicode support by using one of the options\MessageBreak
2064         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2065         in the preamble%
2066       }{\@ehc
2067         \global\let\HyPsd@LoadUnicode\relax
2068         \global\Hy@unicodetrue
2069         \global\let\Hy@unicodetrue\Hy@unicodetrue
2070       }%
2071     \fi
2072 }

2073 \define@key{Hyp}{pdfencoding}{%
2074   \edef\HyPsd@temp{#1}%
2075   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2076     \let\HyPsd@pdfencoding\HyPsd@temp
2077     \Hy@unicodetrue
2078   \else
2079     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2080       \z@
2081     \else
2082       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2083         \z@
2084       \else
2085         \@ne
2086       \fi
2087     \fi
2088     \let\HyPsd@pdfencoding\HyPsd@temp
2089     \hypersetup{unicode}%
2090     \ifHy@unicode
2091       \def\HyPsd@pdfencoding{#1}%

```

```

2092         \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2093         \HyPsd@LoadStringEnc
2094     \fi
2095     \else
2096         \Hy@Warning{Cannot switch to unicode bookmarks}%
2097         \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2098     \fi
2099     \else
2100         \@onelevel@sanitize\HyPsd@temp
2101         \Hy@Warning{%
2102             Values of option 'pdfencoding':\MessageBreak
2103             'pdfdoc', 'unicode', 'auto'.\MessageBreak
2104             Ignoring unknown value '\HyPsd@temp'%
2105         }%
2106     \fi
2107 \fi
2108 }
2109 \def\HyPsd@pdfencoding@auto{auto}
2110 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2111 \def\HyPsd@pdfencoding@unicode{unicode}
2112 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2113 \def\HyPsd@LoadStringEnc{%
2114     \RequirePackage{stringenc}[2007/06/14]%
2115     \let\HyPsd@LoadStringEnc\relax
2116 }
2117 \AtBeginDocument{%
2118     \@ifpackageloaded{stringenc}{%
2119         \let\HyPsd@LoadStringEnc\relax
2120     }{%
2121         \def\HyPsd@LoadStringEnc{%
2122             \Hy@WarningNoLine{%
2123                 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2124                 in the preamble or load the package there%
2125             }%
2126         }%
2127     }%
2128 }
2129 \newif\ifHy@setpdfversion
2130 \define@key{Hyp}{pdfversion}{%
2131     \@ifundefined{Hy@pdfversion@#1}{%
2132         \PackageWarning{hyperref}{%
2133             Unsupported PDF version '#1'.\MessageBreak
2134             Valid values: 1.2 until 1.9%
2135         }%
2136     }{%
2137         \Hy@setpdfversiontrue
2138         \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2139     }%
2140 }
2141 \@namedef{Hy@pdfversion@1.2}{2}%
2142 \@namedef{Hy@pdfversion@1.3}{3}%
2143 \@namedef{Hy@pdfversion@1.4}{4}%
2144 \@namedef{Hy@pdfversion@1.5}{5}%
2145 \@namedef{Hy@pdfversion@1.6}{6}%
2146 \@namedef{Hy@pdfversion@1.7}{7}%
2147 \@namedef{Hy@pdfversion@1.8}{8}%
2148 \@namedef{Hy@pdfversion@1.9}{9}%

```

```
2149 \def\Hy@pdfversion{2}
```

## 10 Options for different drivers

```
2150 \define@key{Hyp}{hyperref}[true]{}
2151 \define@key{Hyp}{tex4ht}[true]{%
2152   \Hy@texhttrue
2153   \setkeys{Hyp}{colorlinks=true}%
2154   \def\BeforeTeXIVht{\usepackage{color}}%
2155   \def\Hy@driver{htex4ht}%
2156   \def\MaybeStopEarly{%
2157     \typeout{Hyperref stopped early}%
2158     \AfterBeginDocument{%
2159       \PDF@FinishDoc
2160       \gdef\PDF@FinishDoc{}}%
2161   }%
2162   \endinput
2163 }%
2164 }
2165 \define@key{Hyp}{pdftex}[true]{%
2166   \def\Hy@driver{hpdftex}%
2167 }
2168 \define@key{Hyp}{nativepdf}[true]{%
2169   \def\Hy@driver{hdvips}%
2170 }
2171 \define@key{Hyp}{dvipdfm}[true]{%
2172   \def\Hy@driver{hdvipdfm}%
2173 }
2174 \define@key{Hyp}{dvipdfmx}[true]{%
2175   \def\Hy@driver{hdvipdfm}%
2176 }
2177 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2178   \expandafter\ifx\csname if#1\expandafter\endcsname
2179     \csname iftrue\endcsname
2180     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2181   \else
2182     \chardef\SpecialDvipdfmxOutlineOpen\z@
2183   \fi
2184 }
2185 \define@key{Hyp}{xetex}[true]{%
2186   \def\Hy@driver{hdvipdfm}%
2187 }
2188 \define@key{Hyp}{pdfmark}[true]{%
2189   \def\Hy@driver{hdvips}%
2190 }
2191 \define@key{Hyp}{dvips}[true]{%
2192   \def\Hy@driver{hdvips}%
2193 }
2194 \define@key{Hyp}{hypertex}[true]{%
2195   \def\Hy@driver{hypertex}%
2196 }
2197 \let\Hy@MaybeStopNow\relax
2198 \define@key{Hyp}{vtex}[true]{%
2199   \begingroup\expandafter\expandafter\expandafter\endgroup
2200   \expandafter\ifx\csname OpMode\endcsname\relax
2201     \@latex@error{Non-VTeX processor}{}%
2202     \global\let\Hy@MaybeStopNow\endinput
```

```

2203 \endinput
2204 \else
2205 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2206 \def\Hy@driver{hvtex}%
2207 \else
2208 \ifnum\OpMode=10\relax
2209 \def\Hy@driver{hvtexhtm}%
2210 \def\MaybeStopEarly{%
2211 \typeout{Hyperref stopped early}%
2212 \AfterBeginDocument{%
2213 \PDF@FinishDoc
2214 \gdef\PDF@FinishDoc{}}%
2215 }%
2216 \endinput
2217 }%
2218 \else
2219 \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2220 \global\let\Hy@MaybeStopNow\endinput
2221 \endinput
2222 \fi
2223 \fi
2224 \fi
2225 }
2226 \define@key{Hyp}{vtexpdfmark}[true]{%
2227 \begingroup\expandafter\expandafter\expandafter\endgroup
2228 \expandafter\ifx\cscname OpMode\endcscname\relax
2229 \@latex@error{Non-VTeX processor}{}%
2230 \let\Hy@MaybeStopNow\endinput
2231 \endinput
2232 \else
2233 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2234 \def\Hy@driver{hvtexmrk}%
2235 \else
2236 \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2237 \let\Hy@MaybeStopNow\endinput
2238 \endinput
2239 \fi
2240 \fi
2241 }
2242 \define@key{Hyp}{dviwindo}[true]{%
2243 \def\Hy@driver{hdviwind}%
2244 \setkeys{Hyp}{colorlinks}%
2245 \PassOptionsToPackage{dviwindo}{color}%
2246 }
2247 \define@key{Hyp}{dvipsone}[true]{%
2248 \def\Hy@driver{hdvipson}%
2249 }
2250 \define@key{Hyp}{textures}[true]{%
2251 \def\Hy@driver{htexture}%
2252 }
2253 \define@key{Hyp}{latex2html}[true]{%
2254 \AtBeginDocument{\@@latextohtmlX}%
2255 }

```

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

```

2256 \define@key{Hyp}{ps2pdf}[true]{%
2257 \def\Hy@driver{hdvips}%
2258 \providecommand*\@pdfborder{0 0 1}%

```



2259 }

## 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.

```
2260 \define@key{Hyp}{hyperfigures}[true]{%
2261   \Hy@boolkey[hyperfigures]{figures}{#1}%
2262 }
```

The automatic footnote linking can be disabled by option hyperfootnotes.

```
2263 \define@key{Hyp}{hyperfootnotes}[true]{%
2264   \Hy@boolkey{hyperfootnotes}{#1}%
2265 }
```

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

```
2266 \def\back@none{none}
2267 \def\back@section{section}
2268 \def\back@page{page}
2269 \def\back@slide{slide}
2270 \define@key{Hyp}{backref}[section]{%
2271   \lowercase{\def\Hy@tempa{#1}}%
2272   \ifx\Hy@tempa\@empty
2273     \let\Hy@tempa\back@section
2274   \fi
2275   \ifx\Hy@tempa\Hy@false
2276     \let\Hy@tempa\back@none
2277   \fi
2278   \ifx\Hy@tempa\back@slide
2279     \let\Hy@tempa\back@section
2280   \fi
2281   \ifx\Hy@tempa\back@page
2282     \PassOptionsToPackage{hyperpageref}{backref}%
2283     \Hy@backreftrue
2284   \else
2285     \ifx\Hy@tempa\back@section
2286       \PassOptionsToPackage{hyperref}{backref}%
2287       \Hy@backreftrue
2288     \else
2289       \ifx\Hy@tempa\back@none
2290         \Hy@backreffalse
2291       \else
2292         \Hy@WarnOptionValue{#1}{backref}{%
2293           'section', 'slide', 'page', 'none', \MessageBreak
2294           or 'false'}%
2295       \fi
2296     \fi
2297   \fi
2298 }
2299 \define@key{Hyp}{pagebackref}[true]{%
2300   \edef\Hy@tempa{#1}%
2301   \lowercase\expandafter{%
2302     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2303   }%
2304   \ifx\Hy@tempa\@empty
2305     \let\Hy@tempa\Hy@true
2306   \fi
2307   \ifx\Hy@tempa\Hy@true
```

```

2308 \PassOptionsToPackage{hyperpageref}{backref}%
2309 \Hy@backreftrue
2310 \else
2311 \ifx\Hy@tempa\Hy@false
2312 \Hy@backreffalse
2313 \else
2314 \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
2315 \fi
2316 \fi
2317 }

```

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

```

2318 \define@key{Hyp}{hyperindex}[true]{%
2319 \Hy@boolkey{hyperindex}{#1}%
2320 }

```

Configuration of encap char.

```

2321 \define@key{Hyp}{encap}[\l]{%
2322 \def\HyInd@EncapChar{#1}%
2323 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

2324 \def\HyLang@afrikaans{%
2325 \def\equationautorefname{Vergelyking}%
2326 \def\footnoteautorefname{Voetnota}%
2327 \def\itemautorefname{Item}%
2328 \def\figureautorefname{Figuur}%
2329 \def\tableautorefname{Tabel}%
2330 \def\partautorefname{Deel}%
2331 \def\appendixautorefname{Bylae}%
2332 \def\chapterautorefname{Hoofstuk}%
2333 \def\sectionautorefname{Afdeling}%
2334 \def\subsectionautorefname{Subafdeling}%
2335 \def\subsubsectionautorefname{Subsubafdeling}%
2336 \def\paragraphautorefname{Paragraaf}%
2337 \def\subparagraphautorefname{Subparagraaf}%
2338 \def\FancyVerbLineautorefname{Lyn}%
2339 \def\theoremautorefname{Teorema}%
2340 \def\pageautorefname{Bladsy}%
2341 }
2342 \def\HyLang@english{%
2343 \def\equationautorefname{Equation}%
2344 \def\footnoteautorefname{footnote}%
2345 \def\itemautorefname{item}%
2346 \def\figureautorefname{Figure}%
2347 \def\tableautorefname{Table}%
2348 \def\partautorefname{Part}%
2349 \def\appendixautorefname{Appendix}%
2350 \def\chapterautorefname{chapter}%
2351 \def\sectionautorefname{section}%
2352 \def\subsectionautorefname{subsection}%
2353 \def\subsubsectionautorefname{subsubsection}%
2354 \def\paragraphautorefname{paragraph}%
2355 \def\subparagraphautorefname{subparagraph}%

```

```

2356 \def\FancyVerbLineautorefname{line}%
2357 \def\theoremautorefname{Theorem}%
2358 \def\pageautorefname{page}%
2359 }
2360 \def\HyLang@french{%
2361 \def\equationautorefname{'Equation}%
2362 \def\footnoteautorefname{note}%
2363 \def\itemautorefname{item}%
2364 \def\figureautorefname{Figure}%
2365 \def\tableautorefname{Tableau}%
2366 \def\partautorefname{Partie}%
2367 \def\appendixautorefname{Appendice}%
2368 \def\chapterautorefname{chapitre}%
2369 \def\sectionautorefname{section}%
2370 \def\subsectionautorefname{sous-section}%
2371 \def\subsubsectionautorefname{sous-sous-section}%
2372 \def\paragraphautorefname{paragraphe}%
2373 \def\subparagraphautorefname{sous-paragraphe}%
2374 \def\FancyVerbLineautorefname{ligne}%
2375 \def\theoremautorefname{Th\'eor\'eme}%
2376 \def\pageautorefname{page}%
2377 }
2378 \def\HyLang@german{%
2379 \def\equationautorefname{Gleichung}%
2380 \def\footnoteautorefname{Fu\ss note}%
2381 \def\itemautorefname{Punkt}%
2382 \def\figureautorefname{Abbildung}%
2383 \def\tableautorefname{Tabelle}%
2384 \def\partautorefname{Teil}%
2385 \def\appendixautorefname{Anhang}%
2386 \def\chapterautorefname{Kapitel}%
2387 \def\sectionautorefname{Abschnitt}%
2388 \def\subsectionautorefname{Unterabschnitt}%
2389 \def\subsubsectionautorefname{Unterunterabschnitt}%
2390 \def\paragraphautorefname{Absatz}%
2391 \def\subparagraphautorefname{Unterabsatz}%
2392 \def\FancyVerbLineautorefname{Zeile}%
2393 \def\theoremautorefname{Theorem}%
2394 \def\pageautorefname{Seite}%
2395 }
2396 \def\HyLang@italian{%
2397 \def\equationautorefname{Equazione}%
2398 \def\footnoteautorefname{nota}%
2399 \def\itemautorefname{punto}%
2400 \def\figureautorefname{Figura}%
2401 \def\tableautorefname{Tabella}%
2402 \def\partautorefname{Parte}%
2403 \def\appendixautorefname{Appendice}%
2404 \def\chapterautorefname{Capitolo}%
2405 \def\sectionautorefname{sezione}%
2406 \def\subsectionautorefname{sottosezione}%
2407 \def\subsubsectionautorefname{sottosottosezione}%
2408 \def\paragraphautorefname{paragrafo}%
2409 \def\subparagraphautorefname{sottoparagrafo}%
2410 \def\FancyVerbLineautorefname{linea}%
2411 \def\theoremautorefname{Teorema}%
2412 \def\pageautorefname{Pag.\@}%

```

```

2413 }
2414 \def\HyLang@magyar{%
2415   \def\equationautorefname{Egyenlet}%
2416   \def\footnoteautorefname{l\'abjegyzet}%
2417   \def\itemautorefname{Elem}%
2418   \def\figureautorefname{\'Abra}%
2419   \def\tableautorefname{T\'abl\'azat}%
2420   \def\partautorefname{R\'esz}%
2421   \def\appendixautorefname{F\'uggel\'ek}%
2422   \def\chapterautorefname{fejezet}%
2423   \def\sectionautorefname{szakasz}%
2424   \def\subsectionautorefname{alszakasz}%
2425   \def\subsubsectionautorefname{alalszakasz}%
2426   \def\paragraphautorefname{bekezd\'es}%
2427   \def\subparagraphautorefname{albekezd\'es}%
2428   \def\FancyVerbLineautorefname{sor}%
2429   \def\theoremautorefname{T\'etel}%
2430   \def\pageautorefname{oldal}%
2431 }
2432 \def\HyLang@portuges{%
2433   \def\equationautorefname{Equa\c c\~ao}%
2434   \def\footnoteautorefname{Nota de rodap\'e}%
2435   \def\itemautorefname{Item}%
2436   \def\figureautorefname{Figura}%
2437   \def\tableautorefname{Tabela}%
2438   \def\partautorefname{Parte}%
2439   \def\appendixautorefname{Ap\~endice}%
2440   \def\chapterautorefname{Cap\'itulo}%
2441   \def\sectionautorefname{Se\c c\~ao}%
2442   \def\subsectionautorefname{Subse\c c\~ao}%
2443   \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2444   \def\paragraphautorefname{par\'agrafo}%
2445   \def\subparagraphautorefname{subpar\'agrafo}%
2446   \def\FancyVerbLineautorefname{linha}%
2447   \def\theoremautorefname{Teorema}%
2448   \def\pageautorefname{P\'agina}%
2449 }

```

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`.

```

2450 \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`?

```

2451   \def\equationautorefname{\cyr\cyrv\cyrery\cyr.}%

```

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

```

2452 %   \def\equationautorefname{%
2453 %     \cyr\cyrv\cyrery\cyr\cyrz\cyre\cyrn\cyri\cyre
2454 %   }%

```

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

```
2455 \def\footnoteautorefname{%
2456   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
2457 }%
```

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

```
2458 % \def\footnoteautorefname{%
2459 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
2460 %   \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
2461 % }%
```

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

```
2462 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
2463 % \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 \autorefname{auto}” etc.

```
2464 \def\itemautorefname{\cyr\cyrp.}%
2465 % \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.

```
2466 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
2467 \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.

```
2468 \def\partautorefname{\cyr\cyrch.}%
2469 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
2470 \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 \autorefname{auto}” etc.

```
2471 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
2472 % \def\appendixautorefname{%
2473 %   \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre
2474 % }%
```

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.

```
2475 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2476 \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.

```
2477 \def\paragraphautorefname{\cyr\cyrp.}%
2478 \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 \autorefname{auto}” etc.

```
2479 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2480 % \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.

```
2481 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
2482 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
```

```
2483 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
2484 % \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 ...

```
2485 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2486 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
```

```
2487 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2488 \def\pageautorefname{\cyr\cyrs.}%
```

```
2489 }
```

```
2490 \def\HyLang@spanish{%
```

```
2491 \def\equationautorefname{Ecuaci\'}on}%
```

```
2492 \def\footnoteautorefname{Nota a pie de p\'}agina}%
```

```
2493 \def\itemautorefname{Elemento}%
```

```
2494 \def\figureautorefname{Figura}%
```

```
2495 \def\tableautorefname{Tabla}%
```

```
2496 \def\partautorefname{Parte}%
```

```
2497 \def\appendixautorefname{Ap\'}endice}%
```

```
2498 \def\chapterautorefname{Cap\'}itulo}%
```

```
2499 \def\sectionautorefname{Secci\'}on}%
```

```
2500 \def\subsectionautorefname{Subsecci\'}on}%
```

```
2501 \def\subsubsectionautorefname{Subsubsecci\'}on}%
```

```
2502 \def\paragraphautorefname{P\'}arrafo}%
```

```
2503 \def\subparagraphautorefname{Subp\'}arrafo}%
```

```
2504 \def\FancyVerbLineautorefname{L\'}inea}%
```

```
2505 \def\theoremautorefname{Teorema}%
```

```
2506 \def\pageautorefname{P\'}agina}%
```

```
2507 }
```

```
2508 \def\HyLang@vietnamese{%
```

```
2509 \def\equationautorefname{Ph\}uhorn{\}ohorn{\}ng tr\'}inh}%
```

```
2510 \def\footnoteautorefname{Ch\'}u th\'}ich}%
```

```
2511 \def\itemautorefname{m\}d\}u\}c}%
```

```
2512 \def\figureautorefname{H\'}inh}%
```

```
2513 \def\tableautorefname{B\}h\}a\}ng}%
```

```
2514 \def\partautorefname{Ph\'}acircumflex{\}n}%
```

```
2515 \def\appendixautorefname{Ph\}d\}u\} l\}d\}u\}c}%
```

```
2516 \def\chapterautorefname{ch\}uhorn{\}ohorn{\}ng}%
```

```
2517 \def\sectionautorefname{m\}d\}u\}c}%
```

```
2518 \def\subsectionautorefname{m\}d\}u\}c}%
```

```
2519 \def\subsubsectionautorefname{m\}d\}u\}c}%
```

```
2520 \def\paragraphautorefname{\}d\}j\}o\}d\}a\}n}%
```

```

2521 \def\subparagraphautorefname{\dj{ }o{d}{a}{n}}%
2522 \def\FancyVerbLineautorefname{d\'ong}%
2523 \def\theoremautorefname{\DJ{ }\d{i}{nh} 1\'y}%
2524 \def\pageautorefname{Trang}%
2525 }

```

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

```

2526 \def\HyLang@addto#1#2{%
2527   #2%
2528   \@temptokena{#2}%
2529   \ifx#1\relax
2530     \let#1\@empty
2531   \fi
2532   \ifx#1\undefined
2533     \edef#1{\the\@temptokena}%
2534   \else
2535     \toks@\expandafter{#1}%
2536     \edef#1{\the\toks@\the\@temptokena}%
2537   \fi
2538   \@temptokena{}\toks@\@temptokena
2539 }

2540 \def\HyLang@DeclareLang#1#2#3{%
2541   \begingroup
2542     \edef\x##1##2{%
2543       \noexpand\ifx##2\relax
2544         \errmessage{No definitions for language #2' found!}%
2545       \noexpand\fi
2546     \endgroup
2547     \noexpand\define@key{Hyp}{#1}[]{%
2548       \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2549       #3%
2550     }%
2551   }%
2552   \expandafter\x\csname extras#1\expandafter\endcsname
2553     \csname HyLang@#2\endcsname
2554 }

2555 \HyLang@DeclareLang{english}{english}{}
2556 \HyLang@DeclareLang{UKenglish}{english}{}
2557 \HyLang@DeclareLang{british}{english}{}
2558 \HyLang@DeclareLang{USenglish}{english}{}
2559 \HyLang@DeclareLang{american}{english}{}
2560 \HyLang@DeclareLang{german}{german}{}
2561 \HyLang@DeclareLang{austrian}{german}{}
2562 \HyLang@DeclareLang{ngerman}{german}{}
2563 \HyLang@DeclareLang{naustrian}{german}{}
2564 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
2565 \HyLang@DeclareLang{brazil}{portuges}{}
2566 \HyLang@DeclareLang{brazilian}{portuges}{}
2567 \HyLang@DeclareLang{portuguese}{portuges}{}
2568 \HyLang@DeclareLang{spanish}{spanish}{}
2569 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
2570 \HyLang@DeclareLang{french}{french}{}
2571 \HyLang@DeclareLang{frenchb}{french}{}
2572 \HyLang@DeclareLang{francais}{french}{}
2573 \HyLang@DeclareLang{acadian}{french}{}
2574 \HyLang@DeclareLang{canadien}{french}{}

```

```

2575 \HyLang@DeclareLang{italian}{italian}{}
2576 \HyLang@DeclareLang{magyar}{magyar}{}
2577 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

2578 \define@key{Hyp}{vietnamese}[]{}%
2579 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2580 \AtEndOfPackage{%
2581   \ifundefined{T@PU}{}{}%
2582   \input{puvnenc.def}%
2583 }%
2584 }%
2585 }
2586 \define@key{Hyp}{vietnam}[]{}%
2587 \HyLang@addto\extravietnam\HyLang@vietnamese
2588 \AtEndOfPackage{%
2589   \ifundefined{T@PU}{}{}%
2590   \input{puvnenc.def}%
2591 }%
2592 }%
2593 }

```

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

```

2594 \define@key{Hyp}{arabic}[]{}%
2595 \AtEndOfPackage{%
2596   \ifundefined{T@PU}{}{}%
2597   \input{puarenc.def}%
2598 }%
2599 }%
2600 }

```

## 13 Options to change appearance of links

Colouring links at the L<sup>A</sup>T<sub>E</sub>X level is useful for debugging, perhaps.

```

2601 \define@key{Hyp}{colorlinks}[true]{}%
2602 \Hy@boolkey{colorlinks}{#1}%
2603 }
2604 \define@key{Hyp}{ocgcolorlinks}[true]{}%
2605 \Hy@boolkey{ocgcolorlinks}{#1}%
2606 }
2607 \AtBeginDocument{%
2608   \begingroup
2609     \ifundefined{OBJ@OCG@view}{}%
2610     \ifHy@ocgcolorlinks
2611       \Hy@Warning{%
2612         Driver does not support ‘ocgcolorlinks’,\MessageBreak
2613         using ‘colorlinks’ instead%
2614       }%
2615     \fi
2616   }{}%
2617 \endgroup
2618 }
2619 \define@key{Hyp}{frenchlinks}[true]{}%
2620 \Hy@boolkey{frenchlinks}{#1}%
2621 }

```



## 14 Bookmarking

```

2622 \begingroup\expandafter\expandafter\expandafter\endgroup
2623 \expandafter\ifx\csname chapter\endcsname\relax
2624   \def\toclevel@part{0}%
2625 \else
2626   \def\toclevel@part{-1}%
2627 \fi
2628 \def\toclevel@chapter{0}
2629 \def\toclevel@section{1}
2630 \def\toclevel@subsection{2}
2631 \def\toclevel@subsubsection{3}
2632 \def\toclevel@paragraph{4}
2633 \def\toclevel@subparagraph{5}
2634 \def\toclevel@figure{0}
2635 \def\toclevel@table{0}
2636 \@ifpackageloaded{listings}{%
2637   \providecommand*\theHlstlisting{\thelstlisting}%
2638   \providecommand*\toclevel@lstlisting{0}%
2639 }{}
2640 \@ifpackageloaded{listing}{%
2641   \providecommand*\theHlisting{\thelisting}%
2642   \providecommand*\toclevel@listing{0}%
2643 }{}

2644 \define@key{Hyp}{bookmarks}[true]{%
2645   \Hy@boolkey{bookmarks}{#1}%
2646 }

2647 \define@key{Hyp}{bookmarksopen}[true]{%
2648   \Hy@boolkey{bookmarksopen}{#1}%
2649 }

```

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.

```

2650 \let\Hy@bookmarksdepth\c@tocdepth
2651 \define@key{Hyp}{bookmarksdepth}[]{%
2652   \begingroup
2653     \edef\x{#1}%
2654     \ifx\x\empty
2655       \global\let\Hy@bookmarksdepth\c@tocdepth
2656     \else
2657       \@ifundefined{toclevel@\x}{%
2658         \@onelevel@sanitize\x
2659         \edef\y{\expandafter\@car\x\@nil}%
2660         \ifcase 0\expandafter\ifx\y-1\fi
2661           \expandafter\ifnum\expandafter\y>47 %
2662             \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
2663           \Hy@Warning{Unknown document division name (\x)}%
2664         \else
2665           \setbox\z@=\hbox{%

```

```

2666         \count@=\x
2667         \xdef\Hy@bookmarksdepth{\the\count@}%
2668     }%
2669     \fi
2670 }{%
2671     \setbox\z@=\hbox{%
2672         \count@=\csname toclevel@\x\endcsname
2673         \xdef\Hy@bookmarksdepth{\the\count@}%
2674     }%
2675 }%
2676 \fi
2677 \endgroup
2678 }

```

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

```

2679 \define@key{Hyp}{bookmarksopenlevel}{%
2680   \def\@bookmarksopenlevel{#1}%
2681 }
2682 \def\@bookmarksopenlevel{\maxdimen}
2683 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
2684 \define@key{Hyp}{bookmarkstype}{%
2685   \def\Hy@bookmarkstype{#1}%
2686 }
2687 \def\Hy@bookmarkstype{toc}

```

Richard Curnow [richard@curnow.demon.co.uk](mailto:richard@curnow.demon.co.uk) suggested this functionality. It adds section numbers etc to bookmarks.

```

2688 \define@key{Hyp}{bookmarksnumbered}[true]{%
2689   \Hy@boolkey{bookmarksnumbered}{#1}%
2690 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

2691 \define@key{Hyp}{CJKbookmarks}[true]{%
2692   \Hy@boolkey{CJKbookmarks}{#1}%
2693 }

2694 \def\Hy@temp#1{%
2695   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2696 }
2697 \def\Hy@@temp#1#2#3{%
2698   \define@key{Hyp}{#2color}{%
2699     \HyColor@HyperrefColor{##1}{#1}%
2700   }%
2701   \def#1{#3}%
2702 }

2703 \Hy@temp{link}{red}
2704 \Hy@temp{anchor}{black}
2705 \Hy@temp{cite}{green}
2706 \Hy@temp{file}{cyan}
2707 \Hy@temp{url}{magenta}
2708 \Hy@temp{menu}{red}
2709 \Hy@temp{run}{\@filecolor}
2710 \define@key{Hyp}{pagecolor}{%
2711   \Hy@WarningPageColor
2712 }
2713 \def\Hy@WarningPageColor{%
2714   \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
2715   \global\let\Hy@WarningPageColor\relax
2716 }

```

```

2717 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2718 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2719 \let\@baseurl\@empty
2720 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2721 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2722 \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.

```

2723 \let\pdfpagetransition\relax
2724 \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.

```

2725 \let\pdfpageduration\relax
2726 \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.

```

2727 \newif\ifHy@useHidKey
2728 \Hy@useHidKeyfalse
2729 \define@key{Hyp}{pdfpagehidden}[true]{%
2730   \Hy@boolkey{pdfpagehidden}{#1}%
2731   \ifHy@pdfpagehidden
2732     \global\Hy@useHidKeytrue
2733   \fi
2734 }

```

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).

```

2735 \def\Hy@ColorList{cite,file,link,menu,run,url}
2736 \@for\Hy@temp:=\Hy@ColorList\do{%
2737   \edef\Hy@temp{%
2738     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2739       \noexpand\HyColor@HyperrefBorderColor
2740       {##1}%
2741       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2742       {hyperref}%
2743       {\Hy@temp bordercolor}%
2744     }%
2745   }%
2746   \Hy@temp
2747 }
2748 \define@key{Hyp}{pagebordercolor}{%
2749   \Hy@WarningPageBorderColor

```

```

2750 }
2751 \def\Hy@WarningPageBorderColor{%
2752   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2753   \global\let\Hy@WarningPageBorderColor\relax
2754 }

2755 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
2756 \Hy@DefNameKey{pdfhighlight}{%
2757   \do{/I}{Invert}%
2758   \do{/N}{None}%
2759   \do{/O}{Outline}%
2760   \do{/P}{Push}%
2761 }
2762 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
2763 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
2764 \def\Hy@setpdfborder{%
2765   \ifx\@pdfborder\@empty
2766   \else
2767     /Border[\@pdfborder]%
2768     \fi
2769   \ifx\@pdfborderstyle\@empty
2770   \else
2771     /BS<<\@pdfborderstyle>>%
2772     \fi
2773 }
2774 \Hy@DefNameKey{pdfpagemode}{%
2775   \do{UseNone}{}%
2776   \do{UseOutlines}{}%
2777   \do{UseThumbs}{}%
2778   \do{FullScreen}{}%
2779   \do{UseOC}{PDF 1.5}%
2780   \do{UseAttachments}{PDF 1.6}%
2781 }
2782 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2783   \do{UseNone}{}%
2784   \do{UseOutlines}{}%
2785   \do{UseThumbs}{}%
2786   \do{FullScreen}{}%
2787   \do{UseOC}{PDF 1.5}%
2788   \do{UseAttachments}{PDF 1.6}%
2789 }
2790 \Hy@DefNameKey{pdfdirection}{%
2791   \do{L2R}{Left to right}%
2792   \do{R2L}{Right to left}%
2793 }
2794 \Hy@DefNameKey{pdfviewarea}{%
2795   \do{MediaBox}{}%
2796   \do{CropBox}{}%
2797   \do{BleedBox}{}%
2798   \do{TrimBox}{}%
2799   \do{ArtBox}{}%
2800 }
2801 \Hy@DefNameKey{pdfviewclip}{%
2802   \do{MediaBox}{}%
2803   \do{CropBox}{}%
2804   \do{BleedBox}{}%
2805   \do{TrimBox}{}%
2806   \do{ArtBox}{}%

```

```

2807 }
2808 \Hy@DefNameKey{pdfprintarea}{%
2809   \do{MediaBox}{}%
2810   \do{CropBox}{}%
2811   \do{BleedBox}{}%
2812   \do{TrimBox}{}%
2813   \do{ArtBox}{}%
2814 }
2815 \Hy@DefNameKey{pdfprintclip}{%
2816   \do{MediaBox}{}%
2817   \do{CropBox}{}%
2818   \do{BleedBox}{}%
2819   \do{TrimBox}{}%
2820   \do{ArtBox}{}%
2821 }
2822 \Hy@DefNameKey{pdfprintscaling}{%
2823   \do{AppDefault}{}%
2824   \do{None}{}%
2825 }
2826 \Hy@DefNameKey{pdfduplex}{%
2827   \do{Simplex}{}%
2828   \do{DuplexFlipShortEdge}{}%
2829   \do{DuplexFlipLongEdge}{}%
2830 }
2831 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
2832   \do{true}{}%
2833   \do{false}{}%
2834 }
2835 \define@key{Hyp}{pdfprintpagerange}{%
2836   \def\@pdfprintpagerange{#1}%
2837 }
2838 \Hy@DefNameKey{pdfnumcopies}{%
2839   \do{2}{two copies}%
2840   \do{3}{three copies}%
2841   \do{4}{four copies}%
2842   \do{5}{five copies}%
2843 }
2844 \define@key{Hyp}{pdfusetitle}[true]{%
2845   \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
2846 }
2847 \define@key{Hyp}{pdftitle}{\pdfstringdef\@pdftitle{#1}}
2848 \define@key{Hyp}{pdfauthor}{\pdfstringdef\@pdfauthor{#1}}
2849 \define@key{Hyp}{pdfproducer}{\pdfstringdef\@pdfproducer{#1}}
2850 \define@key{Hyp}{pdfcreator}{\pdfstringdef\@pdfcreator{#1}}
2851 \define@key{Hyp}{pdfcreationdate}{%
2852   \begingroup
2853     \Hy@unicodetofalse
2854     \pdfstringdef\@pdfcreationdate{#1}%
2855   \endgroup
2856 }
2857 \define@key{Hyp}{pdfmoddate}{%
2858   \begingroup
2859     \Hy@unicodetofalse
2860     \pdfstringdef\@pdfmoddate{#1}%
2861   \endgroup
2862 }
2863 \define@key{Hyp}{pdfsubject}{\pdfstringdef\@pdfsubject{#1}}

```

```

2864 \define@key{Hyp}{pdfkeywords}{\pdfstringdef\@pdfkeywords{#1}}
2865 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
2866 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
2867 \let\setpdflinkmargin\@gobble
2868 \def\calculate@pdfview#1 #2\{%
2869   \def\@pdfview{#1}%
2870   \ifx\#2\%
2871     \def\@pdfviewparams{ -32768}%
2872   \else
2873     \def\@pdfviewparams{ #2}%
2874   \fi
2875 }
2876 \begingroup\expandafter\expandafter\expandafter\endgroup
2877 \expandafter\ifx\csname numexpr\endcsname\relax
2878   \def\Hy@number#1{%
2879     \expandafter\@firstofone\expandafter{\number#1}%
2880   }%
2881 \else
2882   \def\Hy@number#1{%
2883     \the\numexpr#1\relax
2884   }%
2885 \fi
2886 \define@key{Hyp}{pdfstartpage}{%
2887   \ifx\#1\%
2888     \def\@pdfstartpage{%
2889       \edef\@pdfstartpage{\Hy@number{#1}}%
2890     }%
2891   \fi
2892 }%
2893 \define@key{Hyp}{pdfstartview}{%
2894   \ifx\#1\%
2895     \def\@pdfstartview{%
2896       \hypercalcbpdef\@pdfstartview{ /#1 }%
2897     }%
2898   \fi
2899 }
2900 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
2901 \define@key{Hyp}{pdftoolbar}[true]{%
2902   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
2903 }
2904 \define@key{Hyp}{pdfmenubar}[true]{%
2905   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
2906 }
2907 \define@key{Hyp}{pdfwindowui}[true]{%
2908   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
2909 }
2910 \define@key{Hyp}{pdffitwindow}[true]{%
2911   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
2912 }
2913 \define@key{Hyp}{pdfcenterwindow}[true]{%
2914   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
2915 }
2916 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
2917   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
2918 }
2919 \define@key{Hyp}{pdfa}[true]{%
2920   \Hy@boolkey[pdfa]{#1}%

```

```

2921 }
2922 \define@key{Hyp}{pdfnewwindow}[true]{%
2923   \def\Hy@temp{#1}%
2924   \ifx\Hy@temp\@empty
2925     \Hy@newwindowsetfalse
2926   \else
2927     \Hy@newwindowsettrue
2928     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
2929   \fi
2930 }
2931 \def\Hy@SetNewWindow{%
2932   \ifHy@newwindowset
2933     /NewWindow %
2934     \ifHy@newwindow true\else false\fi
2935   \fi
2936 }
2937 \Hy@DefNameKey{pdfpagelayout}{%
2938   \do{SinglePage}{}%
2939   \do{OneColumn}{}%
2940   \do{TwoColumnLeft}{}%
2941   \do{TwoColumnRight}{}%
2942   \do{TwoPageLeft}{PDF 1.5}%
2943   \do{TwoPageRight}{PDF 1.5}%
2944 }
2945 \define@key{Hyp}{pdflang}{%
2946   \def\@pdflang{#1}%
2947 }
2948 \define@key{Hyp}{pdfpagelabels}[true]{%
2949   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
2950 }
2951 \define@key{Hyp}{pdfescapeform}[true]{%
2952   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
2953 }

```

Default values:

```

2954 \def\@linkbordercolor{1 0 0}
2955 \def\@urlbordercolor{0 1 1}
2956 \def\@menubordercolor{1 0 0}
2957 \def\@filebordercolor{0 .5 .5}
2958 \def\@runbordercolor{0 .7 .7}
2959 \def\@citebordercolor{0 1 0}
2960 \def\@pdfhighlight{/I}
2961 \def\@pdftitle{}
2962 \def\@pdfauthor{}
2963 \let\@pdfproducer\relax
2964 \def\@pdfcreator{LaTeX with hyperref package}
2965 \def\@pdfcreationdate{}
2966 \def\@pdfmoddate{}
2967 \def\@pdfsubject{}
2968 \def\@pdfkeywords{}
2969 \def\@pdfpagescrop{}
2970 \def\@pdfstartview{ /Fit }
2971 \def\@pdfstartpage{1}
2972 \def\@pdfprintpagerange{}
2973 \def\@pdflang{}
2974 \let\PDF@SetupDoc\@empty
2975 \let\PDF@FinishDoc\@empty
2976 \let\phantomsection\@empty

```

```

2977 \let\special@paper\@empty
2978 \def\HyperDestNameFilter#1{#1}
2979 \@ifundefined{stockwidth}{%
2980   \ifdim\paperwidth>\z@
2981     \ifdim\paperheight>\z@
2982       \edef\special@paper{\the\paperwidth,\the\paperheight}%
2983     \fi
2984   \fi
2985 }{%
2986   \ifdim\stockwidth>\z@
2987     \ifdim\stockheight>\z@
2988       \edef\special@paper{\the\stockwidth,\the\stockheight}%
2989     \fi
2990   \fi
2991 }
2992 \begingroup
2993   \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
2994   \dimen@=\x\relax
2995   \ifdim\dimen@>\z@
2996   \else
2997     \dimen@=11in\relax
2998     \Hy@WarningNoLine{%
2999       Height of page (\expandafter\string\x) %
3000       is invalid (\the\x),\MessageBreak
3001       using 11in%
3002     }%
3003   \fi
3004   \dimen@=0.99626401\dimen@
3005   \xdef\Hy@pageheight{\strip@pt\dimen@}%
3006 \endgroup
3007 \def\HyInd@EncapChar{||}
3008 \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.

```

3009 \let\hyper@normalise\ExecuteOptions
3010 \let\ExecuteOptions\hypersetup
3011 \Hy@RestoreCatcodes
3012 \InputIfFileExists{hyperref.cfg}{-}{-}
3013 \Hy@SetCatcodes
3014 \let\ExecuteOptions\hyper@normalise
3015 \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`.

```

3016 \RequirePackage{kvoptions}[2006/08/17]
3017 \AddOption{tex4ht}{}
3018 \@ifpackageloaded{tex4ht}{%
3019   \ifpackagewith{hyperref}{tex4ht}{-}{-}%
3020   \PassOptionsToPackage{tex4ht}{hyperref}%
3021 }{}
3022 \let\ReadBookmarks\relax
3023 \ProcessKeyvalOptions{Hyp}

```



After processing options.

```
3024 \AtBeginDocument{%
3025   \ifHy@draft
3026     \let\hyper@@anchor\@gobble
3027     \gdef\hyper@link#1#2#3{#3}%
3028     \let\hyper@anchorstart\@gobble
3029     \let\hyper@anchorend\@empty
3030     \let\hyper@linkstart\@gobbletwo
3031     \let\hyper@linkend\@empty
3032     \def\hyper@linkurl#1#2{#1}%
3033     \def\hyper@linkfile#1#2#3{#1}%
3034     \def\hyper@link@[#1]#2#3{#1}%
3035     \def\Acrobatmenu#1#2{\leavevmode#2}%
3036     \let\PDF@SetupDoc\@empty
3037     \let\PDF@FinishDoc\@empty
3038     \let\@fifthoffive\@secondoftwo
3039     \let\@secondoffive\@secondoftwo
3040     \let\ReadBookmarks\relax
3041     \let\WriteBookmarks\relax
3042     \Hy@WarningNoLine{ draft mode on}%
3043   \fi
3044   \Hy@DisableOption{draft}%
3045   \Hy@DisableOption{nolinks}%
3046   \Hy@DisableOption{final}%
3047 }
```

## 15.1 PDF/A

```
3048 \Hy@DisableOption{pdfa}
3049 \ifHy@pdfa
3050   \setkeys{Hyp}{pdfversion=1.4}%
3051   \def\Hy@Acrobatmenu#1#2{%
3052     \leavevmode
3053     \begingroup
3054       \edef\x{#1}%
3055       \@onelevel@sanitize\x
3056       \ifx\x\Hy@NextPage
3057         \let\y=Y%
3058       \else
3059         \ifx\x\Hy@PrevPage
3060           \let\y=Y%
3061         \else
3062           \ifx\x\Hy@FirstPage
3063             \let\y=Y%
3064           \else
3065             \ifx\x\Hy@LastPage
3066               \let\y=Y%
3067             \else
3068               \let\y=N%
3069             \fi
3070           \fi
3071         \fi
3072       \fi
3073     \expandafter\endgroup
3074     \ifx\y Y%
3075     \else
```

```

3076 \PackageError{hyperref}{%
3077 PDF/A: Named action ‘#1’ is not permitted%
3078 }\@ehc
3079 {#2}%
3080 \expandafter\@gobble
3081 \fi
3082 }%
3083 \def\Hy@temp#1{%
3084 \expandafter\def\csname Hy@#1\endcsname{#1}%
3085 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3086 }%
3087 \Hy@temp{NextPage}%
3088 \Hy@temp{PrevPage}%
3089 \Hy@temp{FirstPage}%
3090 \Hy@temp{LastPage}%
3091 \else
3092 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3093 \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.

```

3094 \Hy@nextfalse
3095 \@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
3096 \@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
3097 \@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
3098 \ifHy@next
3099 \let\texttilde\~%
3100 \fi

```

## 15.3 Patch for babel 3.8j

Babel 2008/03/16 v3.8j adds a patch to disable shorthands for bookmarks. That reduces warnings, but the bookmarks are ugly. Therefore the following patch tries to undo this.

```

3101 \@ifpackageloaded{babel}{%
3102 \ifpackagelater{babel}{2008/03/16}{%
3103 \def\Hy@PatchLanguageShorthands#1{%
3104 \begingroup
3105 \edef\x{#1}%
3106 \onelevel@sanitize\x
3107 \def\y{system}%
3108 \onelevel@sanitize\y
3109 \expandafter\endgroup
3110 \ifx\x\y
3111 \else
3112 \HyOrg@languageshorthands{#1}%
3113 \fi
3114 }%
3115 \AtBeginDocument{%
3116 \begingroup
3117 \toks0=\expandafter{\pdfstringdefPreHook}%
3118 \xdef\pdfstringdefPreHook{%
3119 \let\noexpand\HyOrg@languageshorthands
3120 \noexpand\languageshorthands
3121 \let\noexpand\languageshorthands
3122 \noexpand\Hy@PatchLanguageShorthands

```

```

3123         \the\toks0 %
3124         \let\noexpand\languageshorthands
3125         \noexpand\HyOrg@languageshorthands
3126     }%
3127 \endgroup
3128 }%
3129 }{}%
3130 }{}

3131 \ifHy@figures
3132   \Hy@Info{Hyper figures ON}%
3133 \else
3134   \Hy@Info{Hyper figures OFF}%
3135 \fi
3136 \ifHy@nesting
3137   \Hy@Info{Link nesting ON}%
3138 \else
3139   \Hy@Info{Link nesting OFF}%
3140 \fi
3141 \ifHy@hyperindex
3142   \Hy@Info{Hyper index ON}%
3143 \else
3144   \Hy@Info{Hyper index OFF}%
3145 \fi
3146 \ifHy@plainpages
3147   \Hy@Info{Plain pages ON}%
3148 \else
3149   \Hy@Info{Plain pages OFF}%
3150 \fi
3151 \ifHy@backref
3152   \Hy@Info{Backreferencing ON}%
3153 \else
3154   \Hy@Info{Backreferencing OFF}%
3155 \fi
3156 \ifHy@typexml
3157   \AtEndOfPackage{%
3158     \RequirePackage{color}%
3159     \RequirePackage{nameref}%
3160   }%
3161 \fi
3162 \Hy@DisableOption{typexml}
3163 \ifHy@implicit
3164   \typeout{Implicit mode ON; LaTeX internals redefined}%
3165 \else
3166   \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3167   \def\MaybeStopEarly{%
3168     \typeout{Hyperref stopped early}%
3169     \AfterBeginDocument{%
3170       \PDF@FinishDoc
3171       \gdef\PDF@FinishDoc{}}%
3172   }%
3173   \endinput
3174 }%
3175 \AtBeginDocument{%
3176   \let\autoref\ref
3177   \let\autopageref\pageref
3178   \ifx\@pdfpagemode\@empty
3179     \gdef\@pdfpagemode{UseNone}%

```

```

3180 \fi
3181 \global\Hy@backreffalse
3182 }%
3183 \AtEndOfPackage{%
3184 \global\let\ReadBookmarks\relax
3185 \global\let\WriteBookmarks\relax
3186 }%
3187 \fi
3188 \Hy@DisableOption{implicit}

```

### 15.3.1 Driver loading

```

3189 \AtEndOfPackage{%
3190 \ifpackageloaded{tex4ht}{%
3191 \def\Hy@driver{htex4ht}%
3192 \Hy@texhttrue
3193 }{}%

```

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.

```

3194 \ifx\Hy@driver\@empty
3195 \else
3196 \def\Hy@temp{hpdftex}%
3197 \ifpdf
3198 \ifx\Hy@driver\Hy@temp
3199 \else
3200 \Hy@WarningNoLine{%
3201 Wrong driver '\Hy@driver.def';\MessageBreak
3202 pdfTeX is running in PDF mode.\MessageBreak
3203 Forcing driver '\Hy@temp.def'%
3204 }%
3205 \let\Hy@driver\Hy@temp
3206 \fi
3207 \else
3208 \ifx\Hy@driver\Hy@temp
3209 \Hy@WarningNoLine{%
3210 Wrong driver '\Hy@driver.def';\MessageBreak
3211 pdfTeX is not running in PDF mode.\MessageBreak
3212 Using default driver%
3213 }%
3214 \let\Hy@driver\@empty
3215 \fi
3216 \fi
3217 \fi
3218 \ifx\Hy@driver\@empty
3219 \else
3220 \def\Hy@temp{hdvipdfm}%
3221 \ifxetex
3222 \ifx\Hy@driver\Hy@temp
3223 \else
3224 \Hy@WarningNoLine{%
3225 Wrong driver '\Hy@driver.def';\MessageBreak
3226 XeTeX is running.\MessageBreak
3227 Forcing driver '\Hy@temp.def' for XeTeX%
3228 }%
3229 \let\Hy@driver\Hy@temp
3230 \fi
3231 \fi

```

```

3232 \fi
3233 \ifx\Hy@driver\@empty
3234 \else
3235   \def\Hy@temp{hvtexhtm}%
3236   \ifvtexhtml
3237     \ifx\Hy@driver\Hy@temp
3238     \else
3239       \Hy@WarningNoLine{%
3240         Wrong driver '\Hy@driver.def';\MessageBreak
3241         VTeX is running in HTML mode.\MessageBreak
3242         Forcing driver '\Hy@temp.def'%
3243       }%
3244       \let\Hy@driver\Hy@temp
3245     \fi
3246   \else
3247     \ifx\Hy@driver\Hy@temp
3248     \Hy@WarningNoLine{%
3249       Wrong driver '\Hy@driver.def';\MessageBreak
3250       VTeX is not running in HTML mode.\MessageBreak
3251       Using default driver%
3252     }%
3253     \let\Hy@driver\@empty
3254   \fi
3255 \fi
3256 \fi

```

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

```

3257 \ifx\Hy@driver\@empty
3258   \providecommand*{\Hy@defaultdriver}{hypertex}%
3259   \ifpdf
3260     \def\Hy@driver{hpdftex}%
3261   \else
3262     \ifxetex
3263       \def\Hy@driver{hdvipdfm}%
3264     \else
3265       \ifvtexhtml
3266         \def\Hy@driver{hvtexhtm}%
3267         \def\MaybeStopEarly{%
3268           \typeout{Hyperref stopped early}%
3269           \AfterBeginDocument{%
3270             \PDF@FinishDoc
3271             \gdef\PDF@FinishDoc{}}%
3272         }%
3273         \endinput
3274       }%
3275     \else
3276       \ifvtexpdf
3277         \def\Hy@driver{hvtex}%
3278       \else
3279         \ifvtexps
3280           \def\Hy@driver{hvtex}%
3281         \else
3282           \let\Hy@driver\Hy@defaultdriver
3283         \fi
3284       \fi
3285     \fi
3286   \fi
3287 \fi

```

```

3288 \ifx\Hy@driver\Hy@defaultdriver
3289 \def\Hy@temp{hdvwind}%
3290 \ifx\Hy@temp\Hy@driver
3291 \setkeys{Hyp}{colorlinks}%
3292 \PassOptionsToPackage{dviwindo}{color}%
3293 \fi
3294 \fi
3295 \typeout{*hyperref using default driver \Hy@driver*}%
3296 \else
3297 \typeout{*hyperref using driver \Hy@driver*}%
3298 \fi
3299 \input{\Hy@driver.def}%
3300 \let\@unprocessedoptions\relax
3301 \Hy@RestoreCatcodes
3302 }

```

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

```

3303 \newif\ifHy@DvipdfmxOutlineOpen
3304 \ifxetex
3305 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
3306 \else
3307 \Hy@DvipdfmxOutlineOpentrue
3308 \fi
3309 \fi
3310 \begingroup\expandafter\expandafter\expandafter\endgroup
3311 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3312 \else
3313 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3314 \Hy@DvipdfmxOutlineOpentrue
3315 \fi
3316 \fi
3317 \Hy@DisableOption{tex4ht}
3318 \Hy@DisableOption{pdftex}
3319 \Hy@DisableOption{nativepdf}
3320 \Hy@DisableOption{dvipdfm}
3321 \Hy@DisableOption{dvipdfmx}
3322 \Hy@DisableOption{dvipdfmx-outline-open}
3323 \Hy@DisableOption{pdfmark}
3324 \Hy@DisableOption{dvips}
3325 \Hy@DisableOption{hypertex}
3326 \Hy@DisableOption{vtex}
3327 \Hy@DisableOption{vtexpdfmark}
3328 \Hy@DisableOption{dviwindo}
3329 \Hy@DisableOption{dvipsone}
3330 \Hy@DisableOption{textures}
3331 \Hy@DisableOption{latex2html}
3332 \Hy@DisableOption{ps2pdf}
3333 \Hy@DisableOption{xetex}
3334 \AtEndOfPackage{%
3335 \Hy@DisableOption{pdfversion}%
3336 }

```

### 15.3.2 Bookmarks

```

3337 \def\WriteBookmarks{0}
3338 \def\@bookmarkopenstatus#1{%
3339 \ifHy@bookmarksopen

```

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

```

3340 \ifnum#1<\expandafter\@firstofone\expandafter
3341      {\number\@bookmarkopenlevel} % explicit space
3342 \else
3343     -%
3344 \fi
3345 \else
3346     -%
3347 \fi
3348 }
3349 \ifHy@bookmarks
3350 \Hy@Info{Bookmarks ON}%
3351 \ifx\@pdfpagemode\@empty
3352 \def\@pdfpagemode{UseOutlines}%
3353 \fi
3354 \else
3355 \def\@bookmarkopenstatus#1{%
3356 \Hy@Info{Bookmarks OFF}%
3357 \AtEndOfPackage{%
3358 \global\let\ReadBookmarks\relax
3359 \global\let\WriteBookmarks\relax
3360 }%
3361 \ifx\@pdfpagemode\@empty
3362 \def\@pdfpagemode{UseNone}%
3363 \fi
3364 \fi
3365 \Hy@DisableOption{bookmarks}

```

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

```

3366 \def\Hy@CatcodeWrapper#1{%
3367 \def\Hy@EndWrap{}%
3368 \def\TMP@EnsureCode##1##2{%
3369 \edef\Hy@EndWrap{%
3370 \Hy@EndWrap
3371 \catcode##1 \the\catcode##1\relax
3372 }%
3373 \catcode##1 ##2\relax
3374 }%
3375 \TMP@EnsureCode{10}{12}% ^^J
3376 \TMP@EnsureCode{33}{12}% !
3377 \TMP@EnsureCode{34}{12}% "
3378 \TMP@EnsureCode{36}{3}% $ (math)
3379 \TMP@EnsureCode{38}{4}% & (alignment)
3380 \TMP@EnsureCode{39}{12}% '
3381 \TMP@EnsureCode{40}{12}% (
3382 \TMP@EnsureCode{41}{12}% )
3383 \TMP@EnsureCode{42}{12}% *
3384 \TMP@EnsureCode{43}{12}% +
3385 \TMP@EnsureCode{44}{12}% ,
3386 \TMP@EnsureCode{45}{12}% -
3387 \TMP@EnsureCode{46}{12}% .
3388 \TMP@EnsureCode{47}{12}% /
3389 \TMP@EnsureCode{58}{12}% :
3390 \TMP@EnsureCode{59}{12}% ;
3391 \TMP@EnsureCode{60}{12}% <
3392 \TMP@EnsureCode{61}{12}% =
3393 \TMP@EnsureCode{62}{12}% >

```

```

3394 \TMP@EnsureCode{63}{12}% ?
3395 \TMP@EnsureCode{91}{12}% [
3396 \TMP@EnsureCode{93}{12}% ]
3397 \TMP@EnsureCode{94}{7}% ^ (superscript)
3398 \TMP@EnsureCode{95}{8}% _ (subscript)
3399 \TMP@EnsureCode{96}{12}% '
3400 \TMP@EnsureCode{124}{12}% |
3401 \TMP@EnsureCode{126}{13}% ~ (active)
3402 #1\relax
3403 \Hy@endWrap
3404 }

```

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

```

3405 \AtBeginDocument{%
3406   \ifHy@ocgcolorlinks
3407     \setkeys{Hyp}{colorlinks}%
3408     \ifHy@pdfa
3409       \Hy@Warning{%
3410         PDF/A: Optional Content Groups are prohibited,\MessageBreak
3411         using 'colorlinks' instead of 'ocgcolorlinks'%
3412       }%
3413       \Hy@ocgcolorlinksfalse
3414     \fi
3415   \fi
3416   \ifHy@ocgcolorlinks
3417   \else
3418     \Hy@DisableOption{ocgcolorlinks}%
3419   \fi
3420   \ifHy@colorlinks
3421     \def\@pdfborder{0 0 0}%
3422     \let\@pdfborderstyle\@empty
3423     \ifHy@typexml
3424     \else
3425       \Hy@CatcodeWrapper{%
3426         \RequirePackage{color}%
3427       }%
3428     \fi
3429     \def\Hy@colorlink#1{%
3430       \begingroup
3431       \HyColor@UseColor#1%
3432     }%
3433     \def\Hy@endcolorlink{\endgroup}%
3434     \Hy@Info{Link coloring ON}%
3435   \else
3436     \ifHy@frenchlinks
3437       \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3438       \def\Hy@endcolorlink{\endgroup}%
3439       \Hy@Info{French linking ON}%
3440     \else

```

for grouping consistency:

```

3441     \def\Hy@colorlink#1{\begingroup}%
3442     \def\Hy@endcolorlink{\endgroup}%
3443     \Hy@Info{Link coloring OFF}%
3444   \fi
3445 \fi
3446 \Hy@DisableOption{colorlinks}%
3447 \Hy@DisableOption{frenchlinks}%

```



```

3448 \ifHy@texht
3449   \long\def\@firstoffive#1#2#3#4#5{#1}%
3450   \long\def\@secondoffive#1#2#3#4#5{#2}%
3451   \long\def\@thirdoffive#1#2#3#4#5{#3}%
3452   \long\def\@fourthoffive#1#2#3#4#5{#4}%
3453   \long\def\@fifthoffive#1#2#3#4#5{#5}%
3454   \providecommand*\@safe@activestruet{}%
3455   \providecommand*\@safe@activesfalse{}%
3456   \def\T@ref#1{%
3457     \Hy@safe@activestruet
3458     \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3459     \Hy@safe@activesfalse
3460   }%
3461   \def\T@pageref#1{%
3462     \Hy@safe@activestruet
3463     \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3464     \Hy@safe@activesfalse
3465   }%
3466 \else
3467   \ifHy@typexml
3468   \else
3469     \Hy@CatcodeWrapper{%
3470       \RequirePackage{nameref}%
3471     }%
3472   \fi
3473 \fi
3474 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3475 \DeclareRobustCommand\pageref{%
3476   \@ifstar\@pagerefstar\T@pageref
3477 }%
3478 }
3479 \AfterBeginDocument{%
3480   \ifHy@texht
3481   \else
3482     \Hy@CatcodeWrapper{%
3483       \ReadBookmarks
3484     }%
3485   \fi
3486 }
3487 \ifHy@backref
3488   \RequirePackage{backref}%
3489 \else
3490   \let\Hy@backout\@gobble
3491 \fi
3492 \Hy@DisableOption{backref}
3493 \Hy@DisableOption{pagebackref}
3494 \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`.

```

3495 \begingroup
3496 \endlinechar=-1 %
3497 \catcode'\^^A=14 %
3498 \catcode'\^^M\active
3499 \catcode'\%\active
3500 \catcode'\#\active
3501 \catcode'\_\active
3502 \catcode'\$\active
3503 \catcode'\&\active
3504 \gdef\hyper@normalise{^^A
3505   \begingroup
3506   \catcode'\^^M\active
3507   \def^^M{ }^^A
3508   \catcode'\%\active
3509   \let%\@percentchar
3510   \let%\@percentchar
3511   \catcode'\#\active
3512   \def#{\hyper@hash}^^A
3513   \def\#{\hyper@hash}^^A
3514   \@makeother\&^^A
3515   \edef&{\string&}^^A
3516   \edef\&{\string&}^^A
3517   \edef\textunderscore{\string_}^^A
3518   \let_\textunderscore
3519   \catcode'\_\active
3520   \let_\textunderscore
3521   \let~\hyper@tilde
3522   \let~\hyper@tilde
3523   \let\textasciitilde\hyper@tilde
3524   \let\\\@backslashchar
3525   \edef$\string$}^^A
3526   \Hy@safe@activestrue
3527   \hyper@n@rmalise
3528 }^^A
3529 \catcode'\#=6 ^^A
3530 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3531 \gdef\hyper@n@rmalise#1#2{^^A
3532   \def\Hy@tempa{#2}^^A
3533   \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3534     \Hy@ReturnAfterElseFi{^^A
3535       \hyper@@normalise{#1}^^A
3536     }^^A
3537   \else
3538     \Hy@ReturnAfterFi{^^A
3539       \hyper@@normalise{#1}{#2}^^A
3540     }^^A
3541   \fi
3542 }^^A
3543 \gdef\hyper@@normalise#1#2{^^A
3544   \edef\Hy@tempa{^^A
3545     \endgroup
3546     \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
3547   }^^A
3548   \Hy@tempa
3549 }^^A
3550 \gdef\Hy@RemovePercentCr#1%\^^M#2\@nil{^^A
3551   #1^^A

```

```

3552 \ifx\limits#2\limits
3553 \else
3554 \Hy@ReturnAfterFi{^^A
3555 \Hy@RemovePercentCr #2\@nil
3556 }^^A
3557 \fi
3558 }^^A
3559 \endgroup
3560 \providecommand*\hyper@chars{%
3561 \let#\hyper@hash
3562 \let%\@percentchar
3563 \Hy@safe@activetrue
3564 }

3565 \def\hyperlink#1#2{%
3566 \hyper@@link{#1}{#2}%
3567 }

3568 \DeclareRobustCommand*\href{%
3569 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3570 }
3571 \def\Hy@href#{%
3572 \hyper@normalise\href@
3573 }
3574 \begingroup
3575 \catcode'\$=6 %
3576 \catcode'\#=12 %
3577 \gdef\href@#1{\expandafter\href@split$1##\\}%
3578 \gdef\href@split$1#$2#$3\\{%
3579 \hyper@@link{$1}{$2}%
3580 }%
3581 \endgroup

```

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

```

3582 \RequirePackage{url}
3583 \let\HyOrg@url\url
3584 \def\Hurl{\begingroup \Url}
3585 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
3586 \def\nolinkurl@#1{\Hurl{#1}}
3587 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3588 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

3589 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3590 \providecommand\hyper@image[2]{#2}

3591 \def\hypertarget#1#2{%
3592 \ifHy@nesting
3593 \hyper@@anchor{#1}{#2}%
3594 \else
3595 \hyper@@anchor{#1}{\relax}#2%
3596 \fi
3597 }

```

`\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  $\text{\LaTeX}$  label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

3598 \DeclareRobustCommand*\hyperref{%

```

```

3599 \@@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3600 }
3601 \def\Hy@babelnormalise#1[#2]{%
3602   \begingroup
3603     \Hy@safe@activestrue
3604     \edef\Hy@tempa{%
3605       \endgroup
3606       \noexpand#1[#2]}%
3607   }%
3608   \Hy@tempa
3609 }
3610 \def\@hyperref{\hyper@normalise\@@hyperref}
3611 \def\@@hyperref#1#2#3{%
3612   \edef\ref@one{\ifx\\#2\\\else#2.\fi#3}%
3613   \expandafter\tryhyper@link\ref@one\\{#1}%
3614 }
3615 \def\tryhyper@link#1\\#2{%
3616   \hyper@@link{#2}{#1}%
3617 }
3618 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef]}
3619 \def\@hyperdef#1#2#3{%, category, name, text
3620   \ifHy@nesting
3621     \hyper@@anchor{#1.#2}{#3}%
3622   \else
3623     \hyper@@anchor{#1.#2}{\relax}#3%
3624   \fi
3625 }

```

```

3626 \def\label@hyperref[#1]{%
3627   \expandafter\label@@hyperref\cename r@#1\endcsname{#1}%
3628 }%
3629 \def\label@@hyperref#1#2#3{%
3630   \ifx#1\relax
3631     \protect\G@refundefinedtrue
3632     \@latex@warning{%
3633       Hyper reference ‘#2’ on page \thepage \space undefined%
3634     }%
3635     \hyper@@link{}{??}{#3}%
3636   \else
3637     \hyper@@link{\expandafter\@fifthoffive#1}%
3638       {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3639   \fi
3640 }
3641 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3642                                % anchor text
3643   \@bsphack
3644   \if@filesw
3645     \protected@write\@auxout{%
3646       {\string\newlabel{#1}{\{ }\{ }\{ }\##2.#3}}%
3647   \fi
3648   \@esphack
3649   \ifHy@nesting
3650     \hyper@@anchor{#2.#3}{#4}%
3651   \else
3652     \hyper@@anchor{#2.#3}{\relax}#4%

```

```

3653 \fi
3654 }

```

## 17 Underlying basic hypertext macros

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

```

3655 \def\hyper@@link{\let\Hy@reserved@a\relax
3656 \@ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
3657 }
3658 \def\hyper@link@[#1]#2#3#4{%
3659 \begingroup
3660 \protected@edef\Hy@tempa{#2}%
3661 \Hy@safe@activestruer
3662 \edef\x{#3}%
3663 \ifx\Hy@tempa\@empty
3664 \toks0{\hyper@link{#1}}%
3665 \else
3666 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3667 \fi
3668 \toks2{%
3669 \Hy@safe@activesfalse
3670 #4%
3671 }%
3672 \edef\Hy@tempa{\the\toks2}%
3673 \edef\x{\endgroup
3674 \ifx\Hy@tempa\@empty
3675 \noexpand\Hy@Warning{Suppressing empty link}%
3676 \else
3677 \the\toks0 {\x}{\the\toks2}}%
3678 \fi
3679 }%
3680 \x
3681 }

```

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.

```

3682 \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.

```

3683 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
3684 }

```

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

```
3685 \def\@pdftempwordfile{file}%
3686 \def\@pdftempwordrun{run}%
3687 \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 :

```
3688 \ifx\\#6\\%
3689 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3690 \else
3691 \ifx\\#4\\%
3692 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3693 \else
```

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

```
3694 \def\@pdftempa{#4}%
3695 \ifx\@pdftempa\@pdftempwordfile
3696 \expandafter\@hyper@linkfile#7\\{#3}{#2}%
3697 \else
```

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

```
3698 \ifx\@pdftempa\@pdftempwordrun
3699 \ifHy@pdfa
3700 \PackageError{hyperref}{%
3701 PDF/A: Launch action is prohibited%
3702 }\@ehc
3703 \begingroup
3704 \leavevmode
3705 #2%
3706 \endgroup
3707 \else
3708 \expandafter\@hyper@launch#7\\{#3}{#2}%
3709 \fi
3710 \else
```

otherwise its a URL

```
3711 \hyper@linkurl{#3}{#7\ifx\\#2\\#3\\#4\\#5\\#6\\#7\\#8\\#9\\#10\\#11\\#12\\#13\\#14\\#15\\#16\\#17\\#18\\#19\\#20\\#21\\#22\\#23\\#24\\#25\\#26\\#27\\#28\\#29\\#30\\#31\\#32\\#33\\#34\\#35\\#36\\#37\\#38\\#39\\#40\\#41\\#42\\#43\\#44\\#45\\#46\\#47\\#48\\#49\\#50\\#51\\#52\\#53\\#54\\#55\\#56\\#57\\#58\\#59\\#60\\#61\\#62\\#63\\#64\\#65\\#66\\#67\\#68\\#69\\#70\\#71\\#72\\#73\\#74\\#75\\#76\\#77\\#78\\#79\\#80\\#81\\#82\\#83\\#84\\#85\\#86\\#87\\#88\\#89\\#90\\#91\\#92\\#93\\#94\\#95\\#96\\#97\\#98\\#99\\#100\\#101\\#102\\#103\\#104\\#105\\#106\\#107\\#108\\#109\\#110\\#111\\#112\\#113\\#114\\#115\\#116\\#117\\#118\\#119\\#120\\#121\\#122\\#123\\#124\\#125\\#126\\#127\\#128\\#129\\#130\\#131\\#132\\#133\\#134\\#135\\#136\\#137\\#138\\#139\\#140\\#141\\#142\\#143\\#144\\#145\\#146\\#147\\#148\\#149\\#150\\#151\\#152\\#153\\#154\\#155\\#156\\#157\\#158\\#159\\#160\\#161\\#162\\#163\\#164\\#165\\#166\\#167\\#168\\#169\\#170\\#171\\#172\\#173\\#174\\#175\\#176\\#177\\#178\\#179\\#180\\#181\\#182\\#183\\#184\\#185\\#186\\#187\\#188\\#189\\#190\\#191\\#192\\#193\\#194\\#195\\#196\\#197\\#198\\#199\\#200\\#201\\#202\\#203\\#204\\#205\\#206\\#207\\#208\\#209\\#210\\#211\\#212\\#213\\#214\\#215\\#216\\#217\\#218\\#219\\#220\\#221\\#222\\#223\\#224\\#225\\#226\\#227\\#228\\#229\\#230\\#231\\#232\\#233\\#234\\#235\\#236\\#237\\#238\\#239\\#240\\#241\\#242\\#243\\#244\\#245\\#246\\#247\\#248\\#249\\#250\\#251\\#252\\#253\\#254\\#255\\#256\\#257\\#258\\#259\\#260\\#261\\#262\\#263\\#264\\#265\\#266\\#267\\#268\\#269\\#270\\#271\\#272\\#273\\#274\\#275\\#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\\#309\\#310\\#311\\#312\\#313\\#314\\#315\\#316\\#317\\#318\\#319\\#320\\#321\\#322\\#323\\#324\\#325\\#326\\#327\\#328\\#329\\#330\\#331\\#332\\#333\\#334\\#335\\#336\\#337\\#338\\#339\\#340\\#341\\#342\\#343\\#344\\#345\\#346\\#347\\#348\\#349\\#350\\#351\\#352\\#353\\#354\\#355\\#356\\#357\\#358\\#359\\#360\\#361\\#362\\#363\\#364\\#365\\#366\\#367\\#368\\#369\\#370\\#371\\#372\\#373\\#374\\#375\\#376\\#377\\#378\\#379\\#380\\#381\\#382\\#383\\#384\\#385\\#386\\#387\\#388\\#389\\#390\\#391\\#392\\#393\\#394\\#395\\#396\\#397\\#398\\#399\\#400\\#401\\#402\\#403\\#404\\#405\\#406\\#407\\#408\\#409\\#410\\#411\\#412\\#413\\#414\\#415\\#416\\#417\\#418\\#419\\#420\\#421\\#422\\#423\\#424\\#425\\#426\\#427\\#428\\#429\\#430\\#431\\#432\\#433\\#434\\#435\\#436\\#437\\#438\\#439\\#440\\#441\\#442\\#443\\#444\\#445\\#446\\#447\\#448\\#449\\#450\\#451\\#452\\#453\\#454\\#455\\#456\\#457\\#458\\#459\\#460\\#461\\#462\\#463\\#464\\#465\\#466\\#467\\#468\\#469\\#470\\#471\\#472\\#473\\#474\\#475\\#476\\#477\\#478\\#479\\#480\\#481\\#482\\#483\\#484\\#485\\#486\\#487\\#488\\#489\\#490\\#491\\#492\\#493\\#494\\#495\\#496\\#497\\#498\\#499\\#500\\#501\\#502\\#503\\#504\\#505\\#506\\#507\\#508\\#509\\#510\\#511\\#512\\#513\\#514\\#515\\#516\\#517\\#518\\#519\\#520\\#521\\#522\\#523\\#524\\#525\\#526\\#527\\#528\\#529\\#530\\#531\\#532\\#533\\#534\\#535\\#536\\#537\\#538\\#539\\#540\\#541\\#542\\#543\\#544\\#545\\#546\\#547\\#548\\#549\\#550\\#551\\#552\\#553\\#554\\#555\\#556\\#557\\#558\\#559\\#560\\#561\\#562\\#563\\#564\\#565\\#566\\#567\\#568\\#569\\#570\\#571\\#572\\#573\\#574\\#575\\#576\\#577\\#578\\#579\\#580\\#581\\#582\\#583\\#584\\#585\\#586\\#587\\#588\\#589\\#590\\#591\\#592\\#593\\#594\\#595\\#596\\#597\\#598\\#599\\#600\\#601\\#602\\#603\\#604\\#605\\#606\\#607\\#608\\#609\\#610\\#611\\#612\\#613\\#614\\#615\\#616\\#617\\#618\\#619\\#620\\#621\\#622\\#623\\#624\\#625\\#626\\#627\\#628\\#629\\#630\\#631\\#632\\#633\\#634\\#635\\#636\\#637\\#638\\#639\\#640\\#641\\#642\\#643\\#644\\#645\\#646\\#647\\#648\\#649\\#650\\#651\\#652\\#653\\#654\\#655\\#656\\#657\\#658\\#659\\#660\\#661\\#662\\#663\\#664\\#665\\#666\\#667\\#668\\#669\\#670\\#671\\#672\\#673\\#674\\#675\\#676\\#677\\#678\\#679\\#680\\#681\\#682\\#683\\#684\\#685\\#686\\#687\\#688\\#689\\#690\\#691\\#692\\#693\\#694\\#695\\#696\\#697\\#698\\#699\\#700\\#701\\#702\\#703\\#704\\#705\\#706\\#707\\#708\\#709\\#710\\#711\\#712\\#713\\#714\\#715\\#716\\#717\\#718\\#719\\#720\\#721\\#722\\#723\\#724\\#725\\#726\\#727\\#728\\#729\\#730\\#731\\#732\\#733\\#734\\#735\\#736\\#737\\#738\\#739\\#740\\#741\\#742\\#743\\#744\\#745\\#746\\#747\\#748\\#749\\#750\\#751\\#752\\#753\\#754\\#755\\#756\\#757\\#758\\#759\\#760\\#761\\#762\\#763\\#764\\#765\\#766\\#767\\#768\\#769\\#770\\#771\\#772\\#773\\#774\\#775\\#776\\#777\\#778\\#779\\#780\\#781\\#782\\#783\\#784\\#785\\#786\\#787\\#788\\#789\\#790\\#791\\#792\\#793\\#794\\#795\\#796\\#797\\#798\\#799\\#800\\#801\\#802\\#803\\#804\\#805\\#806\\#807\\#808\\#809\\#810\\#811\\#812\\#813\\#814\\#815\\#816\\#817\\#818\\#819\\#820\\#821\\#822\\#823\\#824\\#825\\#826\\#827\\#828\\#829\\#830\\#831\\#832\\#833\\#834\\#835\\#836\\#837\\#838\\#839\\#840\\#841\\#842\\#843\\#844\\#845\\#846\\#847\\#848\\#849\\#850\\#851\\#852\\#853\\#854\\#855\\#856\\#857\\#858\\#859\\#860\\#861\\#862\\#863\\#864\\#865\\#866\\#867\\#868\\#869\\#870\\#871\\#872\\#873\\#874\\#875\\#876\\#877\\#878\\#879\\#880\\#881\\#882\\#883\\#884\\#885\\#886\\#887\\#888\\#889\\#890\\#891\\#892\\#893\\#894\\#895\\#896\\#897\\#898\\#899\\#900\\#901\\#902\\#903\\#904\\#905\\#906\\#907\\#908\\#909\\#910\\#911\\#912\\#913\\#914\\#915\\#916\\#917\\#918\\#919\\#920\\#921\\#922\\#923\\#924\\#925\\#926\\#927\\#928\\#929\\#930\\#931\\#932\\#933\\#934\\#935\\#936\\#937\\#938\\#939\\#940\\#941\\#942\\#943\\#944\\#945\\#946\\#947\\#948\\#949\\#950\\#951\\#952\\#953\\#954\\#955\\#956\\#957\\#958\\#959\\#960\\#961\\#962\\#963\\#964\\#965\\#966\\#967\\#968\\#969\\#970\\#971\\#972\\#973\\#974\\#975\\#976\\#977\\#978\\#979\\#980\\#981\\#982\\#983\\#984\\#985\\#986\\#987\\#988\\#989\\#990\\#991\\#992\\#993\\#994\\#995\\#996\\#997\\#998\\#999\\#1000\\#1001\\#1002\\#1003\\#1004\\#1005\\#1006\\#1007\\#1008\\#1009\\#1010\\#1011\\#1012\\#1013\\#1014\\#1015\\#1016\\#1017\\#1018\\#1019\\#1020\\#1021\\#1022\\#1023\\#1024\\#1025\\#1026\\#1027\\#1028\\#1029\\#1030\\#1031\\#1032\\#1033\\#1034\\#1035\\#1036\\#1037\\#1038\\#1039\\#1040\\#1041\\#1042\\#1043\\#1044\\#1045\\#1046\\#1047\\#1048\\#1049\\#1050\\#1051\\#1052\\#1053\\#1054\\#1055\\#1056\\#1057\\#1058\\#1059\\#1060\\#1061\\#1062\\#1063\\#1064\\#1065\\#1066\\#1067\\#1068\\#1069\\#1070\\#1071\\#1072\\#1073\\#1074\\#1075\\#1076\\#1077\\#1078\\#1079\\#1080\\#1081\\#1082\\#1083\\#1084\\#1085\\#1086\\#1087\\#1088\\#1089\\#1090\\#1091\\#1092\\#1093\\#1094\\#1095\\#1096\\#1097\\#1098\\#1099\\#1100\\#1101\\#1102\\#1103\\#1104\\#1105\\#1106\\#1107\\#1108\\#1109\\#1110\\#1111\\#1112\\#1113\\#1114\\#1115\\#1116\\#1117\\#1118\\#1119\\#1120\\#1121\\#1122\\#1123\\#1124\\#1125\\#1126\\#1127\\#1128\\#1129\\#1130\\#1131\\#1132\\#1133\\#1134\\#1135\\#1136\\#1137\\#1138\\#1139\\#1140\\#1141\\#1142\\#1143\\#1144\\#1145\\#1146\\#1147\\#1148\\#1149\\#1150\\#1151\\#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\\#1184\\#1185\\#1186\\#1187\\#1188\\#1189\\#1190\\#1191\\#1192\\#1193\\#1194\\#1195\\#1196\\#1197\\#1198\\#1199\\#1200\\#1201\\#1202\\#1203\\#1204\\#1205\\#1206\\#1207\\#1208\\#1209\\#1210\\#1211\\#1212\\#1213\\#1214\\#1215\\#1216\\#1217\\#1218\\#1219\\#1220\\#1221\\#1222\\#1223\\#1224\\#1225\\#1226\\#1227\\#1228\\#1229\\#1230\\#1231\\#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\\#1264\\#1265\\#1266\\#1267\\#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\\#1300\\#1301\\#1302\\#1303\\#1304\\#1305\\#1306\\#1307\\#1308\\#1309\\#1310\\#1311\\#1312\\#1313\\#1314\\#1315\\#1316\\#1317\\#1318\\#1319\\#1320\\#1321\\#1322\\#1323\\#1324\\#1325\\#1326\\#1327\\#1328\\#1329\\#1330\\#1331\\#1332\\#1333\\#1334\\#1335\\#1336\\#1337\\#1338\\#1339\\#1340\\#1341\\#1342\\#1343\\#1344\\#1345\\#1346\\#1347\\#1348\\#1349\\#1350\\#1351\\#1352\\#1353\\#1354\\#1355\\#1356\\#1357\\#1358\\#1359\\#1360\\#1361\\#1362\\#1363\\#1364\\#1365\\#1366\\#1367\\#1368\\#1369\\#1370\\#1371\\#1372\\#1373\\#1374\\#1375\\#1376\\#1377\\#1378\\#1379\\#1380\\#1381\\#1382\\#1383\\#1384\\#1385\\#1386\\#1387\\#1388\\#1389\\#1390\\#1391\\#1392\\#1393\\#1394\\#1395\\#1396\\#1397\\#1398\\#1399\\#1400\\#1401\\#1402\\#1403\\#1404\\#1405\\#1406\\#1407\\#1408\\#1409\\#1410\\#1411\\#1412\\#1413\\#1414\\#1415\\#1416\\#1417\\#1418\\#1419\\#1420\\#1421\\#1422\\#1423\\#1424\\#1425\\#1426\\#1427\\#1428\\#1429\\#1430\\#1431\\#1432\\#1433\\#1434\\#1435\\#1436\\#1437\\#1438\\#1439\\#1440\\#1441\\#1442\\#1443\\#1444\\#1445\\#1446\\#1447\\#1448\\#1449\\#1450\\#1451\\#1452\\#1453\\#1454\\#1455\\#1456\\#1457\\#1458\\#1459\\#1460\\#1461\\#1462\\#1463\\#1464\\#1465\\#1466\\#1467\\#1468\\#1469\\#1470\\#1471\\#1472\\#1473\\#1474\\#1475\\#1476\\#1477\\#1478\\#1479\\#1480\\#1481\\#1482\\#1483\\#1484\\#1485\\#1486\\#1487\\#1488\\#1489\\#1490\\#1491\\#1492\\#1493\\#1494\\#1495\\#1496\\#1497\\#1498\\#1499\\#1500\\#1501\\#1502\\#1503\\#1504\\#1505\\#1506\\#1507\\#1508\\#1509\\#1510\\#1511\\#1512\\#1513\\#1514\\#1515\\#1516\\#1517\\#1518\\#1519\\#1520\\#1521\\#1522\\#1523\\#1524\\#1525\\#1526\\#1527\\#1528\\#1529\\#1530\\#1531\\#1532\\#1533\\#1534\\#1535\\#1536\\#1537\\#1538\\#1539\\#1540\\#1541\\#1542\\#1543\\#1544\\#1545\\#1546\\#1547\\#1548\\#1549\\#1550\\#1551\\#1552\\#1553\\#1554\\#1555\\#1556\\#1557\\#1558\\#1559\\#1560\\#1561\\#1562\\#1563\\#1564\\#1565\\#1566\\#1567\\#1568\\#1569\\#1570\\#1571\\#1572\\#1573\\#1574\\#1575\\#1576\\#1577\\#1578\\#1579\\#1580\\#1581\\#1582\\#1583\\#1584\\#1585\\#1586\\#1587\\#1588\\#1589\\#1590\\#1591\\#1592\\#1593\\#1594\\#1595\\#1596\\#1597\\#1598\\#1599\\#1600\\#1601\\#1602\\#1603\\#1604\\#1605\\#1606\\#1607\\#1608\\#1609\\#1610\\#1611\\#1612\\#1613\\#1614\\#1615\\#1616\\#1617\\#1618\\#1619\\#1620\\#1621\\#1622\\#1623\\#1624\\#1625\\#1626\\#1627\\#1628\\#1629\\#1630\\#1631\\#1632\\#1633\\#1634\\#1635\\#1636\\#1637\\#1638\\#1639\\#1640\\#1641\\#1642\\#1643\\#1644\\#1645\\#1646\\#1647\\#1648\\#1649\\#1650\\#1651\\#1652\\#1653\\#1654\\#1655\\#1656\\#1657\\#1658\\#1659\\#1660\\#1661\\#1662\\#1663\\#1664\\#1665\\#1666\\#1667\\#1668\\#1669\\#1670\\#1671\\#1672\\#1673\\#1674\\#1675\\#1676\\#1677\\#1678\\#1679\\#1680\\#1681\\#1682\\#1683\\#1684\\#1685\\#1686\\#1687\\#1688\\#1689\\#1690\\#1691\\#1692\\#1693\\#1694\\#1695\\#1696\\#1697\\#1698\\#1699\\#1700\\#1701\\#1702\\#1703\\#1704\\#1705\\#1706\\#1707\\#1708\\#1709\\#1710\\#1711\\#1712\\#1713\\#1714\\#1715\\#1716\\#1717\\#1718\\#1719\\#1720\\#1721\\#1722\\#1723\\#1724\\#1725\\#1726\\#1727\\#1728\\#1729\\#1730\\#1731\\#1732\\#1733\\#1734\\#1735\\#1736\\#1737\\#1738\\#1739\\#1740\\#1741\\#1742\\#1743\\#1744\\#1745\\#1746\\#1747\\#1748\\#1749\\#1750\\#1751\\#1752\\#1753\\#1754\\#1755\\#1756\\#1757\\#1758\\#1759\\#1760\\#1761\\#1762\\#1763\\#1764\\#1765\\#1766\\#1767\\#1768\\#1769\\#1770\\#1771\\#1772\\#1773\\#1774\\#1775\\#1776\\#1777\\#1778\\#1779\\#1780\\#1781\\#1782\\#1783\\#1784\\#1785\\#1786\\#1787\\#1788\\#1789\\#1790\\#1791\\#1792\\#1793\\#1794\\#1795\\#1796\\#1797\\#1798\\#1799\\#1800\\#1801\\#1802\\#1803\\#1804\\#1805\\#1806\\#1807\\#1808\\#1809\\#1810\\#1811\\#1812\\#1813\\#1814\\#1815\\#1816\\#1817\\#1818\\#1819\\#1820\\#1821\\#1822\\#1823\\#1824\\#1825\\#1826\\#1827\\#1828\\#1829\\#1830\\#1831\\#1832\\#1833\\#1834\\#1835\\#1836\\#1837\\#1838\\#1839\\#1840\\#1841\\#1842\\#1843\\#1844\\#1845\\#1846\\#1847\\#1848\\#1849\\#1850\\#1851\\#1852\\#1853\\#1854\\#1855\\#1856\\#1857\\#1858\\#1859\\#1860\\#1861\\#1862\\#1863\\#1864\\#1865\\#1866\\#1867\\#1868\\#1869\\#1870\\#1871\\#1872\\#1873\\#1874\\#1875\\#1876\\#1877\\#1878\\#1879\\#1880\\#1881\\#1882\\#1883\\#1884\\#1885\\#1886\\#1887\\#1888\\#1889\\#1890\\#1891\\#1892\\#1893\\#1894\\#1895\\#1896\\#1897\\#1898\\#1899\\#1900\\#1901\\#1902\\#1903\\#1904\\#1905\\#1906\\#1907\\#1908\\#1909\\#1910\\#1911\\#1912\\#1913\\#1914\\#1915\\#1916\\#1917\\#1918\\#1919\\#1920\\#1921\\#1922\\#1923\\#1924\\#1925\\#1926\\#1927\\#1928\\#1929\\#1930\\#1931\\#1932\\#1933\\#1934\\#1935\\#1936\\#1937\\#1938\\#1939\\#1940\\#1941\\#1942\\#1943\\#1944\\#1945\\#1946\\#1947\\#1948\\#1949\\#1950\\#1951\\#1952\\#1953\\#1954\\#1955\\#1956\\#1957\\#1958\\#1959\\#1960\\#1961\\#1962\\#1963\\#1964\\#1965\\#1966\\#1967\\#1968\\#1969\\#1970\\#1971\\#1972\\#1973\\#1974\\#1975\\#1976\\#1977\\#1978\\#1979\\#1980\\#1981\\#1982\\#1983\\#1984\\#1985\\#1986\\#1987\\#1988\\#1989\\#1990\\#1991\\#1992\\#1993\\#1994\\#1995\\#1996\\#1997\\#1998\\#1999\\#2000\\#2001\\#2002\\#2003\\#2004\\#2005\\#2006\\#2007\\#2008\\#2009\\#2010\\#2011\\#2012\\#2013\\#2014\\#2015\\#2016\\#2017\\#2018\\#2019\\#2020\\#2021\\#2022\\#2023\\#2024\\#2025\\#2026\\#2027\\#2028\\#2029\\#2030\\#2031\\#2032\\#2033\\#2034\\#2035\\#2036\\#2037\\#2038\\#2039\\#2040\\#2041\\#2042\\#2043\\#2044\\#2045\\#2046\\#2047\\#2048\\#2049\\#2050\\#2051\\#2052\\#2053\\#2054\\#2055\\#2056\\#2057\\#2058\\#2059\\#2060\\#2061\\#2062\\#2063\\#2064\\#2065\\#2066\\#2067\\#2068\\#2069\\#2070\\#2071\\#2072\\#2073\\#2074\\#2075\\#2076\\#2077\\#2078\\#2079\\#2080\\#2081\\#2082\\#2083\\#2084\\#2085\\#2086\\#2087\\#2088\\#2089\\#2090\\#2091\\#2092\\#2093\\#2094\\#2095\\#2096\\#2097\\#2
```

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

```

3728 \def\@hyper@linkfile file:#1\#2#3{%
3729     %file url,link string, name
3730     \filename@parse{#1}%
3731     \ifx\filename@ext\relax
3732         \edef\filename@ext{\XR@ext}%
3733     \fi
3734     \def\use@file{\filename@area\filename@base.\filename@ext}%
3735     \ifx\filename@ext\XR@ext
3736         \hyper@linkfile{#2}{\use@file}{#3}%
3737     \else
3738         \ifx\@baseurl\@empty
3739             \hyper@linkurl{#2}{%
3740                 \Hy@linkfileprefix\use@file\ifx\\#3\\%
3741                 \else\hyper@hash#3\fi}%
3742         \else
3743             \hyper@linkurl{#2}{\use@file\ifx\\#3\\%
3744             \else\hyper@hash#3\fi}%
3745         \fi
3746 }

```

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.

```

3747 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3748 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3749     \ifx\\#1\\%
3750         #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3751     \else
3752         \def\anchor@spot{#2#3}%
3753         \let\put@me@back\@empty
3754         \ifx\relax#2\relax
3755         \else
3756             \ifHy@nesting
3757             \else
3758                 \ifcat a\noexpand#2\relax
3759                 \else
3760                     \ifcat 0\noexpand#2 \relax
3761                     \else
3762 %                 \typeout{Anchor start is not alphanumeric %
3763 %                     on input line\the\inputlineno%
3764 %                 }%
3765                 \let\anchor@spot\@empty
3766                 \def\put@me@back{#2#3}%
3767             \fi
3768         \fi
3769     \fi
3770 \fi
3771 \ifHy@activeanchor
3772     \anchor@spot
3773 \else
3774     \hyper@anchor{#1}%

```

```

3775 \fi
3776 \expandafter\put@me@back
3777 \fi
3778 \let\anchor@spot@empty
3779 }

```

## 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.

```

3780 \let\htmladding\hyperimage
3781 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3782 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3783 \def\htmlref#1#2{% anchor text, label
3784 \label@hyperref[{#2}]{#1}%
3785 }

```

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.

```

3786 \def\@@latextohtmlX{%
3787 \let\hhyperref\hyperref
3788 \def\hyperref##1##2##3##4{% anchor text for HTML
3789 % text to print before label in print
3790 % label
3791 % post-label text in print
3792 ##2\ref{##4}##3%
3793 }%
3794 }

```

## 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.

```

3795 \RequirePackage{bitset}

```

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

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

```

\HyField@NewFlag #1: type: F annot flags, Ff field flags
                  #2: PDF name
                  #3: PDF position

```



```

3796 \def\HyField@NewFlag#1#2{%
3797   \lowercase{\HyField@NewOption{#2}}%
3798   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3799 }

```

\HyField@NewFlagOnly

```

3800 \def\HyField@NewFlagOnly#1#2{%
3801   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3802 }

```

\HyField@NewOption #1: option name

```

3803 \def\HyField@NewOption#1{%
3804   \expandafter\newif\csname ifFld@#1\endcsname
3805   \define@key{Field}{#1}[true]{%
3806     \lowercase{\Field@boolkey{##1}}{#1}%
3807   }%
3808 }

```

\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

```

3809 \def\HyField@NewBitsetFlag#1#2#3#4{%
3810   \begingroup
3811     \count@=#4\relax
3812     \advance\count@\m@ne
3813     \def\x##1{%
3814       \endgroup
3815       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
3816       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
3817         \expandafter\edef\csname HyField@#3@#1\endcsname{%
3818           (\number#4) #2%
3819         }%
3820       \else
3821         \expandafter\edef\csname HyField@#3@#1\endcsname{%
3822           \csname HyField@#3@#1\endcsname
3823           /#2%
3824         }%
3825       \fi
3826     }%
3827   \expandafter\x\expandafter{\the\count@}%
3828 }

```

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

```

3829 \def\HyField@UseFlag#1#2{%
3830   \lowercase{\HyField@@UseFlag{#2}}{#1}%
3831 }

```

\HyField@@UseFlag

```

3832 \def\HyField@@UseFlag#1#2{%
3833   \bitsetSetValue{HyField@#2}{%
3834     \csname HyField@#2@#1\endcsname
3835   }{%
3836     \csname ifFld@#1\endcsname 1\else 0\fi
3837   }%
3838 }

```

```

\HyField@SetFlag The bit set is HyField@#1
3839 \def\HyField@SetFlag#1#2{%
3840   \lowercase{\HyField@@SetFlag{#2}}{#1}%
3841 }

\HyField@@SetFlag
3842 \def\HyField@@SetFlag#1#2{%
3843   \bitsetSetValue{HyField@#2}{%
3844     \csname HyField@#2@#1\endcsname
3845   }{1}%
3846 }

\HyField@PrintFlags
3847 \def\HyField@PrintFlags#1#2{%
3848   \ifHy@verbose
3849     \begingroup
3850     \let\Hy@temp\@empty
3851     \let\MessageBreak\relax
3852     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
3853     \bitsetGetSetBitList{HyField@#1}\do{%
3854       \edef\Hy@temp{%
3855         \Hy@temp
3856         \csname HyField@#1@\x\endcsname\MessageBreak
3857       }%
3858     }%
3859   \edef\x{\endgroup
3860     \noexpand\Hy@Info{%
3861       Field flags: %
3862       \expandafter\ifx\@car#1\@nil S\else/\fi
3863       #1 %
3864       \bitsetGetDec{HyField@#1} %
3865       (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
3866       \Hy@temp
3867       for #2%
3868     }%
3869   }\x
3870 \fi
3871 }

```

### 19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

3872 \HyField@NewFlag{Ff}{ReadOnly}{1}
3873 \HyField@NewFlag{Ff}{Required}{2}
3874 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

3875 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
3876 \HyField@NewFlag{Ff}{Radio}{16}
3877 \HyField@NewFlag{Ff}{Pushbutton}{17}
3878 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

3879 \HyField@NewFlag{Ff}{Multiline}{13}
3880 \HyField@NewFlag{Ff}{Password}{14}
3881 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
3882 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4

```

```

3883 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
3884 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
3885 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

3886 \HyField@NewFlag{Ff}{Combo}{18}
3887 \HyField@NewFlag{Ff}{Edit}{19}
3888 \HyField@NewFlag{Ff}{Sort}{20}
3889 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
3890 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3891 \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.

```

3892 \newif\ifFld@popdown
3893 \define@key{Field}{popdown}[true]{%
3894   \lowercase{\Field@boolkey{#1}}{popdown}%
3895 }

```

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.

```

3896 \HyField@NewFlag{F}{Invisible}{1}
3897 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
3898 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
3899 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
3900 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
3901 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
3902 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
3903 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
3904 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

3905 \ifHy@pdfa
3906   \def\HyField@PDFAFflagWarning#1#2{%
3907     \Hy@Warning{%
3908       PDF/A: Annotation flag ‘#1’ must\MessageBreak
3909       be set to ‘#2’%
3910     }%
3911   }%
3912   \Fld@invisiblefalse
3913   \def\Fld@invisibletrue{%
3914     \HyField@PDFAFflagWarning{invisible}{false}%
3915   }%
3916   \Fld@hiddenfalse
3917   \def\Fld@hiddentrue{%
3918     \HyField@PDFAFflagWarning{hidden}{false}%
3919   }%
3920   \Fld@printtrue
3921   \def\Fld@printfalse{%
3922     \HyField@PDFAFflagWarning{print}{true}%
3923   }%
3924   \Fld@nozoomtrue
3925   \def\Fld@nozoomfalse{%
3926     \HyField@PDFAFflagWarning{nozoom}{true}%
3927   }%
3928   \Fld@norotatetrue

```

```

3929 \def\Fld@norotatefalse{%
3930   \HyField@PDFAFIWarning{norotate}{true}%
3931 }%
3932 \Fld@noviewfalse
3933 \def\Fld@noviewtrue{%
3934   \HyField@PDFAFIWarning{noview}{false}%
3935 }%
3936 \fi

```

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

```

3937 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
3938 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
3939 \HyField@NewFlag{Submit}{GetMethod}{4}
3940 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
3941 \HyField@NewFlagOnly{Submit}{XFDF}{6}
3942 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
3943 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
3944 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
3945 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
3946 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
3947 \HyField@NewFlag{Submit}{ExclFKey}{12}
3948 \HyField@NewFlag{Submit}{EmbedForm}{14}

3949 \define@key{Field}{export}{%
3950   \lowercase{\def\Hy@temp{#1}}%
3951   \@ifundefined{Fld@export@\Hy@temp}{%
3952     \@onelevel@sanitize\Hy@temp
3953     \PackageError{hyperref}{%
3954       Unknown export format '\Hy@temp'.\MessageBreak
3955       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
3956     }\@ehc
3957   }{%
3958     \let\Fld@export\Hy@temp
3959   }%
3960 }
3961 \def\Fld@export{fdf}
3962 \@namedef{Fld@export@fdf}{0}%
3963 \@namedef{Fld@export@html}{1}%
3964 \@namedef{Fld@export@xfdf}{2}%
3965 \@namedef{Fld@export@pdf}{3}%

```

### 19.1.2 Set submit flags

\HyField@FlagsSubmit

```

3966 \def\HyField@FlagsSubmit{%
3967   \bitsetReset{HyField@Submit}%
3968   \ifcase\@nameuse{Fld@export@\Fld@export} %
3969     % FDF
3970     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3971     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3972     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
3973     \HyField@UseFlag{Submit}{IncludeAnnotations}%
3974     \HyField@UseFlag{Submit}{CanonicalFormat}%
3975     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
3976     \HyField@UseFlag{Submit}{ExclFKey}%
3977     \HyField@UseFlag{Submit}{EmbedForm}%
3978   \or % HTML
3979     \HyField@SetFlag{Submit}{ExportFormat}%

```

```

3980 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3981 \HyField@UseFlag{Submit}{GetMethod}%
3982 \HyField@UseFlag{Submit}{SubmitCoordinates}%
3983 \HyField@UseFlag{Submit}{CanonicalFormat}%
3984 \or % XFDF
3985 \HyField@SetFlag{Submit}{XFDF}%
3986 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3987 \HyField@UseFlag{Submit}{SubmitCoordinates}%
3988 \HyField@UseFlag{Submit}{CanonicalFormat}%
3989 \or % PDF
3990 \HyField@SetFlag{Submit}{SubmitPDF}%
3991 \HyField@UseFlag{Submit}{GetMethod}%
3992 \fi
3993 \HyField@PrintFlags{Submit}{submit button field}%
3994 \bitsetIsEmpty{HyField@Submit}{%
3995 \def\Fld@submitflags{%
3996 }{%
3997 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
3998 }%
3999 }

```

### 19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

4000 \def\HyField@FlagsAnnot#1{%
4001 \bitsetReset{HyField@F}%
4002 \HyField@UseFlag{F}{Invisible}%
4003 \HyField@UseFlag{F}{Hidden}%
4004 \HyField@UseFlag{F}{Print}%
4005 \HyField@UseFlag{F}{NoZoom}%
4006 \HyField@UseFlag{F}{NoRotate}%
4007 \HyField@UseFlag{F}{NoView}%
4008 \HyField@UseFlag{F}{Locked}%
4009 \HyField@UseFlag{F}{ToggleNoView}%
4010 \HyField@UseFlag{F}{LockedContents}%
4011 \HyField@PrintFlags{F}{#1}%
4012 \bitsetIsEmpty{HyField@F}{%
4013 \def\Fld@annotflags{%
4014 }{%
4015 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
4016 }%
4017 }

```

### 19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

4018 \def\HyField@FlagsPushButton{%
4019 \HyField@FlagsAnnot{push button field}%
4020 \bitsetReset{HyField@Ff}%
4021 \HyField@UseFlag{Ff}{ReadOnly}%
4022 \HyField@UseFlag{Ff}{Required}%
4023 \HyField@UseFlag{Ff}{NoExport}%
4024 \HyField@SetFlag{Ff}{PushButton}%
4025 \HyField@PrintFlags{Ff}{push button field}%
4026 \bitsetIsEmpty{HyField@Ff}{%
4027 \def\Fld@flags{%

```

```

4028 }{%
4029 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4030 }%
4031 }

```

### 19.1.5 Check box field

\HyField@FlagsCheckBox

```

4032 \def\HyField@FlagsCheckBox{%
4033 \HyField@FlagsAnnot{check box field}%
4034 \bitsetReset{HyField@Ff}%
4035 \HyField@UseFlag{Ff}{ReadOnly}%
4036 \HyField@UseFlag{Ff}{Required}%
4037 \HyField@UseFlag{Ff}{NoExport}%
4038 \HyField@PrintFlags{Ff}{check box field}%
4039 \bitsetIsEmpty{HyField@Ff}{%
4040 \def\Fld@flags{%
4041 }{%
4042 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4043 }%
4044 }

```

### 19.1.6 Radio button field

\HyField@FlagsRadioButton

```

4045 \def\HyField@FlagsRadioButton{%
4046 \HyField@FlagsAnnot{radio button field}%
4047 \bitsetReset{HyField@Ff}%
4048 \HyField@UseFlag{Ff}{ReadOnly}%
4049 \HyField@UseFlag{Ff}{Required}%
4050 \HyField@UseFlag{Ff}{NoExport}%
4051 \HyField@UseFlag{Ff}{NoToggleToOff}%
4052 \HyField@SetFlag{Ff}{Radio}%
4053 \HyField@UseFlag{Ff}{RadiosInUnison}%
4054 \HyField@PrintFlags{Ff}{radio button field}%
4055 \bitsetIsEmpty{HyField@Ff}{%
4056 \def\Fld@flags{%
4057 }{%
4058 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4059 }%
4060 }

```

### 19.1.7 Text fields

\HyField@FlagsText

```

4061 \def\HyField@FlagsText{%
4062 \HyField@FlagsAnnot{text field}%
4063 \bitsetReset{HyField@Ff}%
4064 \HyField@UseFlag{Ff}{ReadOnly}%
4065 \HyField@UseFlag{Ff}{Required}%
4066 \HyField@UseFlag{Ff}{NoExport}%
4067 \HyField@UseFlag{Ff}{Multiline}%
4068 \HyField@UseFlag{Ff}{Password}%
4069 \HyField@UseFlag{Ff}{FileSelect}%
4070 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4071 \HyField@UseFlag{Ff}{DoNotScroll}%

```

```

4072 \ifFld@comb
4073   \ifcase0\ifFld@multiline
4074       \else\ifFld@password
4075       \else\ifFld@fileselect
4076       \else 1\fi\fi\fi\relax
4077   \PackageError{hyperref}{%
4078     Field option 'comb' cannot used together with\MessageBreak
4079     'multiline', 'password', or 'fileselect'%
4080   }\@ehc
4081   \else
4082     \HyField@UseFlag{Ff}{Comb}%
4083   \fi
4084 \fi
4085 \HyField@UseFlag{Ff}{RichText}%
4086 \HyField@PrintFlags{Ff}{text field}%
4087 \bitsetIsEmpty{HyField@Ff}{%
4088   \def\Fld@flags{%
4089 }{%
4090   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4091 }%
4092 }

```

### 19.1.8 Choice fields

\HyField@FlagsChoice

```

4093 \def\HyField@FlagsChoice{%
4094   \HyField@FlagsAnnot{choice field}%
4095   \bitsetReset{HyField@Ff}%
4096   \HyField@UseFlag{Ff}{ReadOnly}%
4097   \HyField@UseFlag{Ff}{Required}%
4098   \HyField@UseFlag{Ff}{NoExport}%
4099   \HyField@UseFlag{Ff}{Combo}%
4100   \ifFld@combo
4101     \HyField@UseFlag{Ff}{Edit}%
4102   \fi
4103   \HyField@UseFlag{Ff}{Sort}%
4104   \HyField@UseFlag{Ff}{MultiSelect}%
4105   \ifFld@combo
4106     \ifFld@edit
4107       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4108     \fi
4109   \fi
4110   \HyField@UseFlag{Ff}{CommitOnSelChange}%
4111   \HyField@PrintFlags{Ff}{choice field}%
4112   \bitsetIsEmpty{HyField@Ff}{%
4113     \def\Fld@flags{%
4114 }{%
4115   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4116 }%
4117 }

```

## 19.2 Choice field

4118 \RequirePackage{kvsetkeys}[2007/09/29]

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

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

```

4119 \def\HyField@PDFChoices#1{%
4120   \begingroup
4121     \gdef\Fld@choices{}%
4122     \def\HyTmp@optlist{}%
4123     \let\HyTmp@optitem\relax
4124     \count@=0 %
4125     \kv@parse{#1}{%
4126       \Hy@pdfstringdef\kv@key\kv@key
4127       \ifx\kv@value\relax
4128         \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4129           \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4130         \else
4131           \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4132         \fi
4133       \else
4134         \Hy@pdfstringdef\kv@value\kv@value
4135         \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@value)]}%
4136       \fi
4137     \edef\HyTmp@optlist{%
4138       \HyTmp@optlist
4139       \HyTmp@optitem{the\count@}{\kv@key}0%
4140     }%
4141     \advance\count@ by 1 %
4142     \@gobbletwo
4143   }%
4144   \xdef\Fld@choices{/Opt[\Fld@choices]}%
4145   \ifFld@multiselect
4146     \HyField@@PDFChoices{DV}\Fld@default
4147     \HyField@@PDFChoices{V}\Fld@value
4148   \else
4149     \ifx\Fld@default\relax
4150     \else
4151       \pdfstringdef\Hy@gtemp\Fld@default
4152       \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4153     \fi
4154     \ifx\Fld@value\relax
4155     \else
4156       \pdfstringdef\Hy@gtemp\Fld@value
4157       \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4158     \fi
4159   \fi
4160 \endgroup
4161 }

```

\HyField@@PDFChoices

```

4162 \def\HyField@@PDFChoices#1#2{%
4163   \ifx#2\relax
4164   \else
4165     \count@=0 %
4166     \def\HyTmp@optitem##1##2##3{%
4167       \def\HyTmp@key{##2}%
4168       \ifx\HyTmp@key\Hy@gtemp
4169         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4170           \HyTmp@optlist
4171           \HyTmp@optitem{##1}{##2}1%
4172         }%

```



```

4173     \let\HyTmp@found=Y%
4174   \else
4175     \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4176       \HyTmp@optlist
4177       \HyTmp@optitem{##1}{##2}##3%
4178     }%
4179   \fi
4180 }%
4181 \expandafter\comma@parse\expandafter{#2}{%
4182   \pdfstringdef\Hy@gtemp\comma@entry
4183   \let\HyTmp@found=N %
4184   \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4185   \HyTmp@optlist
4186   \ifx\HyTmp@found Y%
4187     \advance\count@ by 1 %
4188   \else
4189     \@onelevel@sanitize\comma@entry
4190     \PackageWarning{hyperref}{%
4191       \string\ChoiceBox: Ignoring value ‘\comma@entry’,%
4192       \MessageBreak
4193       it cannot be found in the choices%
4194     }%
4195   \fi
4196   \@gobble
4197 }%
4198 \def\HyTmp@optitem##1##2##3{%
4199   \ifnum##3=1 %
4200     (##2)%
4201   \fi
4202 }%
4203 \ifcase\count@
4204 \or
4205   \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4206 \else
4207   \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4208   \ifx#1V%
4209     \def\HyTmp@optitem##1##2##3{%
4210       \ifnum##3=1 %
4211         \@firstofone{ ##1}%
4212       \fi
4213     }%
4214     \edef\HyTmp@optlist{\HyTmp@optlist}%
4215     \xdef\Fld@choices{%
4216       \Fld@choices
4217       /I[\expandafter\@firstofone\HyTmp@optlist]%
4218     }%
4219   \fi
4220 \fi
4221 \fi
4222 }

```

### 19.3 Forms

\HyField@SetKeys

```

4223 \def\HyField@SetKeys{%
4224   \setkeys{Field}%
4225 }

```

```

4226 \newif\ifFld@checked
4227 \newif\ifFld@disabled
4228 \Fld@checkedfalse
4229 \Fld@disabledfalse
4230 \newcount\Fld@menulength
4231 \newdimen\Fld@Width
4232 \newdimen\Fld@charsize
4233 \Fld@charsize=10\p@
4234 \def\Fld@maxlen{0}
4235 \def\Fld@align{0}
4236 \def\Fld@color{0 0 0 rg}
4237 \def\Fld@bcolor{1 1 1}
4238 \def\Fld@bordercolor{1 0 0}
4239 \def\Fld@bordersep{1\p@}
4240 \def\Fld@borderwidth{1}
4241 \def\Fld@borderstyle{S}
4242 \def\Fld@cbsymbol{4}
4243 \def\Fld@rotation{0}
4244 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4245 \def\endForm{\@endForm}
4246 \newif\ifForm@html
4247 \Form@htmlfalse
4248 \def\Form@boolkey#1#2{%
4249   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4250 }
4251 \define@key{Form}{action}{%
4252   \hyper@normalise\Hy@DefFormAction{#1}%
4253 }
4254 \def\Hy@DefFormAction{\def\Form@action}
4255 \def\enc@html{html}
4256 \define@key{Form}{encoding}{%
4257   \def\Hy@tempa{#1}%
4258   \ifx\Hy@tempa\enc@html
4259     \Form@htmltrue
4260     \def\Fld@export{html}%
4261   \else
4262     \typeout{hyperref: form 'encoding' key set to #1 %
4263     -- unknown type%
4264   }%
4265   \Form@htmlfalse
4266   \fi
4267 }
4268 \define@key{Form}{method}{%
4269   \lowercase{\def\Hy@temp{#1}}%
4270   \@ifundefined{Form@method@Hy@temp}{%
4271     \@onelevel@sanitize\Hy@temp
4272     \PackageError{hyperref}{%
4273       Unknown method '\Hy@temp'.\MessageBreak
4274       Known values are 'post' and 'get'%
4275     }\@ehc
4276   }{%
4277     \let\Form@method\Hy@temp
4278     \ifcase\@nameuse{Form@method@Hy@temp} %
4279       \Fld@getmethodfalse
4280     \else
4281       \Fld@getmethodtrue
4282     \fi

```

```

4283 }%
4284 }
4285 \def\Form@method{}
4286 \@namedef{Form@method@post}{0}
4287 \@namedef{Form@method@get}{1}
4288 \def\Field@boolkey#1#2{%
4289   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4290 }
4291 \newtoks\Field@toks
4292 \Field@toks={ }%
4293 \def\Field@addtoks#1#2{%
4294   \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
4295   \@processme
4296 }
4297 \def\Fld@checkequals#1=#2=#3\{%
4298   \def\@currDisplay{#1}%
4299   \ifx\#2\%
4300     \def\@currValue{#1}%
4301   \else
4302     \def\@currValue{#2}%
4303   \fi
4304 }
4305 \define@key{Field}{loc}{%
4306   \def\Fld@loc{#1}%
4307 }
4308 \define@key{Field}{checked}[true]{%
4309   \lowercase{\Field@boolkey{#1}}{checked}%
4310 }
4311 \define@key{Field}{disabled}[true]{%
4312   \lowercase{\Field@boolkey{#1}}{disabled}%
4313 }
4314 \define@key{Field}{accesskey}{%
4315   \Field@addtoks{accesskey}{#1}%
4316 }
4317 \define@key{Field}{tabkey}{%
4318   \Field@addtoks{tabkey}{#1}%
4319 }
4320 \define@key{Field}{name}{%
4321   \def\Fld@name{#1}%
4322 }
4323 \define@key{Field}{width}{%
4324   \def\Fld@width{#1}%
4325   \Field@Width#1\setbox0=\hbox{m}%
4326 }
4327 \define@key{Field}{maxlen}{%
4328   \def\Fld@maxlen{#1}%
4329 }
4330 \define@key{Field}{menulength}{%
4331   \Fld@menulength=#1\relax
4332 }
4333 \define@key{Field}{height}{%
4334   \def\Fld@height{#1}%
4335 }
4336 \define@key{Field}{charsize}{%
4337   \Fld@charsize#1%
4338 }
4339 \define@key{Field}{borderwidth}{%

```

```

4340 \def\Fld@borderwidth{#1}%
4341 }
4342 \define@key{Field}{borderstyle}{%
4343 \def\Fld@borderstyle{#1}%
4344 }
4345 \define@key{Field}{bordersep}{%
4346 \def\Fld@bordersep{#1}%
4347 }
4348 \define@key{Field}{default}{%
4349 \def\Fld@default{#1}%
4350 }
4351 \define@key{Field}{align}{%
4352 \def\Fld@align{#1}%
4353 }
4354 \define@key{Field}{value}{%
4355 \def\Fld@value{#1}%
4356 }
4357 \define@key{Field}{checkboxsymbol}{%
4358 \def\Fld@cbsymbol{#1}%
4359 }

4360 \define@key{Field}{rotation}{%
4361 \def\Fld@rotation{#1}%
4362 }

4363 \define@key{Field}{backgroundcolor}{%
4364 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4365 }
4366 \define@key{Field}{bordercolor}{%
4367 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4368 }
4369 \define@key{Field}{color}{%
4370 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4371 }

4372 \def\Fld@onclick@code{}
4373 \def\Fld@format@code{}
4374 \def\Fld@validate@code{}
4375 \def\Fld@calculate@code{}
4376 \def\Fld@keystroke@code{}
4377 \def\Fld@onfocus@code{}
4378 \def\Fld@onblur@code{}
4379 \def\Fld@onmousedown@code{}
4380 \def\Fld@onmouseup@code{}
4381 \def\Fld@onenter@code{}
4382 \def\Fld@onexit@code{}
4383 \def\Hy@temp#1{%
4384 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4385 }
4386 \def\Hy@@temp#1#2{%
4387 \ifHy@pdfa
4388 \define@key{Field}{#2}{%
4389 \PackageError{hyperref}{%
4390 PDF/A: Additional action ‘#2’ is prohibited%
4391 }\@ehc
4392 }%
4393 \else
4394 \define@key{Field}{#2}{%
4395 \def#1{##1}%

```

```

4396     }%
4397   \fi
4398 }
4399 \Hy@temp{keystroke}
4400 \Hy@temp{format}
4401 \Hy@temp{validate}
4402 \Hy@temp{calculate}
4403 \Hy@temp{onfocus}
4404 \Hy@temp{onblur}
4405 \Hy@temp{onenter}
4406 \Hy@temp{onexit}
4407 \def\Hy@temp#1{%
4408   \define@key{Field}{#1}{%
4409     \Field@addtoks{#1}{##1}%
4410   }%
4411 }
4412 \Hy@temp{onselect}
4413 \Hy@temp{onchange}
4414 \Hy@temp{ondblclick}
4415 \Hy@temp{onmousedown}
4416 \Hy@temp{onmouseup}
4417 \Hy@temp{onmouseover}
4418 \Hy@temp{onmousemove}
4419 \Hy@temp{onmouseout}
4420 \Hy@temp{onkeypress}
4421 \Hy@temp{onkeydown}
4422 \Hy@temp{onkeyup}
4423 \ifHy@pdfa
4424   \define@key{Field}{onclick}{%
4425     \PackageError{hyperref}{%
4426       PDF/A: Action 'onclick' is prohibited%
4427     }\@ehc
4428   }%
4429 \else
4430   \define@key{Field}{onclick}{%
4431     \def\Fld@onclick@code{#1}%
4432     \Field@addtoks{onclick}{#1}%
4433   }%
4434 \fi
4435 \DeclareRobustCommand\TextField{%
4436   \@ifnextchar[{\@TextField}{\@TextField[]}%
4437 }
4438 \DeclareRobustCommand\ChoiceMenu{%
4439   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4440 }
4441 \DeclareRobustCommand\CheckBox{%
4442   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4443 }
4444 \DeclareRobustCommand\PushButton{%
4445   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4446 }
4447 \DeclareRobustCommand\Gauge{%
4448   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4449 }
4450 \DeclareRobustCommand\Submit{%
4451   \@ifnextchar[{\@Submit}{\@Submit[]}%
4452 }

```

```

4453 \DeclareRobustCommand\Reset{%
4454   \@ifnextchar[{\@Reset}{\@Reset[]}%
4455 }
4456 \def\LayoutTextField#1#2{% label, field
4457   #1 #2%
4458 }
4459 \def\LayoutChoiceField#1#2{% label, field
4460   #1 #2%
4461 }
4462 \def\LayoutCheckField#1#2{% label, field
4463   #1 #2%
4464 }
4465 \def\LayoutPushButtonField#1{% button
4466   #1%
4467 }
4468 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4469 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4470 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4471 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4472 \def\MakeButtonField#1{%
4473   \sbox0{%
4474     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4475   }%
4476   \@tempdima\ht0 %
4477   \advance\@tempdima by \Fld@borderwidth bp %
4478   \advance\@tempdima by \Fld@borderwidth bp %
4479   \ht0\@tempdima
4480   \@tempdima\dp0 %
4481   \advance\@tempdima by \Fld@borderwidth bp %
4482   \advance\@tempdima by \Fld@borderwidth bp %
4483   \dp0\@tempdima
4484   \box0\relax
4485 }
4486 \def\DefaultHeightofSubmit{14pt}
4487 \def\DefaultWidthofSubmit{2cm}
4488 \def\DefaultHeightofReset{14pt}
4489 \def\DefaultWidthofReset{2cm}
4490 \def\DefaultHeightofCheckBox{\baselineskip}
4491 \def\DefaultWidthofCheckBox{\baselineskip}
4492 \def\DefaultHeightofChoiceMenu{\baselineskip}
4493 \def\DefaultWidthofChoiceMenu{\baselineskip}
4494 \def\DefaultHeightofText{\baselineskip}
4495 \def\DefaultHeightofTextMultiline{4\baselineskip}
4496 \def\DefaultWidthofText{3cm}
4497 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4498 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4499 \def\DefaultOptionsofPushButton{print}
4500 \def\DefaultOptionsofCheckBox{print}
4501 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

4502 \def\DefaultOptionsofListBox{print}
4503 \def\DefaultOptionsofComboBox{print,edit,sort}
4504 \def\DefaultOptionsofPopdownBox{print}
4505 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 20 Setup

```
4506 \ifHy@figures
4507   \Hy@Info{Hyper figures ON}%
4508 \else
4509   \Hy@Info{Hyper figures OFF}%
4510 \fi
4511 \ifHy@nesting
4512   \Hy@Info{Link nesting ON}%
4513 \else
4514   \Hy@Info{Link nesting OFF}%
4515 \fi
4516 \ifHy@hyperindex
4517   \Hy@Info{Hyper index ON}%
4518 \else
4519   \Hy@Info{Hyper index OFF}%
4520 \fi
4521 \ifHy@backref
4522   \Hy@Info{backreferencing ON}%
4523 \else
4524   \Hy@Info{backreferencing OFF}%
4525 \fi
4526 \ifHy@colorlinks
4527   \Hy@Info{Link coloring ON}%
4528 \else
4529   \Hy@Info{Link coloring OFF}%
4530 \fi
4531 \ifHy@ocgcolorlinks
4532   \Hy@Info{Link coloring with OCG ON}%
4533 \else
4534   \Hy@Info{Link coloring with OCG OFF}%
4535 \fi
4536 \ifHy@pdfa
4537   \Hy@Info{PDF/A mode ON}%
4538 \else
4539   \Hy@Info{PDF/A mode OFF}%
4540 \fi
```

## 21 Low-level utility macros

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

```
4541 \edef\hyper@hash{\string#}
4542 \edef\hyper@tilde{\string~}
4543 \edef\hyper@quote{\string"}
4544 \let\@currentHref\@empty
4545 \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.

```
4546 \AfterBeginDocument{%
4547   \Hy@pdfstringtrue
4548   \PDF@SetupDoc
4549   \let\PDF@SetupDoc\@empty
4550   \Hy@DisableOption{pdfpagescrop}%
4551   \Hy@DisableOption{pdfpagemode}%
4552   \Hy@DisableOption{pdfnonfullscreenpagemode}%
4553   \Hy@DisableOption{pdfdirection}%
4554   \Hy@DisableOption{pdfviewarea}%

```

```

4555 \Hy@DisableOption{pdfviewclip}%
4556 \Hy@DisableOption{pdfprintarea}%
4557 \Hy@DisableOption{pdfprintclip}%
4558 \Hy@DisableOption{pdfprintscaling}%
4559 \Hy@DisableOption{pdfduplex}%
4560 \Hy@DisableOption{pdfpicktraybypdfsize}%
4561 \Hy@DisableOption{pdfprintpagerange}%
4562 \Hy@DisableOption{pdfnumcopies}%
4563 \Hy@DisableOption{pdfstartview}%
4564 \Hy@DisableOption{pdfstartpage}%
4565 \Hy@DisableOption{pdftoolbar}%
4566 \Hy@DisableOption{pdfmenubar}%
4567 \Hy@DisableOption{pdfwindowui}%
4568 \Hy@DisableOption{pdffitwindow}%
4569 \Hy@DisableOption{pdfcenterwindow}%
4570 \Hy@DisableOption{pdfdisplaydoctitle}%
4571 \Hy@DisableOption{pdfpagelayout}%
4572 \Hy@DisableOption{pdflang}%
4573 \Hy@DisableOption{baseurl}%
4574 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4575 \Hy@pdfstringfalse
4576 }

```

## 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.

```

4577 \def\NoHyper{%
4578   \def\hyper@link@{##1}##2##3##4{##4}%
4579   \def\hyper@@anchor##1{%
4580     \global\let\hyper@livelink\hyper@link
4581     \gdef\hyper@link##1##2##3{##3}%
4582     \def\hyper@anchorstart##1{%
4583       \let\hyper@anchorend\@empty
4584       \def\hyper@linkstart##1##2{%
4585         \let\hyper@linkend\@empty
4586         \def\hyper@linkurl##1##2{##1}%
4587         \def\hyper@linkfile##1##2##3{##1}%
4588         \def\hyper@link@{##1}##2##3{%
4589           \let\Hy@backout\@gobble
4590         }
4591       \def\stop@hyper{%
4592         \def\hyper@link@{##1}##2##3##4{##4}%
4593         \let\Hy@backout\@gobble
4594         \def\hyper@@anchor##1{%
4595           \def\hyper@link##1##2##3{##3}%
4596           \def\hyper@anchorstart##1{%
4597             \let\hyper@anchorend\@empty
4598             \def\hyper@linkstart##1##2{%
4599               \let\hyper@linkend\@empty
4600               \def\hyper@linkurl##1##2{##1}%
4601               \def\hyper@linkfile##1##2##3{##1}%
4602               \def\hyper@link@{##1}##2##3{%
4603                 \let\Hy@backout\@gobble

```



```

4604 \def\endNoHyper{%
4605   \global\let\hyper@link\hyper@livelink
4606 }
4607 \</package>

```

## 23 Package nohyperref

This package is introduced by Sebastian Rahtz.

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

Some low-level commands:

```

4608 \<*nohyperref>
4609 \let\hyper@@anchor\@gobble
4610 \def\hyper@link#1#2#3{#3}%
4611 \let\hyper@anchorstart\@gobble
4612 \let\hyper@anchorend\@empty
4613 \let\hyper@linkstart\@gobbletwo
4614 \let\hyper@linkend\@empty
4615 \def\hyper@linkurl#1#2{#1}%
4616 \def\hyper@linkfile#1#2#3{#1}%
4617 \def\hyper@link@{#1}#2#3{#3}%
4618 \let\PDF@SetupDoc\@empty
4619 \let\PDF@FinishDoc\@empty
4620 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

4621 \def\Acrobatmenu#1#2{\leavevmode#2}
4622 \let\pdfstringdefDisableCommands\@gobbletwo
4623 \let\texorpdfstring\@firstoftwo
4624 \let\pdfbookmark\@undefined
4625 \newcommand\pdfbookmark[3][]{\@empty}
4626 \let\phantomsection\@empty
4627 \let\hypersetup\@gobble
4628 \let\hyperbaseurl\@gobble
4629 \let\href\@gobble
4630 \let\hyperdef\@gobbletwo
4631 \let\hyperlink\@gobble
4632 \let\hypertarget\@gobble
4633 \def\hyperref{%
4634   \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4635 }
4636 \long\def\@gobbleopt[#1]{\@empty}
4637 \let\hyperpage\@empty
4638 \</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}

```

4639 \<*package>
4640 \AfterBeginDocument{%

```

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

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

```

4641 \if@files
4642 \ifHy@typexml
4643 \immediate\closeout\@mainaux
4644 \immediate\openout\@mainaux\jobname.aux\relax
4645 \immediate\write\@auxout{<relaxxml>\relax}%
4646 \fi
4647 \immediate\write\@auxout{%
4648 \string\ifx\string\hyper@anchor\string\@undefined^^J%
4649 \global\let\string\oldcontentsline\string\contentsline^^J%
4650 \gdef\string\contentsline%
4651 \string#1\string#2\string#3\string#4{%
4652 \string\oldcontentsline%
4653 {\string#1}{\string#2}{\string#3}}^^J%
4654 \global\let\string\oldnewlabel\string\newlabel^^J%
4655 \gdef\string\newlabel\string#1\string#2{%
4656 \string\newlabelxx{\string#1}\string#2^^J%
4657 \gdef\string\newlabelxx%
4658 \string#1\string#2\string#3\string#4\string#5\string#6{%
4659 \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.

```

4660 \string\AtEndDocument{%
4661 \let\string\contentsline\string\oldcontentsline^^J%
4662 \let\string\newlabel\string\oldnewlabel^^J%

```

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

```

4663 \string\else^^J%
4664 \global\let\string\hyper@last\relax^^J%
4665 \string\fi^^J%
4666 }%
4667 \fi

```

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

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

```

4668 \ifx\hyper@last\@undefined
4669 \def\@starttoc#1{%
4670 \begingroup
4671 \makeatletter
4672 \IfFileExists{\jobname.#1}{%
4673 \Hy@WarningNoLine{%
4674 old #1 file detected, not used; run LaTeX again%
4675 }%
4676 }{%
4677 \if@files
4678 \expandafter\newwrite\csname tf@#1\endcsname
4679 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4680 \fi
4681 \@nobreakfalse
4682 \endgroup

```

```

4683 }%
4684 \def\newlabel#1#2{\@newlabel{#1}{#2}{-}{-}{-}}%
4685 \fi
4686 }

```

## 25 Title strings

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

```

4687 \ifHy@usetitle
4688   \let\HyOrg@title\title
4689   \let\HyOrg@author\author
4690   \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
4691   \def\Hy@scanopttitle[#1]{%
4692     \gdef\Hy@title{#1}%
4693     \HyOrg@title[#1]%
4694   }%
4695   \def\Hy@scantitle#1{%
4696     \gdef\Hy@title{#1}%
4697     \HyOrg@title{#1}%
4698   }%
4699   \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4700   \def\Hy@scanoptauthor[#1]{%
4701     \gdef\Hy@author{#1}%
4702     \HyOrg@author[#1]%
4703   }%
4704   \def\Hy@scanauthor#1{%
4705     \gdef\Hy@author{#1}%
4706     \HyOrg@author{#1}%
4707   }%

```

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

```

4708 \begingroup
4709   \def\process@me#1\@nil#2{%
4710     \expandafter\let\expandafter\x\csname @#2\endcsname
4711     \edef\y{\expandafter\strip@prefix\meaning\x}%
4712     \def\c##1##2\@nil{%
4713       \ifx\\##1\\%
4714       \else
4715         \expandafter\gdef\csname Hy@#2\expandafter\endcsname
4716           \expandafter{\x}%
4717       \fi
4718     }%
4719     \expandafter\c\y\relax#1\@nil
4720   }%
4721   \expandafter\process@me\string\@latex@\@nil{title}%
4722   \expandafter\process@me\string\@latex@\@nil{author}%
4723 \endgroup
4724 \fi
4725 \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.

```

4726 \def\Hy@UseMaketitleString#1{%
4727   \@ifundefined{Hy@#1}{}{%
4728     \begingroup
4729     \let\Hy@saved@hook\pdfstringdefPreHook
4730     \pdfstringdefDisableCommands{%
4731       \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
4732       \let\newline\\%
4733     }%
4734     \expandafter\ifx\csname @pdf#1\endcsname\@empty
4735       \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4736         \csname Hy@#1\endcsname\@empty
4737       }%
4738     \fi
4739     \global\let\pdfstringdefPreHook\Hy@saved@hook
4740   \endgroup
4741 }%
4742 }
4743 \def\Hy@newline@title#1{ #1}
4744 \def\Hy@newline@author#1{, #1}
4745 \def\Hy@UseMaketitleInfos{%
4746   \Hy@UseMaketitleString{title}%
4747   \Hy@UseMaketitleString{author}%
4748 }

```

## 26 Page numbers

This stuff is done by Heiko Oberdick.

## 27 Every page

```

4749 \RequirePackage{atbegshi}[2007/09/09]
4750 \def\Hy@EveryPageHook{}
4751 \def\Hy@EveryPageBoxHook{}
4752 \def\Hy@FirstPageHook{}
4753 \AtBeginShipout{%
4754   \Hy@EveryPageHook
4755   \ifx\Hy@EveryPageBoxHook\@empty
4756   \else
4757     \setbox\AtBeginShipoutBox=\vbox{%
4758       \offinterlineskip
4759       \Hy@EveryPageBoxHook
4760       \box\AtBeginShipoutBox
4761     }%
4762   \fi
4763 }
4764 \AtBeginShipoutFirst{%
4765   \Hy@FirstPageHook
4766 }
4767 \g@addto@macro\Hy@FirstPageHook{%
4768   \PDF@FinishDoc
4769   \gdef\PDF@FinishDoc{}%

```

4770 }

## 27.1 PDF /PageLabels

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

```

4771 \ifHy@pagelabels
4772   \begingroup\expandafter\expandafter\expandafter\endgroup
4773   \expandafter\ifx\csname thepage\endcsname\relax
4774     \Hy@pagelabelsfalse
4775     \Hy@WarningNoLine{%
4776       Option 'pdfpagelabels' is turned off\MessageBreak
4777       because \string\thepage\space is undefined%
4778     }%
4779     \csname fi\endcsname
4780     \csname iffalse\expandafter\endcsname
4781   \fi

```

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

```

4782   \def\thispdfpagelabel#1{%
4783     \gdef\HyPL@thisLabel{#1}%
4784   }%
4785   \global\let\HyPL@thisLabel\relax

```

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

```

4786   \def\HyPL@Labels{%

```

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

```

4787   \newcount\Hy@abspage
4788   \Hy@abspage=0 %

```

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

```

4789   \def\HyPL@LastType{init}%
4790   \def\HyPL@LastNumber{0}%
4791   \def\HyPL@LastPrefix{}%

```

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

```

4792   \def\HyPL@arabic{D}%
4793   \def\HyPL@Roman{R}%
4794   \def\HyPL@roman{r}%
4795   \def\HyPL@Alph{A}%
4796   \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.

```

4797   \def\HyPL@EveryPage{%
4798     \begingroup
4799     \ifx\HyPL@thisLabel\relax
4800       \let\HyPL@page\thepage
4801     \else
4802       \let\HyPL@page\HyPL@thisLabel
4803     \global\let\HyPL@thisLabel\relax
4804   \fi
4805   \let\HyPL@Type\relax
4806   \ifnum\the\c@page>0 %
4807     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4808   \fi

```

```

4809 \let\Hy@temp Y%
4810 \ifx\HyPL@Type\HyPL@LastType
4811 \else
4812 \let\Hy@temp N%
4813 \fi
4814 \ifx\HyPL@Type\relax
4815 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4816 \else
4817 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4818 \fi
4819 \ifx\HyPL@Prefix\HyPL@LastPrefix
4820 \else
4821 \let\Hy@temp N%
4822 \fi
4823 \if Y\Hy@temp
4824 \advance\c@page by -1 %
4825 \ifnum\HyPL@LastNumber=\the\c@page\relax
4826 \else
4827 \let\Hy@temp N%
4828 \fi
4829 \Hy@StepCount\c@page
4830 \fi
4831 \if N\Hy@temp
4832 \ifx\HyPL@Type\relax
4833 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
4834 \else
4835 \HyPL@StorePageLabel{%
4836 \ifx\HyPL@Prefix\empty
4837 \else
4838 /P(\HyPL@Prefix)%
4839 \fi
4840 /S/\csname HyPL\HyPL@Type\endcsname
4841 \ifnum\the\c@page=1 %
4842 \else
4843 \space/St \the\c@page
4844 \fi
4845 }%
4846 \fi
4847 \fi
4848 \xdef\HyPL@LastNumber{\the\c@page}%
4849 \global\let\HyPL@LastType\HyPL@Type
4850 \global\let\HyPL@LastPrefix\HyPL@Prefix
4851 \endgroup
4852 \Hy@GlobalStepCount\Hy@abspage
4853 }%

```

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

```

4854 \def\HyPL@CheckThePage#1\@nil{%
4855 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
4856 }%

```

`\HyPL@@CheckThePage` The first check is, is `\thepage` is defined such as in L<sup>A</sup>T<sub>E</sub>X, 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`.

```

4857 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4858 \def\Hy@tempa{#4}%

```

```

4859 \def\Hy@tempb{\csname\endcsname\c@page}%
4860 \ifx\Hy@tempa\Hy@tempb
4861 \expandafter\ifx\csname HyPL#3\endcsname\relax
4862 \else
4863 \def\HyPL@Type{#3}%
4864 \def\HyPL@Prefix{#2}%
4865 \fi
4866 \else
4867 \begingroup
4868 \let\Hy@next\endgroup
4869 \let\HyPL@found\@undefined
4870 \def\arabic{\HyPL@Format{arabic}}%
4871 \def\Roman{\HyPL@Format{Roman}}%
4872 \def\roman{\HyPL@Format{roman}}%
4873 \def\Alph{\HyPL@Format{Alph}}%
4874 \def\alph{\HyPL@Format{alph}}%
4875 \protected@edef\Hy@temp{#1}%
4876 \ifx\HyPL@found\relax
4877 \toks@{\expandafter{\Hy@temp}}%
4878 \edef\Hy@next{\endgroup
4879 \noexpand\HyPL@@@CheckThePage\the\toks@
4880 \noexpand\HyPL@found\relax\noexpand\@nil
4881 }%
4882 \fi
4883 \Hy@next
4884 \fi
4885 }%

```

`\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`.

```

4886 \def\HyPL@Format#1#2{%
4887 \ifx\HyPL@found\@undefined
4888 \expandafter\ifx\csname c@#2\endcsname\c@page
4889 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
4890 \else
4891 \expandafter\noexpand\csname#1\endcsname{#2}%
4892 \fi
4893 \else
4894 \expandafter\noexpand\csname#1\endcsname{#2}%
4895 \fi
4896 }%

```

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

```

4897 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
4898 \def\Hy@tempa{#3}%
4899 \def\Hy@tempb{\HyPL@found\relax}%
4900 \ifx\Hy@tempa\Hy@tempb
4901 \def\HyPL@Type{#2}%
4902 \def\HyPL@Prefix{#1}%
4903 \fi
4904 }%

```

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

```

4905 \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`.

```
4906 \def\HyPL@Useless{0<</S/D>>}%
4907 \@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.

```
4908 \def\HyPL@SetPageLabels{%
4909   \@onelevel@sanitize\HyPL@Labels
4910   \ifx\HyPL@Labels\@empty
4911   \else
4912     \ifx\HyPL@Labels\HyPL@Useless
4913     \else
4914       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
4915     \fi
4916   \fi
4917 }%
```

```
4918 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
4919 \fi
```

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

```
4920 \Hy@DisableOption{pdfpagelabels}
4921 </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`

```
4922 <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.

```
4923 <vtex>
4924 \providecommand*{\XR@ext}{pdf}
4925 \edef\Hy@VTeXversion{%
4926   \ifx\VTeXversion\@undefined
4927     \z@
4928   \else
4929     \ifx\VTeXversion\relax
4930       \z@
4931     \else
4932       \VTeXversion
4933     \fi
4934   \fi
4935 }
4936 \begingroup
4937 \ifnum\Hy@VTeXversion<660 %
4938   \gdef\Hy@PutCatalog#1{%
4939     \Hy@WarningNoLine{%
4940       VTeX 6.59g or above required for pdfpagelabels%
4941     }%
4942   }%
```



```

4943 \else
4944   \gdef\Hy@PutCatalog#1{%
4945     \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
4946   }%
4947   \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
4948     \ifx\#2\%
4949       \else
4950         \immediate\special{!pdfpagelabels #2}%
4951       \fi
4952     }%
4953   \fi
4954 \endgroup
4955 \</vtex>

4956 \<pdfTeX | vtex>

```

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

```

4957 \ifHy@pagelabels
4958   \def\HyPL@StorePageLabel#1{%
4959     \toks@\expandafter{\HyPL@Labels}%
4960     \xdef\HyPL@Labels{%
4961       \the\toks@
4962       \the\Hy@abspage<<#1>>%
4963     }%
4964   }%

```

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

```

4965 \@ifclassloaded{revtex4}{%
4966   \g@addto@macro\clear@document{\HyPL@SetPageLabels}%
4967 }{%
4968   \AtEndDocument{\clearpage\HyPL@SetPageLabels}%
4969 }%

4970 \fi
4971 \</pdfTeX | vtex>

```

### 27.1.2 pdfmarkbase, dvipdfm

```

4972 \<pdfmarkbase>
4973 \begingroup
4974   \toks@\expandafter{\Hy@FirstPageHook}%
4975   \xdef\Hy@FirstPageHook{%
4976     \noexpand\headerps@out{%
4977       systemdict /pdfmark known%
4978     }{%
4979       userdict /?pdfmark systemdict /exec get put%
4980     }{%
4981       userdict /?pdfmark systemdict /pop get put %
4982       userdict /pdfmark systemdict /cleartomark get put%
4983     }%
4984     ifelse%
4985   }%
4986   \the\toks@
4987 }%
4988 \endgroup
4989 \</pdfmarkbase>

```

\Hy@PutCatalog

```

4990 <dvipdfm>\def\Hy@PutCatalog#1{\@pdfmark{docview << #1 >>}}
4991 <*pdfmarkbase>
4992 \def\Hy@PutCatalog#1{%
4993   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
4994 }
4995 </pdfmarkbase>

4996 <*pdfmarkbase | dvipdfm>
4997 \ifHy@pagelabels

```

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

```

4998   \def\HyPL@StorePageLabel#1{%
4999     \if@filesw
5000       \begingroup
5001         \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
5002         \immediate\write\@mainaux{%
5003           \string\HyPL@Entry{\Hy@tempa}%
5004         }%
5005       \endgroup
5006     \fi
5007   }%

```

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.

```

5008   \AfterBeginDocument{%
5009     \if@filesw
5010       \immediate\write\@mainaux{%
5011         \string\providecommand\string*\string\HyPL@Entry[1]{}%
5012       }%
5013     \fi
5014     \ifx\HyPL@Labels\@empty
5015       \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
5016     \else
5017       \HyPL@SetPageLabels
5018     \fi
5019     \let\HyPL@Entry\@gobble
5020   }%

```

\HyPL@Entry

```

5021   \def\HyPL@Entry#1{%
5022     \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
5023       \HyPL@Labels
5024       #1%
5025     }%
5026   }%

5027 \fi
5028 </pdfmarkbase | dvipdfm>
5029 <*package>
5030 \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

```

5031 \def\Hy@CounterExists#1{%
5032   \begingroup\expandafter\expandafter\expandafter\endgroup
5033   \expandafter\ifx\csname c@#1\endcsname\relax
5034     \expandafter\@gobble
5035   \else
5036     \begingroup\expandafter\expandafter\expandafter\endgroup
5037     \expandafter\ifx\csname the#1\endcsname\relax
5038       \expandafter\expandafter\expandafter\@gobble
5039     \else
5040       \expandafter\expandafter\expandafter\@firstofone
5041     \fi
5042   \fi
5043 }
5044 \Hy@CounterExists{section}{%
5045   \newcommand\theHequation{\theHsection.\arabic{equation}}%
5046 }
5047 \Hy@CounterExists{part}{%
5048   \newcommand\theHpart{\arabic{part}}%
5049 }
5050 \@ifundefined{thechapter}{%
5051   \newcommand\theHsection    {\arabic{section}}%
5052   \newcommand\theHfigure     {\arabic{figure}}%
5053   \newcommand\theHtable      {\arabic{table}}%
5054 }{%
5055   \newcommand\theHchapter     {\arabic{chapter}}%
5056   \newcommand\theHfigure      {\theHchapter.\arabic{figure}}%
5057   \newcommand\theHtable       {\theHchapter.\arabic{table}}%
5058   \newcommand\theHsection     {\theHchapter.\arabic{section}}%
5059 }
5060 \newcommand\theHsubsection    {\theHsection.\arabic{subsection}}
5061 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5062 \newcommand\theHparagraph     {\theHsubsubsection.\arabic{paragraph}}
5063 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
5064 \newcommand\theHtheorem       {\theHsection.\arabic{theorem}}
5065 \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.

```

5066 \let\H@item\item
5067 \newcounter{Item}
5068 \def\theHItem{\arabic{Item}}

```

```

5069 \def\item{%
5070   \@hyper@itemfalse
5071   \if@nmbrlist\@hyper@itemtrue\fi
5072   \H@item
5073 }

5074 \newcommand\theHenumi    {\theHItem}
5075 \newcommand\theHenumii   {\theHItem}
5076 \newcommand\theHenumiii  {\theHItem}
5077 \newcommand\theHenumiv   {\theHItem}
5078 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5079 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5080 \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.

```

5081 \let\H@refstepcounter\refstepcounter
5082 \edef\name@of@eq{equation}%
5083 \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.

```

5084 \newif\if@hyper@item
5085 \newif\if@skiphyperref
5086 \@hyper@itemfalse
5087 \@skiphyperreffalse
5088 \def\refstepcounter#1{%
5089   \ifHy@pdfstring
5090   \else
5091     \H@refstepcounter{#1}%
5092     \edef\This@name{#1}%
5093     \ifx\This@name\name@of@slide
5094     \else
5095       \if@skiphyperref
5096       \else
5097         \if@hyper@item
5098           \stepcounter{Item}%
5099           \hyper@refstepcounter{Item}%
5100           \@hyper@itemfalse
5101         \else
5102           \hyper@refstepcounter{#1}%
5103         \fi
5104       \fi
5105     \fi
5106   \fi
5107 }

```

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.

```

5108 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

5109 \def\hyper@refstepcounter#1{%
5110   \edef\This@name{#1}%
5111   \ifx\This@name\name@of@eq

```

```

5112 \ifundefined{theHequation}{%
5113 \make@stripped@name{theequation}%
5114 \let\theHequation\newname
5115 }{}%
5116 \fi
5117 \ifundefined{theH#1}{%
5118 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5119 }{}%
5120 \hyper@makecurrent{#1}%
5121 \ifmeasuring@
5122 \else
5123 \Hy@raisedlink{%
5124 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5125 }%
5126 \fi
5127 }

```

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`.

```

5128 \begingroup\expandafter\expandafter\expandafter\endgroup
5129 \expandafter\ifx\csname chapter\endcsname\relax
5130 \def\Hy@chapterstring{section}%
5131 \else
5132 \def\Hy@chapterstring{chapter}%
5133 \fi
5134 \def\Hy@appendixstring{appendix}
5135 \def\Hy@chapapp{\Hy@chapterstring}
5136 \let\HyOrg@appendix\appendix
5137 \def\appendix{%
5138 \ifundefined{chapter}%
5139 {\gdef\theHsection{\Alph{section}}}%
5140 {\gdef\theHchapter{\Alph{chapter}}}%
5141 \xdef\Hy@chapapp{\Hy@appendixstring}%
5142 \HyOrg@appendix
5143 }

```

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

```

5144 \def\hyper@makecurrent#1{%
5145 \begingroup
5146 \edef\Hy@param{#1}%
5147 \ifx\Hy@param\Hy@chapterstring
5148 \let\Hy@param\Hy@chapapp
5149 \fi
5150 \ifHy@hypertextnames
5151 \let\@number\@firstofone
5152 \ifundefined{latin@Alph}{%
5153 \ifx\@Alph@greek@Alph
5154 \def\@Alph{Alph\@arabic}%
5155 \fi
5156 }%
5157 \ifx\@Alph\@Alph@bul
5158 \def\@Alph{Alph\@arabic}%

```

```

5159 \fi
5160 \ifx\@alph\@alph@bul
5161 \def\@alph{alph\@arabic}%
5162 \fi
5163 \ifHy@naturalnames
5164 \let\textlatin\@firstofone
5165 \xdef\@currentHlabel{\csname the#1\endcsname}%
5166 \else
5167 \xdef\@currentHlabel{%
5168 \csname
5169 the%
5170 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
5171 #1%
5172 \endcsname
5173 }%
5174 \fi
5175 \xdef\@currentHref{%
5176 \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5177 }%
5178 \else
5179 \Hy@GlobalStepCount\Hy@linkcounter
5180 \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
5181 \fi
5182 \endgroup
5183 }

5184 \@ifpackageloaded{fancyvrb}{%
5185 \@ifpackagelater{fancyvrb}{1998/05/20}{-}{%
5186 \def\FV@StepLineNo{%
5187 \FV@SetLineNo
5188 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5189 \FV@SetLineNo
5190 }%
5191 }%
5192 }{-}

```

## 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`

```

5193 \AtBeginDocument{%
5194 \ifclassloaded{revtex4}{%
5195 \namedef{ver@lastpage.sty}{1994/06/25}%
5196 }{-}%
5197 \@ifpackageloaded{lastpage}{%
5198 \ifHy@pageanchor
5199 \else
5200 \Hy@WarningNoLine{%
5201 The \string\pageref{LastPage} link doesn't work\MessageBreak
5202 with disabled option 'pageanchor'%

```

```

5203     }%
5204     \fi
5205     \def\lastpage@putlabel{%
5206       \addtocounter{page}{-1}%
5207       \if@filesw
5208         \begingroup
5209           \let\@number\@firstofone
5210           \ifHy@pageanchor
5211             \ifHy@hypertextnames
5212               \ifHy@plainpages
5213                 \def\Hy@temp{\arabic{page}}%
5214               \else
5215                 \Hy@unicodedefalse
5216                 \pdfstringdef\Hy@temp{\thepage}%
5217             \fi
5218           \else
5219             \def\Hy@temp{\the\Hy@pagecounter}%
5220           \fi
5221         \fi
5222         \immediate\write\@auxout{%
5223           \string\newlabel
5224             {LastPage}{\the\Hy@temp}{\thepage}}%
5225           \ifHy@pageanchor page.\Hy@temp\fi}}}%
5226     }%
5227     \endgroup
5228     \fi
5229     \addtocounter{page}{1}%
5230   }%
5231   \@ifclassloaded{revtex4}{%
5232     \begingroup
5233       \toks@{\expandafter{\lastpage@putlabel}}%
5234       \edef\x{\endgroup
5235         \def\noexpand\lastpage@putlabel{%
5236           \noexpand\stepcounter{page}%
5237           \the\toks@
5238           \noexpand\addtocounter{page}\noexpand\m@ne
5239         }%
5240       }%
5241       \x
5242     }{}%
5243   }{}%
5244 }
5245 </package>
5246 <*check>
5247 \checkpackage{lastpage}[1994/06/25]
5248 \checkcommand\def\lastpage@putlabel{%
5249   \addtocounter{page}{-1}%
5250   \immediate\write\@auxout{%
5251     \string\newlabel{LastPage}{\the\Hy@temp}{\thepage}}%
5252   }%
5253   \addtocounter{page}{1}%
5254 }
5255 </check>
5256 <*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.

```
5257 \def\hypergetref#1{\getrefbykeydefault{#1}{}}{??}}
5258 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}}{0}}
```

## 31 Package titlesec and titletoc support

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

Package titlesec support:

```
5259 \@ifpackageloaded{titlesec}{%
5260   \def\ttl@Hy@steplink#1{%
5261     \Hy@GlobalStepCount\Hy@linkcounter
5262     \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5263     \def\ttl@Hy@saveanchor{%
5264       \Hy@raisedlink{%
5265         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5266       }%
5267     }%
5268   }%
5269   \def\ttl@Hy@refstepcounter#1{%
5270     \let\ttl@b\Hy@raisedlink
5271     \def\Hy@raisedlink##1{%
5272       \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5273     }%
5274     \refstepcounter{#1}%
5275     \let\Hy@raisedlink\ttl@b
5276   }%
5277 }{}
```

Package titletoc support:

```
5278 \@ifpackageloaded{titletoc}{%
5279   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5280 }{}
```

## 32 Package varioref support

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

```
5281 \def\Hy@varioref@undefined{??}{??}{-}{-}}
5282 \@ifpackageloaded{varioref}{%
5283   \def\vref@pagenum#1#2{%
5284     \@ifundefined{r@#2}{%
5285       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5286     }{}%
5287     \edef#1{\getpagerefnumber{#2}}%
5288   }%
5289 }{}
```



### 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

```

5290 \ifpackageloaded{longtable}{%
5291   \begingroup
5292     \def\y{\LT@array}%
5293     \ifundefined{scr@LT@array}{\def\y{\scr@LT@array}}%
5294     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5295       \expandafter\endgroup
5296       \expandafter\def\y[##1]##2{%
5297         \H@refstepcounter{#1}%
5298         \hyper@makecurrent{table}%
5299         \let\Hy@LT@currentHlabel\@currentHlabel
5300         \let\Hy@LT@currentHref\@currentHref
5301         #2\@sharp####4%
5302       }%
5303     }%
5304   \expandafter\expandafter\expandafter\x\y[##1][##2]\@nil

```

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

```

5305   \begingroup
5306     \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5307     \endgroup
5308     \def\LT@start{%
5309       #1%
5310       \let\@currentHlabel\Hy@LT@currentHlabel
5311       \let\@currentHref\Hy@LT@currentHref
5312       \Hy@raisedlink{%
5313         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5314       }%
5315       \ifvoid\LT@firsthead\copy
5316       #2%
5317     }%
5318   }%
5319   \expandafter\x\LT@start\@nil
5320 }{}

```

### 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.

```

5321 \let\new@refstepcounter\refstepcounter
5322 \let\H@equation\equation
5323 \let\H@endequation\endequation

5324 \ifpackageloaded{amsmath}{%
5325   \long\def\Hy@temp{%
5326     \incr@eqnum
5327     \mathdisplay@push

```

```

5328 \st@rredfalse \global\@eqnswtrue
5329 \mathdisplay{equation}%
5330 }%
5331 \ifx\Hy@temp\equation
5332 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5333 \csname iftrue\endcsname
5334 \else
5335 \long\def\equation{%
5336 \mathdisplay@push
5337 \st@rredfalse \global\@eqnswtrue
5338 \mathdisplay{equation}%
5339 \incr@eqnum
5340 }%
5341 \fi
5342 \fi
5343 }{%
5344 \def\equation{%
5345 \let\refstepcounter\H@refstepcounter
5346 \H@equation
5347 \@ifundefined{theHequation}{%
5348 \make@stripped@name{\theequation}%
5349 \let\theHequation\newname
5350 }{%
5351 \hyper@makecurrent{equation}%
5352 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
5353 \let\refstepcounter\new@refstepcounter
5354 }%
5355 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5356 }

```

My goodness, why can't  $\text{\LaTeX}$  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.

```

5357 \newif\if@eqnstar
5358 \@eqnstarfalse
5359 \let\H@eqnarray\eqnarray
5360 \let\H@endeqnarray\endeqnarray
5361 \def\eqnarray{%
5362 \let\Hy@reserved@a\relax
5363 \def\@currentHref{}%
5364 \H@eqnarray
5365 \if@eqnstar
5366 \else
5367 \ifx\\\@currentHref\\%
5368 \else
5369 \@ifundefined{theHequation}{%
5370 \make@stripped@name{\theequation}%
5371 \let\theHequation\newname
5372 }{%
5373 \hyper@makecurrent{equation}%
5374 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5375 \fi
5376 \fi
5377 }
5378 \def\endeqnarray{%

```

```

5379 \H@endeqnarray
5380 }

```

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.

```

5381 \@namedef{eqnarray*}{%
5382   \def\@eqnocr{\nonumber\@seqnocr}\@eqnstartrue\eqnarray
5383 }
5384 \@namedef{endeqnarray*}{%
5385   \nonumber\endeqnarray\@eqnstarfalse
5386 }

```

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

```

5387 \@ifundefined{subeqnarray}{}{%
5388   \let\H@subeqnarray\subeqnarray
5389   \let\H@endsubeqnarray\endsubeqnarray
5390   \def\subeqnarray{%
5391     \let\Hy@reserved@a\relax
5392     \H@subeqnarray
5393     \@ifundefined{theHequation}{%
5394       \make@stripped@name{\theequation}%
5395       \let\theHequation\newname
5396     }{}%
5397     \hyper@makecurrent{equation}%
5398     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5399   }%
5400   \def\endsubeqnarray{%
5401     \H@endsubeqnarray
5402   }%
5403   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5404 }

```

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

```

5405 \def\make@stripped@name#1{%
5406   \begingroup
5407     \escapechar\m@ne
5408     \global\let\newname\@empty
5409     \protected@edef\Hy@tempa{#1}%
5410     \edef\@tempb{%
5411       \noexpand\@tfor\noexpand\Hy@tempa:=%
5412       \expandafter\strip@prefix\meaning\Hy@tempa
5413     }%
5414     \@tempb\do{%
5415       \if\Hy@tempa\else
5416         \if}\Hy@tempa\else
5417           \xdef\newname{\newname\Hy@tempa}%
5418         \fi
5419       \fi
5420     }%
5421   \endgroup
5422 }

```

Support for amsmath's subequations:

```

5423 \begingroup\expandafter\expandafter\expandafter\endgroup
5424 \expandafter\ifx\csname subequations\endcsname\relax
5425 \else
5426   \let\HyOrg@subequations\subequations
5427   \def\subequations{%

```

```

5428 \stepcounter{equation}%
5429 \protected@edef\theHparentequation{%
5430 \ifundefined{theHequation}\theequation\theHequation
5431 }%
5432 \addtocounter{equation}{-1}%
5433 \HyOrg@subequations
5434 \def\theHequation{\theHparentequation\alph{equation}}%
5435 \ignorespaces
5436 }%
5437 \fi

Support for package amsthm (Daniel Müllner):
5438 \@ifpackageloaded{amsthm}{%
5439 \def\@thm#1#2#3{%
5440 \ifhmode
5441 \unskip\unskip\par
5442 \fi
5443 \normalfont
5444 \trivlist
5445 \let\thmheadnl\relax
5446 \let\thm@swap\@gobble
5447 \thm@notefont{\fontseries\mddefault\upshape}%
5448 \thm@headpunct{.}% add period after heading
5449 \thm@headsep 5\p@ plus\p@ minus\p@\relax
5450 \thm@space@setup
5451 #1% style overrides
5452 \@topsep \thm@preskip % used by thm head
5453 \@topsepadd \thm@postskip % used by \@endparenv
5454 \def\dth@counter{#2}%
5455 \ifx\@empty\dth@counter
5456 \def\@tempa{%
5457 \oparg{\@begintheorem{#3}{}}[]%
5458 }%
5459 \else
5460 \H@refstepcounter{#2}%
5461 \hyper@makecurrent{#2}%
5462 \def\@tempa{%
5463 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
5464 }%
5465 \fi
5466 \@tempa
5467 }%
5468 \dth@everypar={%
5469 \@minipagefalse
5470 \global\@newlistfalse
5471 \@nparitemfalse
5472 \if@inlabel
5473 \global\@inlabelfalse
5474 \begingroup
5475 \setbox\z@\lastbox
5476 \ifvoid\z@
5477 \kern-\itemindent
5478 \fi
5479 \endgroup
5480 \ifx\@empty\dth@counter
5481 \else
5482 \Hy@raisedlink{%
5483 \hyper@anchorstart{\@currentHref}\hyper@anchorend

```

```

5484     }%
5485     \fi
5486     \unhbox\@labels
5487   \fi
5488   \if@nobreak
5489     \@nobreakfalse \clubpenalty\@M
5490   \else
5491     \clubpenalty\@clubpenalty \everypar{}%
5492   \fi
5493 }%
5494 }{}

```

## 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.

```

5495 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5496 \ifHy@hyperfootnotes
5497   \newcounter{Hfootnote}%
5498   \let\H@@footnotetext\@footnotetext
5499   \let\H@@footnotemark\@footnotemark
5500   \def\@xfootnotenext[#1]{%
5501     \begingroup
5502       \csname c@\@mpfn\endcsname #1\relax
5503       \unrestored@protected@xdef\@thefnmark{\thempfn}%
5504     \endgroup
5505     \ifx\@footnotetext\@mpfootnotetext
5506       \expandafter\H@@mpfootnotetext
5507     \else
5508       \expandafter\H@@footnotetext
5509     \fi
5510   }%
5511   \def\@xfootnotemark[#1]{%
5512     \begingroup
5513       \c@footnote #1\relax
5514       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5515     \endgroup
5516     \H@@footnotemark
5517   }%
5518   \let\H@@mpfootnotetext\@mpfootnotetext
5519   \long\def\@mpfootnotetext#1{%
5520     \H@@mpfootnotetext{%
5521       \ifHy@nesting
5522         \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5523       \else
5524         \Hy@raisedlink{%
5525           \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5526         }#1%
5527       \fi
5528     }%
5529   }%
5530   \long\def\@footnotetext#1{%
5531     \H@@footnotetext{%

```

```

5532 \ifHy@nesting
5533 \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5534 \else
5535 \Hy@raisedlink{%
5536 \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5537 }%
5538 \let\@currentHlabel\Hy@footnote@currentHlabel
5539 \let\@currentHref\Hy@footnote@currentHref
5540 \let\@currentlabelname\@empty
5541 #1%
5542 \fi
5543 }%
5544 }%

```

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.

```

5545 \def\@footnotemark{%
5546 \leavevmode
5547 \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
5548 \stepcounter{Hfootnote}%
5549 \global\let\Hy@saved@currentHlabel\@currentHlabel
5550 \global\let\Hy@saved@currentHref\@currentHref
5551 \hyper@makecurrent{Hfootnote}%
5552 \global\let\Hy@footnote@currentHlabel\@currentHlabel
5553 \global\let\Hy@footnote@currentHref\@currentHref
5554 \global\let\@currentHlabel\Hy@saved@currentHlabel
5555 \global\let\@currentHref\Hy@saved@currentHref
5556 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5557 \@makefnmark
5558 \hyper@linkend
5559 \ifhmode\spacefactor\x@sf\fi
5560 \relax
5561 }%

```

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

```

5562 \@ifpackageloaded{longtable}{%
5563 \CheckCommand*{\LT@p@ftntext}[1]{%
5564 \edef\@tempa{%
5565 \the\LT@p@ftn
5566 \noexpand\footnotetext[\the\c@footnote]%
5567 }%
5568 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5569 }%
5570 \long\def\LT@p@ftntext#1{%
5571 \edef\@tempa{%
5572 \the\LT@p@ftn
5573 \begingroup
5574 \noexpand\c@footnote=\the\c@footnote\relax
5575 \noexpand\protected@xdef
5576 \noexpand\@thefnmark{\noexpand\thempfn}%
5577 \noexpand\protected@xdef\noexpand\@thefnmark{%
5578 \noexpand\thempfn
5579 }%

```

```

5580         \expandafter\expandafter\expandafter\noexpand
5581         \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5582         \expandafter\expandafter\expandafter{%
5583             \expandafter\Hy@footnote@currentHref\expandafter
5584             }\expandafter{\Hy@footnote@currentHlabel}%
5585     }%
5586     \global\LT@p@ftn\expandafter{%
5587         \@tempa{#1}%
5588     \endgroup
5589 }%
5590 }%
5591 \long\def\Hy@LT@footnotetext#1#2#3{%
5592     \H@@footnotetext{%
5593         \ifHy@nesting
5594             \hyper@@anchor{#1}{#3}%
5595         \else
5596             \Hy@raisedlink{%
5597                 \hyper@@anchor{#1}{\relax}%
5598             }%
5599             \def\@currentHlabel{#2}%
5600             \def\@currentHref{#1}%
5601             \let\@currentlabelname\@empty
5602             #3%
5603         \fi
5604     }%
5605 }%
5606 }{}%

```

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

```

5607 \ifpackageloaded{fancyvrb}{%
5608     \def\V@@footnotetext{%
5609         \insert\footins\bgroup
5610         \csname reset@font\endcsname
5611         \footnotesize
5612         \interlinepenalty\interfootnotelinepenalty
5613         \splittopskip\footnotesep
5614         \splitmaxdepth\dp\strutbox
5615         \floatingpenalty \@MM
5616         \hsize\columnwidth
5617         \@parboxrestore
5618         \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5619         \@makefntext{}%
5620         \rule{\z@}{\footnotesep}%
5621         \bgroup
5622         \aftergroup\V@@@footnotetext
5623         \Hy@raisedlink{%
5624             \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5625         }%
5626         \let\@currentHlabel\Hy@footnote@currentHlabel
5627         \let\@currentHref\Hy@footnote@currentHref
5628         \let\@currentlabelname\@empty
5629         \ignorespaces
5630     }%
5631 }{}%

```

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.

```

5632 \let\HyOrg@maketitle\maketitle

```

```

5633 \def\maketitle{%
5634   \let\Hy@saved@footnotemark\@footnotemark
5635   \let\Hy@saved@footnotetext\@footnotetext
5636   \let\@footnotemark\H@@footnotemark
5637   \let\@footnotetext\H@@footnotetext
5638   \@ifnextchar[\Hy@maketitle@optarg{% ]
5639     \HyOrg@maketitle
5640     \Hy@maketitle@end
5641   }%
5642 }%
5643 \def\Hy@maketitle@optarg[#1]{%
5644   \HyOrg@maketitle[#{#1}]%
5645   \Hy@maketitle@end
5646 }%
5647 \def\Hy@maketitle@end{%
5648   \ifx\@footnotemark\H@@footnotemark
5649     \let\@footnotemark\Hy@saved@footnotemark
5650   \fi
5651   \ifx\@footnotetext\H@@footnotetext
5652     \let\@footnotetext\Hy@saved@footnotetext
5653   \fi
5654 }%

```

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

```

5655 \def\realfootnote{%
5656   \@ifnextchar[\@xfootnote{%
5657     \stepcounter{\@mpfn}%
5658     \protected@xdef\@thefnmark{\thempfn}%
5659     \H@@footnotemark\H@@footnotetext
5660   }%
5661 }%

5662 \fi
5663 \Hy@DisableOption{hyperfootnotes}

5664 </package>
5665 <*check>
5666 \checklatex
5667 \checkcommand\def\@xfootnotenext[#1]{%
5668   \begingroup
5669     \csname c@\@mpfn\endcsname #1\relax
5670     \unrestored@protected@xdef\@thefnmark{\thempfn}%
5671   \endgroup
5672   \@footnotetext
5673 }
5674 \checkcommand\def\@xfootnotemark[#1]{%
5675   \begingroup
5676     \c@footnote #1\relax
5677     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5678   \endgroup
5679   \@footnotemark
5680 }
5681 \checkcommand\def\@footnotemark{%
5682   \leavevmode
5683   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5684   \@makefnmark
5685   \ifhmode\spacefactor\@x@sf\fi
5686   \relax

```



```

5687 }
5688 </check>
5689 <*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.

```

5690 \def\caption{%
5691   \ifx\@captype\@undefined
5692     \latex@error{\noexpand\caption outside float}\@ehd
5693     \expandafter\@gobble
5694   \else
5695     \H@refstepcounter\@captype
5696     \let\Hy@tempa\@caption
5697     \@ifundefined{float@caption}{%
5698       {%
5699         \expandafter\ifx\csname @float@c@\@captype\endcsname
5700           \float@caption
5701         \let\Hy@tempa\Hy@float@caption
5702       \fi
5703     }%
5704     \expandafter\@firstofone
5705   \fi
5706   {\@dblarg{\Hy@tempa\@captype}}}%
5707 }
5708 \long\def\@caption#1[#2]#3{%
5709   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5710     \csname iftrue\endcsname
5711     \global\let\@currentHref\hc@currentHref
5712   \else
5713     \hyper@makecurrent{\@captype}%
5714   \fi
5715   \def\@currentlabelname{#2}%
5716   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5717     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5718   }%
5719   \begingroup
5720     \@parboxrestore
5721     \if@minipage
5722       \setminipage
5723     \fi
5724     \normalsize
5725     \expandafter\ifx\csname if@capstart\expandafter\endcsname
5726       \csname iftrue\endcsname
5727       \global\@capstartfalse
5728       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5729     \else
5730       \@makecaption{\csname fnum@#1\endcsname}{%
5731         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

5732     \ifHy@nesting
5733       \hyper@@anchor{\@currentHref}{#3}%
5734     \else
5735       \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%

```

```

5736         \fi
5737     }%
5738     \fi
5739     \par
5740 \endgroup
5741 }

```

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.

```

5742 \let\Hy@float@caption\@caption
5743 \@ifpackageloaded{float}{%
5744   \def\Hy@float@caption{%
5745     \ifx\Hy@float@currentHref\@undefined
5746       \hyper@makecurrent{\@capttype}%
5747       \global\let\Hy@float@currentHref\@currentHref
5748     \else
5749       \let\@currentHref\Hy@float@currentHref
5750     \fi
5751     \float@caption
5752   }%
5753   \let\HyOrg@float@makebox\float@makebox
5754   \renewcommand{\float@makebox}[1]{%
5755     \HyOrg@float@makebox{%
5756       #1\relax
5757       \ifx\Hy@float@currentHref\@undefined
5758       \else
5759         \hyper@@anchor{\Hy@float@currentHref}{\relax}%
5760       \global\let\Hy@float@currentHref\@undefined
5761       \fi
5762     }%
5763   }%
5764 }{}

5765 \</package>
5766 \< *check>
5767 \checklatex[1999/06/01 - 2000/06/01]
5768 \checkcommand\def\caption{%
5769   \ifx\@capttype\@undefined
5770     \@latex@error{\noexpand\caption outside float}\@ehd
5771     \expandafter\@gobble
5772   \else
5773     \refstepcounter\@capttype
5774     \expandafter\@firstofone
5775     \fi
5776   {\@dblarg{\@caption\@capttype}}%
5777 }
5778 \checkcommand\long\def\@caption#1[#2]#3{%
5779   \par
5780   \addcontentsline{\csname ext@#1\endcsname}{#1}%
5781     {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
5782   \begingroup
5783     \@parboxrestore
5784     \if@minipage
5785       \@setminipage
5786     \fi
5787     \normalsize
5788     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5789   \endgroup

```

```

5790 }
5791 </check>
5792 <*package>

```

## 37 Bibliographic references

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

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

```

5793 \def\hyper@natlinkstart#1{%
5794   \Hy@backout{#1}%
5795   \hyper@linkstart{cite}{cite.#1}%
5796   \def\hyper@nat@current{#1}%
5797 }
5798 \def\hyper@natlinkend{%
5799   \hyper@linkend
5800 }
5801 \def\hyper@natlinkbreak#1#2{%
5802   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
5803 }
5804 \def\hyper@natanchorstart#1{%
5805   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
5806 }
5807 \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.

```

5808 \@ifundefined{NAT@parse}{%
5809   \providecommand*\@extra@binfo{}%
5810   \providecommand*\@extra@b@citeb{}%
5811   \def\bibcite#1#2{%
5812     \newlabel{b}{#1\@extra@binfo}%
5813     \hyper@link[cite]{}{cite.#1\@extra@b@citeb}{#2}%
5814   }%
5815 }%
5816 \gdef\@extra@binfo{}%

```

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

```

5817 \let\Hy@bibcite\bibcite
5818 \begingroup
5819   \@ifundefined{bbl@cite@choice}{-%
5820     \g@addto@macro\bbl@cite@choice{%
5821       \let\bibcite\Hy@bibcite
5822     }%
5823   }%
5824 \endgroup

```

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

```

5825 \providecommand*\@BIBLABEL{\@biblabel}%
5826 \def\@lbibitem[#1]#2{%
5827   \@skiphyperreftrue
5828   \H@item[%
5829     \ifx\Hy@raisedlink\@empty
5830       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
5831       \@BIBLABEL{#1}%
5832       \hyper@anchorend
5833     \else
5834       \Hy@raisedlink{%
5835         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
5836       }%
5837       \@BIBLABEL{#1}%
5838     \fi
5839     \hfill
5840   ]%
5841   \@skiphyperreffalse
5842   \if@filesw
5843     \begingroup
5844       \let\protect\noexpand
5845       \immediate\write\@auxout{%
5846         \string\bibcite{#2}{#1}%
5847       }%
5848     \endgroup
5849   \fi
5850   \ignorespaces
5851 }%

```

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

```

5852 \def\@bibitem#1{%
5853   \@skiphyperreftrue\H@item\@skiphyperreffalse
5854   \Hy@raisedlink{%
5855     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
5856   }%
5857   \if@filesw
5858     \begingroup
5859       \let\protect\noexpand
5860       \immediate\write\@auxout{%
5861         \string\bibcite{#1}{\the\value{\@listctr}}%
5862       }%
5863     \endgroup
5864   \fi
5865   \ignorespaces
5866 }%
5867 }{}

5868 \</package>
5869 \<check>
5870 \checklatex
5871 \checkcommand\def\@lbibitem[#1]#2{%
5872   \item[\@biblabel{#1}\hfill]%
5873   \if@filesw
5874     {%
5875       \let\protect\noexpand
5876       \immediate\write\@auxout{%
5877         \string\bibcite{#2}{#1}%
5878       }%

```

```

5879 }%
5880 \fi
5881 \ignorespaces
5882 }
5883 \checkcommand\def\bibitem#1{%
5884 \item
5885 \if@filesw
5886 \immediate\write\@auxout{%
5887 \string\bibcite{#1}{\the\value{\@listctr}}}%
5888 }%
5889 \fi
5890 \ignorespaces
5891 }
5892 \end{check}
5893 \end{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.

```

5894 \ifclassloaded{revtex}{%
5895 \Hy@Info{*** compatibility with revtex **** }%
5896 \def\revtex@checking#1#2{%
5897 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
5898 \expandafter\def\csname b@#1\endcsname{#2}%
5899 \SetMaxRnhefLabel{#1}%
5900 \expandafter\let\csname b@#1\endcsname\T@temp
5901 }%

```

Tanmoy provided this replacement for CITE<sub>X</sub>. Lord knows what it does. For chapterbib added: `extra@b@citeb`

```

5902 \ifundefined{CITE}{\def\CITE{\@cite}}}%
5903 \providecommand*{\extra@b@citeb}{}%
5904 \def\CITE[#1]#2{%
5905 \let\@citea\@empty
5906 \leavevmode
5907 \unskip
5908 $^{}%
5909 \scriptstyle
5910 \CITE{%
5911 \for\@citeb:=#2\do{%
5912 \@citea
5913 \def\@citea{\penalty\@m }%
5914 \edef\@citeb{\expandafter\@firstofone\@citeb}%
5915 \if@filesw
5916 \immediate\write\@auxout{\string\citation{\@citeb}}%
5917 \fi
5918 \ifundefined{b@\@citeb\extra@b@citeb}{%
5919 \mbox{\reset@font\bfseries ?}%
5920 \G@refundefinedtrue
5921 \latex@warning{%
5922 Citation ‘\@citeb’ on page \thepage \space undefined%
5923 }%
5924 }{%
5925 {\csname b@\@citeb\extra@b@citeb\endcsname}%
5926 }%
5927 }%
5928 }{#1}%
5929 }$%

```

5930 }%

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.

```

5931 \def\@citex[#1]#2{%
5932   \let\@citea\@empty
5933   \@cite{%
5934     \@for\@citeb:=#2\do{%
5935       \@citea
5936       \def\@citea{\penalty\@m\ }%
5937       \edef\@citeb{\expandafter\@firstofone\@citeb}%
5938       \if@filesw
5939         \immediate\write\@auxout{\string\citation{\@citeb}}%
5940       \fi
5941       \ifundefined{b@\@citeb\@extra@b@citeb}{%
5942         \mbox{\reset@font\bfseries ?}%
5943         \G@refundefinedtrue
5944         \@latex@warning{%
5945           Citation '\@citeb' on page \thepage \space undefined%
5946         }%
5947       }{%
5948         \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
5949       }%
5950     }%
5951   }{#1}%
5952 }%
5953 }{}

```

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

```

5954 \@ifpackageloaded{harvard}{%
5955   \AtBeginDocument{%
5956     \Hy@Info{*** compatibility with harvard ***}%
5957     \Hy@raiselinksfalse
5958     \def\harvardcite#1#2#3#4{%
5959       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{}{cite.#1}{#2}}%
5960       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{}{cite.#1}{#3}}%
5961       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{}{cite.#1}{#4}}%
5962       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
5963     }%
5964     \def\HAR@citetoaux#1{%
5965       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
5966       \ifHy@backref
5967         \ifx\@empty\@currentlabel
5968         \else
5969           \@bsphack
5970           \if@filesw
5971             \protected@write\@auxout{}{%
5972               \string\writefile{brf}{%
5973                 \string\backcite{#1}{%
5974                   {\thepage}{\@currentlabel}{\@currentHref}%

```

```

5975         }%
5976     }%
5977 }%
5978 \fi
5979 \@esphack
5980 \fi
5981 \fi
5982 }%
5983 \def\harvarditem{%
5984     \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}}%
5985 }%
5986 \def\@harvarditem[#1]#2#3#4#5\par{%
5987     \item[]%
5988     \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
5989     \if@filesw
5990         \begingroup
5991             \def\protect##1{\string ##1\space}%
5992             \ifthenelse{\equal{#1}{\null}}%
5993                 {\def\next{{#4}{#2}{#2}{#3}}}%
5994                 {\def\next{{#4}{#2}{#1}{#3}}}%
5995             \immediate\write\@auxout{\string\harvardcite\codeof\next}%
5996         \endgroup
5997     \fi
5998     \protect\hspace*{-\labelwidth}%
5999     \protect\hspace*{-\labelsep}%
6000     \ignorespaces
6001     #5%
6002     \ifHy@backref
6003         \newblock
6004         \backref{\csname br@#4\endcsname}%
6005     \fi
6006     \par
6007 }%

```

`\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`:

```

6008 \long\def\HAR@checkcitations#1#2#3#4{%
6009     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
6010     \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
6011         \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
6012         \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
6013             \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
6014             \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
6015                 \else
6016                     \@tempswatruue
6017                 \fi
6018             \else
6019                 \@tempswatruue
6020             \fi
6021         \else
6022             \@tempswatruue
6023         \fi
6024     }%
6025 }%
6026 }{}

```

## 37.2 Package chicago

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

```
6027 \@ifpackageloaded{chicago}{%

\citeN
6028   \def\citeN{%
6029     \def\@citesep{--1000}%
6030     \def\@cite##1##2{##1}%
6031     \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}}%
6032     \@citedata@opt
6033   }%

\shortciteN
6034   \def\shortciteN{%
6035     \def\@citesep{--1000}%
6036     \def\@cite##1##2{##1}%
6037     \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}}%
6038     \@citedata@opt
6039   }%

\@citedata@opt
6040   \def\@citedata@opt{%
6041     \let\@cite@opt\@empty
6042     \@ifnextchar [{%
6043       \@tempswatrue
6044       \@citedatax@opt
6045     }{%
6046       \@tempswafalse
6047       \@citedatax[]%
6048     }%
6049   }%

\@citedatax@opt
6050   \def\@citedatax@opt[#1]{%
6051     \def\@cite@opt{, #1}%
6052     \@citedatax[{#1}]%
6053   }%

6054 }{-}
```

## 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.

```
6055 \def\Hy@EveryPageAnchor{%
6056   \Hy@DistillerDestFix
6057   \ifHy@pageanchor
6058     \ifHy@hypertextnames
6059     \ifHy@plainpages
6060       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
```



```

6061     \else
6062     \beginingroup
6063     \let\@number\@firstofone
6064     \Hy@unicodedefalse
6065     \pdfstringdef\@the@H@page{\thepage}%
6066     \endgroup
6067     \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
6068     \fi
6069     \else
6070     \Hy@GlobalStepCount\Hy@pagecounter
6071     \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
6072     \fi
6073     \vbox to 0pt{%
6074     \kern\voffset
6075     \kern\topmargin
6076     \kern-1bp\relax
6077     \hbox to 0pt{%
6078     \kern\hoffset
6079     \kern\ifodd\value{page}%
6080     \oddsidemargin
6081     \else
6082     \evensidemargin
6083     \fi
6084     \kern-1bp\relax
6085     \Hy@TempPageAnchor
6086     \hss
6087     }%
6088     \vss
6089     }%
6090     \fi
6091 }
6092 \g@addto@macro\Hy@EveryPageBoxHook{%
6093   \Hy@EveryPageAnchor
6094 }

```

## 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.

```

6095 \def\addcontentsline#1#2#3{% toc extension, type, tag
6096   \beginingroup
6097   \let\label\@gobble
6098   \ifx\@currentHref\@empty
6099     \Hy@Warning{%
6100       No destination for bookmark of \string\addcontentsline,%
6101       \MessageBreak destination is added%
6102     }%
6103     \phantomsection
6104   \fi
6105   \expandafter\ifx\csname toplevel@#2\endcsname\relax
6106     \beginingroup
6107     \def\Hy@tempa{#1}%
6108     \ifx\Hy@tempa\Hy@bookmarkstype
6109       \Hy@WarningNoLine{%
6110         bookmark level for unknown #2 defaults to 0%

```

```

6111         }%
6112     \else
6113         \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6114     \fi
6115 \endgroup
6116 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
6117 \fi
6118 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
6119 \Hy@writebookmark{\csname the#2\endcsname}%
6120     {#3}%
6121     {\@currentHref}%
6122     {\Hy@toplevel}%
6123     {#1}%
6124 \ifHy@verbose
6125     \def\Hy@tempa{#3}%
6126     \@onelevel@sanitize\Hy@tempa
6127     \typeout{pdfTeX: bookmark at \the\inputlineno: %
6128         {\csname the#2\endcsname}%
6129         {\Hy@tempa}%
6130         {\@currentHref}%
6131         {\Hy@toplevel}%
6132         {#1}%
6133     }%
6134 \fi
6135 \addtocontents{#1}{%
6136     \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6137 }%
6138 \endgroup
6139 }
6140 \def\contentsline#1#2#3#4{%
6141     \ifx\#4\%
6142         \csname l@#1\endcsname{#2}{#3}%
6143     \else
6144         \ifcase\Hy@linktoc % none
6145             \csname l@#1\endcsname{#2}{#3}%
6146         \or % section
6147             \csname l@#1\endcsname{%
6148                 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6149             }{#3}%
6150         \or % page
6151             \csname l@#1\endcsname{#2}{#3}%
6152             \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6153         }%
6154         \else % all
6155             \csname l@#1\endcsname{%
6156                 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6157             }{%
6158                 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6159             }%
6160         \fi
6161     \fi
6162 }
6163 </package>
6164 <*check>
6165 \checklatex
6166 \checkcommand\def\addcontentsline#1#2#3{%
6167     \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%

```

```

6168 }
6169 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6170 \end{check}
6171 \end{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.

```

6172 \let\H@definecounter\@definecounter
6173 \def\@definecounter#1{%
6174   \H@definecounter{#1}%
6175   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6176 }

```

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.

```

6177 \let\H@newctr\@newctr
6178 \def\@newctr#1[#2]{%
6179   \H@newctr#1[#2]%
6180   \expandafter\def\csname theH#1\endcsname{%
6181     \csname the\@ifundefined{theH#2}{H}#2\endcsname.\arabic{#1}}%
6182   }%
6183 }

```

## 41 AMS $\LaTeX$ compatibility

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

Version 6.77p uses a patch by Ross Moore.

```

6184 \@ifpackageloaded{amsmath}{%
6185   \def\Hy@make@anchor{%
6186     \Hy@GlobalStepCount\Hy@linkcounter
6187     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6188     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6189   }%
6190   \def\Hy@make@df@tag@@#1{%
6191     \gdef\df@tag{%
6192       \maketag@@@{\Hy@make@anchor#1}%
6193       \def\@currentlabel{#1}%
6194     }%
6195   }%
6196   \def\Hy@make@df@tag@@@#1{%
6197     \gdef\df@tag{%
6198       \tagform@{\Hy@make@anchor#1}%
6199       \toks@{\xp{\p@equation{#1}}}%
6200       \edef\@currentlabel{\the\toks@}%
6201     }%
6202   }%
6203   \let\HyOrg@make@df@tag@@\make@df@tag@@
6204   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
6205   \let\make@df@tag@@\Hy@make@df@tag@@

```

```

6206 \let\make@df@tag@@@Hy@make@df@tag@@@
6207 }{}

```

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

```

6208 \ifpackagewith{hyperref}{pdftex}{%
6209   \let\H@seteqlabel\@seteqlabel
6210   \def\@seteqlabel#1{%
6211     \H@seteqlabel{#1}%
6212     \xdef\@currentHref{AMS.\theHy@linkcounter}%
6213     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6214   }%
6215 }{}

```

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.

```

6216 \let\HyOrg@addtoreset\@addtoreset
6217 \def\@addtoreset#1#2{%
6218   \HyOrg@addtoreset{#1}{#2}%
6219   \expandafter\xdef\csname theH#1\endcsname{%
6220     \expandafter\noexpand
6221     \csname the\@ifundefined{theH#2}{}H#2\endcsname
6222     .\noexpand\the\noexpand\value{#1}%
6223   }%
6224 }

```

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

```

6225 </package>
6226 <*check>
6227 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6228 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6229   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6230     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6231       \@addtoreset{#2}{#3}%
6232       \xp\xdef\csname the#2\endcsname{%
6233         \xp\xnx\csname the#3\endcsname .\nx#1{#2}%
6234       }%
6235     }%
6236   }%
6237 }%
6238 </check>
6239 <*package>
6240 \ifpackageloaded{amsmath}{%
6241   \@ifpackagelater{amsmath}{1999/12/14}{%

```

```

6242 \renewcommand*{\numberwithin}[3][\arabic]{%
6243 \ifundefined{c#2}{\@nocounterr{#2}}{%
6244 \ifundefined{c#3}{\@nocnterr{#3}}{%
6245 \HyOrg@addtoreset{#2}{#3}%
6246 \xp\xdef\csname the#2\endcsname{%
6247 \xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6248 }%
6249 \xp\xdef\csname theH#2\endcsname{%
6250 \xp\@nx
6251 \csname the\ifundefined{theH#3}{H#3\endcsname
6252 .\@nx#1{#2}%
6253 }%
6254 }%
6255 }%
6256 }%
6257 }{%
6258 \Hy@WarningNoLine{%
6259 \string\numberwithin\space of package ‘amsmath’ %
6260 only fixed\MessageBreak
6261 for version 2000/06/06 v2.12 or newer%
6262 }%
6263 }%
6264 }{}

```

## 42 Included figures

Simply intercept the low level graphics package macro.

```

6265 \ifHy@figures
6266 \let\Hy@Gin@setfile\Gin@setfile
6267 \def\Gin@setfile#1#2#3{%
6268 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6269 }%
6270 \fi
6271 \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.

```

6272 \ifHy@hyperindex
6273 \def\HyInd@ParenLeft{(%}
6274 \def\HyInd@ParenRight{)%}
6275 \Hy@nextfalse
6276 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6277 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6278 \begingroup
6279 \lccode‘\|=\expandafter‘\HyInd@EncapChar\relax

```

```

6280 \lowercase{\endgroup
6281 \ifHy@next
6282 \let\HyInd@org@wrindex\@wrindex
6283 \def\@wrindex#1#2{\HyInd@wrindex{#1}#2||\}%
6284 \def\HyInd@wrindex#1#2|#3|#4\{\%
6285 \ifx\|#3\%
6286 \HyInd@org@wrindex{#1}{#2|hyperpage}%
6287 \else
6288 \def\Hy@temp@A{#3}%
6289 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6290 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6291 \relax
6292 \HyInd@org@wrindex{#1}{#2|#3}%
6293 \else
6294 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6295 \fi
6296 \fi
6297 }%
6298 \else
6299 \def\@wrindex#1{\@wrindex#1||\}%
6300 \def\@wrindex#1|#2|#3\{\%
6301 \if@files
6302 \ifx\|#2\%
6303 \protected@write\@indexfile{}\%
6304 \string\indexentry{#1|hyperpage}{\thepage}%
6305 }%
6306 \else
6307 \def\Hy@temp@A{#2}%
6308 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6309 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6310 \relax
6311 \protected@write\@indexfile{}\%
6312 \string\indexentry{#1|#2}{\thepage}%
6313 }%
6314 \else
6315 \protected@write\@indexfile{}\%
6316 \string\indexentry{#1|#2hyperpage}{\thepage}%
6317 }%
6318 \fi
6319 \fi
6320 \fi
6321 \endgroup
6322 \@esphack
6323 }%
6324 \fi
6325 }%
6326 \fi
6327 \Hy@DisableOption{hyperindex}
6328 \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.

```
6329 \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.

```
6330 \def\hyperpage#1{\%
```

```

6331 \HyInd@hyperpage#1\nohyperpage{}\@nil
6332 }
6333 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
6334 \HyInd@hyperpage{#1}%
6335 #2%
6336 \def\Hy@temp{#3}%
6337 \ifx\Hy@temp\@empty
6338 \else
6339 \Hy@ReturnAfterFi{%
6340 \HyInd@hyperpage#3\@nil
6341 }%
6342 \fi
6343 }
6344 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
6345 \def\@hyperpage#1--#2--#3\{%
6346 \ifx\#2\%
6347 \@commahyperpage{#1}%
6348 \else
6349 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6350 \fi
6351 }
6352 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6353 \def\@commahyperpage#1, #2,#3\{%
6354 \ifx\#2\%
6355 \HyInd@pagelink{#1}%
6356 \else
6357 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6358 \fi
6359 }

```

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

```

6360 \def\HyInd@pagelink#1{%
6361 \begingroup
6362 \toks@={}%
6363 \HyInd@removespaces#1 \@nil
6364 \endgroup
6365 }
6366 \def\HyInd@removespaces#1 #2\@nil{%
6367 \toks@=\expandafter{\the\toks@#1}%
6368 \ifx\#2\%
6369 \edef\x{\the\toks@}%
6370 \ifx\x\@empty
6371 \else
6372 \hyperlink{page.\the\toks@}{\the\toks@}%
6373 \fi
6374 \else
6375 \Hy@ReturnAfterFi{%
6376 \HyInd@removespaces#2\@nil
6377 }%
6378 \fi
6379 }

```

## 44 Compatibility with foiltex

```

6380 \@ifclassloaded{foils}{%
6381 \providecommand*\ext@table{lot}%

```

```

6382 \providecommand*{\ext@figure{lof}}%
6383 }{}

```

## 45 Compatibility with seminar slide package

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

```

6384 \@ifclassloaded{seminar}{%
6385   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
6386 }{%
6387   \Hy@seminarslidesfalse
6388 }
6389 \@ifpackageloaded{slidesec}{%
6390   \newcommand\theHslidesection {\arabic{slidesection}}}%
6391   \newcommand\theHslidesubsection{%
6392     \theHslidesection.\arabic{slidesubsection}}%
6393 }%
6394 \def\slide@heading[#1]#2{%
6395   \H@refstepcounter{slidesection}%
6396   \@addtoreset{slidesubsection}{slidesection}%
6397   \addtocontents{los}{%
6398     \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6399     {\@SCTR}{slideheading.\theslidesection}}%
6400   }%
6401   \def\Hy@tempa{#2}%
6402   \ifx\Hy@tempa\@empty
6403   \else
6404     {%
6405       \edef\@currentlabel{%
6406         \csname p@slidesection\endcsname\theslidesection
6407       }%
6408       \makeslideheading{#2}%
6409     }%
6410   \fi
6411   \gdef\theslideheading{#1}%
6412   \gdef\theslidesubheading{}%
6413   \ifHy@bookmarksnumbered
6414     \def\Hy@slidetitle{\theslidesection\space #1}%
6415   \else
6416     \def\Hy@slidetitle{#1}%
6417   \fi
6418   \ifHy@hypertextnames
6419     \ifHy@naturalnames
6420       \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6421       \Hy@writebookmark
6422         {\theslidesection}%
6423         {\Hy@slidetitle}%
6424         {slideheading.\theslidesection}%
6425         {1}%
6426         {toc}%
6427     \else
6428       \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6429       \Hy@writebookmark
6430         {\theslidesection}%
6431         {\Hy@slidetitle}%
6432         {slideheading.\theHslidesection}%
6433         {1}%

```



```

6434         {toc}%
6435     \fi
6436 \else
6437     \Hy@GlobalStepCount\Hy@linkcounter
6438     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6439     \Hy@writebookmark
6440         {\theslidesubsection}%
6441         {\Hy@slidetitle}%
6442         {slideheading.\the\Hy@linkcounter}%
6443         {1}%
6444     {toc}%
6445 \fi
6446 }%
6447 \def\slide@subheading[#1]#2{%
6448     \H@refstepcounter{slidesubsection}%
6449     \addtocontents{los}{%
6450         \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6451         {\@SCTR}{slideheading.\theslidesubsection}%
6452     }%
6453     \def\Hy@tempa{#2}%
6454     \ifx\Hy@tempa\@empty
6455     \else
6456         {%
6457             \edef\@currentlabel{%
6458                 \csname p@slidesubsection\endcsname\theslidesubsection
6459             }%
6460             \makeslidesubheading{#2}%
6461         }%
6462     \fi
6463     \gdef\theslidesubheading{#1}%
6464     \ifHy@bookmarksnumbered
6465         \def\Hy@slidetitle{\theslidesubsection\space #1}%
6466     \else
6467         \def\Hy@slidetitle{#1}%
6468     \fi
6469     \ifHy@hypertextnames
6470         \ifHy@naturalnames
6471             \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6472             \Hy@writebookmark
6473                 {\theslidesubsection}%
6474                 {\Hy@slidetitle}%
6475                 {slideheading.\theslidesubsection}%
6476                 {2}%
6477             {toc}%
6478         \else
6479             \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6480             \Hy@writebookmark
6481                 {\theslidesubsection}%
6482                 {\Hy@slidetitle}%
6483                 {slideheading.\theHslidesubsection}%
6484                 {2}%
6485             {toc}%
6486         \fi
6487     \else
6488         \Hy@GlobalStepCount\Hy@linkcounter
6489         \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6490         \Hy@writebookmark

```

```

6491         {\theslidesubsection}%
6492         {\Hy@slidetitle}%
6493         {slideheading.\the\Hy@linkcounter}%
6494         {1}%
6495         {toc}%
6496     \fi
6497 }%
6498 \providecommand*{\listslidenam}{List of Slides}%
6499 \def\listofslides{%
6500     \section*{%
6501         \listslidenam
6502         \@mkboth{%
6503             \expandafter\MakeUppercase\listslidenam
6504         }{%
6505             \expandafter\MakeUppercase\listslidenam
6506         }%
6507     }%
6508     \def\l@slide##1##2##3##4{%
6509         \slide@undottedcline{%
6510             \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
6511         }{%
6512         }%
6513         \let\l@subslide\l@slide
6514         \@startlos
6515     }%
6516     \def\slide@contents{%
6517         \def\l@slide##1##2##3##4{%
6518             \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6519         }%
6520         \let\l@subslide\@gobblefour
6521         \@startlos
6522     }%
6523     \def\Slide@contents{%
6524         \def\l@slide##1##2##3##4{%
6525             \ifcase\lslide@flag
6526                 \message{##1 ** \the\c@slidesection}%
6527                 \ifnum##1>\c@slidesection
6528                     \def\lslide@flag{1}%
6529                     {%
6530                         \large
6531                         \slide@ccline{%
6532                             \slidenumberline{$\Rightarrow\bullet$}%
6533                             {\hyperlink{##4}{##2}}}%
6534                         }{##3}%
6535                     }%
6536                 \else
6537                     {%
6538                         \large
6539                         \slide@ccline{%
6540                             \slidenumberline{$\surd\;\bullet$}%
6541                             {\hyperlink{##4}{##2}}}%
6542                         }{##3}%
6543                     }%
6544                 \fi
6545             \or
6546                 \def\lslide@flag{2}%
6547                 {%

```

```

6548         \large
6549         \slide@cline{%
6550             \slidenumberline{$\bullet$}%
6551             {\hyperlink{##4}{##2}}%
6552         }{##3}%
6553     }%
6554     \or
6555     {%
6556         \large
6557         \slide@cline{%
6558             \slidenumberline{$\bullet$}%
6559             {\hyperlink{##4}{##2}}%
6560         }{##3}%
6561     }%
6562     \fi
6563 }%
6564 \def\l@subslide##1##2##3##4{%
6565     \ifnum\lslide@flag=1 %
6566         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6567     \fi
6568 }%
6569 \def\lslide@flag{0}%
6570 \@startlos
6571 }%
6572 }{}

```

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.)

```

6573 \ifHy@texht
6574     \expandafter\endinput
6575 \fi
6576 \let\real@setref\@setref
6577 \def\@setref#1#2#3{% csname, extract group, refname
6578     \ifx#1\relax
6579         \protect\G@refundefinedtrue
6580         \nfss@text{\reset@font\bfseries ??}%
6581         \@latex@warning{%
6582             Reference ‘#3’ on page \thepage \space undefined%
6583         }%
6584     \else
6585         \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6586     \fi
6587 }

```

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

```

6588 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6589     \begingroup
6590     \toks0={\hyper@@link{#5}{#4}}%
6591     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6592     \edef\x{\endgroup
6593         \the\toks0 {\the\toks1 }%
6594     }%
6595     \x
6596 }
6597 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6598     \ifx#1\relax

```

```

6599 \protect\G@refundefinedtrue
6600 \nfss@text{\reset@font\bfseries ??}%
6601 \@latex@warning{%
6602     Reference '#3' on page \thepage \space undefined%
6603 }%
6604 \else
6605 \protect\hyper@@link
6606 {\expandafter\@fifthoffive#1}%
6607 {page.\expandafter\@secondoffive#1}%
6608 {\expandafter\@secondoffive#1}%
6609 \fi
6610 }

6611 \</package>
6612 \<*check>
6613 \checklatex
6614 \checkcommand\def\@setref#1#2#3{%
6615 \ifx#1\relax
6616 \protect\G@refundefinedtrue
6617 \nfss@text{\reset@font\bfseries ??}%
6618 \@latex@warning{%
6619     Reference '#3' on page \thepage\space undefined%
6620 }%
6621 \else
6622 \expandafter#2#1\relax
6623 \fi
6624 }
6625 \</check>
6626 \<*package>

```

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

```

6627 \def\HyRef@StarSetRef#1{%
6628 \begingroup
6629 \Hy@safe@activetrue
6630 \edef\x{#1}%
6631 \@onelevel@sanitize\x
6632 \edef\x{\endgroup
6633 \noexpand\HyRef@StarSetRef
6634 \expandafter\noexpand\csname r@\x\endcsname{\x}%
6635 }%
6636 \x
6637 }

6638 \def\HyRef@StarSetRef#1#2#3{%
6639 \ifx#1\@undefined
6640 \let#1\relax
6641 \fi
6642 \real@setref#1#3{#2}%
6643 }

6644 \def\@refstar#1{%
6645 \HyRef@StarSetRef{#1}\@firstoffive
6646 }

6647 \def\@pagerefstar#1{%
6648 \HyRef@StarSetRef{#1}\@secondoffive
6649 }

6650 \AtBeginDocument{%
6651 \ifpackageloaded{varioref}{%
6652 \def\@Refstar#1{%

```

```

6653     \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6654   }%
6655   \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
6656     \MakeUppercase#1%
6657   }%
6658   \DeclareRobustCommand*{\Ref}{%
6659     \@ifstar\@Refstar\HyRef@Ref
6660   }%
6661   \def\HyRef@Ref#1{%
6662     \hyperref[#{1}]{\Ref*{#1}}%
6663   }%
6664   \def\Vr@f#1{%
6665     \leavevmode\unskip\vref@space
6666     \hyperref[#{1}]{%
6667       \Ref*{#1}%
6668       \let\vref@space\nobreakspace
6669       \@vpageref[\unskip]{#1}%
6670     }%
6671   }%
6672   \def\vr@f#1{%
6673     \leavevmode\unskip\vref@space
6674     \begingroup
6675       \let\T@pageref\@pagerefstar
6676       \hyperref[#{1}]{%
6677         \ref*{#1}%
6678         \vpageref[\unskip]{#1}%
6679       }%
6680     \endgroup
6681   }%
6682 }{}%
6683 }
6684 \DeclareRobustCommand*{\autopageref}{%
6685   \@ifstar{%
6686     \HyRef@autopagerefname\pageref*%
6687   }\HyRef@autopageref
6688 }
6689 \def\HyRef@autopageref#1{%
6690   \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%
6691 }
6692 \def\HyRef@autopagerefname{%
6693   \@ifundefined{pageautorefname}{%
6694     \@ifundefined{pagename}{%
6695       \Hy@Warning{No autoref name for 'page'}%
6696     }{%
6697       \pagename\nobreakspace
6698     }%
6699   }{%
6700     \pageautorefname\nobreakspace
6701   }%
6702 }
6703 \DeclareRobustCommand*{\autoref}{%
6704   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@link}%
6705 }
6706 \def\HyRef@autoref#1#2{%
6707   \begingroup
6708     \Hy@safe@activetrue
6709     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%

```

```

6710 \endgroup
6711 }
6712 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
6713 \HyRef@ShowKeysRef{#2}%
6714 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6715 \edef\HyRef@thisref{%
6716 \expandafter\@fourthoffive#1\@empty\@empty\@empty
6717 }%
6718 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6719 \Hy@safe@activesfalse
6720 #3{%
6721 \expandafter\@fifthoffive#1\@empty\@empty\@empty
6722 }{%
6723 \expandafter\@fourthoffive#1\@empty\@empty\@empty
6724 }{%
6725 \HyRef@currentHtag
6726 \expandafter\@firstoffive#1\@empty\@empty\@empty
6727 \null
6728 }%
6729 \else
6730 \protect\G@refundefinedtrue
6731 \nfss@text{\reset@font\bfseries ??}%
6732 \@latex@warning{%
6733 Reference ‘#2’ on page \thepage\space undefined%
6734 }%
6735 \fi
6736 }
6737 \def\HyRef@testreftype#1.#2\{%
6738 \@ifundefined{#1autorefname}{%
6739 \ifundefined{#1name}{%
6740 \HyRef@StripStar#1\*\@nil{#1}%
6741 \@ifundefined{\HyRef@name autorefname}{%
6742 \@ifundefined{\HyRef@name name}{%
6743 \def\HyRef@currentHtag{%
6744 \Hy@Warning{No autoref name for ‘#1’}%
6745 }{%
6746 \edef\HyRef@currentHtag{%
6747 \expandafter\noexpand\csname\HyRef@name name\endcsname
6748 \noexpand~%
6749 }%
6750 }%
6751 }{%
6752 \edef\HyRef@currentHtag{%
6753 \expandafter\noexpand\csname\HyRef@name autorefname\endcsname
6754 \noexpand~%
6755 }%
6756 }%
6757 }{%
6758 \edef\HyRef@currentHtag{%
6759 \expandafter\noexpand\csname#1name\endcsname
6760 \noexpand~%
6761 }%
6762 }%
6763 }{%
6764 \edef\HyRef@currentHtag{%
6765 \expandafter\noexpand\csname#1autorefname\endcsname
6766 \noexpand~%

```

```

6767 }%
6768 }%
6769 }
6770 \def\HyRef@StripStar#1*\#2\@nil#3{%
6771   \def\HyRef@name{#2}%
6772   \ifx\HyRef@name\HyRef@CaseStar
6773     \def\HyRef@name{#1}%
6774   \else
6775     \def\HyRef@name{#3}%
6776   \fi
6777 }
6778 \def\HyRef@CaseStar{*\\}
6779 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

6780 \let\HyRef@ShowKeysRef\@gobble
6781 \def\HyRef@ShowKeysInit{%
6782   \begingroup\expandafter\expandafter\expandafter\endgroup
6783   \expandafter\ifx\csname SK@@label\endcsname\relax
6784   \else
6785     \ifx\SK@ref\@empty
6786     \else
6787       \def\HyRef@ShowKeysRef{%
6788         \SK@\SK@@ref
6789       }%
6790     \fi
6791   \fi
6792 }
6793 \@ifpackageloaded{showkeys}{%
6794   \HyRef@ShowKeysInit
6795 }{%
6796   \AtBeginDocument{%
6797     \@ifpackageloaded{showkeys}{%
6798       \HyRef@ShowKeysInit
6799     }{}%
6800   }%
6801 }

```

Defaults for the names that \autoref uses.

```

6802 \providecommand*\AMSautorefname{\equationautorefname}
6803 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
6804 \providecommand*\Itemautorefname{\itemautorefname}
6805 \providecommand*\itemautorefname{item}
6806 \providecommand*\equationautorefname{Equation}
6807 \providecommand*\footnoteautorefname{footnote}
6808 \providecommand*\itemautorefname{item}
6809 \providecommand*\figureautorefname{Figure}
6810 \providecommand*\tableautorefname{Table}
6811 \providecommand*\partautorefname{Part}
6812 \providecommand*\appendixautorefname{Appendix}
6813 \providecommand*\chapterautorefname{chapter}
6814 \providecommand*\sectionautorefname{section}
6815 \providecommand*\subsectionautorefname{subsection}
6816 \providecommand*\subsubsectionautorefname{subsubsection}
6817 \providecommand*\paragraphautorefname{paragraph}
6818 \providecommand*\subparagraphautorefname{subparagraph}

```

```

6819 \providecommand*\FancyVerbLineautorefname{line}
6820 \providecommand*\theoremautorefname{Theorem}
6821 \providecommand*\pageautorefname{page}
6822 \endpackage

```

## 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`.

```

6823 <*pdftex | dvipdfm | vtex | pdfmarkbase | dviwindo>
6824 \RequirePackage{pdfdoccmds}[2007/11/11]
6825 \begingroup\expandafter\expandafter\expandafter\endgroup
6826 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
6827   \begingroup
6828     \catcode'\| =0 %
6829     \@makeother\| %
6830   |@firstofone|\endgroup
6831   |def|Hy@pstringdef#1#2{%
6832     |begingroup
6833     |edef~{|string~}%
6834     |xdef|Hy@gtemp{#2}%
6835     |endgroup
6836     |let#1|Hy@gtemp
6837     |@onelevel@sanitize#1%
6838     |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
6839     |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
6840     |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1|@nil}%
6841   }%
6842   |def|Hy@ExchangeBackslash#1\#2|@nil{%
6843     #1%
6844     |ifx|\#2\| %
6845     |else
6846     \| %
6847     |Hy@ReturnAfterFi{%
6848       |Hy@ExchangeBackslash#2|@nil
6849     }%
6850   |fi
6851 }%
6852 }%
6853 \def|Hy@ExchangeLeftParenthesis#1(#2|@nil{%
6854   #1%
6855   \ifx\#2\| %
6856   \else
6857     \@backslashchar(%
6858     \Hy@ReturnAfterFi{%
6859       \Hy@ExchangeLeftParenthesis#2|@nil
6860     }%
6861   \fi
6862 }%

```



```

6863 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
6864     #1%
6865     \ifx\#2\%
6866     \else
6867         \@backslashchar)%
6868         \Hy@ReturnAfterFi{%
6869         \Hy@ExchangeRightParenthesis#2\@nil
6870     }%
6871     \fi
6872 }%
6873 \else
6874 \def\Hy@pstringdef#1#2{%
6875     \begingroup
6876     \edef~{\string~}%
6877     \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
6878     \endgroup
6879     \let#1\Hy@gtemp
6880 }%
6881 \fi
6882 \pdfTeX | dvipdfm | vtex | pdfmarkbase | dviwindo)

```

## 46.2 pdftex

```

6883 \pdfTeX
6884 \providecommand*\XR@ext}{pdf}
6885 \Hy@setbreaklinks{true}

```

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

Set PDF version if requested by option `pdfversion`.

- pdf $\TeX$  1.10a, 2003-01-16: `\pdfoptionpdfminorversion`
- pdf $\TeX$  1.30, 2005-08-081: `\pdfminorversion`

```

6886 \let\Hy@pdfminorversion\relax
6887 \begingroup\expandafter\expandafter\expandafter\endgroup
6888 \expandafter\ifx\csname pdfminorversion\endcsname\relax
6889     \begingroup\expandafter\expandafter\expandafter\endgroup
6890     \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
6891     \else
6892         \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
6893     \fi
6894 \else
6895     \def\Hy@pdfminorversion{\pdfminorversion}%
6896 \fi
6897 \ifundefined{Hy@pdfminorversion}{%
6898     \PackageInfo{hyperref}{%
6899         PDF version is not set, because pdfTeX is too old (<1.10a)%
6900     }%
6901 }%
6902 \ifHy@ocgcolorlinks
6903     \ifnum\Hy@pdfminorversion<5 %
6904         \setkeys{Hyp}{pdfversion=1.5}%
6905     \fi
6906 \fi
6907 \ifHy@setpdfversion
6908     \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax

```

```

6909 \else
6910 \Hy@pdfminorversion=\Hy@pdfversion\relax
6911 \fi
6912 \PackageInfo{hyperref}{%
6913 \expandafter\string\Hy@pdfminorversion
6914 :=\number\Hy@pdfversion\space
6915 }%
6916 \fi
6917 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
6918 }
6919 \Hy@DisableOption{pdfversion}%

6920 \ifHy@ocgcolorlinks
6921 \immediate\pdfobj{%
6922 <<%
6923 /Type/OCG%
6924 /Name(View)%
6925 /Usage<<%
6926 /Print<<%
6927 /PrintState/OFF%
6928 >>%
6929 /View<<%
6930 /ViewState/ON%
6931 >>%
6932 >>%
6933 >>%
6934 }%
6935 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
6936 \immediate\pdfobj{%
6937 <<%
6938 /Type/OCG%
6939 /Name(Print)%
6940 /Usage<<%
6941 /Print<<%
6942 /PrintState/ON%
6943 >>%
6944 /View<<%
6945 /ViewState/OFF%
6946 >>%
6947 >>%
6948 >>%
6949 }%
6950 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
6951 \immediate\pdfobj{%
6952 [%
6953 \OBJ@OCG@view\space\OBJ@OCG@print
6954 ]%
6955 }%
6956 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
6957 \pdfcatalog{%
6958 /OCProperties<<%
6959 /OCGs \OBJ@OCGs
6960 /D<<%
6961 /OFF[\OBJ@OCG@print]%
6962 /AS[%
6963 <<%
6964 /Event/View%
6965 /OCGs \OBJ@OCGs

```

```

6966         /Category[/View]%
6967     >>%
6968     <<%
6969         /Event/Print%
6970         /OCGs \OBJ@OCGs
6971         /Category[/Print]%
6972     >>%
6973     <<%
6974         /Event/Export%
6975         /OCGs \OBJ@OCGs
6976         /Category[/Print]%
6977     >>%
6978     ]%
6979 >>%
6980 >>%
6981 }%
6982 \begingroup
6983     \edef\x{\endgroup
6984         \pdfpageresources{%
6985             /Properties<<%
6986                 /OCView \OBJ@OCG@view
6987                 /OCPrint \OBJ@OCG@print
6988             >>%
6989         }%
6990     }%
6991 \x
6992 \AtBeginDocument{%
6993     \def\Hy@colorlink#1{%
6994         \begingroup
6995             \ifHy@ocgcolorlinks
6996                 \def\Hy@ocgcolor{#1}%
6997                 \setbox0=\color@hbox
6998             \else
6999                 \HyColor@UseColor#1%
7000             \fi
7001         }%
7002     \def\Hy@endcolorlink{%
7003         \ifHy@ocgcolorlinks
7004             \color@endbox
7005             \mbox{%
7006                 \pdfliteral page{/OC/OCPrint BDC}%
7007                 \rlap{\copy0}%
7008                 \pdfliteral page{EMC/OC/OCView BDC}%
7009                 \begingroup
7010                     \expandafter\HyColor@UseColor\Hy@ocgcolor
7011                     \box0 %
7012                 \endgroup
7013                 \pdfliteral page{EMC}%
7014             }%
7015         \fi
7016     \endgroup
7017 }%
7018 }%
7019 \else
7020 \Hy@DisableOption{ocgcolorlinks}%
7021 \fi

```

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

```

7022 \def\setpdflinkmargin#1{\pdflinkmargin#1}
7023 \ifx\pdfstartlink\undefined% less than version 14
7024   \let\pdfstartlink\pdfannotlink
7025   \let\pdflinkmargin\@tempdima
7026   \let\pdfxform\pdfform
7027   \let\pdflastxform\pdflastform
7028   \let\pdfrefxform\pdfrefform
7029 \else
7030   \pdflinkmargin1pt %
7031 \fi

```

First set up the default linking

```
7032 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

7033 \def\new@pdflink#1{%
7034   \ifHy@verbose
7035     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
7036   \fi
7037   \Hy@SaveLastskip
7038   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7039   \Hy@DestName\Hy@pstringDest\@pdfview
7040   \Hy@RestoreLastskip
7041 }
7042 \let\pdf@endanchor\@empty

```

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

```

7043 \def\Hy@DestName#1#2{%
7044   \pdfdest name{#1}#2\relax
7045 }

```

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.

```

7046 \providecommand*\@pdfborder{0 0 1}
7047 \providecommand*\@pdfborderstyle{}
7048 \def\Hy@undefinedname{UNDEFINED}
7049 \def\find@pdflink#1#2{%
7050   \leavevmode
7051   \protected@edef\Hy@testname{#2}%
7052   \ifx\Hy@testname\@empty
7053     \Hy@Warning{%
7054       Empty destination name,\MessageBreak
7055       using '\Hy@undefinedname'%
7056     }%
7057     \let\Hy@testname\Hy@undefinedname
7058   \else
7059     \Hy@pstringdef\Hy@testname{%
7060       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7061     }%
7062   \fi
7063   \Hy@StartlinkName{%
7064     \ifHy@pdfa /F 4\fi
7065     \Hy@setpdfborder
7066     \ifx\@pdfhighlight\@empty
7067       \else

```

```

7068      /H\@pdfhighlight
7069      \fi
7070      \ifx\CurrentBorderColor\relax
7071      \else
7072      /C[\CurrentBorderColor]%
7073      \fi
7074  }\Hy@testname
7075  \expandafter\Hy@colorlink\csname @#1color\endcsname
7076 }
7077 \def\Hy@StartlinkName#1#2{%
7078   \pdfstartlink attr{#1}goto name{#2}\relax
7079 }
7080 \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
7081 \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
7082 \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
7083 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
7084 \def\hyper@linkstart#1#2{%
7085   \@ifundefined{@#1bordercolor}{%
7086     \let\CurrentBorderColor\relax
7087   }{%
7088     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7089   }%
7090   \find@pdflink{#1}{#2}%
7091 }
7092 \def\hyper@linkend{\close@pdflink}
7093 \def\hyper@link#1#2#3{%
7094   \@ifundefined{@#1bordercolor}{%
7095     \let\CurrentBorderColor\relax
7096   }{%
7097     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7098   }%
7099   \find@pdflink{#1}{#2}#3%
7100   \close@pdflink
7101 }
7102 \let\CurrentBorderColor\@linkbordercolor
7103 \def\hyper@linkurl#1#2{%
7104   \begingroup
7105     \Hy@pstringdef\Hy@pstringURI{#2}%
7106     \hyper@chars
7107     \leavevmode
7108     \pdfstartlink
7109       attr{%
7110         \Hy@setpdfborder
7111         \ifx\@pdfhighlight\@empty
7112         \else
7113           /H\@pdfhighlight
7114         \fi
7115         \ifx\@urlbordercolor\relax
7116         \else
7117           /C[\@urlbordercolor]%
7118         \fi
7119       }%
7120     user{%
7121       /Subtype/Link%
7122       \ifHy@pdfa /F 4\fi
7123       /A<<%
7124       /Type/Action%

```

```

7125         /S/URI%
7126         /URI(\Hy@pstringURI)%
7127     >>%
7128     }%
7129     \relax
7130     \Hy@colorlink\@urlcolor#1%
7131     \close@pdflink
7132 \endgroup
7133 }
7134 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7135     \begingroup
7136     \Hy@pstringdef\Hy@pstringF{#2}%
7137     \Hy@pstringdef\Hy@pstringD{#3}%
7138     \leavevmode
7139     \pdfstartlink
7140     attr{%
7141         \Hy@setpdfborder
7142         \ifx\@pdfhighlight\@empty
7143         \else
7144             /H\@pdfhighlight
7145         \fi
7146         \ifx\@filebordercolor\relax
7147         \else
7148             /C[\@filebordercolor]%
7149         \fi
7150     }%
7151     user {%
7152         /Subtype/Link%
7153         \ifHy@pdfa /F 4\fi
7154         /A<<%
7155         /F(\Hy@pstringF)%
7156         /S/GoToR%
7157         \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}

```

```

7158         \ifx\#3\%
7159         /D[0 \@pdfstartview]%
7160     \else
7161         /D(\Hy@pstringD)%
7162     \fi
7163     >>%
7164     }%
7165     \relax
7166     \Hy@colorlink\@filecolor#1%
7167     \close@pdflink
7168 \endgroup
7169 }
7170 \def\hyper@launch run:#1\#2#3{% filename, anchor text linkname

```

```

7171 \begingroup
7172   \Hy@pstringdef\Hy@pstringF{#1}%
7173   \Hy@pstringdef\Hy@pstringP{#3}%
7174   \leavevmode
7175   \pdfstartlink
7176     attr{%
7177       \Hy@setpdfborder
7178       \ifx\@pdfhighlight\@empty
7179       \else
7180         /H\@pdfhighlight
7181       \fi
7182       \ifx\@runbordercolor\relax
7183       \else
7184         /C[\@runbordercolor]%
7185       \fi
7186     }%
7187   user {%
7188     /Subtype/Link%
7189     \ifHy@pdfa /F 4\fi
7190     /A<<%
7191       /F(\Hy@pstringF)%
7192       /S/Launch%
7193       \Hy@SetNewWindow
7194       \ifx\@#3\%
7195       \else
7196         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7197       \fi
7198     >>%
7199   }%
7200   \relax
7201   \Hy@colorlink\@runcolor#2%
7202   \close@pdflink
7203 \endgroup
7204 }

```

\@pdfproducer

```

7205 \ifx\@pdfproducer\relax
7206   \begingroup\expandafter\expandafter\expandafter\endgroup
7207   \expandafter\ifx\csname luatexversion\endcsname\relax
7208     \def\@pdfproducer{pdfTeX}%
7209     \ifx\@eTeXversion\@undefined
7210     \else
7211       \ifx\@eTeXversion\relax
7212       \else
7213         \ifnum\@eTeXversion>0 %
7214           \def\@pdfproducer{pdfTeX}%
7215         \fi
7216       \fi
7217     \fi
7218   \ifx\pdftexversion\@undefined
7219   \else
7220     \ifnum\pdftexversion<100 %
7221       \edef\@pdfproducer{%
7222         \@pdfproducer
7223         \the\pdftexversion.\pdftexrevision
7224       }%
7225     \else

```

```

7226     \ifnum\pdfTeXversion<130 %
7227     \edef\@pdfproducer{%
7228     \pdfproducer-%
7229     \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7230     \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
7231     \pdfTeXrevision
7232     }%
7233     \else
7234     \ifnum\pdfTeXversion<140 %
7235     \else
7236     \def\@pdfproducer{pdfTeX}%
7237     \fi
7238     \edef\@pdfproducer{%
7239     \pdfproducer-%
7240     \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7241     \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7242     \pdfTeXrevision
7243     }%
7244     \fi
7245     \fi
7246     \fi
7247     \else
7248     \begingroup
7249     \count@=\luatexversion
7250     \divide\count@ by 100 %
7251     \edef\x{\the\count@}%
7252     \count@=-\x\relax
7253     \multiply\count@ by 100 %
7254     \advance\count@ by \luatexversion
7255     \edef\x{\endgroup
7256     \def\noexpand\@pdfproducer{%
7257     LuaTeX-\x.\the\count@.\luatexrevision
7258     }%
7259     }%
7260     \x
7261     \fi
7262     \fi

```

\PDF@SetupDox

```

7263 \def\PDF@SetupDoc{%
7264 \ifx\@pdfpagescrop\@empty
7265 \else
7266 \edef\process@me{%
7267 \pdfpagesattr={%
7268 /CropBox[\@pdfpagescrop]%
7269 \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
7270 \else
7271 ^~J\the\pdfpagesattr
7272 \fi
7273 }%
7274 }%
7275 \process@me
7276 \fi
7277 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7278 \pdfcatalog{%
7279 /PageMode/\@pdfpagemode
7280 \ifx\@baseurl\@empty

```



```

7281     \else
7282         /URI<</Base(\Hy@pstringB)>>%
7283     \fi
7284 }%
7285 \ifx\@pdfstartpage\@empty
7286 \else
7287     \ifx\@pdfstartview\@empty
7288     \else
7289         openaction goto page\@pdfstartpage{\@pdfstartview}%
7290     \fi
7291 \fi
7292 \edef\Hy@temp{%
7293     \ifHy@toolbar\else /HideToolbar true\fi
7294     \ifHy@menubar\else /HideMenubar true\fi
7295     \ifHy>windowui\else /HideWindowUI true\fi
7296     \ifHy@fitwindow /FitWindow true\fi
7297     \ifHy@centerwindow /CenterWindow true\fi
7298     \ifHy@displaydoctitle /DisplayDocTitle true\fi
7299     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7300     \Hy@UseNameKey{Direction}\@pdfdirection
7301     \Hy@UseNameKey{ViewArea}\@pdfviewarea
7302     \Hy@UseNameKey{ViewClip}\@pdfviewclip
7303     \Hy@UseNameKey{PrintArea}\@pdfprintarea
7304     \Hy@UseNameKey{PrintClip}\@pdfprintclip
7305     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7306     \Hy@UseNameKey{Duplex}\@pdfduplex
7307     \ifx\@pdfpicktraybypdfsize\@empty
7308     \else
7309         /PickTrayByPDFSize \@pdfpicktraybypdfsize
7310     \fi
7311     \ifx\@pdfprintpagerange\@empty
7312     \else
7313         /PrintPageRange[\@pdfprintpagerange]%
7314     \fi
7315     \ifx\@pdfnumcopies\@empty
7316     \else
7317         /NumCopies \@pdfnumcopies
7318     \fi
7319 }%
7320 \pdfcatalog{%
7321     \ifx\Hy@temp\@empty
7322     \else
7323         /ViewerPreferences<<\Hy@temp>>%
7324     \fi
7325     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7326     \ifx\@pdflang\@empty
7327     \else
7328         /Lang(\@pdflang)%
7329     \fi
7330 }%
7331 }

```

\PDF@FinishDoc

```

7332 \def\PDF@FinishDoc{%
7333     \Hy@UseMaketitleInfos
7334     \pdfinfo{%
7335         /Author(\@pdfauthor)%

```

```

7336 /Title(\@pdftitle)%
7337 /Subject(\@pdfsubject)%
7338 /Creator(\@pdfcreator)%
7339 \ifx\@pdfcreationdate\@empty
7340 \else
7341 /CreationDate(\@pdfcreationdate)%
7342 \fi
7343 \ifx\@pdfmoddate\@empty
7344 \else
7345 /ModDate(\@pdfmoddate)%
7346 \fi
7347 \ifx\@pdfproducer\relax
7348 \else
7349 /Producer(\@pdfproducer)%
7350 \fi
7351 /Keywords(\@pdfkeywords)%
7352 }%
7353 \Hy@DisableOption{pdfauthor}%
7354 \Hy@DisableOption{pdftitle}%
7355 \Hy@DisableOption{pdfsubject}%
7356 \Hy@DisableOption{pdfcreator}%
7357 \Hy@DisableOption{pdfcreationdate}%
7358 \Hy@DisableOption{pdfmoddate}%
7359 \Hy@DisableOption{pdfproducer}%
7360 \Hy@DisableOption{pdfkeywords}%
7361 }

```

`\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`.

```

7362 \def\hyper@pagetransition{%
7363 \ifx\@pdfpagetransition\relax
7364 \else
7365 \expandafter\Hy@RemoveTransPageAttr
7366 \the\pdfpageattr^^J/Trans{}}>>\END
7367 \ifx\@pdfpagetransition\@empty
7368 \else
7369 \edef\@processme{%
7370 \global\pdfpageattr{%
7371 \the\pdfpageattr
7372 ^^J/Trans << /S /\@pdfpagetransition\space >>%
7373 }%
7374 }%
7375 \@processme
7376 \fi
7377 \fi
7378 }

```

`\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.

```

7379 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7380 \ifx\#2\%
7381 \global\pdfpageattr{#1}%
7382 \else
7383 \Hy@RemoveTransPageAttr#1#4\END

```

```

7384 \fi
7385 }

```

`\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`.

```

7386 \def\hyper@pageduration{%
7387   \ifx\@pdfpageduration\relax
7388   \else
7389     \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
7390     \ifx\@pdfpageduration\@empty
7391     \else
7392       \edef\@processme{%
7393         \global\pdfpageattr{%
7394           \the\pdfpageattr
7395             ^^J/Dur \@pdfpageduration\space
7396         }%
7397       }%
7398       \@processme
7399   \fi
7400 \fi
7401 }

```

`\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.

```

7402 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7403   \ifx\#2\%
7404     \global\pdfpageattr{#1}%
7405   \else
7406     \Hy@RemoveDurPageAttr#1#4\END
7407   \fi
7408 }

```

`\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).

```

7409 \def\hyper@pagehidden{%
7410   \ifHy@useHidKey
7411     \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7412     \ifHy@pdfpagehidden
7413     \edef\@processme{%
7414       \global\pdfpageattr{%
7415         \the\pdfpageattr
7416           ^^J/Hid true % SPACE
7417       }%
7418     }%
7419     \@processme
7420   \fi
7421 \fi
7422 }

```

`\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.

```

7423 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7424   \ifx\#2\%
7425     \global\pdfpageattr{#1}%
7426   \else
7427     \Hy@RemoveHidPageAttr#1#4\END
7428   \fi
7429 }

7430 \g@addto@macro\Hy@EveryPageHook{%
7431   \hyper@pagetransition
7432   \hyper@pageduration
7433   \hyper@pagehidden
7434 }

7435 \AtBeginDocument{%
7436   \ifHy@setpagesize
7437     \expandafter\@firstofone
7438   \else
7439     \expandafter\@gobble
7440   \fi
7441   {%
7442     \@ifclassloaded{seminar}{%
7443       \setlength{\pdfhorigin}{1truein}%
7444       \setlength{\pdfvorigin}{1truein}%
7445       \ifportrait
7446         \ifdim\paperwidth=\z@
7447         \else
7448           \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7449         \fi
7450         \ifdim\paperheight=\z@
7451         \else
7452           \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7453         \fi
7454       \else
7455         \ifdim\paperheight=\z@
7456         \else
7457           \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7458         \fi
7459         \ifdim\paperwidth=\z@
7460         \else
7461           \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7462         \fi
7463       \fi
7464     }{%
7465       \@ifundefined{stockwidth}{%
7466         \ifdim\paperwidth=\z@
7467         \else
7468           \setlength{\pdfpagewidth}{\paperwidth}%
7469         \fi
7470         \ifdim\paperheight=\z@
7471         \else
7472           \setlength{\pdfpageheight}{\paperheight}%
7473         \fi
7474       }{%
7475         \ifdim\stockwidth=\z@
7476         \else
7477           \setlength{\pdfpagewidth}{\stockwidth}%
7478         \fi
7479         \ifdim\stockheight=\z@

```

```

7480         \else
7481         \setlength{\pdfpageheight}{\stockheight}%
7482         \fi
7483     }%
7484 }%
7485 }%
7486 \Hy@DisableOption{setpagesize}%
7487 }
7488 \def\Acrobatmenu#1#2{%
7489 \Hy@Acrobatmenu{#1}{#2}{%
7490 \pdfstartlink
7491 attr{%
7492 \Hy@setpdfborder
7493 \ifx\@pdfhighlight\@empty
7494 \else
7495 /H\@pdfhighlight
7496 \fi
7497 \ifx\@menubordercolor\relax
7498 \else
7499 /C[\@menubordercolor]%
7500 \fi
7501 }%
7502 user{%
7503 /Subtype/Link%
7504 \ifHy@pdfa /F 4\fi
7505 /A<<%
7506 /S/Named/N/#1%
7507 >>%
7508 }%
7509 \relax
7510 \Hy@colorlink\@menucolor#2%
7511 \close@pdflink
7512 }%
7513 }

```

#### 46.2.1 Fix for problem with different nesting levels

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

The problem could be fixed by replacing \AtBeginShipoutFirst, because the box layer is not necessary for pdfTeX—no \specials need to be inserted. However it's easier to add an additional box level for the pages after the first one. Also \AtBeginShipoutFirst could be invoked independently from hyperref.

```

7514 \def\Hy@FixNotFirstPage{%
7515 \gdef\Hy@FixNotFirstPage{%
7516 \setbox\AtBeginShipoutBox=\hbox{%
7517 \copy\AtBeginShipoutBox
7518 }%
7519 }%
7520 }
7521 \AtBeginShipout{\Hy@FixNotFirstPage}
7522 </pdfTeX>

```

## 46.3 hypertext

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

**href:** `html:<a href = "href_string">`

**name:** `html:<a name = "name_string">`

**end:** `html:</a>`

**image:** `html:<img src = "href_string">`

**base\_name:** `html:<base href = "href_string">`

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

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

```
7523 \*hypertext
7524 \providecommand*\XR@ext}{dvi}
7525 \def\PDF@FinishDoc{}
7526 \def\PDF@SetupDoc{%
7527   \ifx\@baseurl\@empty
7528   \else
7529     \special{html:<base href="\@baseurl">}%
7530   \fi
7531 }
7532 \def\hyper@anchor#1{%
7533   \Hy@SaveLastskip
7534   \begingroup
7535     \let\protect=\string
7536     \hyper@chars
7537     \special{html:<a name=%
7538       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7539   \endgroup
7540   \Hy@activeanchortrue
7541   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7542   \special{html:</a>}%
7543   \Hy@activeanchorfalse
7544   \Hy@RestoreLastskip
7545 }
7546 \def\hyper@anchorstart#1{%
```

```

7547 \Hy@SaveLastskip
7548 \begingroup
7549   \hyper@chars
7550   \special{html:<a name=%
7551     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7552 \endgroup
7553 \Hy@activeanchortrue
7554 }
7555 \def\hyper@anchorend{%
7556   \special{html:</a>}%
7557   \Hy@activeanchorfalse
7558   \Hy@RestoreLastskip
7559 }
7560 \def\@urlltype{url}
7561 \def\hyper@linkstart#1#2{%
7562   \expandafter\Hy@colorlink\csname @#1color\endcsname
7563   \def\Hy@tempa{#1}%
7564   \ifx\Hy@tempa\@urlltype
7565     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7566   \else
7567     \begingroup
7568       \hyper@chars
7569       \special{html:<a href=%
7570         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
7571     \endgroup
7572   \fi
7573 }
7574 \def\hyper@linkend{%
7575   \special{html:</a>}%
7576   \Hy@endcolorlink
7577 }
7578 \def\hyper@linkfile#1#2#3{%
7579   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
7580 }
7581 \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.

```

7582 \leavevmode
7583 \ifHy@raiselinks
7584   \setbox\@tempboxa=\color@hbox #1\color@endbox
7585   \@linkdim\dp\@tempboxa
7586   \lower\@linkdim\hbox{%
7587     \hyper@chars
7588     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7589   }%
7590   \Hy@colorlink\@urlcolor#1%
7591   \@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).

```

7592   \advance\@linkdim by -6.5\p@
7593   \raise\@linkdim\hbox{\special{html:</a>}}%
7594   \Hy@endcolorlink
7595 \else
7596   \begingroup

```

```

7597     \hyper@chars
7598     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7599     \Hy@colorlink\@urlcolor#1%
7600     \special{html:</a>}}%
7601     \Hy@endcolorlink
7602   \endgroup
7603 \fi
7604 }

```

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

```

7605 \def\hyper@link#1#2#3{%
7606   \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}}%
7607 }

7608 \def\hyper@image#1#2{%
7609   \begingroup
7610     \hyper@chars
7611     \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
7612   \endgroup
7613 }
7614 \</hypertex>
7615 \<*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.

```

7616 \providecommand*\XR@ext{dvi}
7617 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
7618 \def\hyper@anchor#1{%
7619   \Hy@SaveLastskip
7620   \begingroup
7621     \let\protect=\string
7622     \special{mark: #1}%
7623   \endgroup
7624   \Hy@activeanchortrue
7625   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7626   \Hy@activeanchorfalse
7627   \Hy@RestoreLastskip
7628 }
7629 \def\hyper@anchorstart#1{%
7630   \Hy@SaveLastskip
7631   \special{mark: #1}%
7632   \Hy@activeanchortrue
7633 }
7634 \def\hyper@anchorend{%
7635   \Hy@activeanchorfalse
7636   \Hy@RestoreLastskip
7637 }

```



```

7638 \def\hyper@linkstart#1#2{%
7639   \expandafter\Hy@colorlink\csname @#1color\endcsname
7640   \special{button: %
7641     10000000 %
7642     \number\baselineskip\space
7643     #2%
7644   }%
7645 }
7646 \def\hyper@linkend{%
7647   \Hy@endcolorlink
7648 }
7649 \def\hyper@link#1#2#3{%
7650   \setbox\@tempboxa=\color@hbox #3\color@endbox
7651   \leavevmode
7652   \ifHy@raiselinks
7653     \@linkdim\dp\@tempboxa
7654     \lower\@linkdim\hbox{%
7655       \special{button: %
7656         \number\wd\@tempboxa\space
7657         \number\ht\@tempboxa\space
7658         #2%
7659       }%
7660       \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7661       \Hy@endcolorlink
7662     }%
7663     \@linkdim\ht\@tempboxa
7664     \advance\@linkdim by -6.5\p@
7665     \raise\@linkdim\hbox{}%
7666   \else
7667     \special{button: %
7668       \number\wd\@tempboxa\space
7669       \number\ht\@tempboxa\space
7670       #2%
7671     }%
7672     \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7673     \Hy@endcolorlink
7674   \fi
7675 }
7676 \def\hyper@linkurl#1#2{%
7677   \begingroup
7678   \hyper@chars
7679   \leavevmode
7680   \setbox\@tempboxa=\color@hbox #1\color@endbox
7681   \ifHy@raiselinks
7682     \@linkdim\dp\@tempboxa
7683     \lower\@linkdim\hbox{%
7684       \special{button: %
7685         \number\wd\@tempboxa\space
7686         \number\ht\@tempboxa\space
7687         launch: \wwwbrowser\space
7688         #2%
7689       }%
7690       \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7691     }%
7692     \@linkdim\ht\@tempboxa
7693     \advance\@linkdim by -6.5\p@
7694     \raise\@linkdim\hbox{}%

```

```

7695 \else
7696 \special{button: %
7697 \number\wd\@tempboxa\space
7698 \number\ht\@tempboxa\space
7699 launch: \wwwbrowser\space
7700 #2%
7701 }%
7702 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7703 \fi
7704 \endgroup
7705 }
7706 \def\hyper@linkfile#1#2#3{%
7707 \begingroup
7708 \hyper@chars
7709 \leavevmode
7710 \setbox\@tempboxa=\color@hbox #1\color@endbox
7711 \ifHy@raiselinks
7712 \@linkdim\dp\@tempboxa
7713 \lower\@linkdim\hbox{%
7714 \special{button: %
7715 \number\wd\@tempboxa\space
7716 \number\ht\@tempboxa\space
7717 #3,%
7718 file: #2%
7719 }%
7720 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7721 }%
7722 \@linkdim\ht\@tempboxa
7723 \advance\@linkdim by -6.5\p@
7724 \raise\@linkdim\hbox{}}%
7725 \else
7726 \special{button: %
7727 \number\wd\@tempboxa\space
7728 \number\ht\@tempboxa\space
7729 #3,%
7730 file: #2%
7731 }%
7732 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7733 \fi
7734 \endgroup
7735 }
7736 \ifx\@pdfproducer\relax
7737 \def\@pdfproducer{dviwindo + Distiller}%
7738 \fi
7739 \def\PDF@FinishDoc{%
7740 \Hy@UseMaketitleInfos
7741 \special{PDF: Keywords \@pdfkeywords}%
7742 \special{PDF: Title \@pdftitle}%
7743 \special{PDF: Creator \@pdfcreator}%
7744 \ifx\@pdfcreationdate\@empty
7745 \else
7746 \special{PDF: CreationDate \@pdfcreationdate}%
7747 \fi
7748 \ifx\@pdfmoddate\@empty
7749 \else
7750 \special{PDF: ModDate \@pdfmoddate}%
7751 \fi

```

```

7752 \special{PDF: Author \@pdfauthor}%
7753 \ifx\@pdfproducer\relax
7754 \else
7755   \special{PDF: Producer \@pdfproducer}%
7756 \fi
7757 \special{PDF: Subject \@pdfsubject}%
7758 \Hy@DisableOption{pdfauthor}%
7759 \Hy@DisableOption{pdftitle}%
7760 \Hy@DisableOption{pdfsubject}%
7761 \Hy@DisableOption{pdfcreator}%
7762 \Hy@DisableOption{pdfcreationdate}%
7763 \Hy@DisableOption{pdfmoddate}%
7764 \Hy@DisableOption{pdfproducer}%
7765 \Hy@DisableOption{pdfkeywords}%
7766 }
7767 \def\PDF@SetupDoc{%
7768   \ifx\@baseurl\@empty
7769   \else
7770     \special{PDF: Base \@baseurl}%
7771   \fi
7772   \ifx\@pdfpagescrop\@empty\else
7773     \special{PDF: BBox \@pdfpagescrop}%
7774   \fi
7775   \def\Hy@temp{%
7776     \ifx\@pdfstartpage\@empty
7777     \else
7778       \ifx\@pdfstartview\@empty
7779       \else
7780         \edef\Hy@temp{%
7781           ,Page=\@pdfstartpage
7782           ,View=\@pdfstartview
7783         }%
7784       \fi
7785     \fi
7786     \edef\Hy@temp{%
7787       \noexpand\pdfmark{%
7788         pdfmark=/DOCVIEW,%
7789         PageMode=/\@pdfpagemode
7790       }\Hy@temp
7791     }%
7792   }%
7793   \Hy@temp
7794   \ifx\@pdfpagescrop\@empty
7795   \else
7796     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7797   \fi
7798   \edef\Hy@temp{%
7799     \ifHy@toolbar\else /HideToolbar true\fi
7800     \ifHy@menubar\else /HideMenubar true\fi
7801     \ifHy>windowui\else /HideWindowUI true\fi
7802     \ifHy@fitwindow /FitWindow true\fi
7803     \ifHy@centerwindow /CenterWindow true\fi
7804     \ifHy@displaydoctitle /DisplayDocTitle true\fi
7805     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7806     \Hy@UseNameKey{Direction}\@pdfdirection
7807     \Hy@UseNameKey{ViewArea}\@pdfviewarea
7808     \Hy@UseNameKey{ViewClip}\@pdfviewclip

```

```

7809 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7810 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7811 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7812 \Hy@UseNameKey{Duplex}\@pdfduplex
7813 \ifx\@pdfpicktraybypdfsize\@empty
7814 \else
7815 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7816 \fi
7817 \ifx\@pdfprintpagerange\@empty
7818 \else
7819 /PrintPageRange[\@pdfprintpagerange]%
7820 \fi
7821 \ifx\@pdfnumcopies\@empty
7822 \else
7823 /NumCopies \@pdfnumcopies
7824 \fi
7825 }%
7826 \pdfmark{pdfmark=/PUT,%
7827 Raw={%
7828 \string{Catalog\string}<<%
7829 \ifx\Hy@temp\@empty
7830 \else
7831 /ViewerPreferences<<\Hy@temp>>%
7832 \fi
7833 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7834 \ifx\@pdflang\@empty
7835 \else
7836 /Lang(\@pdflang)%
7837 \fi
7838 >>%
7839 }%
7840 }%
7841 }
7842 </dviwindo>
7843 <*dvipdfm>

```

## 46.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

7844 \providecommand*\XR@ext}{pdf}
7845 \Hy@setbreaklinks{true}
7846 \newsavebox{\pdfm@box}
7847 \def\@pdfm@mark#1{\special{pdf:#1}}
7848 \def\@pdfm@dest#1{%
7849 \Hy@SaveLastskip
7850 \beginingroup
7851 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7852 \def\x{XYZ}%
7853 \ifx\x\@pdfview
7854 \def\x{XYZ @xpos @ypos null}%
7855 \else
7856 \def\x{FitH}%
7857 \ifx\x\@pdfview
7858 \def\x{FitH @ypos}%
7859 \else
7860 \def\x{FitBH}%
7861 \ifx\x\@pdfview

```

```

7862         \def\x{FitBH @ypos}%
7863     \else
7864         \def\x{FitV}%
7865         \ifx\x\@pdfview
7866             \def\x{FitV @xpos}%
7867         \else
7868             \def\x{FitBV}%
7869             \ifx\x\@pdfview
7870                 \def\x{FitBV @xpos}%
7871             \else
7872                 \def\x{Fit}%
7873                 \ifx\x\@pdfview
7874                     \let\x\@pdfview
7875                 \else
7876                     \def\x{FitB}%
7877                     \ifx\x\@pdfview
7878                         \let\x\@pdfview
7879                     \else
7880                         \def\x{FitR}%
7881                         \ifx\x\@pdfview
7882                             \Hy@Warning{'pdfview=FitR' is not supported}%
7883                             \def\x{XYZ @xpos @ypos null}%
7884                         \else
7885                             \@onelevel@sanitize\@pdfview
7886                             \Hy@Warning{Unknown value '\@pdfview' for pdfview}%
7887                             \def\x{XYZ @xpos @ypos null}%
7888                         \fi
7889                     \fi
7890                 \fi
7891             \fi
7892         \fi
7893     \fi
7894 \fi
7895 \fi
7896 \pdfmark{dest (\Hy@pstringDest) [@thispage /\x]}%
7897 \endgroup
7898 \Hy@RestoreLastskip
7899 }
7900 \providecommand*\@pdfview{XYZ}
7901 \providecommand*\@pdfborder{0 0 1}
7902 \providecommand*\@pdfborderstyle{}
7903 \def\hyper@anchor#1{%
7904     \@pdfmark{dest{#1}}%
7905 }
7906 \def\hyper@anchorstart#1{%
7907     \Hy@activeanchortrue
7908     \@pdfmark{dest{#1}}%
7909 }
7910 \def\hyper@anchorend{%
7911     \Hy@activeanchorfalse
7912 }
7913 \newcounter{Hy@AnnotLevel}
7914 \ifHy@ocgcolorlinks
7915     \def\OBJ@OCG@view{\OCG@view}%
7916     \@pdfmark{%
7917         obj \OBJ@OCG@view <<%
7918             /Type/OCG%

```

```

7919      /Name(View)%
7920      /Usage<<%
7921      /Print<<%
7922          /PrintState/OFF%
7923      >>%
7924      /View<<%
7925          /ViewState/ON%
7926      >>%
7927      >>%
7928      >>%
7929  }%
7930  \@pdfmark{close \OBJ@OCG@view}%
7931  \def\OBJ@OCG@print{@OCG@print}%
7932  \@pdfmark{%
7933      obj \OBJ@OCG@print <<%
7934          /Type/OCG%
7935          /Name(Print)%
7936          /Usage<<%
7937          /Print<<%
7938              /PrintState/ON%
7939          >>%
7940          /View<<%
7941              /ViewState/OFF%
7942          >>%
7943      >>%
7944      >>%
7945  }%
7946  \@pdfmark{close \OBJ@OCG@print}%
7947  \def\OBJ@OCGs{@OCGs}%
7948  \@pdfmark{%
7949      obj \OBJ@OCGs [%
7950          \OBJ@OCG@view\space\OBJ@OCG@print
7951      ]%
7952  }%
7953  \@pdfmark{close \OBJ@OCGs}%
7954  \@pdfmark{%
7955      put @catalog <<%
7956          /OCProperties<<%
7957              /OCGs \OBJ@OCGs
7958          /D<<%
7959              /OFF[\OBJ@OCG@print]%
7960              /AS[%
7961                  <<%
7962                      /Event/View%
7963                      /OCGs \OBJ@OCGs
7964                      /Category[/View]%
7965                  >>%
7966                  <<%
7967                      /Event/Print%
7968                      /OCGs \OBJ@OCGs
7969                      /Category[/Print]%
7970                  >>%
7971                  <<%
7972                      /Event/Export%
7973                      /OCGs \OBJ@OCGs
7974                      /Category[/Print]%
7975                  >>%

```

```

7976         ]%
7977         >>%
7978         >>%
7979         >>%
7980     }%
7981     \AtBeginShipout{%
7982         \setbox\AtBeginShipoutBox=\hbox{%
7983             \copy\AtBeginShipoutBox
7984             \@pdfm@mark{%
7985                 put @resources <<%
7986                 /Properties<<%
7987                 /OCView \OBJ@OCG@view
7988                 /OCPrint \OBJ@OCG@print
7989                 >>%
7990                 >>%
7991             }%
7992         }%
7993     }%
7994     \AtBeginDocument{%
7995         \def\Hy@colorlink#1{%
7996             \begingroup
7997             \ifHy@ocgcolorlinks
7998                 \def\Hy@ocgcolor{#1}%
7999                 \setbox0=\color@hbox
8000             \else
8001                 \HyColor@UseColor#1%
8002             \fi
8003         }%
8004         \def\Hy@endcolorlink{%
8005             \ifHy@ocgcolorlinks
8006                 \color@endbox
8007                 \mbox{%
8008                     \@pdfm@mark{content /OC/OCPrint BDC}%
8009                     \rlap{\copy0}%
8010                     \@pdfm@mark{content EMC/OC/OCView BDC}%
8011                     \begingroup
8012                         \expandafter\HyColor@UseColor\Hy@ocgcolor
8013                         \box0 %
8014                     \endgroup
8015                     \@pdfm@mark{content EMC}%
8016                 }%
8017             \fi
8018         \endgroup
8019     }%
8020 }%
8021 \else
8022     \Hy@DisableOption{ocgcolorlinks}%
8023 \fi
8024 \def\Hy@BeginAnnot#1{%
8025     \stepcounter{Hy@AnnotLevel}%
8026     \ifnum\value{Hy@AnnotLevel}=\@ne
8027         #1%
8028     \fi
8029 }
8030 \def\Hy@EndAnnot{%
8031     \ifnum\value{Hy@AnnotLevel}=\@ne
8032         \Hy@endcolorlink

```

```

8033 \pdfmark{eann}%
8034 \fi
8035 \addtocounter{Hy@AnnotLevel}\m@ne
8036 }

8037 \def\Hy@undefinedname{UNDEFINED}
8038 \def\hyper@linkstart#1#2{%
8039 \Hy@BeginAnnot{%
8040 \protected@edef\Hy@testname{#2}%
8041 \ifx\Hy@testname\@empty
8042 \Hy@Warning{%
8043 Empty destination name,\MessageBreak
8044 using '\Hy@undefinedname'%
8045 }%
8046 \let\Hy@testname\Hy@undefinedname
8047 \else
8048 \Hy@pstringdef\Hy@testname{%
8049 \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8050 }%
8051 \fi
8052 \pdfmark{%
8053 bann<<%
8054 /Type/Annot%
8055 /Subtype/Link%
8056 \ifHy@pdfa /F 4\fi
8057 \Hy@setpdfborder
8058 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
8059 \else
8060 /C[\csname @#1bordercolor\endcsname]%
8061 \fi
8062 /A<<%
8063 /S/GoTo%
8064 /D(\Hy@testname)%
8065 >>%
8066 >>%
8067 }%
8068 \expandafter\Hy@colorlink\csname @#1color\endcsname
8069 }%
8070 }

8071 \def\hyper@linkend{\Hy@EndAnnot}%
8072 \def\hyper@link#1#2#3{%
8073 \hyper@linkstart{#1}{#2}#3\hyper@linkend
8074 }

8075 \def\hyper@linkfile#1#2#3{%
8076 \leavevmode
8077 \Hy@BeginAnnot{%
8078 \Hy@pstringdef\Hy@pstringF{#2}%
8079 \Hy@pstringdef\Hy@pstringD{#3}%
8080 \pdfmark{%
8081 bann<<%
8082 /Type/Annot%
8083 /Subtype/Link%
8084 \ifHy@pdfa /F 4\fi
8085 \Hy@setpdfborder
8086 \ifx\@filebordercolor\relax
8087 \else
8088 /C[\@filebordercolor]%
8089 \fi

```



```

8090      /A<<%
8091      /S/GoToR%
8092      /F(\Hy@pstringF)%
8093      /D\ifx\#3\ [0 \pdfstartview]\else(\Hy@pstringD)\fi
8094      \Hy@SetNewWindow
8095      >>%
8096      >>%
8097      }%
8098      \Hy@colorlink\@filecolor
8099      }%
8100      #1%
8101      \Hy@endAnnot
8102 }
8103 \def\hyper@linkurl#1#2{%
8104   \leavevmode
8105   \Hy@BeginAnnot{%
8106     \Hy@pstringdef\Hy@pstringURI{#2}%
8107     \@pdfm@mark{%
8108       bann<<%
8109       /Type/Annot%
8110       /Subtype/Link%
8111       \ifHy@pdfa /F 4\fi
8112       \Hy@setpdfborder
8113       \ifx\@urlbordercolor\relax
8114       \else
8115         /C[\@urlbordercolor]%
8116       \fi
8117       /A<<%
8118       /S/URI%
8119       /URI(\Hy@pstringURI)%
8120       >>%
8121       >>%
8122     }%
8123     \Hy@colorlink\@urlcolor
8124   }%
8125   #1%
8126   \Hy@endAnnot
8127 }
8128 \def\Acrobatmenu#1#2{%
8129   \Hy@Acrobatmenu{#1}{#2}{%
8130     \Hy@BeginAnnot{%
8131       \@pdfm@mark{%
8132         bann<<%
8133         /Type/Annot%
8134         /Subtype/Link%
8135         \ifHy@pdfa /F 4\fi
8136         /A<<%
8137         /S/Named%
8138         /N/#1%
8139         >>%
8140         \Hy@setpdfborder
8141         \ifx\@menubordercolor\relax
8142         \relax
8143         /C[\@menubordercolor]%
8144       \fi
8145       >>%
8146     }%

```

```

8147      \Hy@colorlink\@menucolor
8148    }%
8149    #2%
8150    \Hy@EndAnnot
8151  }%
8152 }
8153 \ifx\@pdfproducer\relax
8154   \def\@pdfproducer{dvipdfm}%

```

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

```

8155 \begingroup\expandafter\expandafter\expandafter\endgroup
8156 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8157   \else
8158     \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8159   \fi
8160 \fi
8161 \def\PDF@FinishDoc{%
8162   \Hy@UseMaketitleInfos
8163   \@pdfm@mark{%
8164     docinfo<<%
8165       /Title(\@pdftitle)%
8166       /Subject(\@pdfsubject)%
8167       /Creator(\@pdfcreator)%
8168       \ifx\@pdfcreationdate\@empty
8169       \else
8170         /CreationDate(\@pdfcreationdate)%
8171       \fi
8172       \ifx\@pdfmoddate\@empty
8173       \else
8174         /ModDate(\@pdfmoddate)%
8175       \fi
8176       /Author(\@pdfauthor)%
8177       \ifx\@pdfproducer\relax
8178       \else
8179         /Producer(\@pdfproducer)%
8180       \fi
8181       /Keywords(\@pdfkeywords)%
8182     >>%
8183   }%
8184   \Hy@DisableOption{pdfauthor}%
8185   \Hy@DisableOption{pdftitle}%
8186   \Hy@DisableOption{pdfsubject}%
8187   \Hy@DisableOption{pdfcreator}%
8188   \Hy@DisableOption{pdfcreationdate}%
8189   \Hy@DisableOption{pdfmoddate}%
8190   \Hy@DisableOption{pdfproducer}%
8191   \Hy@DisableOption{pdfkeywords}%
8192 }
8193 \def\PDF@SetupDoc{%
8194   \edef\Hy@temp{%
8195     \ifHy@toolbar\else /HideToolbar true\fi
8196     \ifHy@menubar\else /HideMenubar true\fi
8197     \ifHy>windowui\else /HideWindowUI true\fi
8198     \ifHy@fitwindow /FitWindow true\fi
8199     \ifHy@centerwindow /CenterWindow true\fi
8200     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8201     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode

```

```

8202 \Hy@UseNameKey{Direction}\@pdfdirection
8203 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8204 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8205 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8206 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8207 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8208 \Hy@UseNameKey{Duplex}\@pdfduplex
8209 \ifx\@pdfpicktraybypdfsize\@empty
8210 \else
8211 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8212 \fi
8213 \ifx\@pdfprintpagerange\@empty
8214 \else
8215 /PrintPageRange[\@pdfprintpagerange]%
8216 \fi
8217 \ifx\@pdfnumcopies\@empty
8218 \else
8219 /NumCopies \@pdfnumcopies
8220 \fi
8221 }%
8222 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8223 \@pdfm@mark{%
8224 docview<<%
8225 \ifx\@pdfstartpage\@empty
8226 \else
8227 \ifx\@pdfstartview\@empty
8228 \else
8229 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
8230 \fi
8231 \fi
8232 \ifx\@baseurl\@empty
8233 \else
8234 /URI<</Base(\Hy@pstringB)>>%
8235 \fi
8236 /PageMode/\@pdfpagemode
8237 \ifx\Hy@temp\@empty
8238 \else
8239 /ViewerPreferences<<\Hy@temp>>%
8240 \fi
8241 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8242 \ifx\@pdflang\@empty
8243 \else
8244 /Lang(\@pdflang)%
8245 \fi
8246 >>%
8247 }%
8248 \ifx\@pdfpagescrop\@empty
8249 \else
8250 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
8251 \fi
8252 }

8253 \AtBeginShipoutFirst{%
8254 \ifx\special@paper\@empty
8255 \else
8256 \ifHy@setpagesize
8257 \special{papersize=\special@paper}%
8258 \fi

```

```

8259 \fi
8260 \Hy@DisableOption{setpagesize}%
8261 }
8262 </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.

```

8263 <*vtexhtml>
8264 \providecommand*{\XR@ext}{htm}
8265 \RequirePackage{vtexhtml}
8266 \newif\if@Localurl
8267 \def\PDF@FinishDoc{}
8268 \def\PDF@SetupDoc{%
8269   \ifx\@baseurl\@empty
8270   \else
8271     \special{!direct <base href="\@baseurl">}%
8272   \fi
8273 }
8274 \def\@urltype{url}
8275 \def\hyper@link#1#2#3{%
8276   \leavevmode
8277   \special{!direct <a href=%
8278     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8279   #3%
8280   \special{!direct </a>}%
8281 }
8282 \def\hyper@linkurl#1#2{%
8283   \begingroup
8284     \hyper@chars
8285     \leavevmode
8286     \MathBSuppress=1\relax
8287     \special{!direct <a href=%
8288       \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8289     #1%
8290     \MathBSuppress=0\relax
8291     \special{!direct </a>}%
8292   \endgroup
8293 }
8294 \def\hyper@linkfile#1#2#3{%
8295   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
8296 }
8297 \def\hyper@linkstart#1#2{%
8298   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8299     \@Localurltrue
8300     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8301   \else
8302     \@Localurlfalse
8303     \begingroup
8304       \hyper@chars
8305       \special{!aref \HyperDestNameFilter{#2}}%
8306     \endgroup
8307   \fi
8308 }
8309 \def\hyper@linkend{%
8310   \if@Localurl

```

```

8311 \special{!endaref}%
8312 \else
8313 \special{!direct </a>}%
8314 \fi
8315 }
8316 \def\hyper@anchorstart#1{%
8317 \Hy@SaveLastskip
8318 \begingroup
8319 \hyper@chars
8320 \special{!aname #1}%
8321 \special{!direct <a name=%
8322 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8323 \endgroup
8324 \Hy@activeanchortrue
8325 }
8326 \def\hyper@anchorend{%
8327 \special{!direct </a>}%
8328 \Hy@activeanchorfalse
8329 \Hy@RestoreLastskip
8330 }
8331 \def\hyper@anchor#1{%
8332 \Hy@SaveLastskip
8333 \begingroup
8334 \let\protect=\string
8335 \hyper@chars
8336 \leavevmode
8337 \special{!aname #1}%
8338 \special{!direct <a name=%
8339 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8340 \endgroup
8341 \Hy@activeanchortrue
8342 \bgroup\anchor@spot\egroup
8343 \special{!direct </a>}%
8344 \Hy@activeanchorfalse
8345 \Hy@RestoreLastskip
8346 }
8347 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
8348 \def\@endForm{}
8349 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8350 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8351 }
8352 \def\@TextField[#1]#2{% parameters, label
8353 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8354 }
8355 \def\@CheckBox[#1]#2{% parameters, label
8356 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8357 }
8358 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8359 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8360 }
8361 \def\@PushButton[#1]#2{% parameters, label
8362 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8363 }
8364 \def\@Reset[#1]#2{%
8365 \typeout{Sorry, TeXpider does not yet support FORMs}%
8366 }
8367 \def\@Submit[#1]#2{%

```

```

8368 \typeout{Sorry, TeXpider does not yet support FORMs}%
8369 }
8370 \</vtexhtml>
8371 \<*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.

```

8372 \ifx\mediaheight\@undefined
8373 \else
8374 \ifx\mediaheight\relax
8375 \else
8376 \ifHy@setpagesize
8377 \providecommand*\VTeXInitMediaSize{%
8378 \ifundefined{stockwidth}{%
8379 \ifdim\paperheight>0pt %
8380 \setlength\mediaheight\paperheight
8381 \fi
8382 \ifdim\paperheight>0pt %
8383 \setlength\mediawidth\paperwidth
8384 \fi
8385 }{%
8386 \ifdim\stockheight>0pt %
8387 \setlength\mediaheight\stockheight
8388 \fi
8389 \ifdim\stockwidth>0pt %
8390 \setlength\mediawidth\stockwidth
8391 \fi
8392 }%
8393 }%
8394 \AtBeginDocument{\VTeXInitMediaSize}%
8395 \fi
8396 \Hy@DisableOption{setpagesize}%
8397 \fi
8398 \fi

```

Older versions of VTeX require xyz in lower case.

```

8399 \providecommand*\@pdfview{xyz}
8400 \providecommand*\@pdfborder{0 0 1}
8401 \providecommand*\@pdfborderstyle{}
8402 \let\CurrentBorderColor\@linkbordercolor
8403 \def\hyper@anchor#1{%
8404 \Hy@SaveLastskip
8405 \begingroup
8406 \let\protect=\string
8407 \hyper@chars
8408 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8409 \endgroup
8410 \Hy@activeanchortrue
8411 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8412 \Hy@activeanchorfalse
8413 \Hy@RestoreLastskip
8414 }
8415 \def\hyper@anchorstart#1{%
8416 \Hy@SaveLastskip
8417 \begingroup
8418 \hyper@chars
8419 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%

```

```

8420 \endgroup
8421 \Hy@activeanchortrue
8422 }
8423 \def\hyper@anchorend{%
8424 \Hy@activeanchorfalse
8425 \Hy@RestoreLastskip
8426 }
8427 \def\@urltype{url}
8428 \def\Hy@undefinedname{UNDEFINED}
8429 \def\hyper@linkstart#1#2{%
8430 \Hy@pstringdef\Hy@pstringURI{#2}%
8431 \expandafter\Hy@colorlink\csname @#1color\endcsname
8432 \@ifundefined{#@#1bordercolor}{%
8433 \let\CurrentBorderColor\relax
8434 }{%
8435 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8436 }%
8437 \def\Hy@tempa{#1}%
8438 \ifx\Hy@tempa\@urltype
8439 \special{!%
8440 aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8441 a=<%
8442 \ifHy@pdfa /F 4\fi
8443 \Hy@setpdfborder
8444 \ifx\CurrentBorderColor\relax
8445 \else
8446 /C [\CurrentBorderColor]%
8447 \fi
8448 >%
8449 }%
8450 \else
8451 \protected@edef\Hy@testname{#2}%
8452 \ifx\Hy@testname\@empty
8453 \Hy@Warning{%
8454 Empty destination name,\MessageBreak
8455 using '\Hy@undefinedname'%
8456 }%
8457 \let\Hy@testname\Hy@undefinedname
8458 \fi
8459 \special{!%
8460 aref \expandafter\HyperDestNameFilter
8461 \expandafter{\Hy@testname};%
8462 a=<%
8463 \ifHy@pdfa /F 4\fi
8464 \Hy@setpdfborder
8465 \ifx\CurrentBorderColor\relax
8466 \else
8467 /C [\CurrentBorderColor]%
8468 \fi
8469 >%
8470 }%
8471 \fi
8472 }
8473 \def\hyper@linkend{%
8474 \special{!endaref}%
8475 \Hy@endcolorlink
8476 }

```

```

8477 \def\hyper@linkfile#1#2#3{%
8478   \leavevmode
8479   \special{!%
8480     aref <%
8481       \ifnum\Hy@TeXversion>753 \ifHy@newwindow n\fi\fi
8482       f=#2>#3;%
8483       a=<%
8484         \ifHy@pdfa /F 4\fi
8485         \Hy@setpdfborder
8486         \ifx\@filebordercolor\relax
8487         \else
8488           /C [\@filebordercolor]%
8489         \fi
8490       >%
8491     }%
8492     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8493     \special{!endaref}%
8494 }
8495 \def\hyper@linkurl#1#2{%
8496   \begingroup
8497   \Hy@pstringdef\Hy@pstringURI{#2}%
8498   \hyper@chars
8499   \leavevmode
8500   \special{!%
8501     aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8502     a=<%
8503       \ifHy@pdfa /F 4\fi
8504       \Hy@setpdfborder
8505       \ifx\@urlbordercolor\relax
8506       \else
8507         /C [\@urlbordercolor]%
8508       \fi
8509     >%
8510   }%
8511   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8512   \special{!endaref}%
8513   \endgroup
8514 }
8515 \def\hyper@link#1#2#3{%
8516   \@ifundefined{@#1bordercolor}{%
8517     \let\CurrentBordercolor\relax
8518   }{%
8519     \edef\CurrentBordercolor{\csname @#1bordercolor\endcsname}%
8520   }%
8521   \leavevmode
8522   \protected@edef\Hy@testname{#2}%
8523   \ifx\Hy@testname\@empty
8524     \Hy@Warning{%
8525       Empty destination name,\MessageBreak
8526       using '\Hy@undefinedname'%
8527     }%
8528     \let\Hy@testname\Hy@undefinedname
8529   \fi
8530   \special{!%
8531     aref \expandafter\HyperDestNameFilter
8532     \expandafter{\Hy@testname};%
8533     a=<%

```



```

8534 \ifHy@pdfa /F 4\fi
8535 \Hy@setpdfborder
8536 \ifx\CurrentBorderColor\relax
8537 \else
8538 /C [\CurrentBorderColor]%
8539 \fi
8540 >%
8541 }%
8542 \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8543 \special{!endaref}%
8544 }
8545 \def\hyper@image#1#2{%
8546 \hyper@linkurl{#2}{#1}%
8547 }
8548 \def\@hyper@launch run:#1\#2#3{%
8549 \Hy@pstringdef\Hy@pstringF{#1}%
8550 \Hy@pstringdef\Hy@pstringP{#3}%
8551 \leavevmode
8552 \special{!aref %
8553 <u=%
8554 /Type/Action%
8555 /S/Launch%
8556 /F(\Hy@pstringF)%
8557 \Hy@SetNewWindow
8558 \ifx\#3\else /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
8559 >;%
8560 a=<%
8561 \ifHy@pdfa /F 4\fi
8562 \Hy@setpdfborder
8563 \ifx\@runbordercolor\relax
8564 \else
8565 /C[\@runbordercolor]%
8566 \fi
8567 >%
8568 }%
8569 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8570 \special{!endaref}%
8571 }
8572 \def\Acrobatmenu#1#2{%
8573 \Hy@Acrobatmenu{#1}{#2}{%
8574 \special{!%
8575 aref <u=/S /Named /N /#1>;%
8576 a=<%
8577 \ifHy@pdfa /F 4\fi
8578 \Hy@setpdfborder
8579 \ifx\@menubordercolor\relax
8580 \else
8581 /C[\@menubordercolor]%
8582 \fi
8583 >%
8584 }%
8585 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8586 \special{!endaref}%
8587 }%
8588 }

```

The following code (transition effects) is made by Alex Kostin.  
The code below makes sense for VT<sub>E</sub>X 7.02 or later.

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

```
8589 \ifnum\Hy@VTeXversion<702 %
8590 \else
8591   \def\hyper@pagetransition{%
8592     \ifx\@pdfpagetransition\relax
8593     \else
8594     \ifx\@pdfpagetransition\@empty
```

Standard incantation.

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

```
8595   \else
8596   \hvtex@parse@trans\@pdfpagetransition
8597   \fi
8598 \fi
8599 }%
```

I have to write an “honest” parser to convert raw PDF code into  $\text{\TeX}$  `\special`.  
(AVK)

Syntax of  $\text{\TeX}$  `\special{!trans <transition_effect>}`:

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

Transition codes:

```
8600 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8601 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8602 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8603 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8604 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8605 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8606 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%
```

Optional parameters:

```
8607 \def\hvtex@par@dimension{/Dm}%
8608 \def\hvtex@par@direction{/Di}%
8609 \def\hvtex@par@duration{/D}%
8610 \def\hvtex@par@motion{/M}%
```

Tokenizer:

```
8611 \def\hvtex@gettoken{\expandafter\hvtex@gettoken\hvtex@buffer\@nil}%
```

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

```
8612 \def\hvtex@gettoken@#1 #2\@nil{%
8613   \edef\hvtex@token{#1}%
8614   \edef\hvtex@buffer{#2}%
8615 }%
8616 \def\hvtex@parse@trans#1{%
```

Initializing code:

```
8617 \let\hvtex@trans@code\@empty
8618 \let\hvtex@param@dimension\@empty
8619 \let\hvtex@param@direction\@empty
8620 \let\hvtex@param@duration\@empty
8621 \let\hvtex@param@motion\@empty
8622 \edef\hvtex@buffer{#1\space}%
```

First token is the PDF transition name without escape.

```
8623 \hvtex@gettoken
8624 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
8625 \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
8626 \else
8627 \hvtex@gettoken
8628 \fi
8629 \fi
8630 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
8631 \hvtex@trans@params
8632 }%
```

Reentrant macro to parse optional parameters.

```
8633 \def\hvtex@trans@params{%
8634 \ifx\hvtex@buffer\@empty
8635 \else
8636 \hvtex@gettoken
8637 \let\hvtex@trans@par\hvtex@token
8638 \ifx\hvtex@buffer\@empty
8639 \else
8640 \hvtex@gettoken
8641 \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.

```
8642 \let\hvtex@param@duration\hvtex@token
8643 \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
8644 \expandafter\edef\expandafter\hvtex@param@motion
8645 \expandafter{\expandafter\@gobble\hvtex@token}%
8646 \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
8647 \expandafter\edef\expandafter\hvtex@param@dimension
8648 \expandafter{\expandafter\@gobble\hvtex@token}%
8649 \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).

```
8650 \let\hvtex@param@direction\hvtex@token
8651 \fi\fi\fi\fi
8652 \fi
8653 \fi
8654 \ifx\hvtex@buffer\@empty
8655 \let\next\hvtex@produce@trans
8656 \else
8657 \let\next\hvtex@trans@params
```

```

8658 \fi
8659 \next
8660 }%

```

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

```

8661 \def\hvtex@produce@trans{%
8662 \let\vtex@trans@special\@empty
8663 \if S\hvtex@trans@code
8664 \edef\vtex@trans@special{\hvtex@trans@code
8665 \hvtex@param@dimension\hvtex@param@motion}%
8666 \else\if B\hvtex@trans@code
8667 \edef\vtex@trans@special{%
8668 \hvtex@trans@code\hvtex@param@dimension
8669 }%
8670 \else\if X\hvtex@trans@code
8671 \edef\vtex@trans@special{%
8672 \hvtex@trans@code\hvtex@param@motion
8673 }%
8674 \else\if W\hvtex@trans@code
8675 \edef\vtex@trans@special{%
8676 \hvtex@trans@code\hvtex@param@direction
8677 }%
8678 \else\if D\hvtex@trans@code
8679 \let\vtex@trans@special\hvtex@trans@code
8680 \else\if R\hvtex@trans@code
8681 \let\vtex@trans@special\hvtex@trans@code
8682 \else\if G\hvtex@trans@code
8683 \edef\vtex@trans@special{%
8684 \hvtex@trans@code\hvtex@param@direction
8685 }%
8686 \fi\fi\fi\fi\fi\fi\fi
8687 \ifx\vtex@trans@special\@empty
8688 \else
8689 \ifx\hvtex@param@duration\@empty
8690 \else
8691 \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

8692 \multiply\dimen@\@m
8693 \edef\vtex@trans@special{%
8694 \vtex@trans@special,\strip@pt\dimen@
8695 }%
8696 \fi

```

And all the mess is just for this.

```

8697 \special{!trans \vtex@trans@special}%
8698 \fi
8699 }%

8700 \def\hyper@pageduration{%
8701 \ifx\@pdfpageduration\relax
8702 \else
8703 \ifx\@pdfpageduration\@empty
8704 \special{!duration-}%
8705 \else
8706 \special{!duration \@pdfpageduration}%
8707 \fi
8708 \fi

```

```

8709 }%
8710 \def\hyper@pagehidden{%
8711   \ifHy@useHidKey
8712     \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8713   \fi
8714 }%
8715 \g@addto@macro\Hy@EveryPageBoxHook{%
8716   \hyper@pagetransition
8717   \hyper@pageduration
8718   \hyper@pagehidden
8719 }%
8720 \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

```

8721 \ifx\@pdfproducer\relax
8722 \def\@pdfproducer{VTeX}%
8723 \ifnum\Hy@VTeXversion>\z@
8724   \count@\VTeXversion
8725   \divide\count@ 100 %
8726   \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
8727   \multiply\count@ -100 %
8728   \advance\count@\VTeXversion
8729   \edef\@pdfproducer{%
8730     \@pdfproducer
8731     .\ifnum\count@<10 0\fi\the\count@
8732     \ifx\VTeXOS\@undefined\else
8733       \ifnum\VTeXOS>0 %
8734         \ifnum\VTeXOS<6 %
8735           \space(
8736           \ifcase\VTeXOS
8737             \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
8738           \fi
8739         )%
8740       \fi
8741     \fi
8742   \fi
8743   ,\space
8744   \ifnum\OpMode=\@ne PDF\else PS\fi
8745   \space backend%
8746   \ifx\gexmode\@undefined\else
8747     \ifnum\gexmode>\z@\space with GeX\fi
8748   \fi
8749 }%
8750 \fi
8751 \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).

```

8752 \def\PDF@SetupDoc{%
8753   \ifx\@pdfpagescrop\@empty
8754   \else
8755     \special{!pdfinfo b=<\@pdfpagescrop>}%
8756   \fi
8757   \ifx\@pdfstartpage\@empty
8758   \else
8759     \ifx\@pdfstartview\@empty
8760     \else
8761       \special{!onopen Page\@pdfstartpage}%
8762     \fi
8763   \fi
8764   \special{!pdfinfo p=</\@pdfpagemode>}%
8765   \ifx\@baseurl\@empty
8766   \else
8767     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
8768   \fi
8769   \special{!pdfinfo v=<<<%
8770     \ifHy@toolbar\else /HideToolbar true\fi
8771     \ifHy@menubar\else /HideMenubar true\fi
8772     \ifHy@windowui\else /HideWindowUI true\fi
8773     \ifHy@fitwindow /FitWindow true\fi
8774     \ifHy@centerwindow /CenterWindow true\fi
8775     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8776     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8777     \Hy@UseNameKey{Direction}\@pdfdirection
8778     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8779     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8780     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8781     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8782     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8783     \Hy@UseNameKey{Duplex}\@pdfduplex
8784     \ifx\@pdfpicktraybypdfsize\@empty
8785     \else
8786       /PickTrayByPDFSize \@pdfpicktraybypdfsize
8787     \fi
8788     \ifx\@pdfprintpagerange\@empty
8789     \else
8790       /PrintPageRange[\@pdfprintpagerange]%
8791     \fi
8792     \ifx\@pdfnumcopies\@empty
8793     \else
8794       /NumCopies \@pdfnumcopies

```

```

8795 \fi
8796 >>>}%
8797 \ifx\@pdfpagelayout\@empty
8798 \else
8799 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
8800 \fi
8801 }%
8802 \def\PDF@FinishDoc{%
8803 \Hy@UseMaketitleInfos
8804 \special{!pdfinfo a=<\@pdfauthor>}%
8805 \special{!pdfinfo t=<\@pdftitle>}%
8806 \special{!pdfinfo s=<\@pdfsubject>}%
8807 \special{!pdfinfo c=<\@pdfcreator>}%
8808 \ifx\@pdfproducer\relax
8809 \else
8810 \special{!pdfinfo r=<\@pdfproducer>}%
8811 \fi
8812 \special{!pdfinfo k=<\@pdfkeywords>}%
8813 \Hy@DisableOption{pdfauthor}%
8814 \Hy@DisableOption{pdftitle}%
8815 \Hy@DisableOption{pdfsubject}%
8816 \Hy@DisableOption{pdfcreator}%
8817 \Hy@DisableOption{pdfcreationdate}%
8818 \Hy@DisableOption{pdfmoddate}%
8819 \Hy@DisableOption{pdfproducer}%
8820 \Hy@DisableOption{pdfkeywords}%
8821 }
8822 </vtx>

```

## 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.

```

8823 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
8824 <package>\providecommand*\Hy@DistillerDestFix{}
8825 <*pdfmark | dviwindo>
8826 \def\Hy@DistillerDestFix{%
8827 \begingroup
8828 \let\x\literalps@out

```

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

```

8829 \ifnum \@ifundefined{OpMode}{0}{}%
8830 \@ifundefined{gexmode}{0}{%
8831 \ifnum\gexmode>0 \OpMode\else 0\fi
8832 }}>1 %
8833 \def\x##1{%
8834 \immediate\special{!=##1}%
8835 }%
8836 \fi

```

```

8837 \x{%
8838 /product where{%
8839   pop %
8840   product(Distiller)search{%
8841     pop pop pop %
8842     version(.)search{%
8843       exch pop exch pop%
8844       (3011)eq{%
8845         gsave %
8846         newpath 0 0 moveto closepath clip%
8847         /Courier findfont 10 scalefont setfont %
8848         72 72 moveto(.)show %
8849         grestore%
8850       }if%
8851     }{pop}ifelse%
8852   }{pop}ifelse%
8853 }if%
8854 }%
8855 \endgroup
8856 }
8857 </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

```

```

8858 <*pdfmark>
8859 \Hy@breaklinks@unsupported
8860 \def\hyper@anchor#1{%
8861   \Hy@SaveLastskip
8862   \begingroup
8863     \pdfmark[\anchor@spot]{%
8864       pdfmark=/DEST,%
8865       linktype=anchor,%
8866       View=/\@pdfview \@pdfviewparams,%
8867       DestAnchor={#1}%
8868     }%
8869   \endgroup
8870   \Hy@RestoreLastskip
8871 }
8872 \@ifundefined{hyper@anchorstart}{-}{\endinput}
8873 \def\hyper@anchorstart#1{%
8874   \Hy@SaveLastskip
8875   \literalps@out{H.S}%
8876   \xdef\hyper@currentanchor{#1}%
8877   \Hy@activeanchortrue

```



```

8878 }
8879 \def\hyper@anchorend{%
8880   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
8881   \pdfmark{%
8882     pdfmark=/DEST,%
8883     linktype=anchor,%
8884     View=/\@pdfview \@pdfviewparams,%
8885     DestAnchor=\hyper@currentanchor,%
8886   }%
8887   \Hy@activeanchorfalse
8888   \Hy@RestoreLastskip
8889 }
8890 \def\hyper@linkstart#1#2{%
8891   \ifHy@breaklinks
8892   \else
8893     \leavevmode\hbox\bgroup
8894     \fi
8895     \expandafter\Hy@colorlink\csname @#1color\endcsname
8896     \literalps@out{H.S}%
8897     \xdef\hyper@currentanchor{#2}%
8898     \gdef\hyper@currentlinktype{#1}%
8899 }
8900 \def\hyper@linkend{%
8901   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
8902   \@ifundefined{@\hyper@currentlinktype bordercolor}{%
8903     \let\Hy@tempcolor\relax
8904   }{%
8905     \edef\Hy@tempcolor{%
8906       \csname @\hyper@currentlinktype bordercolor\endcsname
8907     }%
8908   }%
8909   \pdfmark{%
8910     pdfmark=/ANN,%
8911     linktype=link,%
8912     Subtype=/Link,%
8913     PDFAFlags=4,%
8914     Dest=\hyper@currentanchor,%
8915     AcroHighlight=\@pdfhighlight,%
8916     Border=\@pdfborder,%
8917     BorderStyle=\@pdfborderstyle,%
8918     Color=\Hy@tempcolor,%
8919     Raw=H.B%
8920   }%
8921   \Hy@endcolorlink
8922   \ifHy@breaklinks
8923   \else
8924     \egroup
8925   \fi
8926 }

```

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.

```

8927 \begingroup
8928   \catcode'P=12 %
8929   \catcode'T=12 %
8930   \lowercase{\endgroup
8931   \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%

```

```

8932 }
8933 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

8934 \def\hyper@pagetransition{%
8935   \ifx\@pdfpagetransition\relax
8936   \else
8937     \ifx\@pdfpagetransition\@empty
8938       % 1. Does an old entry have to be deleted?
8939       % 2. If 1=yes, how to delete?
8940     \else
8941       \pdfmark{%
8942         pdfmark=/PUT,%
8943         Raw={%
8944           \string{ThisPage\string}%
8945           <</Trans << /S /\@pdfpagetransition\space >> >>%
8946         }%
8947       }%
8948     \fi
8949   \fi
8950 }

```

\hyper@pageduration

```

8951 \def\hyper@pageduration{%
8952   \ifx\@pdfpageduration\relax
8953   \else
8954     \ifx\@pdfpageduration\@empty
8955       % 1. Does an old entry have to be deleted?
8956       % 2. If 1=yes, how to delete?
8957     \else
8958       \pdfmark{%
8959         pdfmark=/PUT,%
8960         Raw={%
8961           \string{ThisPage\string}%
8962           <</Dur \@pdfpageduration>>%
8963         }%
8964       }%
8965     \fi
8966   \fi
8967 }

```

\hyper@pagehidden

```

8968 \def\hyper@pagehidden{%
8969   \ifHy@useHidKey
8970     \pdfmark{%
8971       pdfmark=/PUT,%
8972       Raw={%
8973         \string{ThisPage\string}%
8974         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
8975       }%
8976     }%
8977   \fi
8978 }

8979 \g@addto@macro\Hy@EveryPageBoxHook{%
8980   \hyper@pagetransition
8981   \hyper@pageduration

```

```

8982 \hyper@pagehidden
8983 }

8984 \def\hyper@image#1#2{%
8985 \hyper@linkurl{#2}{#1}%
8986 }

8987 \def\Hy@undefinedname{UNDEFINED}
8988 \def\hyper@link#1#2#3{%
8989 \@ifundefined{#1bordercolor}{%
8990 \let\Hy@tempcolor\relax
8991 }{%
8992 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
8993 }%
8994 \begingroup
8995 \protected@edef\Hy@testname{#2}%
8996 \ifx\Hy@testname\@empty
8997 \Hy@Warning{%
8998 Empty destination name,\MessageBreak
8999 using '\Hy@undefinedname'%
9000 }%
9001 \let\Hy@testname\Hy@undefinedname
9002 \fi
9003 \pdfmark[{#3}]{%
9004 Color=\Hy@tempcolor,%
9005 linktype={#1},%
9006 AcroHighlight=\@pdfhighlight,%
9007 Border=\@pdfborder,%
9008 BorderStyle=\@pdfborderstyle,%
9009 pdfmark=/ANN,%
9010 Subtype=/Link,%
9011 PDFAFlags=4,%
9012 Dest=\Hy@testname
9013 }%
9014 \endgroup
9015 }

9016 \newtoks\pdf@docset
9017 \def\PDF@FinishDoc{%
9018 \Hy@UseMaketitleInfos
9019 \let\Hy@temp\@empty
9020 \ifx\@pdfcreationdate\@empty
9021 \else
9022 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
9023 \fi
9024 \ifx\@pdfmoddate\@empty
9025 \else
9026 \expandafter\def\expandafter\Hy@temp\expandafter{%
9027 \Hy@temp
9028 ModDate=\@pdfmoddate,%
9029 }%
9030 \fi
9031 \ifx\@pdfproducer\relax
9032 \else
9033 \expandafter\def\expandafter\Hy@temp\expandafter{%
9034 \Hy@temp
9035 Producer=\@pdfproducer,%
9036 }%
9037 \fi
9038 \expandafter

```

```

9039 \pdfmark\expandafter{%
9040   \Hy@temp
9041   pdfmark=/DOCINFO,%
9042   Title=\@pdftitle,%
9043   Subject=\@pdfsubject,%
9044   Creator=\@pdfcreator,%
9045   Author=\@pdfauthor,%
9046   Keywords=\@pdfkeywords
9047 }%
9048 \Hy@DisableOption{pdfauthor}%
9049 \Hy@DisableOption{pdftitle}%
9050 \Hy@DisableOption{pdfsubject}%
9051 \Hy@DisableOption{pdfcreator}%
9052 \Hy@DisableOption{pdfcreationdate}%
9053 \Hy@DisableOption{pdfmoddate}%
9054 \Hy@DisableOption{pdfproducer}%
9055 \Hy@DisableOption{pdfkeywords}%
9056 }
9057 \def\PDF@SetupDoc{%
9058   \def\Hy@temp{%
9059     \ifx\@pdfstartpage\@empty
9060     \else
9061       \ifx\@pdfstartview\@empty
9062       \else
9063         \edef\Hy@temp{%
9064           ,Page=\@pdfstartpage
9065           ,View=\@pdfstartview
9066         }%
9067       \fi
9068     \fi
9069     \edef\Hy@temp{%
9070       \noexpand\pdfmark{%
9071         pdfmark=/DOCVIEW,%
9072         PageMode=/\@pdfpagemode
9073       }\Hy@temp
9074     }%
9075   }%
9076   \Hy@temp
9077   \ifx\@pdfpagescrop\@empty
9078   \else
9079     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9080   \fi
9081   \edef\Hy@temp{%
9082     \ifHy@toolbar\else /HideToolbar true\fi
9083     \ifHy@menubar\else /HideMenubar true\fi
9084     \ifHy>windowui\else /HideWindowUI true\fi
9085     \ifHy@fitwindow /FitWindow true\fi
9086     \ifHy@centerwindow /CenterWindow true\fi
9087     \ifHy@displaydoctitle /DisplayDocTitle true\fi
9088     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9089     \Hy@UseNameKey{Direction}\@pdfdirection
9090     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9091     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9092     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9093     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9094     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9095     \Hy@UseNameKey{Duplex}\@pdfduplex

```

```

9096 \ifx\@pdfpicktraybypdfsize\@empty
9097 \else
9098 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9099 \fi
9100 \ifx\@pdfprintpagerange\@empty
9101 \else
9102 /PrintPageRange[\@pdfprintpagerange]%
9103 \fi
9104 \ifx\@pdfnumcopies\@empty
9105 \else
9106 /NumCopies \@pdfnumcopies
9107 \fi
9108 }%
9109 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9110 \pdfmark{%
9111 pdfmark=/PUT,%
9112 Raw={%
9113 \string{Catalog\string}<<%
9114 \ifx\Hy@temp\@empty
9115 \else
9116 /ViewerPreferences<<\Hy@temp>>%
9117 \fi
9118 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9119 \ifx\@pdflang\@empty
9120 \else
9121 /Lang(\@pdflang)%
9122 \fi
9123 \ifx\@baseurl\@empty
9124 \else
9125 /URI<</Base(\Hy@pstringB)>>%
9126 \fi
9127 >>%
9128 }%
9129 }%
9130 }
9131 </pdfmark>
9132 <*pdfmarkbase>

```

We define a single macro, pdfmark, which uses the ‘keyval’ system to define the various allowable keys; these are *exactly* as listed in the pdfmark reference for Acrobat 3.0. The only addition is pdfmark which specifies the type of pdfmark to create (like ANN, LINK etc). The surrounding round and square brackets in the pdfmark commands are supplied, but you have to put in / characters as needed for the values.

```

9133 \newif\ifHy@pdfmarkerror
9134 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
9135 \def\pdfmark@[#1]#2{%
9136 \Hy@pdfmarkerrorfalse
9137 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9138 \@processme
9139 \let\pdf@type\relax
9140 \setkeys{PDF}{#2}%
9141 \ifHy@pdfmarkerror
9142 \else
9143 \ifx\pdf@type\relax
9144 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9145 \ifx\#1\%
9146 \else

```

```

9147         \pdf@rect{#1}%
9148     \fi
9149 \else
9150     \ifx\\#1\\%
9151         \literalps@out{%
9152             [\the\pdf@toks\space\pdf@type\space pdfmark%
9153             ]%
9154         \else
9155             \@ifundefined{@\pdf@linktype color}{%
9156                 \Hy@colorlink\@linkcolor
9157             }{%
9158                 \expandafter\Hy@colorlink
9159                     \csname @\pdf@linktype color\endcsname
9160             }%
9161             \pdf@rect{#1}%
9162             \literalps@out{%
9163                 [\the\pdf@toks\space\pdf@type\space pdfmark%
9164                 ]%
9165                 \Hy@endcolorlink
9166             \fi
9167     \fi
9168 \fi
9169 }

```

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

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

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

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

```

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

```

```

9170 \newsavebox{\pdf@box}
9171 \providecommand*{\Hy@setouterhbox}{\sbox}
9172 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
9173 \def\Hy@DEST{/DEST}
9174 \def\pdf@rect#1{%
9175     \leavevmode
9176     \ifHy@breaklinks
9177         \Hy@setouterhbox\pdf@box{#1}%
9178     \else
9179         \sbox\pdf@box{#1}%
9180     \fi
9181     \dimen@ht\pdf@box
9182     \ifdim\dp\pdf@box=\z@
9183         \literalps@out{H.S}%
9184     \else
9185         \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9186     \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...).

```

9187     \ifHy@breaklinks
9188         \expandafter\Hy@breaklinksunhbox
9189     \else

```

```

9190 \expandafter\box
9191 \fi
9192 \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

9193 \ifdim\dimen@=\z@
9194 \literalps@out{H.R}%
9195 \else
9196 \raise\dimen@ \hbox{\literalps@out{H.R}}%
9197 \fi
9198 \ifx\pdf@type\Hy@DEST
9199 \else
9200 \pdf@addtoksx{H.B}%
9201 \fi
9202 }

```

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.

```

9203 \newtoks\pdf@toks
9204 \newtoks\pdf@defaulttoks
9205 \pdf@defaulttoks={}
9206 \def\pdf@addtoks#1#2{%
9207 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9208 \@processme
9209 }
9210 \def\pdf@addtoksx#1{%
9211 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9212 \@processme
9213 }
9214 \def\PDFdefaults#1{%
9215 \pdf@defaulttoks={#1}%
9216 }

```

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

```

9217 % what is the type of pdfmark?
9218 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9219 % what is the link type?
9220 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
9221 \def\pdf@linktype{link}
9222 % parameter is a stream of PDF
9223 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
9224 % parameter is a name
9225 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9226 % parameter is a array
9227 \define@key{PDF}{Border}{%
9228 \edef\Hy@temp{#1}%
9229 \ifx\Hy@temp\@empty
9230 \else
9231 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
9232 \fi
9233 }
9234 \let\Hy@BorderArrayPatch\@empty
9235 % parameter is a dictionary
9236 \define@key{PDF}{BorderStyle}{%

```

```

9237 \edef\Hy@temp{#1}%
9238 \ifx\Hy@temp\@empty
9239 \else
9240 \pdf@addtoks{<<#1>>}{BS}%
9241 \fi
9242 }
9243 % parameter is a array
9244 \define@key{PDF}{Color}{%
9245 \ifx\relax#1\relax
9246 \else
9247 \pdf@addtoks{[#1]}{Color}% hash-ok
9248 \fi
9249 }
9250 % parameter is a string
9251 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9252 % parameter is a integer
9253 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9254 % parameter is a array
9255 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9256 % parameter is a string
9257 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9258 % parameter is a string or file
9259 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9260 % parameter is a destination
9261 \define@key{PDF}{Dest}{%
9262 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9263 \ifx\Hy@pstringDest\@empty
9264 \Hy@pdfmarkerrortrue
9265 \Hy@Warning{Destination with empty name ignored}%
9266 \else
9267 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9268 \fi
9269 }
9270 \define@key{PDF}{DestAnchor}{%
9271 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9272 \ifx\Hy@pstringDest\@empty
9273 \Hy@pdfmarkerrortrue
9274 \Hy@Warning{Destination with empty name ignored}%
9275 \else
9276 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9277 \fi
9278 }
9279 % parameter is a string
9280 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9281 % parameter is a string
9282 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9283 % parameter is a int
9284 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9285 \define@key{PDF}{PDFAFlags}{%
9286 \ifHy@pdfa
9287 \pdf@addtoks{#1}{F}%
9288 \fi
9289 }
9290 % parameter is a name
9291 \define@key{PDF}{AcroHighlight}{%
9292 \begingroup
9293 \edef\x{#1}%

```



```

9294 \expandafter\endgroup\ifx\x\@empty
9295 \else
9296 \pdf@addtoks{#1}{H}%
9297 \fi
9298 }
9299 % parameter is a string
9300 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9301 % parameter is a string
9302 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9303 % parameter is a string
9304 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9305 % parameter is a string
9306 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9307 % parameter is a Boolean
9308 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9309 % parameter is a integer or name
9310 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9311 % parameter is a name
9312 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9313 % parameter is a string
9314 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9315 % parameter is a array
9316 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9317 % parameter is a integer
9318 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9319 % parameter is a name
9320 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9321 % parameter is a string
9322 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9323 % parameter is a string
9324 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9325 % parameter is a string
9326 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9327 % parameter is an array
9328 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9329 % parameter is a string
9330 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9331 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9332 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9333 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9334 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9335 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
9336 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9337 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9338 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9339 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9340 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
9341 </pdfmarkbase>
9342 <*pdfmark>
9343 \def\Acrobatmenu#1#2{%
9344 \Hy@Acrobatmenu{#1}{#2}{%
9345 \pdfmark[{#2}]{%
9346 linktype=menu,%
9347 pdfmark=/ANN,%
9348 AcroHighlight=\@pdfhighlight,%
9349 Border=\@pdfborder,%

```

```

9350     BorderStyle=\@pdfborderstyle,%
9351     Action={<< /Subtype /Named /N /#1 >>},%
9352     Subtype=/Link,%
9353     PDFAFlags=4%
9354 }%
9355 }%
9356 }

```

And now for some useful examples:

```

9357 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9358 \def\PDFNextPage@[#1]#2{%
9359   \pdfmark[{#2}] {%
9360     #1,%
9361     Border=\@pdfborder,%
9362     BorderStyle=\@pdfborderstyle,%
9363     Color=.2 .1 .5,%
9364     pdfmark=/ANN,%
9365     Subtype=/Link,%
9366     PDFAFlags=4,%
9367     Page=/Next%
9368   }%
9369 }
9370 \def\PDFPreviousPage{%
9371   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}]%
9372 }
9373 \def\PDFPreviousPage@[#1]#2{%
9374   \pdfmark[{#2}] {%
9375     #1,%
9376     Border=\@pdfborder,%
9377     BorderStyle=\@pdfborderstyle,%
9378     Color=.4 .4 .1,%
9379     pdfmark=/ANN,%
9380     Subtype=/Link,%
9381     PDFAFlags=4,%
9382     Page=/Prev%
9383   }%
9384 }
9385 \def\PDFOpen#1{%
9386   \pdfmark{#1,pdfmark=/DOCVIEW}%
9387 }

```

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

```

9388 \def\hyper@linkurl#1#2{%
9389   \begingroup
9390     \Hy@pstringdef\Hy@pstringURI{#2}%
9391     \hyper@chars
9392     \leavevmode
9393     \pdfmark[{#1}] {%
9394       pdfmark=/ANN,%
9395       linktype=url,%
9396       AcroHighlight=\@pdfhighlight,%
9397       Border=\@pdfborder,%
9398       BorderStyle=\@pdfborderstyle,%
9399       Color=\@urlbordercolor,%
9400       Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9401       Subtype=/Link,%
9402       PDFAFlags=4%
9403     }%

```

```

9404 \endgroup
9405 }
9406 \def\hyper@linkfile#1#2#3{%
9407 \begingroup
9408 \Hy@pstringdef\Hy@pstringF{#2}%
9409 \Hy@pstringdef\Hy@pstringD{#3}%
9410 \leavevmode
9411 \pdfmark[{#1}]{%
9412 pdfmark=/ANN,%
9413 Subtype=/Link,%
9414 PDFAFlags=4,%
9415 AcroHighlight=\@pdfhighlight,%
9416 Border=\@pdfborder,%
9417 BorderStyle=\@pdfborderstyle,%
9418 linktype=file,%
9419 Color=\@filebordercolor,%
9420 Action={%
9421 <<%
9422 /S/GoToR%
9423 \Hy@SetNewWindow
9424 /F(\Hy@pstringF)%
9425 /D\ifx\#3\@pdfstartview\else(\Hy@pstringD)cvn\fi
9426 >>%
9427 }%
9428 }%
9429 \endgroup
9430 }
9431 \def\hyper@launch run:#1\#2#3{%
9432 \begingroup
9433 \Hy@pstringdef\Hy@pstringF{#1}%
9434 \Hy@pstringdef\Hy@pstringP{#3}%
9435 \leavevmode
9436 \pdfmark[{#2}]{%
9437 pdfmark=/ANN,%
9438 Subtype=/Link,%
9439 PDFAFlags=4,%
9440 AcroHighlight=\@pdfhighlight,%
9441 Border=\@pdfborder,%
9442 BorderStyle=\@pdfborderstyle,%
9443 linktype=run,%
9444 Color=\@runbordercolor,%
9445 Action={%
9446 <<%
9447 /S/Launch%
9448 \Hy@SetNewWindow
9449 /F(\Hy@pstringF)%
9450 \ifx\#3\%
9451 \else
9452 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9453 \fi
9454 >>%
9455 }%
9456 }%
9457 \endgroup
9458 }
9459 </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.

```

9460 <*dvips>
9461 \providecommand*{\XR@ext}{pdf}
9462 \def\Hy@raisedlink{}
9463 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9464 \def\headerps@out#1{\special{! #1}}%
9465 \input{pdfmark.def}%
9466 \ifx\pdfproducer\relax
9467   \def\pdfproducer{dvips + Distiller}%
9468 \fi
9469 \providecommand*\pdfborder{0 0 1}
9470 \providecommand*\pdfborderstyle{}
9471 \providecommand*\pdfview{XYZ}
9472 \providecommand*\pdfviewparams{ H.V}
9473 \def\Hy@BorderArrayPatch{BorderArrayPatch}
9474 \g@addto@macro\Hy@FirstPageHook{%
9475   \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.

```

9476   /DvipsToPDF{72.27 mul Resolution div} def%
9477   /PDFToDvips{72.27 div Resolution mul} def%
9478   /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.

```

9479   /BorderArrayPatch{%
9480     [exch{%
9481       dup dup type/integertype eq exch type/realtype eq or%
9482       {BPToDvips}if%
9483     }forall]%
9484   }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.

```

9485   /HyperBorder {1 PDFToDvips} def%
9486   /H.V {pdf@hoff pdf@voff null} def%
9487   /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

```

9488   /H.S {%
9489     currentpoint %
9490     HyperBorder add /pdf@lly exch def %
9491     dup DvipsToPDF 72 add /pdf@hoff exch def %
9492     HyperBorder sub /pdf@llx exch def%
9493   } def%

```

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

We have to see what the current `baselineskip` is, and convert it to the dvips coordinate system.

Argument: `baselineskip` in pt. The  $x$  and  $y$  coordinates of the current point, minus the `baselineskip`

```

9494   /H.L {%
9495     2 sub dup%
9496     /HyperBasePt exch def %
9497     PDFToDvips /HyperBaseDvips exch def %
9498     currentpoint %
9499     HyperBaseDvips sub /pdf@ury exch def%
9500     /pdf@urx exch def%
9501   } def%
9502   /H.A {%
9503     H.L %
9504     % | /pdf@voff| = the distance from the top of the page to a point
9505     % | \baselineskip| above the current point in PDF coordinates
9506     currentpoint exch pop %
9507     vsize 72 sub exch DvipsToPDF %
9508     HyperBasePt sub % baseline skip
9509     sub /pdf@voff exch def%
9510   } def%
9511   /H.R {%
9512     currentpoint %
9513     HyperBorder sub /pdf@ury exch def %
9514     HyperBorder add /pdf@urx exch def %
9515     % | /pdf@voff| = the distance from the top of the page to the current point, in
9516     % PDF coordinates
9517     currentpoint exch pop vsize 72 sub %
9518     exch DvipsToPDF sub /pdf@voff exch def%
9519   } def%
9520 }%
9521 }
9522 \AfterBeginDocument{%
9523   \ifx\special@paper\@empty\else
9524     \ifHy@setpagesize
9525       \special{papersize=\special@paper}%
9526     \fi
9527   \fi
9528   \Hy@DisableOption{setpagesize}%
9529 }
9530 \>/dvips>

```

## 46.10 $\text{\TeX}$ '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.

```

9531 <*vtxpdfmark>
9532 \providecommand*{\XR@ext}{pdf}
9533 \def\Hy@raisedlink{}
9534 \def\literalps@out#1{\special{pS:#1}}%
9535 \def\headerps@out#1{\immediate\special{pS:#1}}%
9536 \input{pdfmark.def}%
9537 \ifx\@pdfproducer\relax
9538   \ifnum\OpMode=\@ne
9539     \def\@pdfproducer{VTeX}%
9540   \else
9541     \def\@pdfproducer{VTeX + Distiller}%
9542   \fi
9543 \fi
9544 \providecommand*\@pdfborder{0 0 1}
9545 \providecommand*\@pdfborderstyle{}
9546 \providecommand*\@pdfview{XYZ}
9547 \providecommand*\@pdfviewparams{ H.V}
9548 \g@addto@macro\Hy@FirstPageHook{%
9549   \headerps@out{%
9550     /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.

```

9551   /HyperBorder {1} def%
9552   /H.V {pdf@hoff pdf@voff null} def%
9553   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9554   /H.S {%
9555     currentpoint %
9556     HyperBorder sub%
9557     /pdf@lly exch def %
9558     dup 72 add /pdf@hoff exch def %
9559     HyperBorder sub%
9560     /pdf@llx exch def%
9561   } def%

```

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

```

9562   /H.L {%
9563     2 sub%
9564     /HyperBasePt exch def %
9565     currentpoint %
9566     HyperBasePt add HyperBorder add%
9567     /pdf@ury exch def %
9568     HyperBorder add%
9569     /pdf@urx exch def%
9570   } def%
9571   /H.A {%
9572     H.L %
9573     currentpoint exch pop %
9574     vsize 72 sub exch %

```

```

9575      HyperBasePt add add%
9576      /pdf@voff exch def%
9577  } def%
pdf@ury =  $Y_c + \text{HyperBorder}$ , pdf@urx =  $X_c + \text{HyperBorder}$ 
9578      /H.R {%
9579          currentpoint %
9580          HyperBorder add%
9581          /pdf@ury exch def %
9582          HyperBorder add%
9583          /pdf@urx exch def %
9584          currentpoint exch pop vsize 72 sub add%
9585          /pdf@voff exch def%
9586      } def%
9587  }%
9588 }
9589 </vtexpdfmark>

```

## 46.11 Textures

```

9590 <*textures>
9591 \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.

```

9592 \begingroup
9593   \obeylines %
9594   \gdef\Hy@ps@CR{\noexpand
9595   }%
9596 \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`.

```

9597 \def\literalps@out#1{%
9598   \special{postscript 0 0 transform}%
9599   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9600 }%
9601 %

```

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.

```

9602 \def\headerps@out#1{%
9603   \special{%

```

```

9604     prepostscript TeXdict begin\Hy@ps@CR
9605         #1\Hy@ps@CR
9606     end%
9607 }%
9608 }%
9609 %

```

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.

```

9610 \g@addto@macro\Hy@FirstPageHook{%
9611     \headerps@out{%
9612         /betterpdfmark {%
9613             systemdict begin %
9614                 dup /BP eq%
9615                 {cleartomark gsave nulldevice []%
9616                 {dup /EP eq%
9617                     {cleartomark cleartomark grestore}%
9618                     {cleartomark}%
9619                 }ifelse%
9620             }ifelse %
9621         end%
9622     }def\Hy@ps@CR
9623     __pdfmark__ not{/pdfmark /betterpdfmark load def}if%
9624 }% end of \headerps@out
9625 }% end of \AtBeginShipoutFirst
9626 %
9627 \input{pdfmark.def}%
9628 %
9629 \ifx\@pdfproducer\relax
9630     \def\@pdfproducer{Textures + Distiller}%
9631 \fi
9632 \providecommand*\@pdfborder{0 0 1}
9633 \providecommand*\@pdfborderstyle{}
9634 \providecommand*\@pdfview{XYZ}
9635 \providecommand*\@pdfviewparams{ H.V}
9636 %

```

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

```

9637 \headerps@out{%

```

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

```

9638     /vsize {\Hy@pageheight} def%
9639     /DvipsToPDF {} def%
9640     /PDFToDvips {} def%
9641     /BPTToDvips {} def%
9642     /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9643     /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9644     /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9645     /H.S {%
9646         currentpoint %
9647         HyperBorder add /pdf@lly exch def %
9648         dup DvipsToPDF 72 add /pdf@hoff exch def %
9649         HyperBorder sub /pdf@llx exch def%

```



```

9650 } def\Hy@ps@CR
9651 /H.L {%
9652   2 sub %
9653   PDFToDvips /HyperBase exch def %
9654   currentpoint %
9655   HyperBase sub /pdf@ury exch def%
9656   /pdf@urx exch def%
9657 } def\Hy@ps@CR
9658 /H.A {%
9659   H.L %
9660   currentpoint exch pop %
9661   vsize 72 sub exch DvipsToPDF %
9662   HyperBase sub % baseline skip
9663   sub /pdf@voff exch def%
9664 } def\Hy@ps@CR
9665 /H.R {%
9666   currentpoint %
9667   HyperBorder sub /pdf@ury exch def %
9668   HyperBorder add /pdf@urx exch def %
9669   currentpoint exch pop vsize 72 sub %
9670   exch DvipsToPDF sub /pdf@voff exch def%
9671 } def\Hy@ps@CR
9672 }

9673 \AfterBeginDocument{%
9674   \ifHy@colorlinks
9675     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9676   \fi
9677 }

```

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.

```

9678 \expandafter\let\expandafter\keepPDF@SetupDoc
9679 \csname PDF@SetupDoc\endcsname
9680 \def\PDF@SetupDoc{%
9681   \ifx\@baseurl\@empty
9682   \else
9683     \special{html:<base href="\@baseurl">}%
9684   \fi
9685   \keepPDF@SetupDoc
9686 }
9687 \def\hyper@anchor#1{%
9688   \Hy@SaveLastskip
9689   \begingroup
9690     \let\protect=\string
9691     \special{html:<a name=%
9692       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9693   \endgroup
9694   \Hy@activeanchortrue
9695   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9696   \special{html:</a>}%
9697   \Hy@activeanchorfalse
9698   \Hy@RestoreLastskip
9699 }
9700 \def\hyper@anchorstart#1{%
9701   \Hy@SaveLastskip
9702   \begingroup
9703     \hyper@chars

```

```

9704     \special{html:<a name=%
9705         \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9706 \endgroup
9707 \Hy@activeanchortrue
9708 }
9709 \def\hyper@anchorend{%
9710     \special{html:</a>}%
9711     \Hy@activeanchorfalse
9712     \Hy@RestoreLastskip
9713 }
9714 \def\@urlltype{url}
9715 \def\hyper@linkstart#1#2{%
9716     \expandafter\Hy@colorlink\csname @#1color\endcsname
9717     \def\Hy@tempa{#1}%
9718     \ifx\Hy@tempa\@urlltype
9719         \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9720     \else
9721         \begingroup
9722         \hyper@chars
9723         \special{html:<a href=%
9724             \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>}%
9725         \endgroup
9726     \fi
9727 }
9728 \def\hyper@linkend{%
9729     \special{html:</a>}%
9730     \Hy@endcolorlink
9731 }
9732 \def\hyper@linkfile#1#2#3{%
9733     \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi}%
9734 }
9735 \def\hyper@linkurl#1#2{%
9736     \leavevmode
9737     \ifHy@raiselinks
9738         \setbox\@tempboxa=\color@hbox #1\color@endbox
9739         \@linkdim\dp\@tempboxa
9740         \lower\@linkdim\hbox{%
9741             \hyper@chars
9742             \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9743     }%
9744     \Hy@colorlink\@urlcolor#1%
9745     \@linkdim\ht\@tempboxa
9746     \advance\@linkdim by -6.5\p@
9747     \raise\@linkdim\hbox{\special{html:</a>}}%
9748     \Hy@endcolorlink
9749 \else
9750     \begingroup
9751     \hyper@chars
9752     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9753     \Hy@colorlink\@urlcolor#1%
9754     \special{html:</a>}%
9755     \Hy@endcolorlink
9756 \endgroup
9757 \fi
9758 }

```

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

```

9759 \def\hyper@link#1#2#3{%

```

```

9760 \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
9761 }
9762 \def\hyper@image#1#2{%
9763   \begin{group}
9764     \hyper@chars
9765     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9766   \endgroup
9767 }
9768 </textures>

```

## 46.12 dvipsone

```

9769 % \subsection{dvipsone driver}
9770 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
9771 % |\special| commands.
9772 < *dvipsone>
9773 \providecommand*\XR@ext}{pdf}
9774 \def\Hy@raisedlink{}
9775 \providecommand*\@pdfborder{0 0 1}
9776 \providecommand*\@pdfborderstyle{}
9777 \def\literalps@out#1{\special{ps:#1}}%
9778 \def\headerps@out#1{\special{headertext=#1}}%
9779 \input{pdfmark.def}%
9780 \ifx\@pdfproducer\relax
9781   \def\@pdfproducer{dvipsone + Distiller}%
9782 \fi
9783 \def\PDF@FinishDoc{%
9784   \Hy@UseMaketitleInfos
9785   \special{PDF: Keywords \@pdfkeywords}%
9786   \special{PDF: Title \@pdftitle}%
9787   \special{PDF: Creator \@pdfcreator}%
9788   \ifx\@pdfcreationdate\@empty
9789     \else
9790       \special{PDF: CreationDate \@pdfcreationdate}%
9791   \fi
9792   \ifx\@pdfmoddate\@empty
9793     \else
9794       \special{PDF: ModDate \@pdfmoddate}%
9795   \fi
9796   \special{PDF: Author \@pdfauthor}%
9797   \ifx\@pdfproducer\relax
9798     \else
9799       \special{PDF: Producer \@pdfproducer}%
9800   \fi
9801   \special{PDF: Subject \@pdfsubject}%
9802   \Hy@DisableOption{pdfauthor}%
9803   \Hy@DisableOption{pdftitle}%
9804   \Hy@DisableOption{pdfsubject}%
9805   \Hy@DisableOption{pdfcreator}%
9806   \Hy@DisableOption{pdfcreationdate}%
9807   \Hy@DisableOption{pdfmoddate}%
9808   \Hy@DisableOption{pdfproducer}%
9809   \Hy@DisableOption{pdfkeywords}%
9810 }
9811 \def\PDF@SetupDoc{%
9812   \def\Hy@temp{}%
9813   \ifx\@pdfstartpage\@empty

```

```

9814 \else
9815 \ifx\@pdfstartview\@empty
9816 \else
9817 \edef\Hy@temp{%
9818 ,Page=\@pdfstartpage
9819 ,View=\@pdfstartview
9820 }%
9821 \fi
9822 \fi
9823 \edef\Hy@temp{%
9824 \noexpand\pdfmark{%
9825 pdfmark=/DOCVIEW,%
9826 PageMode=/\@pdfpagemode
9827 \Hy@temp
9828 }%
9829 }%
9830 \Hy@temp
9831 \ifx\@pdfpagescrop\@empty
9832 \else
9833 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9834 \fi
9835 \edef\Hy@temp{%
9836 \ifHy@toolbar\else /HideToolbar true\fi
9837 \ifHy@menubar\else /HideMenubar true\fi
9838 \ifHy@windowui\else /HideWindowUI true\fi
9839 \ifHy@fitwindow /FitWindow true\fi
9840 \ifHy@centerwindow /CenterWindow true\fi
9841 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9842 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9843 \Hy@UseNameKey{Direction}\@pdfdirection
9844 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9845 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9846 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9847 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9848 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9849 \Hy@UseNameKey{Duplex}\@pdfduplex
9850 \ifx\@pdfpicktraybypdfsize\@empty
9851 \else
9852 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9853 \fi
9854 \ifx\@pdfprintpagerange\@empty
9855 \else
9856 /PrintPageRange[\@pdfprintpagerange]%
9857 \fi
9858 \ifx\@pdfnumcopies\@empty
9859 \else
9860 /NumCopies \@pdfnumcopies
9861 \fi
9862 }%
9863 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9864 \pdfmark{%
9865 pdfmark=/PUT,%
9866 Raw={%
9867 \string{Catalog\string}<<%
9868 \ifx\Hy@temp\@empty
9869 \else
9870 /ViewerPreferences<<\Hy@temp>>%

```

```

9871      \fi
9872      \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9873      \ifx\@pdflang\@empty
9874      \else
9875        /Lang(\@pdflang)%
9876      \fi
9877      \ifx\@baseurl\@empty
9878      \else
9879        /URI<</Base(\Hy@pstringB)>>%
9880      \fi
9881    >>%
9882  }%
9883 }%
9884 }
9885 \providecommand*\@pdfview{XYZ}
9886 \providecommand*\@pdfviewparams{ %
9887   gsave revscl currentpoint grestore %
9888   72 add exch pop null exch null%
9889 }
9890 \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  $\TeX$ .

```

9891 \g@addto@macro\Hy@FirstPageHook{%
9892   \headerps@out{%

```

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

```

9893   /DvipsToPDF { 65781 div } def%
9894   /PDFToDvips { 65781 mul } def%
9895   /BPToDvips{65781 mul}def%
9896   /HyperBorder { 1 PDFToDvips } def%
9897   /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.

```

9898   /BorderArrayPatch{%
9899     [exch{%
9900       dup dup type/integertype eq exch type/realtype eq or%
9901       {BPToDvips}if%
9902     }forall]%
9903   }def%
9904   /H.S {%
9905     currentpoint %
9906     HyperBorder add /pdf@lly exch def %
9907     dup DvipsToPDF 72 add /pdf@hoff exch def %
9908     HyperBorder sub /pdf@llx exch def%
9909   } def%
9910   /H.L {%
9911     2 sub %
9912     PDFToDvips /HyperBase exch def %
9913     currentpoint %
9914     HyperBase sub /pdf@ury exch def%
9915     /pdf@urx exch def%
9916   } def%
9917   /H.A {%

```

```

9918      H.L %
9919      currentpoint exch pop %
9920      HyperBase sub % baseline skip
9921      DvipsToPDF /pdf@voff exch def%
9922    } def%
9923    /H.R {%
9924      currentpoint %
9925      HyperBorder sub /pdf@ury exch def %
9926      HyperBorder add /pdf@urx exch def %
9927      currentpoint exch pop DvipsToPDF /pdf@voff exch def%
9928    } def%
9929  }%
9930 }
9931 </dvipsone>

```

## 46.13 TeX4ht

```

9932 <*tex4ht>
9933 \providecommand*{\XR@ext}{html}
9934 \def\Hy@raisedlink{}
9935 \@ifpackageloaded{tex4ht}{%
9936   \typeout{hyperref tex4ht: tex4ht already loaded}%
9937 }{%
9938   \RequirePackage[htex4ht]{tex4ht}%
9939 }
9940 \hyperlinkfileprefix{}
9941 \def\PDF@FinishDoc{}
9942 \def\PDF@SetupDoc{%
9943   \ifx\@baseurl\@empty
9944     \else
9945       \special{t4ht=<base href="\@baseurl">}%
9946     \fi
9947 }
9948 \def\hyper@anchor#1{%
9949   \Hy@SaveLastskip
9950   \begingroup
9951     \let\protect=\string
9952     \special{t4ht=<a name=%
9953       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9954   \endgroup
9955   \Hy@activeanchortrue
9956   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9957   \special{t4ht=</a>}%
9958   \Hy@activeanchorfalse
9959   \Hy@RestoreLastskip
9960 }
9961 \def\hyper@anchorstart#1{%
9962   \Hy@SaveLastskip
9963   \begingroup
9964     \hyper@chars\special{t4ht=<a name=%
9965       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9966   \endgroup
9967   \Hy@activeanchortrue
9968 }
9969 \def\hyper@anchorend{%
9970   \special{t4ht=</a>}%
9971   \Hy@activeanchorfalse
9972   \Hy@RestoreLastskip

```

```

9973 }
9974 \def\@urltype{url}
9975 \def\hyper@linkstart#1#2{%
9976   \expandafter\Hy@colorlink\csname @#1color\endcsname
9977   \def\Hy@tempa{#1}%
9978   \ifx\Hy@tempa\@urltype
9979     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9980   \else
9981     \begingroup
9982       \hyper@chars
9983       \special{t4ht=<a href=%
9984         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9985     \endgroup
9986   \fi
9987 }
9988 \def\hyper@linkend{%
9989   \special{t4ht=</a>}%
9990   \Hy@endcolorlink
9991 }
9992 \def\hyper@linkfile#1#2#3{%
9993   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
9994 }
9995 \def\hyper@linkurl#1#2{%
9996   \leavevmode
9997   \ifHy@raiselinks
9998     \setbox\@tempboxa=\color@hbox #1\color@endbox
9999     \@linkdim\dp\@tempboxa
10000     \lower\@linkdim\hbox{%
10001       \begingroup
10002         \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10003       \endgroup
10004     }%
10005     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10006     \@linkdim\ht\@tempboxa
10007     \advance\@linkdim by -6.5\p@
10008     \raise\@linkdim\hbox{\special{t4ht=</a>}}%
10009   \else
10010     \begingroup
10011       \hyper@chars
10012       \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10013       \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10014       \special{t4ht=</a>}%
10015     \endgroup
10016   \fi
10017 }

```

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

```

10018 \def\hyper@link#1#2#3{%
10019   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
10020 }
10021 \def\hyper@image#1#2{%
10022   \begingroup
10023     \hyper@chars
10024     \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
10025   \endgroup
10026 }
10027 \let\autoref\ref
10028 \ifx \rEfLiNK \UnDef

```

```

10029 \def\rEfLiNK #1#2{#2}%
10030 \fi
10031 \def\backref#1{}
10032 </tex4ht>
10033 <*tex4htcfg>
10034 \IfFileExists{\jobname.cfg}{\endinput}{}
10035 \Preamble{html}
10036 \begin{document}%
10037 \EndPreamble
10038 \def\TeX{TeX}
10039 \def\OMEGA{\Omega}
10040 \def\LaTeX{LaTeX}
10041 \def\LaTeXe{\LaTeX2e}
10042 \def\eTeX{e-TeX}
10043 \def\MF{Metafont}
10044 \def\MP{MetaPost}
10045 </tex4htcfg>

```

## 47 Driver-specific form support

### 47.1 pdfmarks

```

10046 <*pdfmark>
10047 \long\def\@Form[#1]{%
10048 \g@addto@macro\Hy@FirstPageHook{%
10049 \headerps@out{%
10050 [%
10051 /_objdef{pdfDocEncoding}%
10052 /type/dict%
10053 /OBJ pdfmark%
10054 [%
10055 {pdfDocEncoding}%
10056 <<%
10057 /Type/Encoding%
10058 /Differences[%
10059 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
10060 /tilde %
10061 39/quotesingle %
10062 96/grave %
10063 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10064 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10065 /quotedblbase/quotedblleft/quotedblright/quoteleft%
10066 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
10067 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10068 164/currency %
10069 166/brokenbar %
10070 168/dieresis/copyright/ordfeminine %
10071 172/logicalnot/.notdef/registered/macron/degree/plusminus%
10072 /twosuperior/threesuperior/acute/mu %
10073 183/periodcentered/cedilla/onesuperior/ordmasculine %
10074 188/onequarter/onehalf/threequarters %
10075 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10076 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10077 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10078 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10079 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10080 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10081 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%

```



```

10082      /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
10083      /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
10084      /ucircumflex/udieresis/yacute/thorn/ydieresis%
10085    ]%
10086  >>%
10087 /PUT pdfmark%
10088 [%
10089   /_objdef{ZaDb}%
10090   /type/dict%
10091 /OBJ pdfmark%
10092 [%
10093   {ZaDb}%
10094   <<%
10095     /Type/Font%
10096     /Subtype/Type1%
10097     /Name/ZaDb%
10098     /BaseFont/ZapfDingbats%
10099   >>%
10100 /PUT pdfmark%
10101 [%
10102   /_objdef{Helv}%
10103   /type/dict%
10104 /OBJ pdfmark%
10105 [%
10106   {Helv}%
10107   <<%
10108     /Type/Font%
10109     /Subtype/Type1%
10110     /Name/Helv%
10111     /BaseFont/Helvetica%
10112     /Encoding{pdfDocEncoding}%
10113   >>%
10114 /PUT pdfmark%
10115 [%
10116   /_objdef{aform}%
10117   /type/dict%
10118 /OBJ pdfmark%
10119 [%
10120   /_objdef{afields}%
10121   /type/array%
10122 /OBJ pdfmark%
10123 {%
10124   [%
10125     /BBox[0 0 100 100]%
10126     /_objdef{Check}%
10127   /BP pdfmark %
10128   1 0 0 setrgbcolor%
10129   /ZapfDingbats 80 selectfont %
10130   20 20 moveto%
10131   (4)show%
10132   [/EP pdfmark%
10133   [%
10134     /BBox[0 0 100 100]%
10135     /_objdef{Cross}%
10136   /BP pdfmark %
10137   1 0 0 setrgbcolor%
10138   /ZapfDingbats 80 selectfont %

```

```

10139 20 20 moveto%
10140 (8)show%
10141 [/EP pdfmark%
10142 [%
10143   /BBox[0 0 250 100]%
10144   /_objdef{Submit}%
10145 /BP pdfmark %
10146 0.6 setgray %
10147 0 0 250 100 rectfill %
10148 1 setgray %
10149 2 2 moveto %
10150 2 98 lineto %
10151 248 98 lineto %
10152 246 96 lineto %
10153 4 96 lineto %
10154 4 4 lineto %
10155 fill %
10156 0.34 setgray %
10157 248 98 moveto %
10158 248 2 lineto %
10159 2 2 lineto %
10160 4 4 lineto %
10161 246 4 lineto %
10162 246 96 lineto %
10163 fill%
10164 /Helvetica 76 selectfont %
10165 0 setgray %
10166 8 22.5 moveto%
10167 (Submit)show%
10168 [/EP pdfmark%
10169 [%
10170   /BBox[0 0 250 100]%
10171   /_objdef{SubmitP}%
10172 /BP pdfmark %
10173 0.6 setgray %
10174 0 0 250 100 rectfill %
10175 0.34 setgray %
10176 2 2 moveto %
10177 2 98 lineto %
10178 248 98 lineto %
10179 246 96 lineto %
10180 4 96 lineto %
10181 4 4 lineto %
10182 fill %
10183 1 setgray %
10184 248 98 moveto %
10185 248 2 lineto %
10186 2 2 lineto %
10187 4 4 lineto %
10188 246 4 lineto %
10189 246 96 lineto %
10190 fill%
10191 /Helvetica 76 selectfont %
10192 0 setgray %
10193 10 20.5 moveto%
10194 (Submit)show%
10195 [/EP pdfmark%

```

```

10196 } ?pdfmark%
10197 [%
10198   {aform}%
10199   <<%
10200     /Fields{afields}%
10201     /DR<<%
10202       /Font<<%
10203         /ZaDb{ZaDb}%
10204         /Helv{Helv}%
10205       >>%
10206     >>%
10207     /DA(/Helv 10 Tf 0 g)%
10208     /CO{corder}%
10209     \ifHy@pdfa
10210     \else
10211       /NeedAppearances true%
10212     \fi
10213   >>%
10214 /PUT pdfmark%
10215 [%
10216   {Catalog}%
10217   <<%
10218     /AcroForm{aform}%
10219   >>%
10220 /PUT pdfmark%
10221 [%
10222   /_objdef{corder}%
10223   /type/array%
10224 /OBJ pdfmark% dps
10225 }}%
10226   \setkeys{Form}{#1}%
10227 }
10228 \def\@endForm{}
10229 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10230 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10231 }
10232 \def\@TextField[#1]#2{% parameters, label
10233   \def\Fld@name{#2}%
10234   \def\Fld@default{}%
10235   \let\Fld@value\@empty
10236   \def\Fld@width{\DefaultWidthofText}%
10237   \def\Fld@height{%
10238     \ifFld@multiline
10239       \DefaultHeightofTextMultiline
10240     \else
10241       \DefaultHeightofText
10242     \fi
10243   }%
10244   \begingroup
10245     \Field@toks={ }%
10246     \expandafter\HyField@SetKeys\expandafter{%
10247       \DefaultOptionsofText,#1%
10248     }%
10249     \HyField@FlagsText
10250     \ifFld@hidden\def\Fld@width{1sp}\fi
10251     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10252     \LayoutTextField{#2}{%

```

```

10253     \Hy@escapeform\PDFForm@Text
10254     \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10255         pdfmark=/ANN,Raw={\PDFForm@Text}%
10256     }%
10257 }%
10258 \endgroup
10259 }
10260 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10261     \def\Fld@name{#2}%
10262     \let\Fld@default\relax
10263     \let\Fld@value\relax
10264     \def\Fld@width{\DefaultWidthofChoiceMenu}%
10265     \def\Fld@height{\DefaultHeightofChoiceMenu}%
10266     \begingroup
10267         \Fld@menulength=0 %
10268         \@tempdima\z@
10269         \@for\@curropt:=#3\do{%
10270             \expandafter\Fld@checkequals\@curropt==\%
10271             \Hy@StepCount\Fld@menulength
10272             \settowidth{\@tempdimb}{\@currDisplay}%
10273             \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10274         }%
10275         \advance\@tempdima by 15\p@
10276         \Field@toks={ }%
10277         \begingroup
10278             \HyField@SetKeys{#1}%
10279         \edef\x{\endgroup
10280             \noexpand\expandafter
10281             \noexpand\HyField@SetKeys
10282             \noexpand\expandafter{%
10283                 \expandafter\noexpand\cname DefaultOptionsof%
10284                 \ifFld@radio
10285                     Radio%
10286                 \else
10287                     \ifFld@combo
10288                         \ifFld@popdown
10289                             PopdownBox%
10290                         \else
10291                             ComboBox%
10292                         \fi
10293                     \else
10294                         ListBox%
10295                     \fi
10296                 \fi
10297             \endcsname
10298         }%
10299     }\x
10300     \HyField@SetKeys{#1}%
10301     \ifFld@hidden\def\Fld@width{1sp}\fi
10302     \ifx\Fld@value\relax
10303         \let\Fld@value\Fld@default
10304     \fi
10305     \LayoutChoiceField{#2}{%
10306         \ifFld@radio
10307             \HyField@FlagsRadioButton
10308             \@@Radio{#3}%
10309         \else

```

```

10310      \begingroup
10311      \HyField@FlagsChoice
10312      \ifdim\Fld@width<\@tempdima
10313      \ifdim\@tempdima<1cm\@tempdima1cm\fi
10314      \edef\Fld@width{\the\@tempdima}%
10315      \fi
10316      \ifFld@combo
10317      \else
10318      \@tempdima=\the\Fld@menulength\Fld@charsize
10319      \advance\@tempdima by \Fld@borderwidth bp %
10320      \advance\@tempdima by \Fld@borderwidth bp %
10321      \edef\Fld@height{\the\@tempdima}%
10322      \fi
10323      \@@ListBox{#3}%
10324      \endgroup
10325      \fi
10326      }%
10327      \endgroup
10328 }
10329 \def\@@Radio#1{%
10330   \Fld@listcount=0 %
10331   \@for\@curropt:=#1\do{%
10332     \expandafter\Fld@checkequals\@curropt==\%
10333     \Hy@StepCount\Fld@listcount
10334     \@currDisplay\space
10335     \Hy@escapeform\PDFForm@Radio
10336     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10337       pdfmark=/ANN,%
10338       Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
10339     } % deliberate space between radio buttons
10340   }%
10341 }
10342 \newcount\Fld@listcount
10343 \def\@@ListBox#1{%
10344   \HyField@PDFChoices{#1}%
10345   \Hy@escapeform\PDFForm@List
10346   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10347     pdfmark=/ANN,Raw={\PDFForm@List}%
10348   }%
10349 }
10350 \def\@PushButton[#1]#2{% parameters, label
10351   \def\Fld@name{#2}%
10352   \begingroup
10353     \Fld@tokens={ }%
10354     \expandafter\HyField@SetKeys\expandafter{%
10355       \DefaultOptionsofPushButton,#1%
10356     }%
10357     \ifHy@pdfa
10358       \PackageError{hyperref}{%
10359         PDF/A: Push button with JavaScript is prohibited%
10360       }\@ehc
10361       \LayoutPushButtonField{%
10362         \leavevmode
10363         \MakeButtonField{#2}%
10364       }%
10365     \else
10366       \HyField@FlagsPushButton

```

```

10367     \ifFld@hidden\def\Fld@width{1sp}\fi
10368     \LayoutPushButtonField{%
10369         \leavevmode
10370         \Hy@escapeform\PDFForm@Push
10371         \pdfmark[\MakeButtonField{#2}]{%
10372             pdfmark=/ANN,Raw={\PDFForm@Push}%
10373         }%
10374     }%
10375     \fi
10376 \endgroup
10377 }
10378 \def\@Submit[#1]#2{%
10379     \Field@toks={ }%
10380     \def\Fld@width{\DefaultWidthofSubmit}%
10381     \def\Fld@height{\DefaultHeightofSubmit}%
10382     \begingroup
10383         \expandafter\HyField@SetKeys\expandafter{%
10384             \DefaultOptionsofSubmit,#1%
10385         }%
10386         \HyField@FlagsPushButton
10387         \HyField@FlagsSubmit
10388         \ifFld@hidden\def\Fld@width{1sp}\fi
10389         \Hy@escapeform\PDFForm@Submit
10390         \pdfmark[\MakeButtonField{#2}]{%
10391             pdfmark=/ANN,%
10392             Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10393         }%
10394     \endgroup
10395 }
10396 \def\@Reset[#1]#2{%
10397     \Field@toks={ }%
10398     \def\Fld@width{\DefaultWidthofReset}%
10399     \def\Fld@height{\DefaultHeightofReset}%
10400     \begingroup
10401         \expandafter\HyField@SetKeys\expandafter{%
10402             \DefaultOptionsofReset,#1%
10403         }%
10404         \leavevmode
10405         \ifHy@pdfa
10406             \PackageError{hyperref}{%
10407                 PDF/A: Reset action is prohibited%
10408             }\@ehc
10409             \MakeButtonField{#2}%
10410         \else
10411             \HyField@FlagsPushButton
10412             \ifFld@hidden\def\Fld@width{1sp}\fi
10413             \Hy@escapeform\PDFForm@Reset
10414             \pdfmark[\MakeButtonField{#2}]{%
10415                 pdfmark=/ANN,Raw={\PDFForm@Reset}%
10416             }%
10417         \fi
10418     \endgroup
10419 }%
10420 \def\@CheckBox[#1]#2{% parameters, label
10421     \def\Fld@name{#2}%
10422     \def\Fld@default{0}%
10423     \begingroup

```

```

10424 \def\Fld@width{\DefaultWidthofCheckBox}%
10425 \def\Fld@height{\DefaultHeightofCheckBox}%
10426 \Field@toks={ }%
10427 \expandafter\HyField@SetKeys\expandafter{%
10428 \DefaultOptionsofCheckBox,#1%
10429 }%
10430 \HyField@FlagsCheckBox
10431 \ifFld@hidden\def\Fld@width{1sp}\fi
10432 \LayoutCheckField{#2}{%
10433 \Hy@escapeform\PDFForm@Check
10434 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10435 pdfmark=/ANN,Raw={\PDFForm@Check}%
10436 }%
10437 }%
10438 \endgroup
10439 }
10440 </pdfmark>

```

## 47.2 HyperTeX

```

10441 <*hypertex>
10442 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10443 \def\@endForm{}
10444 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10445 \typeout{Sorry, HyperTeX does not support FORM gauges}%
10446 }
10447 \def\@TextField[#1]#2{% parameters, label
10448 \typeout{Sorry, HyperTeX does not support FORM text fields}%
10449 }
10450 \def\@CheckBox[#1]#2{% parameters, label
10451 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10452 }
10453 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10454 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10455 }
10456 \def\@PushButton[#1]#2{% parameters, label
10457 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10458 }
10459 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10460 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10461 </hypertex>

```

## 47.3 TeX4ht

```

10462 <*tex4ht>
10463 \def\@Form[#1]{%
10464 \setkeys{Form}{#1}%
10465 \HCode{<form action="\Form@action" method="\Form@method">}%
10466 }
10467 \def\@endForm{\HCode{</form>}}
10468 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10469 \typeout{Sorry, TeX4ht does not support gauges}%
10470 }
10471 \def\@TextField[#1]#2{% parameters, label
10472 \let\Hy@reserved@a\@empty
10473 \def\Fld@name{#2}%
10474 \def\Fld@default{}%
10475 \bgroup
10476 \Field@toks={ }%

```

```

10477 \setkeys{Field}{#1}%
10478 \HCode{<label for="\Fld@name">#2</label>}%
10479 \ifFld@password
10480 \@@PasswordField
10481 \else
10482 \@@TextField
10483 \fi
10484 \egroup
10485 }
10486 \def\@@PasswordField{%
10487 \HCode{%
10488 <input type="password" %
10489 id="\Fld@name" %
10490 name="\Fld@name" %
10491 \ifFld@hidden type="hidden" \fi
10492 value="\Fld@default" %
10493 \the\Field@toks
10494 >%
10495 }%
10496 }
10497 \def\@@TextField{%
10498 \ifFld@multiline
10499 \HCode{<textarea %
10500 \ifFld@readonly readonly \fi
10501 id="\Fld@name" %
10502 name="\Fld@name" %
10503 \ifFld@hidden type="hidden" \fi
10504 \the\Field@toks>%
10505 }%
10506 \Fld@default
10507 \HCode{</textarea>}%
10508 \else
10509 \HCode{<input type="text" %
10510 \ifFld@readonly readonly \fi
10511 id="\Fld@name" %
10512 name="\Fld@name" %
10513 \ifFld@hidden type="hidden" \fi
10514 value="\Fld@default" %
10515 \the\Field@toks>%
10516 }%
10517 \fi
10518 }
10519 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10520 \def\Fld@name{#2}%
10521 \def\Fld@default{}%
10522 \let\Hy@reserved@a\relax
10523 \begin{group}
10524 \expandafter\Fld@findlength#3\\%
10525 \Field@toks={ }%
10526 \setkeys{Field}{#1}%
10527 #2%
10528 \ifFld@radio
10529 \expandafter\@@Radio#3\\%
10530 \else
10531 \expandafter\@@Menu#3\\%
10532 \fi
10533 \end{group}

```



```

10534 }
10535 \def\Fld@findlength#1\{%
10536   \Fld@menulength=0 %
10537   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10538 }
10539 \def\@@Menu#1\{%
10540   \HCode{<select size="\the\Fld@menulength" %
10541     name="\Fld@name" %
10542     \the\Field@toks>%
10543   }%
10544   \@for\@curropt:=#1\do{%
10545     \expandafter\Fld@checkequals\@curropt==\\%
10546     \HCode{<option %
10547       \ifx\@curropt\Fld@default selected \fi
10548       value="\@currValue">\@currDisplay</option>%
10549     }%
10550   }%
10551   \HCode{</select>}%
10552 }
10553 \def\@@Radio#1\{%
10554   \@for\@curropt:=#1\do{%
10555     \expandafter\Fld@checkequals\@curropt==\\%
10556     \HCode{<input type="radio" %
10557       \ifx\@curropt\Fld@default checked \fi
10558       name="\Fld@name" %
10559       value="\@currValue" %
10560       \the\Field@toks>%
10561     }%
10562     \@currDisplay
10563   }%
10564 }
10565 \def\@PushButton[#1]#2{% parameters, label
10566   \def\Fld@name{#2}%
10567   \bgroup
10568     \Field@toks={ }%
10569     \setkeys{Field}{#1}%
10570     \HCode{<input type="button" %
10571       name="\Fld@name" %
10572       value="#2" %
10573       \the\Field@toks>%
10574     }%
10575     \HCode{</button>}%
10576   \egroup
10577 }
10578 \def\@Submit[#1]#2{%
10579   \HCode{<button type="submit">#2</button>}%
10580 }
10581 \def\@Reset[#1]#2{%
10582   \HCode{<button type="reset">#2</button>}%
10583 }
10584 \def\@CheckBox[#1]#2{% parameters, label
10585   \let\Hy@reserved@a\@empty
10586   \def\Fld@name{#2}%
10587   \def\Fld@default{0}%
10588   \bgroup
10589     \Field@toks={ }%
10590     \setkeys{Field}{#1}%

```

```

10591 \HCode{<input type="checkbox" %
10592 \ifFld@checked checked \fi
10593 \ifFld@disabled disabled \fi
10594 \ifFld@readonly readonly \fi
10595 name="\Fld@name" %
10596 \ifFld@hidden type="hidden" \fi
10597 value="\Fld@default" %
10598 \the\Field@toks>%
10599 #2%
10600 }%
10601 \egroup
10602 }
10603 </tex4ht>

```

## 47.4 pdfTeX

```

10604 <*pdfTeX>
10605 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10606 \typeout{Sorry, pdfTeX does not support FORM gauges}%
10607 }
10608 \def\MakeFieldObject#1#2{\sbox0{#1}%
10609 \immediate\pdfxform0 %
10610 \expandafter\edef\csname #2Object\endcsname{%
10611 \the\pdflastxform\space 0 R%
10612 }%
10613 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
10614 }%
10615 \def\HyField@afields{}
10616 \begingroup\expandafter\expandafter\expandafter\endgroup
10617 \expandafter\ifx\csname pdflastlink\endcsname\relax
10618 \let\HyField@AddToFields\relax
10619 \PackageInfo{hyperref}{%
10620 You need pdfTeX 1.40.0 for setting the /Fields entry.\MessageBreak
10621 Adobe Reader/Acrobat accepts an empty /Field array,\MessageBreak
10622 but other PDF viewers might complain%
10623 }%
10624 \else
10625 \def\HyField@AddToFields{%
10626 \xdef\HyField@afields{%
10627 \ifx\HyField@afields\@empty
10628 \else
10629 \HyField@afields
10630 \space
10631 \fi
10632 \the\pdflastlink\space 0 R%
10633 }%
10634 }%
10635 \fi
10636 \def\@Form[#1]{%
10637 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}}%
10638 \setkeys{Form}{#1}%
10639 \ifnum\pdfTeXversion>13 %
10640 \pdfrefobj\OBJ@pdfdocencoding
10641 \pdfrefobj\OBJ@ZaDb
10642 \pdfrefobj\OBJ@Helv
10643 \fi
10644 \AtEndDocument{%
10645 \immediate\pdfobj{%

```

```

10646 <<%
10647   /Fields[\HyField@afields]%
10648   /DR<<%
10649   /Font<<%
10650     /ZaDb \OBJ@ZaDb\space 0 R%
10651     /Helv \OBJ@Helv\space 0 R%
10652   >>%
10653   >>%
10654   /DA(/Helv 10 Tf 0 g)%
10655   \ifHy@pdfa
10656   \else
10657     /NeedAppearances true%
10658   \fi
10659   >>%
10660   }%
10661   \edef\OBJ@acroform{\the\pdflastobj}%
10662   \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10663   }%
10664   \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

10665   \begingroup
10666     \fontfamily{pzd}%
10667     \fontencoding{U}%
10668     \fontseries{m}%
10669     \fontshape{n}%
10670     \selectfont
10671     \char123 %
10672   \endgroup
10673   }{Ding}%
10674   \MakeFieldObject{%
10675     \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10676   }{Submit}%
10677   \MakeFieldObject{%
10678     \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10679   }{SubmitP}%
10680 }
10681 \def\@endForm{}
10682 \def\@TextField[#1]#2{% parameters, label
10683   \def\Fld@name{#2}%
10684   \def\Fld@default{}%
10685   \let\Fld@value\@empty
10686   \def\Fld@width{\DefaultWidthofText}%
10687   \def\Fld@height{%
10688     \ifFld@multiline
10689       \DefaultHeightofTextMultiline
10690     \else
10691       \DefaultHeightofText
10692     \fi
10693   }%
10694   \begingroup
10695     \Field@toks={ }%
10696     \expandafter\HyField@SetKeys\expandafter{%
10697       \DefaultOptionsofText,#1%
10698     }%
10699     \PDFForm@Name
10700     \HyField@FlagsText
10701     \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

10702 \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
10703 \LayoutTextField{#2}{%
10704 \Hy@escapeform\PDFForm@Text
10705 \pdfstartlink user {\PDFForm@Text}\relax
10706 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
10707 \HyField@AddToFields
10708 }%
10709 \endgroup
10710 }
10711 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10712 \def\Fld@name{#2}%
10713 \let\Fld@default\relax
10714 \let\Fld@value\relax
10715 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10716 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10717 \beginingroup
10718 \Fld@menulength=0 %
10719 \@tempdima\z@
10720 \@for\@curropt:=#3\do{%
10721 \expandafter\Fld@checkequals\@curropt==\%
10722 \Hy@StepCount\Fld@menulength
10723 \settowidth{\@tempdimb}{\@currDisplay}%
10724 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10725 }%
10726 \advance\@tempdima by 15\p@
10727 \Field@toks={ }%
10728 \beginingroup
10729 \HyField@SetKeys{#1}%
10730 \edef\x{\endgroup
10731 \noexpand\expandafter
10732 \noexpand\HyField@SetKeys
10733 \noexpand\expandafter{%
10734 \expandafter\noexpand\cename DefaultOptionsof%
10735 \ifFld@radio
10736 Radio%
10737 \else
10738 \ifFld@combo
10739 \ifFld@popdown
10740 PopdownBox%
10741 \else
10742 ComboBox%
10743 \fi
10744 \else
10745 ListBox%
10746 \fi
10747 \fi
10748 \endcsname
10749 }%
10750 }\x
10751 \HyField@SetKeys{#1}%
10752 \PDFForm@Name
10753 \ifFld@hidden\def\Fld@width{1sp}\fi
10754 \ifx\Fld@value\relax
10755 \let\Fld@value\Fld@default
10756 \fi
10757 \LayoutChoiceField{#2}{%
10758 \ifFld@radio

```

```

10759      \HyField@FlagsRadioButton
10760      \@@Radio{#3}%
10761      \else
10762      \begingroup
10763      \HyField@FlagsChoice
10764      \ifdim\Fld@width<\@tempdima
10765      \ifdim\@tempdima<1cm\@tempdima1cm\fi
10766      \edef\Fld@width{\the\@tempdima}%
10767      \fi
10768      \ifFld@combo
10769      \else
10770      \@tempdima=\the\Fld@menulength\Fld@charsize
10771      \advance\@tempdima by \Fld@borderwidth bp %
10772      \advance\@tempdima by \Fld@borderwidth bp %
10773      \edef\Fld@height{\the\@tempdima}%
10774      \fi
10775      \@@ListBox{#3}%
10776      \endgroup
10777      \fi
10778      }%
10779      \endgroup
10780  }
10781  \def\@@Radio#1{%
10782    \Fld@listcount=0 %
10783    \@for\@curropt:=#1\do{%
10784      \expandafter\Fld@checkequals\@curropt==\%
10785      \Hy@StepCount\Fld@listcount
10786      \@currDisplay\space
10787      \leavevmode
10788      \Hy@escapeform\PDFForm@Radio
10789      \pdfstartlink user {%
10790        \PDFForm@Radio
10791        /AP<<%
10792        /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.

```

10793        /\@currValue\space \DingObject
10794        >>%
10795        >>%
10796      }%
10797      \relax
10798      \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10799      \ifnum\Fld@listcount=1 %
10800        \HyField@AddToFields
10801      \fi
10802      \space % deliberate space between radio buttons
10803    }%
10804  }
10805  \newcount\Fld@listcount
10806  \def\@@ListBox#1{%
10807    \HyField@PDFChoices{#1}%
10808    \leavevmode
10809    \Hy@escapeform\PDFForm@List
10810    \pdfstartlink user {\PDFForm@List}\relax
10811    \MakeChoiceField{\Fld@width}{\Fld@height}%
10812    \pdfendlink

```

```

10813 \HyField@AddToFields
10814 }
10815 \def\@PushButton[#1]#2{% parameters, label
10816 \def\Fld@name{#2}%
10817 \begingroup
10818 \Field@toks={ }%
10819 \expandafter\HyField@SetKeys\expandafter{%
10820 \DefaultOptionsofPushButton,#1%
10821 }%
10822 \PDFForm@Name
10823 \ifHy@pdfa
10824 \PackageError{hyperref}{%
10825 PDF/A: Push button with JavaScript is prohibited%
10826 }{@ehc
10827 \LayoutPushButtonField{%
10828 \leavevmode
10829 \MakeButtonField{#2}%
10830 }%
10831 \else
10832 \HyField@FlagsPushButton
10833 \ifFld@hidden\def\Fld@width{1sp}\fi
10834 \LayoutPushButtonField{%
10835 \leavevmode
10836 \Hy@escapeform\PDFForm@Push
10837 \pdfstartlink user {\PDFForm@Push}\relax
10838 \MakeButtonField{#2}%
10839 \pdfendlink
10840 \HyField@AddToFields
10841 }%
10842 \fi
10843 \endgroup
10844 }
10845 \def\@Submit[#1]#2{%
10846 \Field@toks={ }%
10847 \def\Fld@width{\DefaultWidthofSubmit}%
10848 \def\Fld@height{\DefaultHeightofSubmit}%
10849 \begingroup
10850 \expandafter\HyField@SetKeys\expandafter{%
10851 \DefaultOptionsofSubmit,#1%
10852 }%
10853 \HyField@FlagsPushButton
10854 \HyField@FlagsSubmit
10855 \ifFld@hidden\def\Fld@width{1sp}\fi
10856 \leavevmode
10857 \Hy@escapeform\PDFForm@Submit
10858 \pdfstartlink user {%
10859 \PDFForm@Submit
10860 /AP<</N \SubmitObject/D \SubmitPObject>>%
10861 }%
10862 \relax
10863 \MakeButtonField{#2}%
10864 \pdfendlink
10865 \HyField@AddToFields
10866 \endgroup
10867 }
10868 \def\@Reset[#1]#2{%
10869 \Field@toks={ }%

```

```

10870 \def\Fld@width{\DefaultWidthofReset}%
10871 \def\Fld@height{\DefaultHeightofReset}%
10872 \begingroup
10873   \expandafter\HyField@SetKeys\expandafter{%
10874     \DefaultOptionsofReset,#1%
10875   }%
10876   \leavevmode
10877   \ifHy@pdfa
10878     \PackageError{hyperref}{%
10879       PDF/A: Reset action is prohibited%
10880     }\@ehc
10881     \MakeButtonField{#2}%
10882   \else
10883     \HyField@FlagsPushButton
10884     \ifFld@hidden\def\Fld@width{1sp}\fi
10885     \Hy@escapeform\PDFForm@Reset
10886     \pdfstartlink user {\PDFForm@Reset}\relax
10887     \MakeButtonField{#2}%
10888     \pdfendlink
10889     \HyField@AddToFields
10890   \fi
10891 \endgroup
10892 }
10893 \def\@CheckBox[#1]#2{% parameters, label
10894   \def\Fld@name{#2}%
10895   \def\Fld@default{0}%
10896   \begingroup
10897     \def\Fld@width{\DefaultWidthofCheckBox}%
10898     \def\Fld@height{\DefaultHeightofCheckBox}%
10899     \Field@toks={ }%
10900     \expandafter\HyField@SetKeys\expandafter{%
10901       \DefaultOptionsofCheckBox,#1%
10902     }%
10903     \PDFForm@Name
10904     \HyField@FlagsCheckBox
10905     \ifFld@hidden\def\Fld@width{1sp}\fi
10906     \LayoutCheckField{#2}{%
10907       \Hy@escapeform\PDFForm@Check
10908       \pdfstartlink user {\PDFForm@Check}\relax
10909       \MakeCheckField{\Fld@width}{\Fld@height}%
10910       \pdfendlink
10911       \HyField@AddToFields
10912     }%
10913   \endgroup
10914 }
10915 \pdfobj {%
10916   <<%
10917     /Type/Encoding%
10918     /Differences[%
10919       24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
10920       /ring/tilde %
10921       39/quotesingle %
10922       96/grave %
10923       128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10924       /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10925       /quotedblbase/quotedblleft/quotedblright/quoteleft%
10926       /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%

```

```

10927      /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10928      164/currency %
10929      166/brokenbar %
10930      168/dieresis/copyright/ordfeminine %
10931      172/logicalnot/.notdef/registered/macron/degree/plusminus%
10932      /twosuperior/threesuperior/acute/mu %
10933      183/periodcentered/cedilla/onesuperior/ordmasculine %
10934      188/onequarter/onehalf/threequarters %
10935      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10936      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10937      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10938      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10939      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10940      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10941      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10942      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
10943      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
10944      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
10945      ]%
10946      >>%
10947  }
10948  \edef\OBJ@pdfdocencoding{\the\pdflastobj}
10949  \pdfobj{%
10950      <<%
10951          /Type/Font%
10952          /Subtype/Type1%
10953          /Name/ZaDb%
10954          /BaseFont/ZapfDingbats%
10955      >>%
10956  }
10957  \edef\OBJ@ZaDb{\the\pdflastobj}
10958  \pdfobj{%
10959      <<%
10960          /Type/Font%
10961          /Subtype/Type1%
10962          /Name/Helv%
10963          /BaseFont/Helvetica%
10964          /Encoding \OBJ@pdfdocencoding\space 0 R%
10965      >>%
10966  }
10967  \edef\OBJ@Helv{\the\pdflastobj}
10968  \pdfTeX

```

## 47.5 dvipdfm

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.

```
10969 <*dvipdfm>
```

\@Gauge

```

10970 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10971   \typeout{Sorry, dvipdfm does not support FORM gauges}%
10972 }

```

\@Form

```

10973 \def\@Form[#1]{%
10974   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%

```



```

10975 \setkeys{Form}{#1}%
10976 \@pdfm@mark{obj @afields []}%
10977 \@pdfm@mark{obj @corder []}%
10978 \@pdfm@mark{%
10979     obj @aform <<%
10980     /Fields @afields%
10981     /DR<<%
10982     /Font<<%
10983     /ZaDb @OBJZaDb%
10984     /Helv @OBJHelv%
10985     >>%
10986     >>%
10987     /DA(/Helv 10 Tf 0 g)%
10988     /CO @corder%
10989     \ifHy@pdfa
10990     \else
10991     /NeedAppearances true%
10992     \fi
10993     >>%
10994 }%
10995 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
10996 }

\@endForm

10997 \def\@endForm{ }

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

10998 \def\dvipdfm@setdim{%
10999     height \the\ht\pdfm@box\space
11000     width \the\wd\pdfm@box\space
11001     depth \the\dp\pdfm@box\space
11002 }

\HyField@AnnotCount

11003 \newcount\HyField@AnnotCount
11004 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount

11005 \def\HyField@AdvanceAnnotCount{%
11006     \global\advance\HyField@AnnotCount\@ne
11007 }

\HyField@TheAnnotCount

11008 \def\HyField@TheAnnotCount{%
11009     \the\HyField@AnnotCount
11010 }

\@TextField

11011 \def\@TextField[#1]#2{% parameters, label
11012     \def\Fld@name{#2}%
11013     \def\Fld@default{ }%
11014     \let\Fld@value\@empty
11015     \def\Fld@width{\DefaultWidthofText}%
11016     \def\Fld@height{%
11017         \ifFld@multiline
11018         \DefaultHeightofTextMultiline

```

```

11019 \else
11020 \DefaultHeightofText
11021 \fi
11022 }%
11023 \beginngroup
11024 \Field@toks={ }%
11025 \expandafter\HyField@SetKeys\expandafter{%
11026 \DefaultOptionsofText,#1%
11027 }%
11028 \PDFForm@Name
11029 \HyField@FlagsText
11030 \ifFld@hidden\def\Fld@width{1sp}\fi
11031 \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
11032 \setbox\pdfm@box=\hbox{%
11033 \MakeTextField{\Fld@width}{\Fld@height}%
11034 }%
11035 \HyField@AdvanceAnnotCount
11036 \LayoutTextField{#2}{%
11037 \Hy@escapeform\PDFForm@Text
11038 \@pdfm@mark{%
11039 ann @text\HyField@TheAnnotCount\space
11040 \dvipdfm@setdim << \PDFForm@Text >>%
11041 }%
11042 }%
11043 \unhbox\pdfm@box
11044 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
11045 % record in @afields array
11046 \endgroup
11047 }

```

\@ChoiceMenu

```

11048 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11049 \def\Fld@name{#2}%
11050 \let\Fld@default\relax
11051 \let\Fld@value\relax
11052 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11053 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11054 \beginngroup
11055 \Fld@menulength=0 %
11056 \@tempdima\z@
11057 \@for\@curropt:=#3\do{%
11058 \expandafter\Fld@checkequals\@curropt==\%
11059 \Hy@StepCount\Fld@menulength
11060 \settowidth{\@tempdimb}{\@currDisplay}%
11061 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11062 }%
11063 \advance\@tempdima by 15\p@
11064 \Field@toks={ }%
11065 \beginngroup
11066 \HyField@SetKeys{#1}%
11067 \edef\x{\endgroup
11068 \noexpand\expandafter
11069 \noexpand\HyField@SetKeys
11070 \noexpand\expandafter{%
11071 \expandafter\noexpand\cname DefaultOptionsof%
11072 \ifFld@radio
11073 Radio%

```

```

11074         \else
11075             \ifFld@combo
11076                 \ifFld@popdown
11077                     PopdownBox%
11078                 \else
11079                     ComboBox%
11080                 \fi
11081             \else
11082                 ListBox%
11083             \fi
11084         \fi
11085     \endcsname
11086 }%
11087 }\x
11088 \HyField@SetKeys{#1}%
11089 \PDFForm@Name
11090 \ifFld@hidden\def\Fld@width{1sp}\fi
11091 \ifx\Fld@value\relax
11092     \let\Fld@value\Fld@default
11093 \fi
11094 \LayoutChoiceField{#2}{%
11095     \ifFld@radio
11096         \HyField@FlagsRadioButton
11097         @@Radio{#3}%
11098     \else
11099         \beginngroup
11100             \HyField@FlagsChoice
11101             \ifdim\Fld@width<\@tempdima
11102                 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11103                 \edef\Fld@width{\the\@tempdima}%
11104             \fi
11105             \ifFld@combo
11106             \else
11107                 \@tempdima=\the\Fld@menulength\Fld@charsize
11108                 \advance\@tempdima by \Fld@borderwidth bp %
11109                 \advance\@tempdima by \Fld@borderwidth bp %
11110                 \edef\Fld@height{\the\@tempdima}%
11111             \fi
11112             @@ListBox{#3}%
11113         \endgroup
11114     \fi
11115 }%
11116 \endgroup
11117 }

```

\@@Radio

```

11118 \def\@@Radio#1{%
11119     \Fld@listcount=0 %
11120     \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
11121     \@for\@curropt:=#1\do{%
11122         \expandafter\Fld@checkequals\@curropt==\%
11123         \Hy@StepCount\Fld@listcount
11124         \@currDisplay\space
11125         \leavevmode
11126         \Hy@escapeform\PDFForm@Radio
11127         \ifnum\Fld@listcount=1 %
11128             \HyField@AdvanceAnnotCount

```

```

11129 \fi
11130 \@pdfm@mark{%
11131   ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi
11132   \dvipdfm@setdim
11133   <<%
11134     \PDFForm@Radio
11135     /AP<</N<</\@currValue /null>>>>%
11136   >>%
11137 }%
11138 \unhcopy\pdfm@box\space% deliberate space between radio buttons
11139 \ifnum\Fld@listcount=1 %
11140   \@pdfm@mark{put @afields @radio\HyField@TheAnnotCount}%
11141 \fi
11142 }%
11143 }

\Fld@listcount

11144 \newcount\Fld@listcount

@@@Listbox

11145 \def\@@Listbox#1{%
11146   \HyField@PDFChoices{#1}%
11147   \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
11148   \leavevmode
11149   \Hy@escapeform\PDFForm@List
11150   \HyField@AdvanceAnnotCount
11151   \@pdfm@mark{%
11152     ann @list\HyField@TheAnnotCount\space
11153     \dvipdfm@setdim
11154     <<\PDFForm@List>>%
11155   }%
11156   \unhbox\pdfm@box
11157   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
11158 }

@@@PushButton

11159 \def\@PushButton[#1]#2{% parameters, label
11160   \def\Fld@name{#2}%
11161   \begingroup
11162     \Field@toks={ }%
11163     \expandafter\HyField@SetKeys\expandafter{%
11164       \DefaultOptionsofPushButton,#1%
11165     }%
11166     \PDFForm@Name
11167     \ifHy@pdfa
11168       \PackageError{hyperref}{%
11169         PDF/A: Push button with JavaScript is prohibited%
11170       }\@ehc
11171       \LayoutPushButtonField{%
11172         \leavevmode
11173         \MakeButtonField{#2}%
11174       }%
11175     \else
11176       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11177       \HyField@FlagsPushButton
11178       \ifFld@hidden\def\Fld@width{1sp}\fi
11179       \HyField@AdvanceAnnotCount

```

```

11180     \LayoutPushButtonField{%
11181     \leavevmode
11182     \Hy@escapeform\PDFForm@Push
11183     \@pdfm@mark{%
11184         ann @push\HyField@TheAnnotCount\space
11185         \dvipdfm@setdim
11186         <<\PDFForm@Push>>%
11187     }%
11188 }%
11189 \unhbox\pdfm@box
11190 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
11191 \fi
11192 \endgroup
11193 }

\@Submit

11194 \def\@Submit[#1]#2{%
11195     \Field@toks={ }%
11196     \def\Fld@width{\DefaultWidthofSubmit}%
11197     \def\Fld@height{\DefaultHeightofSubmit}%
11198     \begingroup
11199         \expandafter\HyField@SetKeys\expandafter{%
11200             \DefaultOptionsofSubmit,#1%
11201         }%
11202         \HyField@FlagsPushButton
11203         \HyField@FlagsSubmit
11204         \ifFld@hidden\def\Fld@width{1sp}\fi
11205         \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11206         \leavevmode
11207         \Hy@escapeform\PDFForm@Submit
11208         \HyField@AdvanceAnnotCount
11209         \@pdfm@mark{%
11210             ann @submit\HyField@TheAnnotCount\space
11211             \dvipdfm@setdim
11212             <<\PDFForm@Submit>>%
11213         }%
11214         \unhbox\pdfm@box%
11215         \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
11216     \endgroup
11217 }

\@Reset

11218 \def\@Reset[#1]#2{%
11219     \Field@toks={ }%
11220     \def\Fld@width{\DefaultWidthofReset}%
11221     \def\Fld@height{\DefaultHeightofReset}%
11222     \begingroup
11223         \expandafter\HyField@SetKeys\expandafter{%
11224             \DefaultOptionsofReset,#1%
11225         }%
11226         \leavevmode
11227         \ifHy@pdfa
11228             \PackageError{hyperref}{%
11229                 PDF/A: Reset action is prohibited%
11230             }\@ehc
11231             \MakeButtonField{#2}%
11232         \else

```

```

11233 \HyField@FlagsPushButton
11234 \ifFld@hidden\def\Fld@width{1sp}\fi
11235 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11236 \Hy@escapeform\PDFForm@Reset
11237 \HyField@AdvanceAnnotCount
11238 \@pdfm@mark{%
11239     ann @reset\HyField@TheAnnotCount\space
11240     \dvipdfm@setdim
11241     <<\PDFForm@Reset>>%
11242 }%
11243 \unhbox\pdfm@box
11244 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11245 \fi
11246 \endgroup
11247 }

```

\@CheckBox

```

11248 \def\@CheckBox[#1]#2{% parameters, label
11249 \def\Fld@name{#2}%
11250 \def\Fld@default{0}%
11251 \begingroup
11252 \def\Fld@width{\DefaultWidthofCheckBox}%
11253 \def\Fld@height{\DefaultHeightofCheckBox}%
11254 \Field@toks={ }%
11255 \expandafter\HyField@SetKeys\expandafter{%
11256     \DefaultOptionsofCheckBox,#1%
11257 }%
11258 \PDFForm@Name
11259 \HyField@FlagsCheckBox
11260 \ifFld@hidden\def\Fld@width{1sp}\fi
11261 \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
11262 \HyField@AdvanceAnnotCount
11263 \LayoutCheckField{#2}%
11264 \Hy@escapeform\PDFForm@Check
11265 \@pdfm@mark{%
11266     ann @check\HyField@TheAnnotCount\space
11267     \dvipdfm@setdim
11268     <<\PDFForm@Check>>%
11269 }%
11270 \unhbox\pdfm@box
11271 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11272 }%
11273 \endgroup
11274 }

11275 \@pdfm@mark{obj @OBJpdfdocencoding%
11276 <<%
11277 /Type/Encoding%
11278 /Differences[%
11279     24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11280     39/quotesingle %
11281     96/grave %
11282     128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11283     /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11284     /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11285     /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11286     /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11287     164/currency %

```

```

11288      166/brokenbar %
11289      168/dieresis/copyright/ordfeminine %
11290      172/logicalnot/.notdef/registered/macron/degree/plusminus%
11291      /twosuperior/threesuperior/acute/mu %
11292      183/periodcentered/cedilla/onesuperior/ordmasculine %
11293      188/onequarter/onehalf/threequarters %
11294      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11295      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11296      /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11297      /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11298      /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11299      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11300      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11301      /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
11302      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11303      /thorn/ydieresis%
11304      ]%
11305      >>%
11306 }
11307 \pdfmark{obj @OBJZaDb%
11308   <<%
11309     /Type/Font%
11310     /Subtype/Type1%
11311     /Name/ZaDb%
11312     /BaseFont/ZapfDingbats%
11313   >>%
11314 }
11315 \pdfmark{obj @OBJHelv%
11316   <<%
11317     /Type/Font%
11318     /Subtype/Type1%
11319     /Name/Helv%
11320     /BaseFont/Helvetica%
11321     /Encoding @OBJpdfdocencoding%
11322   >>%
11323 }
11324 </dvipdfm>

```

## 47.6 Common forms part

```
11325 <*pdfform>
```

\Hy@escapestring

```

11326 \begingroup\expandafter\expandafter\expandafter\endgroup
11327 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11328   \let\Hy@escapestring\@firstofone
11329   \def\Hy@escapeform#1{%
11330     \ifHy@escapeform
11331       \def\Hy@escapestring##1{%
11332         \noexpand\Hy@escapestring{\noexpand##1}%
11333       }%
11334     \edef\Hy@temp{#1}%
11335     \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
11336     \def\Hy@escapestring##1{%
11337       \@ifundefined{Hy@esc@\string##1}{%
11338         ##1%
11339       }\ThisShouldNotHappen

```

```

11340      }{
11341      \csname Hy@esc@\string##1\endcsname
11342      }%
11343      }%
11344      \else
11345      \let\Hy@escapestring\@firstofone
11346      \fi
11347      }%
11348      \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11349      \ifx\#3\%
11350      \else
11351      \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11352      \Hy@ReturnAfterFi{%
11353      \Hy@@escapeform#3\@nil
11354      }%
11355      \fi
11356      }%
11357      \else
11358      \def\Hy@escapeform#1{%
11359      \ifHy@escapeform
11360      \let\Hy@escapestring\pdfescapestring
11361      \else
11362      \let\Hy@escapestring\@firstofone
11363      \fi
11364      }%
11365      \Hy@escapeform{}}%
11366      \fi

```

\PDFForm@Name

```

11367 \def\PDFForm@Name{%
11368 \begingroup
11369 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11370 \ifHy@unicode
11371 \Hy@unicodedefalse
11372 \fi
11373 \fi
11374 \pdfstringdef\Hy@gtemp\Fld@name
11375 \endgroup
11376 \let\Fld@name\Hy@gtemp
11377 }

```

\PDFForm@Check

```

11378 \def\PDFForm@Check{%
11379 /Subtype/Widget%
11380 \Fld@annotflags
11381 /T(\Fld@name)%
11382 /FT/Btn%
11383 \Fld@flags
11384 /Q \Fld@align
11385 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11386 /MK<<%
11387 \ifnum\Fld@rotation=\z@
11388 \else
11389 /R \Fld@rotation
11390 \fi
11391 \ifx\Fld@bordercolor\relax
11392 \else

```



```

11393      /BC[\Fld@bordercolor]%
11394      \fi
11395      \ifx\Fld@bcolor\relax
11396      \else
11397      /BG[\Fld@bcolor]%
11398      \fi
11399      /CA(\Hy@escapestring{\Fld@cbsymbol})%
11400  >>%
11401  /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11402      \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11403  /H/P%
11404  \ifFld@checked /V/Yes\else /V/Off\fi
11405 }

```

\PDFForm@Push

```

11406 \ifHy@pdfa
11407 \else
11408   \def\PDFForm@Push{%
11409     /Subtype/Widget%
11410     \Fld@annotflags
11411     /T(\Fld@name)%
11412     /FT/Btn%
11413     \Fld@flags
11414     /H/P%
11415     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11416     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11417       \ifx\Fld@bordercolor\relax\else 1\fi
11418       \space
11419     \else
11420       /MK<<%
11421         \ifnum\Fld@rotation=\z@
11422         \else
11423           /R \Fld@rotation
11424         \fi
11425         \ifx\Fld@bordercolor\relax
11426         \else
11427           /BC[\Fld@bordercolor]%
11428         \fi
11429       >>%
11430     \fi
11431     /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
11432   }%
11433 \fi

```

\Fld@additionalactions

```

11434 \def\Fld@@additionalactions{%
K input (keystroke) format
11435   \ifx\Fld@keystroke@code\@empty
11436   \else
11437     /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11438   \fi
F display format
11439   \ifx\Fld@format@code\@empty
11440   \else
11441     /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11442   \fi

```

#### V validation

```
11443 \ifx\Fld@validate@code\@empty
11444 \else
11445 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11446 \fi
```

#### C calculation

```
11447 \ifx\Fld@calculate@code\@empty
11448 \else
11449 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11450 \fi
```

#### Fo receiving the input focus

```
11451 \ifx\Fld@onfocus@code\@empty
11452 \else
11453 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11454 \fi
```

#### Bl loosing the input focus (blurred)

```
11455 \ifx\Fld@onblur@code\@empty
11456 \else
11457 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11458 \fi
```

#### D pressing the mouse button (down)

```
11459 \ifx\Fld@onmousedown@code\@empty
11460 \else
11461 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11462 \fi
```

#### U releasing the mouse button (up)

```
11463 \ifx\Fld@onmouseup@code\@empty
11464 \else
11465 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11466 \fi
```

#### E cursor enters the annotation's active area.

```
11467 \ifx\Fld@onenter@code\@empty
11468 \else
11469 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11470 \fi
```

#### X cursor exits the annotation's active area.

```
11471 \ifx\Fld@onexit@code\@empty
11472 \else
11473 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11474 \fi
```

```
11475 }
```

```
11476 \def\Fld@additionalactions{%
11477 \if-\Fld@@additionalactions-%
11478 \else
11479 \ifHy@pdfa
11480 \else
11481 /AA<<\Fld@@additionalactions>>%
11482 \fi
11483 \fi
11484 }
```

\PDFForm@List

```
11485 \def\PDFForm@List{%
```

```

11486 /Subtype/Widget%
11487 \Fld@annotflags
11488 /T(\Fld@name)%
11489 /FT/Ch%
11490 \Fld@flags
11491 /Q \Fld@align
11492 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11493 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11494 \ifx\Fld@bordercolor\relax\else 1\fi
11495 \ifx\Fld@bcolor\relax \else 1\fi
11496 \space
11497 \else
11498 /MK<<%
11499 \ifnum\Fld@rotation=\z@
11500 \else
11501 /R \Fld@rotation
11502 \fi
11503 \ifx\Fld@bordercolor\relax
11504 \else
11505 /BC[\Fld@bordercolor]%
11506 \fi
11507 \ifx\Fld@bcolor\relax
11508 \else
11509 /BG[\Fld@bcolor]%
11510 \fi
11511 >>%
11512 \fi
11513 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11514 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11515 \Fld@choices
11516 \Fld@additionalactions
11517 }

```

\PDFForm@Radio

```

11518 \def\PDFForm@Radio{%
11519 /Subtype/Widget%
11520 \Fld@annotflags
11521 /T(\Fld@name)%
11522 /FT/Btn%
11523 \Fld@flags
11524 /H/P%
11525 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11526 /MK<<%
11527 \ifnum\Fld@rotation=\z@
11528 \else
11529 /R \Fld@rotation
11530 \fi
11531 \ifx\Fld@bordercolor\relax
11532 \else
11533 /BC[\Fld@bordercolor]%
11534 \fi
11535 \ifx\Fld@bcolor\relax
11536 \else
11537 /BG[\Fld@bcolor]%
11538 \fi
11539 /CA(H)%
11540 >>%

```

```

11541 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11542 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11543 \ifx\@currValue\Fld@default
11544 /V/\Fld@default
11545 \else
11546 /V/Off%
11547 \fi
11548 \Fld@additionalactions
11549 }

```

#### \PDFForm@Text

```

11550 \def\PDFForm@Text{%
11551 /Subtype/Widget%
11552 \Fld@annotflags
11553 /T(\Fld@name)%
11554 /FT/Tx%
11555 \Fld@flags
11556 /Q \Fld@align
11557 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11558 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11559 \ifx\Fld@bordercolor\relax\else 1\fi
11560 \ifx\Fld@bcolor\relax \else 1\fi
11561 \space
11562 \else
11563 /MK<<%
11564 \ifnum\Fld@rotation=\z@
11565 \else
11566 /R \Fld@rotation
11567 \fi
11568 \ifx\Fld@bordercolor\relax
11569 \else
11570 /BC[\Fld@bordercolor]%
11571 \fi
11572 \ifx\Fld@bcolor\relax
11573 \else
11574 /BG[\Fld@bcolor]%
11575 \fi
11576 >>%
11577 \fi
11578 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11579 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11580 /DV(\Hy@escapestring{\Fld@default})%
11581 /V(\Hy@escapestring{\Fld@value})%
11582 \Fld@additionalactions
11583 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11584 }

```

#### \PDFForm@Submit

```

11585 \def\PDFForm@Submit{%
11586 /Subtype/Widget%
11587 \Fld@annotflags
11588 /T(\Fld@name)%
11589 /FT/Btn%
11590 \Fld@flags
11591 /H/P%
11592 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11593 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi

```

```

11594         \ifx\Fld@bordercolor\relax\else 1\fi
11595         \space
11596     \else
11597         /MK<<%
11598         \ifnum\Fld@rotation=\z@
11599         \else
11600             /R \Fld@rotation
11601         \fi
11602         \ifx\Fld@bordercolor\relax
11603         \else
11604             /BC[\Fld@bordercolor]%
11605         \fi
11606         >>%
11607     \fi
11608 /A<<%
11609 /S/SubmitForm%
11610 /F<<%
11611 /FS/URL%
11612 /F(\Hy@escapestring{\Form@action})%
11613 >>%
11614 \Fld@submitflags
11615 >>%
11616 }

```

\PDFForm@Reset

```

11617 \ifHy@pdfa
11618 \else
11619     \def\PDFForm@Reset{%
11620         /Subtype/Widget%
11621         \Fld@annotflags
11622         /T(\Fld@name)%
11623         /FT/Btn%
11624         \Fld@flags
11625         /H/P%
11626         /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11627         \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11628             \ifx\Fld@bordercolor\relax\else 1\fi
11629             \space
11630         \else
11631             /MK<<%
11632             \ifnum\Fld@rotation=\z@
11633             \else
11634                 /R \Fld@rotation
11635             \fi
11636             \ifx\Fld@bordercolor\relax
11637             \else
11638                 /BC[\Fld@bordercolor]%
11639             \fi
11640 %         /CA (Clear)
11641 %         /AC (Done)
11642         >>%
11643     \fi
11644     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11645     /A<</S/ResetForm>>%
11646 }%
11647 \fi
11648 \pdfform>

```

11649  $\langle$ \*package $\rangle$

## 48 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `reperer.sty`); it needed the `reperer` 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`

```
11650 \def\phantomsection{%
11651   \Hy@GlobalStepCount\Hy@linkcounter
11652   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11653   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11654 }
11655  $\langle$ /package $\rangle$ 
```

### 48.1 Bookmarks

11656  $\langle$ \*outlines $\rangle$

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

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

```
11657 \def\Hy@writebookmark#1#2#3#4#5{%
11658   % section number, text, label, level, file
11659   \ifx\WriteBookmarks\relax%
11660   \else
11661     \ifnum#4>\Hy@bookmarksdepth\relax
11662     \else
11663       \@writetorep{#1}{#2}{#3}{#4}{#5}%
11664     \fi
11665   \fi
11666 }
11667 \def\Hy@currentbookmarklevel{0}
11668 \def\Hy@numberline#1{#1 }
11669 \def\@writetorep#1#2#3#4#5{%
11670   \begingroup
11671     \edef\Hy@tempa{#5}%
11672     \ifx\Hy@tempa\Hy@bookmarkstype
11673       \edef\Hy@level{#4}%
11674       \ifx\Hy@levelcheck Y%
11675         \@tempcnta\Hy@level\relax
11676         \advance\@tempcnta by -1 %
11677         \ifnum\Hy@currentbookmarklevel<\@tempcnta
11678           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
11679           \advance\@tempcnta by 1 %
11680           \Hy@Warning{%
11681             Difference (\the\@tempcnta) between bookmark levels is %
11682             greater \MessageBreak than one, level fixed%
11683           }%

```

```

11684         \@tempcnta\Hy@currentbookmarklevel
11685         \advance\@tempcnta by 1 %
11686         \edef\Hy@level{\the\@tempcnta}%
11687     \fi
11688 \else
11689     \global\let\Hy@levelcheck Y%
11690 \fi
11691 \global\let\Hy@currentbookmarklevel\Hy@level
11692 \@tempcnta\Hy@level\relax
11693 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
11694 \advance\@tempcnta by -1 %
11695 \edef\Hy@tempa{#3}%
11696 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
11697 \ifx\Hy@tempa\Hy@tempb
11698     \Hy@Warning{%
11699         The anchor of a bookmark and its parent's must not%
11700         \MessageBreak be the same. Added a new anchor%
11701     }%
11702     \phantomsection
11703 \fi
11704 \ifHy@bookmarksnumbered
11705     \let\numberline\Hy@numberline
11706     \let\partnumberline\Hy@numberline
11707     \let\chapternumberline\Hy@numberline
11708 \else
11709     \let\numberline\@gobble
11710     \let\partnumberline\@gobble
11711     \let\chapternumberline\@gobble
11712 \fi
11713 \pdfstringdef\Hy@tempa{#2}%
11714 \if@filesw
11715     \protected@write\@outlinefile{}{%
11716         \protect\BOOKMARK
11717         [\Hy@level] [\@bookmarkopenstatus{\Hy@level}] {#3}%
11718         {\Hy@tempa}{\Hy@tempb}%
11719     }%
11720 \fi
11721 \fi
11722 \endgroup
11723 }

```

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

```

11724 \newcommand{\currentpdfbookmark}{%
11725     \pdfbookmark[\Hy@currentbookmarklevel]%
11726 }
11727 \newcommand{\subpdfbookmark}{%
11728     \@tempcnta\Hy@currentbookmarklevel
11729     \Hy@StepCount\@tempcnta
11730     \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
11731 }
11732 \newcommand{\belowpdfbookmark}[2]{%
11733     \@tempcnta\Hy@currentbookmarklevel
11734     \Hy@StepCount\@tempcnta
11735     \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
11736     \advance\@tempcnta by -1 %
11737     \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
11738 }

```

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.

```

11739 \renewcommand\pdfbookmark[3][0]{%
11740   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
11741   \hyper@anchorstart{#3.#1}\hyper@anchorend
11742 }
11743 \def\BOOKMARK{\@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}}
11744 \def\@BOOKMARK[#1]{\@ifnextchar[{\@@BOOKMARK[#1]}{\@@BOOKMARK[#1][-]}}

```

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

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

```

11745 <*vtex>
11746 \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.

```

11747 \begingroup
11748   \catcode'\'=12 %
11749   \ifnum\Hy@VTeXversion<650 %
11750     \catcode'\'=12 %
11751     \gdef\hv@pdf@char#1#2#3{%
11752       \char
11753       \ifcase'#1#2#3 %
11754         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
11755         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
11756         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
11757         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
11758         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
11759         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
11760         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
11761         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
11762         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
11763         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
11764         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
11765         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
11766         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
11767         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
11768         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
11769         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
11770         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
11771         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
11772         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
11773         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
11774         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
11775         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
11776         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
11777         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
11778         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
11779         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
11780         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
11781         \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%

```



```

11782 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
11783 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
11784 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
11785 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
11786 \fi
11787 }%
11788 \else
11789 \gdef\hv@pdf@char{\char'}%
11790 \fi
11791 \endgroup

```

\@@BOOKMARK

```

11792 \def\@@BOOKMARK[#1][#2]#3#4#5{%
11793 \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
11794 \edef\@mycount{\the\@serial@counter}%
11795 \Hy@StepCount\@serial@counter
11796 \edef\@parcount{%
11797 \expandafter\ifx\csname @count@#5\endcsname\relax
11798 0%
11799 \else
11800 \csname @count@#5\endcsname
11801 \fi
11802 }%
11803 \immediate\special{%
11804 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
11805 s=\ifx#2-c\else o\fi,t=#4%
11806 }%
11807 }%

```

\ReadBookmarks

```

11808 \def\ReadBookmarks{%
11809 \begingroup
11810 \def\O{\hv@pdf@char 0}%
11811 \def\1{\hv@pdf@char 1}%
11812 \def\2{\hv@pdf@char 2}%
11813 \def\3{\hv@pdf@char 3}%
11814 \def\({}%
11815 \def\)}%
11816 \def\do##1{%
11817 \ifnum\the\catcode'##1=\active
11818 \makeother##1%
11819 \fi
11820 }%
11821 \dospecials
11822 \InputIfFileExists{\jobname.out}{-}{-}%
11823 \endgroup
11824 \ifx\WriteBookmarks\relax
11825 \else
11826 \if@filesw
11827 \newwrite\@outlinefile
11828 \immediate\openout\@outlinefile=\jobname.out\relax
11829 \ifHy@typexml
11830 \immediate\write\@outlinefile{<relaxxml>\relax}%
11831 \fi
11832 \fi
11833 \fi
11834 }

```

```

11835 </vtex>
11836 <*!vtex>
11837 \def\ReadBookmarks{%
11838   \begingroup
11839     \escapechar='\\%
11840     \let\escapechar\@gobble %
11841     \def\@@BOOKMARK[##1][##2]###4##5{\calc@bm@number{##5}}%
11842     \InputIfFileExists{\jobname.out}{-}{-}%
11843     \ifx\WriteBookmarks\relax
11844       \global\let\WriteBookmarks\relax
11845     \fi
11846     \def\@@BOOKMARK[##1][##2]###4##5{%
11847       \def\Hy@temp{##4}%
11848 <*pdftex>
11849     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11850     \Hy@OutlineName{}\Hy@pstringName{%
11851       ##2\check@bm@number{##3}%
11852     }{%
11853       \expandafter\strip@prefix\meaning\Hy@temp
11854     }%
11855 </pdftex>
11856 <*pdfmark>
11857   \pdfmark{%
11858     pdfmark=/OUT,%
11859     Count={##2\check@bm@number{##3}},%
11860     Dest={##3},%
11861     Title=\expandafter\strip@prefix\meaning\Hy@temp
11862   }%
11863 </pdfmark>
11864 <*dvi pdfm>
11865   \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11866   \@pdfm@mark{%
11867     outline \ifHy@DvipdfmxOutlineOpen
11868       [%
11869         \ifnum##21>\z@
11870         \else
11871         -%
11872         \fi
11873       ] %
11874     \fi
11875     ##1<<%
11876     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
11877     /A<<%
11878     /S/GoTo%
11879     /D(\Hy@pstringName)%
11880     >>%
11881     >>%
11882   }%
11883 </dvi pdfm>
11884   }%
11885   {%
11886     \def\WriteBookmarks{0}%
11887     \InputIfFileExists{\jobname.out}{-}{-}%
11888   }%
11889   {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
11890   \ifx\WriteBookmarks\relax
11891   \else

```

```

11892 \if@filesw
11893 \newwrite\@outlinefile
11894 \immediate\openout\@outlinefile=\jobname.out\relax
11895 \ifHy@typexml
11896 \immediate\write\@outlinefile{<relaxxml>\relax}%
11897 \fi
11898 \fi
11899 \fi
11900 \endgroup
11901 }
11902 <*pdftex>
11903 \def\Hy@OutlineName#1#2#3#4{%
11904 \pdfoutline goto name{#2}count#3{#4}%
11905 }
11906 </pdftex>
11907 \def\check@bm@number#1{%
11908 \expandafter\ifx\csname B_#1\endcsname\relax
11909 0%
11910 \else
11911 \csname B_#1\endcsname
11912 \fi
11913 }
11914 \def\calc@bm@number#1{%
11915 \@tempcnta=\check@bm@number{#1}\relax
11916 \advance\@tempcnta by 1 %
11917 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
11918 }
11919 </!vtex>
11920 \ifHy@implicit
11921 \else
11922 \expandafter\endinput
11923 \fi
11924 </outlines>
11925 <*outlines | hypertex>
11926 \let\H@old@ssect\@ssect
11927 \def\@ssect#1#2#3#4#5{%
11928 \H@old@ssect{#1}{#2}{#3}{#4}{#5}%
11929 \phantomsection
11930 }
11931 \let\H@old@schapter\@schapter
11932 \def\@schapter#1{%
11933 \H@old@schapter{#1}%
11934 \begingroup
11935 \let\@mkboth\@gobbletwo
11936 \Hy@GlobalStepCount\Hy@linkcounter
11937 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11938 \Hy@raisedlink{%
11939 \hyper@anchorstart{\@currentHref}\hyper@anchorend
11940 }%
11941 \endgroup
11942 }

```

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:

```

11943 \@ifundefined{@chapter}{-}{%

```

```

11944 \let\Hy@org@chapter\@chapter
11945 \def\@chapter{%
11946   \def\Hy@next{%
11947     \Hy@GlobalStepCount\Hy@linkcounter
11948     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11949     \Hy@raisedlink{%
11950       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11951     }%
11952   }%
11953   \ifnum\c@secnumdepth>\m@ne
11954     \@ifundefined{if@mainmatter}%
11955     \iftrue{\csname if@mainmatter\endcsname}%
11956     \let\Hy@next\relax
11957   \fi
11958 \fi
11959 \Hy@next
11960 \Hy@org@chapter
11961 }%
11962 }

11963 \let\H@old@part\@part
11964 \begingroup\expandafter\expandafter\expandafter\endgroup
11965 \expandafter\ifx\csname chapter\endcsname\relax
11966   \let\Hy@secnum@part\z@
11967 \else
11968   \let\Hy@secnum@part\m@ne
11969 \fi
11970 \def\@part{%
11971   \ifnum\Hy@secnum@part>\c@secnumdepth
11972     \phantomsection
11973   \fi
11974 \H@old@part
11975 }

11976 \let\H@old@spart\@spart
11977 \def\@spart#1{%
11978   \H@old@spart{#1}%
11979   \Hy@GlobalStepCount\Hy@linkcounter
11980   \xdef\@currentHref{part*.\the\Hy@linkcounter}%
11981   \Hy@raisedlink{%
11982     \hyper@anchorstart{\@currentHref}\hyper@anchorend
11983   }%
11984 }

11985 \let\H@old@sect\@sect
11986 \def\@sect#1#2#3#4#5#6[#7]#8{%
11987   \ifnum #2>\c@secnumdepth
11988     \Hy@GlobalStepCount\Hy@linkcounter
11989     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11990   \fi
11991   \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%
11992   \ifnum #2>\c@secnumdepth
11993     \Hy@raisedlink{%
11994       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11995     }%
11996   \fi
11997 }

11998 </outlines | hypertex>
11999 <*outlines>

```

```

12000 \expandafter\def\csname Parent-4\endcsname{}
12001 \expandafter\def\csname Parent-3\endcsname{}
12002 \expandafter\def\csname Parent-2\endcsname{}
12003 \expandafter\def\csname Parent-1\endcsname{}
12004 \expandafter\def\csname Parent0\endcsname{}
12005 \expandafter\def\csname Parent1\endcsname{}
12006 \expandafter\def\csname Parent2\endcsname{}
12007 \expandafter\def\csname Parent3\endcsname{}
12008 \expandafter\def\csname Parent4\endcsname{}
12009 </outlines>

```

## 49 Compatibility with koma-script classes

```
12010 < *outlines | hypertex>
```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias.Isenberg@gmx.de. With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

12011 \def\Hy@tempa{%
12012   \def\@addchap[##1]##2{%
12013     \typeout{##2}%
12014     \if@twoside
12015       \@mkboth{##1}{}%
12016     \else
12017       \@mkboth{}{##1}%
12018     \fi
12019     \addtocontents{lof}{\protect\addvspace{10\p@}}%
12020     \addtocontents{lot}{\protect\addvspace{10\p@}}%
12021     \Hy@GlobalStepCount\Hy@linkcounter
12022     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12023     \Hy@raisedlink{%
12024       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12025     }%
12026     \if@twocolumn
12027       \@topnewpage[\@makeschapterhead{##2}]%
12028     \else
12029       \@makeschapterhead{##2}%
12030       \@afterheading
12031     \fi
12032     \addcontentsline{toc}{chapter}{##1}%
12033   }%
12034 }
12035 \@ifclassloaded{scrbook}{%
12036   \@ifclasslater{scrbook}{2001/01/01}{%
12037     \let\Hy@tempa\@empty
12038   }{}%
12039 }{%
12040   \@ifclassloaded{scrreprt}{%
12041     \@ifclasslater{scrreprt}{2001/01/01}{%
12042       \let\Hy@tempa\@empty
12043     }{}%
12044   }{%
12045     \let\Hy@tempa\@empty
12046   }%
12047 }%
12048 \Hy@tempa

```

12049 `</outlines | hypertext>`

## 50 Encoding definition files for encodings of PDF strings

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

### 50.1 PD1 encoding

12050 `<*pd1enc>`

12051 `\DeclareFontEncoding{PD1}{-}{-}`

#### Accents

12052 `\DeclareTextAccent{`}{PD1}{\textasciigrave}`

12053 `\DeclareTextAccent{'}{PD1}{\textacute}`

12054 `\DeclareTextAccent{^}{PD1}{\textasciicircum}`

12055 `\DeclareTextAccent{~}{PD1}{\texttilde}`

12056 `\DeclareTextAccent{"}{PD1}{\textasciidieresis}`

12057 `\DeclareTextAccent{\r}{PD1}{\textring}`

12058 `\DeclareTextAccent{\v}{PD1}{\textasciicaron}`

12059 `\DeclareTextAccent{.}{PD1}{\textdotaccent}`

12060 `\DeclareTextAccent{c}{PD1}{\textcedilla}`

12061 `\DeclareTextAccent{=}{PD1}{\textasciimacron}`

12062 `\DeclareTextAccent{b}{PD1}{\textmacronbelow}`

12063 `\DeclareTextAccent{d}{PD1}{\textdotbelow}`

12064 `\DeclareTextCompositeCommand{`}{PD1}{\@empty}{\textasciigrave}`

12065 `\DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textacute}`

12066 `\DeclareTextCompositeCommand{^}{PD1}{\@empty}{\textasciicircum}`

12067 `\DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}`

12068 `\DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}`

12069 `\DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}`

12070 `\DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}`

12071 `\DeclareTextCompositeCommand{.}{PD1}{\@empty}{\textdotaccent}`

12072 `\DeclareTextCompositeCommand{c}{PD1}{\@empty}{\textcedilla}`

12073 `\DeclareTextCompositeCommand{=}{PD1}{\@empty}{\textasciimacron}`

12074 `\DeclareTextCompositeCommand{b}{PD1}{\@empty}{\textmacronbelow}`

12075 `\DeclareTextCompositeCommand{d}{PD1}{\@empty}{\textdotbelow}`

12076 `\DeclareTextCompositeCommand{`}{PD1}{\ }{\textasciigrave}`

12077 `\DeclareTextCompositeCommand{'}{PD1}{\ }{\textacute}`

12078 `\DeclareTextCompositeCommand{^}{PD1}{\ }{\textasciicircum}`

12079 `\DeclareTextCompositeCommand{~}{PD1}{\ }{\texttilde}`

12080 `\DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}`

12081 `\DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}`

12082 `\DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}`

12083 `\DeclareTextCompositeCommand{.}{PD1}{\ }{\textdotaccent}`

12084 `\DeclareTextCompositeCommand{c}{PD1}{\ }{\textcedilla}`

12085 `\DeclareTextCompositeCommand{=}{PD1}{\ }{\textasciimacron}`

12086 `\DeclareTextCompositeCommand{b}{PD1}{\ }{\textmacronbelow}`

12087 `\DeclareTextCompositeCommand{d}{PD1}{\ }{\textdotbelow}`

12088 `\DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}`

12089 `\DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}`

12090 `\DeclareTextCommand{\newtie}{PD1}[1]{\TextSymbolUnavailable{\newtie{#1}}#1}`

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

12091 `% U+0009 (CHARACTER TABULATION)`

12092 `\DeclareTextCommand{\textHT}{PD1}{\011}% U+0009`

12093 `% U+000A (LINE FEED)`

12094 `\DeclareTextCommand{\textLF}{PD1}{\012}% U+000A`

12095 `% U+000D (CARRIAGE RETURN)`

12096 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

Accent glyph names

12097 % U+02D8 BREVE; breve

12098 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8

12099 % U+02C7 CARON; caron

12100 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7

12101 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex

12102 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6

12103 % U+02D9 DOT ABOVE; dotaccent

12104 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9

12105 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut

12106 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD

12107 % U+02DB OGONEK; ogonek

12108 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB

12109 % U+02DA RING ABOVE; ring

12110 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA

12111 % U+02DC SMALL TILDE; ilde, \*tilde

12112 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

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

\041: U+0021 EXCLAMATION MARK; exclam

12113 % U+0022 QUOTATION MARK; quotedbl

12114 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022

12115 % U+0023 NUMBER SIGN; numbersign

12116 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023

12117 % U+0024 DOLLAR SIGN; dollar

12118 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024

12119 % U+0025 PERCENT SIGN; percent

12120 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025

12121 % U+0026 AMPERSAND; ampersand

12122 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

\047: U+0027 APOSTROPHE; quotesingle

12123 % U+0028 LEFT PARENTHESIS; parenleft

12124 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028

12125 % U+0029 RIGHT PARENTHESIS; parenright

12126 \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

12127 % U+002E FULL STOP; period

12128 \DeclareTextCommand{\textdotbelow}{PD1}{\string\.\}% \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

12129 % U+003C LESS-THAN SIGN; less

12130 \DeclareTextCommand{\textless}{PD1}{\string\<}% \074 U+003C

\075: U+003D EQUALS SIGN; equal

12131 % U+003E GREATER-THAN SIGN; greater

12132 \DeclareTextCommand{\textgreater}{PD1}{\string\>}% \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  
 12133 % U+005C REVERSE SOLIDUS; backslash  
 12134 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 12135 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 12136 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 12137 % U+005F LOW LINE; underscore  
 12138 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 12139 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 12140 % U+0060 GRAVE ACCENT; grave  
 12141 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 12142 % U+0069 LATIN SMALL LETTER I; i  
 12143 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 12144 % U+007B LEFT CURLY BRACKET; braceleft  
 12145 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 12146 % U+007C VERTICAL LINE; \*bar, verticalbar  
 12147 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 12148 % U+007D RIGHT CURLY BRACKET; braceright  
 12149 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 12150 % U+007E TILDE; asciitilde  
 12151 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 12152 % U+2022 BULLET; bullet  
 12153 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 12154 % U+2020 DAGGER; dagger  
 12155 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 12156 % U+2021 DOUBLE DAGGER; daggerdbl  
 12157 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 12158 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 12159 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 12160 % U+2014 EM DASH; emdash  
 12161 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 12162 % U+2013 EN DASH; endash  
 12163 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 12164 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 12165 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
 12166 % U+2044 FRACTION SLASH; fraction  
 12167 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
 12168 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft  
 12169 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039  
 12170 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright  
 12171 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A  
 12172 % U+2212 MINUS SIGN; minus  
 12173 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212



12174% U+2030 PER MILLE SIGN; perthousand  
 12175 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
 12176% U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 12177 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
 12178% U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 12179 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
 12180% U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 12181 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
 12182% U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 12183 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
 12184% U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 12185 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
 12186% U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 12187 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
 12188% U+2122 TRADE MARK SIGN; trademark  
 12189 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
 12190% U+FB01 LATIN SMALL LIGATURE FI; fi  
 12191 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
 12192% U+FB02 LATIN SMALL LIGATURE FL; fl  
 12193 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
 12194% U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
 12195 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
 12196% U+0152 LATIN CAPITAL LIGATURE OE; OE  
 12197 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
 12198% U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
 12199 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
 12200% U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 12201 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178  
 12202 \DeclareTextCommand{\IJ}{PD1}{\230}  
 12203% U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 12204 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
 12205% U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
 12206 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
 12207% U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 12208 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
 12209% U+0153 LATIN SMALL LIGATURE OE; oe  
 12210 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
 12211% U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 12212 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
 12213% U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 12214 \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.  
 12215% U+20AC EURO SIGN; \*Euro, euro  
 12216 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
 12217% U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 12218 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
 12219% U+00A2 CENT SIGN; cent  
 12220 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
 12221% U+00A3 POUND SIGN; sterling  
 12222 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
 12223% U+00A4 CURRENCY SIGN; currency  
 12224 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
 12225% U+00A5 YEN SIGN; yen  
 12226 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
 12227% U+00A6 BROKEN BAR; brokenbar  
 12228 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6

12229 % U+00A7 SECTION SIGN; section  
 12230 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
 12231 % U+00A8 DIAERESIS; dieresis  
 12232 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
 12233 % U+00A9 COPYRIGHT SIGN; copyright  
 12234 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
 12235 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 12236 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
 12237 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 12238 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
 12239 % U+00AC NOT SIGN; logicalnot  
 12240 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
 12241 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
 No glyph \255 in PDFDocEncoding.  
 12242 % U+00AE REGISTERED SIGN; registered  
 12243 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
 12244 % U+00AF MACRON; \*macron, overscore  
 12245 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
 12246 % U+00B0 DEGREE SIGN; degree  
 12247 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
 12248 % U+00B1 PLUS-MINUS SIGN; plusminus  
 12249 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
 12250 % U+00B2 SUPERSCRIFT TWO; twosuperior  
 12251 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2  
 12252 % U+00B3 SUPERSCRIFT THREE; threesuperior  
 12253 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3  
 12254 % U+00B4 ACUTE ACCENT; acute  
 12255 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
 12256 % U+00B5 MICRO SIGN; mu, mu1  
 12257 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
 12258 % U+00B6 PILCROW SIGN; paragraph  
 12259 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
 12260 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 12261 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
 12262 % U+00B8 CEDILLA; cedilla  
 12263 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
 12264 % U+00B9 SUPERSCRIFT ONE; onesuperior  
 12265 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9  
 12266 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 12267 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
 12268 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
 12269 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
 12270 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 12271 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
 12272 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 12273 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
 12274 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
 12275 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
 12276 % U+00BF INVERTED QUESTION MARK; questiondown  
 12277 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
 12278 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
 12279 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
 12280 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
 12281 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
 12282 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
 12283 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
 12284 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde

12285 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
12286 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
12287 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
12288 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
12289 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
12290 % U+00C6 LATIN CAPITAL LETTER AE; AE  
12291 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
12292 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
12293 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
12294 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
12295 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
12296 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
12297 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
12298 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
12299 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
12300 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
12301 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
12302 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
12303 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
12304 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
12305 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
12306 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
12307 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
12308 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
12309 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
12310 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
12311 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
12312 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
12313 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
12314 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
12315 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
12316 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
12317 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
12318 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
12319 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
12320 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
12321 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
12322 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
12323 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
12324 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
12325 % U+00D7 MULTIPLICATION SIGN; multiply  
12326 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
12327 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
12328 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
12329 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
12330 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
12331 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
12332 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
12333 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
12334 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
12335 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
12336 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
12337 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
12338 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
12339 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
12340 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
12341 % U+00DF LATIN SMALL LETTER SHARP S; germandbls

12342 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
12343 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
12344 \DeclareTextCompositeCommand{\'}{PD1}{a}{\340}% U+00E0  
12345 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
12346 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
12347 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
12348 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
12349 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
12350 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
12351 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
12352 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
12353 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
12354 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
12355 % U+00E6 LATIN SMALL LETTER AE; ae  
12356 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
12357 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
12358 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
12359 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
12360 \DeclareTextCompositeCommand{\'}{PD1}{e}{\350}% U+00E8  
12361 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
12362 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
12363 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
12364 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
12365 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
12366 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
12367 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
12368 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
12369 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
12370 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
12371 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
12372 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
12373 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
12374 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
12375 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
12376 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
12377 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
12378 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
12379 % U+00F0 LATIN SMALL LETTER ETH; eth  
12380 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
12381 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
12382 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
12383 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
12384 \DeclareTextCompositeCommand{\'}{PD1}{o}{\362}% U+00F2  
12385 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
12386 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
12387 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
12388 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
12389 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
12390 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
12391 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
12392 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
12393 % U+00F7 DIVISION SIGN; divide  
12394 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
12395 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
12396 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
12397 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
12398 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371}% U+00F9

```

12399 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
12400 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
12401 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
12402 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
12403 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
12404 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
12405 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
12406 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
12407 % U+00FE LATIN SMALL LETTER THORN; thorn
12408 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
12409 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
12410 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
12411 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

```

Glyphs that consist of several characters.

```

12412 \DeclareTextCommand{\SS}{PD1}{SS}
12413 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

12414 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
12415 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
12416 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
12417 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
12418 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
12419 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
12420 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
12421 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

12422 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
12423 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
12424 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
12425 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
12426 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
12427 \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;

```

12428 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
12429 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
12430 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
12431 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
12432 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
12433 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
12434 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
12435 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
12436 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
12437 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
12438 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
12439 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
12440 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
12441 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

```

12442 \end{pdlenc}

```

## 50.2 PU encoding

```

12443 \langle *puenc \rangle
12444 \DeclareFontEncoding{PU}{}{}

```

### 50.2.1 NFSS2 accents

```

12445 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecmb
12446 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300
12447 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecmb
12448 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
12449 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
12450 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
12451 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
12452 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
12453 % U+0304 COMBINING MACRON; macroncmb
12454 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
12455 % U+0306 COMBINING BREVE; brevecmb
12456 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
12457 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
12458 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
12459 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
12460 % U+0308 COMBINING DIAERESIS; dieresiscmb
12461 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
12462 % U+030A COMBINING RING ABOVE; ringcmb
12463 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
12464 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
12465 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
12466 % U+030C COMBINING CARON; caroncmb
12467 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
12468 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
12469 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
12470 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
12471 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
12472 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
12473 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
12474 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
12475 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
12476 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
12477 % U+0327 COMBINING CEDILLA; cedillacmb
12478 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
12479 % U+0328 COMBINING OGONEK; ogonekcmb
12480 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
12481 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
12482 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
12483 % U+20DD COMBINING ENCLOSING CIRCLE
12484 \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.

```

12485 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}
12486 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12487 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}
12488 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
12489 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
12490 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12491 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
12492 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
12493 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12494 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
12495 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
12496 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
12497 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
12498 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
12499 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}

```

```

12500 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
12501 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
12502 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
12503 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
12504 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}
12505 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
12506 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}
12507 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
12508 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
12509 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
12510 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
12511 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
12512 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
12513 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
12514 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
12515 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
12516 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
12517 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
12518 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
12519 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
12520 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
12521 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
12522 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

12523 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
12524 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
12525 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
12526 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
12527 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
12528 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
12529 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
12530 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
12531 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
12532 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
12533 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
12534 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
12535 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1}}
12536 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
12537 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

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

Special white space escape characters.

```

12538 % U+0009 (CHARACTER TABULATION)
12539 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
12540 % U+000A (LINE FEED)
12541 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
12542 % U+000D (CARRIAGE RETURN)
12543 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D
\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam
12544 % U+0022 QUOTATION MARK; quotedbl
12545 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
12546 % U+0023 NUMBER SIGN; numbersign
12547 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
12548 % U+0024 DOLLAR SIGN; dollar
12549 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024

```

12550 % U+0025 PERCENT SIGN; percent  
 12551 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025  
 12552 % U+0026 AMPERSAND; ampersand  
 12553 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026  
 12554 % U+0027 APOSTROPHE; quotesingle  
 12555 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027  
 12556 % U+0028 LEFT PARENTHESIS; parenleft  
 12557 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
 12558 % U+0029 RIGHT PARENTHESIS; parenright  
 12559 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
 12560 % U+002A ASTERISK; asterisk  
 12561 \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  
 12562 % U+003C LESS-THAN SIGN; less  
 12563 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
 \80\075: U+003D EQUALS SIGN; equal  
 12564 % U+003E GREATER-THAN SIGN; greater  
 12565 \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  
 12566 % U+005C REVERSE SOLIDUS; backslash  
 12567 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 12568 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 12569 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 12570 % U+005F LOW LINE; underscore  
 12571 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 12572 % U+0060 GRAVE ACCENT; grave  
 12573 \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  
 12574 % U+0069 LATIN SMALL LETTER I; i  
 12575 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069  
 12576 \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  
 12577 % U+007B LEFT CURLY BRACKET; braceleft



12578 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 12579 % U+007C VERTICAL LINE; \*bar, verticalbar  
 12580 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 12581 % U+007D RIGHT CURLY BRACKET; braceright  
 12582 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 12583 % U+007E TILDE; asciitilde  
 12584 \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  
 12585 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 12586 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 12587 % U+00A2 CENT SIGN; cent  
 12588 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 12589 % U+00A3 POUND SIGN; sterling  
 12590 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 12591 % U+00A4 CURRENCY SIGN; currency  
 12592 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 12593 % U+00A5 YEN SIGN; yen  
 12594 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 12595 % U+00A6 BROKEN BAR; brokenbar  
 12596 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 12597 % U+00A7 SECTION SIGN; section  
 12598 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 12599 % U+00A8 DIAERESIS; diaeresis  
 12600 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
 12601 % U+00A9 COPYRIGHT SIGN; copyright  
 12602 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9  
 12603 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 12604 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
 12605 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 12606 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
 12607 % U+00AC NOT SIGN; logicalnot  
 12608 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
 12609 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
 12610 % U+00AE REGISTERED SIGN; registered  
 12611 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
 12612 % U+00AF MACRON; \*macron, overscore  
 12613 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
 12614 % U+00B0 DEGREE SIGN; degree  
 12615 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
 12616 % U+00B1 PLUS-MINUS SIGN; plusminus  
 12617 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
 12618 % U+00B2 SUPERSCRIFT TWO; twosuperior  
 12619 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2  
 12620 % U+00B3 SUPERSCRIFT THREE; threesuperior  
 12621 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3  
 12622 % U+00B4 ACUTE ACCENT; acute  
 12623 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
 12624 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
 12625 % U+00B5 MICRO SIGN; mu, mu1  
 12626 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
 12627 % U+00B6 PILCROW SIGN; paragraph  
 12628 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
 12629 % U+00B7 MIDDLE DOT; middot, \*periodcentered

12630 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
12631 % U+00B8 CEDILLA; cedilla  
12632 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
12633 % U+00B9 SUPERSCRIPT ONE; onesuperior  
12634 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9  
12635 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
12636 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
12637 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
12638 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
12639 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
12640 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
12641 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
12642 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
12643 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
12644 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
12645 % U+00BF INVERTED QUESTION MARK; questiondown  
12646 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
12647 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
12648 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
12649 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
12650 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
12651 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
12652 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
12653 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
12654 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
12655 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
12656 \DeclareTextCompositeCommand{\\"}{PU}{A}{\80\304}% U+00C4  
12657 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
12658 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
12659 % U+00C6 LATIN CAPITAL LETTER AE; AE  
12660 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
12661 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
12662 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
12663 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
12664 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
12665 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
12666 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
12667 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
12668 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
12669 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
12670 \DeclareTextCompositeCommand{\\"}{PU}{E}{\80\313}% U+00CB  
12671 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
12672 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
12673 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
12674 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
12675 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
12676 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
12677 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
12678 \DeclareTextCompositeCommand{\\"}{PU}{I}{\80\317}% U+00CF  
12679 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
12680 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
12681 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
12682 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
12683 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
12684 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
12685 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
12686 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3

12687 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
12688 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\324}% U+00D4  
12689 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
12690 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
12691 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
12692 \DeclareTextCompositeCommand{"}{PU}{O}{\80\326}% U+00D6  
12693 % U+00D7 MULTIPLICATION SIGN; multiply  
12694 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
12695 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
12696 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
12697 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
12698 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
12699 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
12700 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
12701 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
12702 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
12703 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
12704 \DeclareTextCompositeCommand{"}{PU}{U}{\80\334}% U+00DC  
12705 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
12706 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
12707 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
12708 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
12709 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
12710 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
12711 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
12712 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
12713 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
12714 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
12715 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
12716 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
12717 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
12718 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
12719 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
12720 \DeclareTextCompositeCommand{"}{PU}{a}{\80\344}% U+00E4  
12721 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
12722 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
12723 % U+00E6 LATIN SMALL LETTER AE; ae  
12724 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
12725 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
12726 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
12727 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
12728 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
12729 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
12730 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
12731 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
12732 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
12733 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
12734 \DeclareTextCompositeCommand{"}{PU}{e}{\80\353}% U+00EB  
12735 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
12736 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC  
12737 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
12738 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
12739 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
12740 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
12741 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
12742 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
12743 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE

12744 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
 12745 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF  
 12746 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF  
 12747 % U+00F0 LATIN SMALL LETTER ETH; eth  
 12748 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
 12749 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
 12750 \DeclareTextCompositeCommand{~}{PU}{n}{\80\361}% U+00F1  
 12751 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 12752 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362}% U+00F2  
 12753 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 12754 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}% U+00F3  
 12755 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 12756 \DeclareTextCompositeCommand{^}{PU}{o}{\80\364}% U+00F4  
 12757 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 12758 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365}% U+00F5  
 12759 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 12760 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366}% U+00F6  
 12761 % U+00F7 DIVISION SIGN; divide  
 12762 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 12763 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 12764 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 12765 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 12766 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371}% U+00F9  
 12767 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 12768 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}% U+00FA  
 12769 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 12770 \DeclareTextCompositeCommand{^}{PU}{u}{\80\373}% U+00FB  
 12771 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 12772 \DeclareTextCompositeCommand{"}{PU}{u}{\80\374}% U+00FC  
 12773 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 12774 \DeclareTextCompositeCommand{'}{PU}{y}{\80\375}% U+00FD  
 12775 % U+00FE LATIN SMALL LETTER THORN; thorn  
 12776 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 12777 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 12778 \DeclareTextCompositeCommand{"}{PU}{y}{\80\377}% U+00FF

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

12779 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 12780 \DeclareTextCompositeCommand{=}{PU}{A}{\81\000}% U+0100  
 12781 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 12782 \DeclareTextCompositeCommand{=}{PU}{a}{\81\001}% U+0101  
 12783 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 12784 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 12785 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 12786 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 12787 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 12788 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
 12789 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
 12790 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
 12791 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
 12792 \DeclareTextCompositeCommand{'}{PU}{C}{\81\006}% U+0106  
 12793 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
 12794 \DeclareTextCompositeCommand{'}{PU}{c}{\81\007}% U+0107  
 12795 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
 12796 \DeclareTextCompositeCommand{^}{PU}{C}{\81\010}% U+0108  
 12797 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex

12798 \DeclareTextCompositeCommand{\~}{PU}{c}{\81\011}% U+0109  
12799 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
12800 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
12801 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
12802 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
12803 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
12804 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
12805 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
12806 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
12807 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
12808 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
12809 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
12810 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
12811 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
12812 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
12813 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron  
12814 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
12815 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
12816 \DeclareTextCompositeCommand{=} {PU}{E}{\81\022}% U+0112  
12817 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
12818 \DeclareTextCompositeCommand{=} {PU}{e}{\81\023}% U+0113  
12819 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
12820 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
12821 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
12822 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
12823 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
12824 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
12825 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
12826 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
12827 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
12828 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
12829 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
12830 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
12831 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
12832 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
12833 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
12834 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
12835 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
12836 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
12837 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
12838 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
12839 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
12840 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
12841 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
12842 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
12843 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
12844 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
12845 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
12846 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
12847 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent  
12848 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
12849 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
12850 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
12851 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
12852 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
12853 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
12854 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125

12855 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
 12856 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
 12857 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar  
 12858 \DeclareTextCommand{\textthslash}{PU}{\81\047}% U+0127  
 12859 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
 12860 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
 12861 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
 12862 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
 12863 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
 12864 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
 12865 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
 12866 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
 12867 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
 12868 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
 12869 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
 12870 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
 12871 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
 12872 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
 12873 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
 12874 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
 12875 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
 12876 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
 12877 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
 12878 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
 12879 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
 12880 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
 12881 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
 12882 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
 12883 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
 12884 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
 12885 % U+0133 LATIN SMALL LIGATURE IJ; ij  
 12886 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
 12887 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
 12888 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
 12889 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
 12890 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
 12891 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
 12892 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
 12893 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
 12894 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
 12895 \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`.

12896 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
 12897 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
 12898 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
 12899 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
 12900 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
 12901 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
 12902 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
 12903 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
 12904 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
 12905 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
 12906 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
 12907 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
 12908 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron

12909 \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.

12910 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent

12911 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F

12912 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent

12913 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140

12914 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash

12915 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141

12916 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash

12917 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142

12918 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute

12919 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143

12920 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute

12921 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144

12922 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent

12923 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145

12924 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent

12925 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146

12926 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron

12927 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147

12928 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron

12929 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148

12930 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn

12931 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149

12932 % U+014A LATIN CAPITAL LETTER ENG; Eng

12933 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A

12934 % U+014B LATIN SMALL LETTER ENG; eng

12935 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B

12936 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron

12937 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C

12938 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron

12939 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D

12940 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve

12941 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E

12942 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve

12943 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F

12944 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut

12945 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150

12946 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut

12947 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151

12948 % U+0152 LATIN CAPITAL LIGATURE OE; OE

12949 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152

12950 % U+0153 LATIN SMALL LIGATURE OE; oe

12951 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153

12952 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute

12953 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154

12954 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute

12955 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155

12956 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent

12957 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156

12958 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent

12959 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157

12960 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron

12961 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158

12962 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron

12963 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159

12964 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
 12965 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
 12966 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
 12967 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
 12968 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
 12969 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
 12970 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
 12971 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
 12972 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
 12973 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
 12974 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
 12975 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
 12976 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
 12977 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
 12978 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 12979 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
 12980 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent  
 12981 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
 12982 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
 12983 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
 12984 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
 12985 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
 12986 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
 12987 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
 12988 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
 12989 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
 12990 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
 12991 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
 12992 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
 12993 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
 12994 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
 12995 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 12996 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
 12997 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
 12998 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
 12999 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
 13000 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
 13001 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
 13002 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
 13003 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
 13004 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
 13005 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
 13006 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
 13007 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
 13008 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
 13009 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
 13010 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
 13011 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
 13012 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
 13013 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
 13014 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
 13015 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
 13016 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
 13017 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
 13018 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
 13019 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
 13020 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex



13021 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
 13022 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 13023 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
 13024 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 13025 \DeclareTextCompositeCommand{"}{PU}{Y}{\81\170}% U+0178  
 13026 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 13027 \DeclareTextCompositeCommand{'}{PU}{Z}{\81\171}% U+0179  
 13028 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 13029 \DeclareTextCompositeCommand{'}{PU}{z}{\81\172}% U+017A  
 13030 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 13031 \DeclareTextCompositeCommand{.}{PU}{Z}{\81\173}% U+017B  
 13032 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 13033 \DeclareTextCompositeCommand{.}{PU}{z}{\81\174}% U+017C  
 13034 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 13035 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 13036 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 13037 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 13038 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 13039 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

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

13040 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 13041 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
 13042 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 13043 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 13044 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
 13045 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 13046 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 13047 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 13048 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 13049 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 13050 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 13051 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 13052 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 13053 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 13054 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 13055 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 13056 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
 13057 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
 13058 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
 13059 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
 13060 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
 13061 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
 13062 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
 13063 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
 13064 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
 13065 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
 13066 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
 13067 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
 13068 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
 13069 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
 13070 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
 13071 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
 13072 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
 13073 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
 13074 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
 13075 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron

13076 \DeclareTextCompositeCommand{\v}{PU}{\j}{\81\360}% U+01F0  
13077 \DeclareTextCompositeCommand{\v}{PU}{\j}{\81\360}% U+01F0  
13078 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
13079 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
13080 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
13081 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
13082 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
13083 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8  
13084 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
13085 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9  
13086 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
13087 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
13088 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
13089 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
13090 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; \*Oslashacute, Ostrokeacut  
13091 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
13092 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; \*oslashacute, ostrokeacut  
13093 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
13094 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
13095 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
13096 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
13097 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
13098 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
13099 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
13100 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
13101 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
13102 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
13103 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
13104 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
13105 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
13106 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
13107 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
13108 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
13109 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
13110 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
13111 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
13112 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
13113 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
13114 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
13115 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
13116 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
13117 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
13118 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
13119 % U+021E LATIN CAPITAL LETTER H WITH CARON  
13120 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
13121 % U+021F LATIN SMALL LETTER H WITH CARON  
13122 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
13123 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
13124 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
13125 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
13126 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
13127 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
13128 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
13129 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
13130 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
13131 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
13132 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E

13133 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 13134 \DeclareTextCompositeCommand{\.}{PU}{\o}{\82\057}% U+022F  
 13135 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 13136 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 13137 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 13138 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 13139 % U+0237 LATIN SMALL LETTER DOTLESS J  
 13140 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

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

13141 % U+02C7 CARON; caron  
 13142 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 13143 % U+02D8 BREVE; breve  
 13144 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 13145 % U+02D9 DOT ABOVE; dotaccent  
 13146 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 13147 % U+02DA RING ABOVE; ring  
 13148 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 13149 % U+02DB OGONEK; ogonek  
 13150 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 13151 % U+02DC SMALL TILDE; ilde, \*tilde  
 13152 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 13153 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 13154 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 13155 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
 13156 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 13157 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 13158 % U+02F7 MODIFIER LETTER LOW TILDE  
 13159 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

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

13160 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 13161 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 13162 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 13163 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 13164 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcmb  
 13165 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 13166 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 13167 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 13168 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 13169 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

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

13170 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 13171 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 13172 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 13173 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 13174 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos  
 13175 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 13176 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 13177 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 13178 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 13179 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 13180 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 13181 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 13182 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos  
 13183 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C

13184 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos  
13185 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
13186 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
13187 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
13188 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; Iotadieresis  
13189 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390  
13190 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
13191 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
13192 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
13193 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
13194 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma  
13195 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393  
13196 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta  
13197 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394  
13198 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
13199 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
13200 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
13201 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
13202 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
13203 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
13204 % U+0398 GREEK CAPITAL LETTER THETA; Theta  
13205 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398  
13206 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
13207 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
13208 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
13209 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
13210 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda  
13211 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B  
13212 % U+039C GREEK CAPITAL LETTER MU; Mu  
13213 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
13214 % U+039D GREEK CAPITAL LETTER NU; Nu  
13215 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
13216 % U+039E GREEK CAPITAL LETTER XI; Xi  
13217 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E  
13218 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
13219 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
13220 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
13221 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0  
13222 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
13223 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
13224 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma  
13225 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3  
13226 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
13227 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
13228 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon  
13229 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5  
13230 % U+03A6 GREEK CAPITAL LETTER PHI; Phi  
13231 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6  
13232 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
13233 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
13234 % U+03A8 GREEK CAPITAL LETTER PSI; Psi  
13235 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8  
13236 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega  
13237 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9  
13238 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
13239 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
13240 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\252}% U+03AA

13241 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilondieresis  
13242 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB  
13243 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos  
13244 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC  
13245 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilononos  
13246 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD  
13247 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etatonos  
13248 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE  
13249 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotatonos  
13250 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF  
13251 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilondieresis  
13252 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0  
13253 % U+03B1 GREEK SMALL LETTER ALPHA; alpha  
13254 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1  
13255 % U+03B2 GREEK SMALL LETTER BETA; beta  
13256 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2  
13257 % U+03B3 GREEK SMALL LETTER GAMMA; gamma  
13258 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3  
13259 % U+03B4 GREEK SMALL LETTER DELTA; delta  
13260 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4  
13261 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon  
13262 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5  
13263 % U+03B6 GREEK SMALL LETTER ZETA; zeta  
13264 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6  
13265 % U+03B7 GREEK SMALL LETTER ETA; eta  
13266 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7  
13267 % U+03B8 GREEK SMALL LETTER THETA; theta  
13268 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8  
13269 % U+03B9 GREEK SMALL LETTER IOTA; iota  
13270 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9  
13271 % U+03BA GREEK SMALL LETTER KAPPA; kappa  
13272 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA  
13273 % U+03BB GREEK SMALL LETTER LAMDA; lambda  
13274 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB  
13275 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu  
13276 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC  
13277 % U+03BD GREEK SMALL LETTER NU; nu  
13278 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD  
13279 % U+03BE GREEK SMALL LETTER XI; xi  
13280 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE  
13281 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
13282 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
13283 % U+03C0 GREEK SMALL LETTER PI; pi  
13284 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0  
13285 % U+03C1 GREEK SMALL LETTER RHO; rho  
13286 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1  
13287 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
13288 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2  
13289 % U+03C3 GREEK SMALL LETTER SIGMA; sigma  
13290 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3  
13291 % U+03C4 GREEK SMALL LETTER TAU; tau  
13292 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4  
13293 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon  
13294 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5  
13295 % U+03C6 GREEK SMALL LETTER PHI; phi  
13296 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6  
13297 % U+03C7 GREEK SMALL LETTER CHI; chi

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13298 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
13299 % U+03C8 GREEK SMALL LETTER PSI; psi
13300 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
13301 % U+03C9 GREEK SMALL LETTER OMEGA; omega
13302 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
13303 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
13304 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
13305 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; upsilondieresis
13306 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
13307 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
13308 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
13309 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
13310 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
13311 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
13312 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
13313 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
13314 % U+03DA GREEK LETTER STIGMA; Stigmagreek
13315 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
13316 % U+03DB GREEK SMALL LETTER STIGMA
13317 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
13318 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
13319 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
13320 % U+03DD GREEK SMALL LETTER DIGAMMA
13321 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
13322 % U+03DE GREEK LETTER KOPPA; Koppagreek
13323 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
13324 % U+03DF GREEK SMALL LETTER KOPPA
13325 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
13326 % U+03E0 GREEK LETTER SAMPI; Sampigreek
13327 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
13328 % U+03E1 GREEK SMALL LETTER SAMPI
13329 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

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## 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.

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13330 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
13331 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400
13332 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrillic, *afii10023
13333 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
13334 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???
13335 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
13336 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
13337 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
13338 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% U+0403
13339 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrillic, *afii10053
13340 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
13341 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
13342 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
13343 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrrillic, *afii10055
13344 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
13345 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrrillic, *afii10056
13346 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
13347 \DeclareTextCompositeCommand{"}{PU}{\CYRII}{\84\007}% U+0407
13348 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
13349 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
13350 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058

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13351 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
13352 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
13353 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
13354 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
13355 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
13356 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
13357 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
13358 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
13359 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D  
13360 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
13361 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
13362 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
13363 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
13364 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
13365 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
13366 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
13367 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
13368 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
13369 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
13370 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
13371 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
13372 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
13373 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
13374 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
13375 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
13376 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
13377 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
13378 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
13379 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
13380 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
13381 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
13382 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
13383 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
13384 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
13385 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
13386 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
13387 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
13388 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
13389 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
13390 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
13391 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
13392 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
13393 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
13394 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
13395 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
13396 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
13397 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
13398 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
13399 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
13400 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
13401 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
13402 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
13403 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
13404 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
13405 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
13406 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
13407 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424

13408 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afiii10039  
13409 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
13410 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afiii10040  
13411 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
13412 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afiii10041  
13413 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
13414 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afiii10042  
13415 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
13416 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afiii10043  
13417 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
13418 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, \*afiii10044  
13419 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
13420 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afiii10045  
13421 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
13422 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, \*afiii10046  
13423 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
13424 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afiii10047  
13425 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
13426 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afiii10048  
13427 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
13428 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afiii10049  
13429 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
13430 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afiii10065  
13431 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
13432 % U+0431 CYRILLIC SMALL LETTER BE; \*afiii10066, becyrillic  
13433 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
13434 % U+0432 CYRILLIC SMALL LETTER VE; \*afiii10067, vecyrillic  
13435 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
13436 % U+0433 CYRILLIC SMALL LETTER GHE; \*afiii10068, gecyrillic  
13437 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
13438 % U+0434 CYRILLIC SMALL LETTER DE; \*afiii10069, decyrillic  
13439 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
13440 % U+0435 CYRILLIC SMALL LETTER IE; \*afiii10070, iecyrillic  
13441 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
13442 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afiii10072, zhecyrillic  
13443 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436  
13444 % U+0437 CYRILLIC SMALL LETTER ZE; \*afiii10073, zecyrillic  
13445 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
13446 % U+0438 CYRILLIC SMALL LETTER I; \*afiii10074, icyrillic  
13447 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
13448 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afiii10075, iishortcyrillic  
13449 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
13450 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
13451 % U+043A CYRILLIC SMALL LETTER KA; \*afiii10076, kacyrillic  
13452 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
13453 % U+043B CYRILLIC SMALL LETTER EL; \*afiii10077, elcyrillic  
13454 \DeclareTextCommand{\cyr1}{PU}{\84\073}% U+043B  
13455 % U+043C CYRILLIC SMALL LETTER EM; \*afiii10078, emcyrillic  
13456 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
13457 % U+043D CYRILLIC SMALL LETTER EN; \*afiii10079, encyrillic  
13458 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
13459 % U+043E CYRILLIC SMALL LETTER O; \*afiii10080, ocyrillic  
13460 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
13461 % U+043F CYRILLIC SMALL LETTER PE; \*afiii10081, pecyrillic  
13462 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
13463 % U+0440 CYRILLIC SMALL LETTER ER; \*afiii10082, ercyrillic  
13464 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440



13465 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
13466 \DeclareTextCommand{\cysr}{PU}{\84\101}% U+0441  
13467 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
13468 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
13469 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
13470 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
13471 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
13472 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
13473 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
13474 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
13475 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
13476 \DeclareTextCommand{\cyrct}{PU}{\84\106}% U+0446  
13477 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
13478 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
13479 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
13480 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
13481 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
13482 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
13483 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
13484 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A  
13485 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
13486 \DeclareTextCommand{\cyryry}{PU}{\84\113}% U+044B  
13487 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
13488 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% U+044C  
13489 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
13490 \DeclareTextCommand{\cyrrerev}{PU}{\84\115}% U+044D  
13491 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
13492 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E  
13493 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
13494 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F  
13495 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
13496 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
13497 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
13498 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451  
13499 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
13500 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
13501 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
13502 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
13503 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
13504 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
13505 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
13506 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
13507 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
13508 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; \*afii10103, icyrillic  
13509 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
13510 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
13511 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
13512 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
13513 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
13514 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
13515 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
13516 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459  
13517 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
13518 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
13519 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
13520 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
13521 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic

13522 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
13523 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
13524 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
13525 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
13526 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
13527 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
13528 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
13529 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
13530 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
13531 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
13532 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
13533 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
13534 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
13535 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
13536 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
13537 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
13538 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
13539 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
13540 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
13541 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
13542 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
13543 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
13544 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
13545 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
13546 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleiotifiedcyrillic  
13547 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
13548 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleiotifiedcyrillic  
13549 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
13550 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
13551 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
13552 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
13553 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
13554 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotifiedcyrillic  
13555 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
13556 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyrillic  
13557 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
13558 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
13559 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
13560 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
13561 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
13562 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
13563 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
13564 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
13565 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
13566 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
13567 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
13568 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
13569 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
13570 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
13571 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
13572 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
13573 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
13574 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; Izhitsadblgravecyrillic  
13575 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
13576 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; izhitsadblgravecyrillic  
13577 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
13578 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic

13579 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
13580 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
13581 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
13582 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
13583 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
13584 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
13585 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
13586 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
13587 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
13588 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
13589 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
13590 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
13591 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
13592 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
13593 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
13594 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
13595 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
13596 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
13597 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
13598 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
13599 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
\84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb  
\84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrillicmb  
\84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrillicmb  
\84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrillicmb  
\84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
\84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
\84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
13600 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
13601 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
13602 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
13603 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
13604 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
13605 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
13606 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
13607 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
13608 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
13609 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
13610 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
13611 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
13612 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, \*afiii10050  
13613 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
13614 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afiii10098, gheupturncyrillic  
13615 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
13616 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic  
13617 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
13618 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
13619 \DeclareTextCommand{\cyrgghcrs}{PU}{\84\223}% U+0493  
13620 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic  
13621 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
13622 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic  
13623 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
13624 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic

13625 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
13626 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic  
13627 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
13628 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic  
13629 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
13630 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
13631 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic  
13632 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
13633 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
13634 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic  
13635 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
13636 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic  
13637 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
13638 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kavertikalstrokecyrillic  
13639 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
13640 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kavertikalstrokecyrillic  
13641 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
13642 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
13643 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
13644 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
13645 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
13646 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
13647 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
13648 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
13649 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
13650 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic  
13651 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
13652 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic  
13653 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
13654 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
13655 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
13656 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
13657 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
13658 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
13659 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
13660 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
13661 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
13662 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
13663 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
13664 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
13665 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
13666 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
13667 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
13668 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
13669 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
13670 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
13671 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB  
13672 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
13673 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
13674 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
13675 \DeclareTextCommand{\cyrtddsc}{PU}{\84\255}% U+04AD  
13676 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
13677 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
13678 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
13679 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF  
13680 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
13681 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0

13682 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic  
13683 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1  
13684 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesendercyrillic  
13685 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
13686 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadesendercyrillic  
13687 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
13688 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
13689 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
13690 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
13691 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
13692 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic  
13693 \DeclareTextCommand{\CYRCHDSC}{PU}{\84\266}% U+04B6  
13694 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
13695 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
13696 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Cheverticalstrokecyrillic  
13697 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
13698 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; cheverticalstrokecyrillic  
13699 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
13700 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
13701 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
13702 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
13703 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
13704 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic  
13705 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
13706 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic  
13707 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
13708 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic  
13709 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
13710 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
13711 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic  
13712 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
13713 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
13714 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
13715 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
13716 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
13717 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
13718 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
13719 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
13720 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
13721 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
13722 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
13723 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
13724 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
13725 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
13726 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
13727 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
13728 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
13729 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
13730 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
13731 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
13732 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic  
13733 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
13734 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic  
13735 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
13736 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
13737 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
13738 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL

13739 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
 13740 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevacyrillic  
 13741 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
 13742 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevacyrillic  
 13743 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
 13744 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic  
 13745 \DeclareTextCompositeCommand{\"}{PU}{\CYRA}{\84\322}% U+04D2  
 13746 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
 13747 \DeclareTextCompositeCommand{\"}{PU}{\cyra}{\84\323}% U+04D3  
 13748 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
 13749 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
 13750 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
 13751 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
 13752 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevacyrillic  
 13753 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
 13754 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevacyrillic  
 13755 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
 13756 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
 13757 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
 13758 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
 13759 \DeclareTextCommand{\cyrswa}{PU}{\84\331}% U+04D9  
 13760 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadierescyrillic  
 13761 \DeclareTextCompositeCommand{\"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
 13762 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadierescyrillic  
 13763 \DeclareTextCompositeCommand{\"}{PU}{\cyrswa}{\84\333}% U+04DB  
 13764 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresiscyrillic  
 13765 \DeclareTextCompositeCommand{\"}{PU}{\CYRZH}{\84\334}% U+04DC  
 13766 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic  
 13767 \DeclareTextCompositeCommand{\"}{PU}{\cyrzh}{\84\335}% U+04DD  
 13768 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic  
 13769 \DeclareTextCompositeCommand{\"}{PU}{\CYRZ}{\84\336}% U+04DE  
 13770 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic  
 13771 \DeclareTextCompositeCommand{\"}{PU}{\cyrz}{\84\337}% U+04DF  
 13772 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic  
 13773 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
 13774 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic  
 13775 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
 13776 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
 13777 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2  
 13778 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
 13779 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3  
 13780 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
 13781 \DeclareTextCompositeCommand{\"}{PU}{\CYRI}{\84\344}% U+04E4  
 13782 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
 13783 \DeclareTextCompositeCommand{\"}{PU}{\cyri}{\84\345}% U+04E5  
 13784 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
 13785 \DeclareTextCompositeCommand{\"}{PU}{\CYRO}{\84\346}% U+04E6  
 13786 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
 13787 \DeclareTextCompositeCommand{\"}{PU}{\cyro}{\84\347}% U+04E7  
 13788 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
 13789 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
 13790 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
 13791 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
 13792 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic  
 13793 \DeclareTextCompositeCommand{\"}{PU}{\CYROTLD}{\84\352}% U+04EA  
 13794 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic

13795 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
 13796 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
 13797 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
 13798 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
 13799 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
 13800 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
 13801 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE  
 13802 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
 13803 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% U+04EF  
 13804 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
 13805 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
 13806 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
 13807 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
 13808 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic  
 13809 \DeclareTextCompositeCommand{H}{PU}{\CYRU}{\84\362}% U+04F2  
 13810 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic  
 13811 \DeclareTextCompositeCommand{H}{PU}{\cyru}{\84\363}% U+04F3  
 13812 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic  
 13813 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
 13814 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
 13815 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 13816 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 13817 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 13818 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 13819 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
 13820 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic  
 13821 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
 13822 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic  
 13823 \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  
 13824 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 13825 \DeclareTextCommand{\CYRHhk}{PU}{\84\374}% U+04FC  
 13826 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 13827 \DeclareTextCommand{\cyrhhk}{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

13828 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 13829 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

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

13830 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 13831 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02  
 13832 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 13833 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03  
 13834 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 13835 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
 13836 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
 13837 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
 13838 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
 13839 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A  
 13840 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
 13841 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B

13842 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
13843 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
13844 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
13845 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
13846 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
13847 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
13848 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
13849 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
13850 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
13851 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
13852 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
13853 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
13854 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
13855 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
13856 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
13857 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
13858 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
13859 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
13860 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
13861 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
13862 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
13863 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26  
13864 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
13865 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27  
13866 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
13867 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
13868 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
13869 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
13870 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
13871 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
13872 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
13873 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
13874 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
13875 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
13876 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
13877 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
13878 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
13879 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
13880 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
13881 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
13882 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
13883 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
13884 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
13885 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
13886 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
13887 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
13888 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
13889 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
13890 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
13891 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
13892 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
13893 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
13894 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
13895 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
13896 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
13897 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
13898 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute



13899 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
13900 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
13901 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
13902 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
13903 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
13904 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
13905 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
13906 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
13907 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
13908 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
13909 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
13910 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
13911 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
13912 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
13913 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
13914 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
13915 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
13916 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
13917 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
13918 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
13919 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
13920 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
13921 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
13922 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
13923 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
13924 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
13925 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
13926 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
13927 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
13928 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
13929 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
13930 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
13931 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
13932 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
13933 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
13934 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
13935 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
13936 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
13937 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
13938 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
13939 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
13940 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
13941 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
13942 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
13943 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
13944 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
13945 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
13946 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
13947 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
13948 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
13949 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
13950 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
13951 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
13952 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
13953 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
13954 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
13955 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90

13956 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
 13957 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
 13958 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
 13959 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
 13960 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
 13961 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
 13962 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
 13963 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
 13964 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
 13965 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
 13966 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
 13967 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
 13968 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
 13969 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
 13970 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent  
 13971 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
 13972 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
 13973 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
 13974 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
 13975 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
 13976 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
 13977 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2  
 13978 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 13979 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
 13980 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 13981 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 13982 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 13983 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

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

13984 % U+200C ZERO WIDTH NON-JOINER; \*afii61664, zerowidthnonjoiner  
 13985 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 13986 % U+2013 EN DASH; endash  
 13987 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 13988 % U+2014 EM DASH; emdash  
 13989 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 13990 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 13991 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 13992 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 13993 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 13994 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 13995 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 13996 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 13997 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 13998 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 13999 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 14000 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 14001 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 14002 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 14003 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 14004 % U+2020 DAGGER; dagger  
 14005 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020  
 14006 % U+2021 DOUBLE DAGGER; daggerdbl  
 14007 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 14008 % U+2022 BULLET; bullet  
 14009 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022  
 14010 % U+2026 HORIZONTAL ELLIPSIS; ellipsis

14011 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 14012 % U+2030 PER MILLE SIGN; perthousand  
 14013 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 14014 % U+2031 PER TEN THOUSAND SIGN  
 14015 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 14016 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft  
 14017 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
 14018 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright  
 14019 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
 14020 % U+203B REFERENCE MARK; referencemark  
 14021 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 14022 % U+203D INTERROBANG  
 14023 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 14024 % U+2044 FRACTION SLASH; fraction  
 14025 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 14026 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 14027 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 14028 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 14029 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 14030 % U+2052 COMMERCIAL MINUS SIGN  
 14031 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

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

14032 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 14033 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070  
 14034 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 14035 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074  
 14036 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 14037 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075  
 14038 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 14039 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076  
 14040 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 14041 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077  
 14042 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 14043 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078  
 14044 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 14045 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079  
 14046 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 14047 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A  
 14048 % U+207B SUPERSCRIPT MINUS  
 14049 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}  
 14050 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 14051 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}  
 14052 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 14053 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}  
 14054 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 14055 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}  
 14056 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 14057 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}  
 14058 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 14059 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080  
 14060 % U+2081 SUBSCRIPT ONE; oneinferior  
 14061 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081  
 14062 % U+2082 SUBSCRIPT TWO; twoinferior  
 14063 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082  
 14064 % U+2083 SUBSCRIPT THREE; threeinferior  
 14065 \DeclareTextCommand{\textthreeminferior}{PU}{\9040\203}% U+2083

14066 % U+2084 SUBSCRIPT FOUR; fourinferior  
 14067 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084  
 14068 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 14069 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085  
 14070 % U+2086 SUBSCRIPT SIX; sixinferior  
 14071 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086  
 14072 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 14073 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087  
 14074 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 14075 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088  
 14076 % U+2089 SUBSCRIPT NINE; nineinferior  
 14077 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089  
 14078 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 14079 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D  
 14080 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 14081 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

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

14082 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 14083 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 14084 % U+20A4 LIRA SIGN; afii08941, \*lira  
 14085 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 14086 % U+20A6 NAIRA SIGN  
 14087 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 14088 % U+20A7 PESETA SIGN; peseta  
 14089 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 14090 % U+20A9 WON SIGN; won  
 14091 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 14092 % U+20AB DONG SIGN; dong  
 14093 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 14094 % U+20AC EURO SIGN; \*Euro, euro  
 14095 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 14096 % U+20B1 PESO SIGN  
 14097 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 14098 % U+20B2 GUARANI SIGN  
 14099 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

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

14100 % U+2103 DEGREE CELSIUS; centigrade  
 14101 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 14102 % U+2116 NUMERO SIGN; \*afii61352, numero  
 14103 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 14104 % U+2117 SOUND RECORDING COPYRIGHT  
 14105 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 14106 % U+211E PRESCRIPTION TAKE; prescription  
 14107 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 14108 % U+2120 SERVICE MARK  
 14109 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 14110 % U+2122 TRADE MARK SIGN; trademark  
 14111 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 14112 % U+2126 OHM SIGN; Ohm, Omega  
 14113 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 14114 % U+2127 INVERTED OHM SIGN  
 14115 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127  
 14116 % U+212B ANGSTROM SIGN; angstrom  
 14117 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 14118 % U+212E ESTIMATED SYMBOL; estimated

14119 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 14120 % U+2135 ALEF SYMBOL; aleph  
 14121 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

#### 50.2.16 Arrows: U+2190 to U+21FF

14122 % U+2190 LEFTWARDS ARROW; arrowleft  
 14123 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190  
 14124 % U+2191 UPWARDS ARROW; arrowup  
 14125 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191  
 14126 % U+2192 RIGHTWARDS ARROW; arrowright  
 14127 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192  
 14128 % U+2193 DOWNWARDS ARROW; arrowdown  
 14129 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

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

14130 % U+2212 MINUS SIGN; minus  
 14131 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
 14132 % U+221A SQUARE ROOT; radical  
 14133 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

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

14134 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft  
 14135 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329  
 14136 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright  
 14137 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

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

14138 % U+2422 BLANK SYMBOL  
 14139 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
 14140 % U+2423 OPEN BOX; blank  
 14141 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

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

14142 % U+2460 CIRCLED DIGIT ONE; onecircle  
 14143 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
 14144 % U+2461 CIRCLED DIGIT TWO; twocircle  
 14145 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
 14146 % U+2462 CIRCLED DIGIT THREE; threecircle  
 14147 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
 14148 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
 14149 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
 14150 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
 14151 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
 14152 % U+2465 CIRCLED DIGIT SIX; sixcircle  
 14153 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
 14154 % U+2466 CIRCLED DIGIT SEVEN; sevendigit  
 14155 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
 14156 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
 14157 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
 14158 % U+2468 CIRCLED DIGIT NINE; ninecircle  
 14159 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
 14160 % U+2469 CIRCLED NUMBER TEN; tencircle  
 14161 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
 14162 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
 14163 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
 14164 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
 14165 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B

14166 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
14167 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
14168 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
14169 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
14170 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
14171 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
14172 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
14173 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
14174 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
14175 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
14176 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
14177 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
14178 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
14179 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
14180 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
14181 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
14182 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
14183 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
14184 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
14185 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
14186 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
14187 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
14188 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
14189 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
14190 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
14191 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
14192 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
14193 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
14194 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
14195 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
14196 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
14197 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
14198 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
14199 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
14200 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
14201 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
14202 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
14203 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
14204 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
14205 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
14206 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
14207 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
14208 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
14209 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
14210 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
14211 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
14212 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
14213 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
14214 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
14215 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
14216 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
14217 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
14218 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
14219 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
14220 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
14221 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
14222 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle

14223 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
14224 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
14225 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
14226 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
14227 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
14228 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
14229 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
14230 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
14231 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
14232 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
14233 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
14234 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
14235 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
14236 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
14237 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
14238 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
14239 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
14240 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
14241 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
14242 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
14243 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
14244 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
14245 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
14246 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
14247 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
14248 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
14249 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
14250 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
14251 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
14252 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
14253 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
14254 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
14255 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
14256 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
14257 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
14258 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
14259 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
14260 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
14261 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
14262 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
14263 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
14264 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
14265 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
14266 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
14267 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
14268 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
14269 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
14270 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
14271 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
14272 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
14273 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
14274 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
14275 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
14276 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
14277 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
14278 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
14279 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6

14280 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 14281 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 14282 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 14283 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 14284 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 14285 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 14286 % U+24EA CIRCLED DIGIT ZERO  
 14287 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

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

14288 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
 14289 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6  
 14290 % U+25EF LARGE CIRCLE; largecircle  
 14291 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

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

14292 % U+266A EIGHTH NOTE; musicalnote  
 14293 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
 14294 % U+26AD MARRIAGE SYMBOL  
 14295 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 14296 % U+26AE DIVORCE SYMBOL  
 14297 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

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

14298 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 14299 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6  
 14300 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 14301 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

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

14302 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 14303 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 14304 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 14305 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 50.2.25 Miscellaneous

14306 \DeclareTextCommand{\SS}{PU}{SS}

### 50.2.26 Aliases

Aliases (german.sty)

14307 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}  
 14308 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}  
 14309 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}  
 14310 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}  
 14311 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}  
 14312 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}  
 14313 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}  
 14314 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

14315 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}  
 14316 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}  
 14317 \DeclareTextCommand{\textdiv}{PU}{\textdivide}  
 14318 \DeclareTextCommand{\textpm}{PU}{\textplusminus}  
 14319 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}  
 14320 </puenc>



### 50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```
14321 \langle *puvnc\rangle
14322 \DeclareTextCommand{\abreve}{PU}{\81\003}
14323 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
14324 \DeclareTextCommand{\dj}{PU}{\81\021}
14325 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
14326 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
14327 \DeclareTextCommand{\ohorn}{PU}{\81\241}
14328 \DeclareTextCommand{\uhorn}{PU}{\81\260}
14329 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
14330 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
14331 \DeclareTextCommand{\DJ}{PU}{\81\020}
14332 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
14333 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
14334 \DeclareTextCommand{\OHORN}{PU}{\81\240}
14335 \DeclareTextCommand{\UHORN}{PU}{\81\257}

14336 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
14337 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
14338 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
14339 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
14340 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
14341 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
14342 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
14343 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
14344 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
14345 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
14346 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
14347 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
14348 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
14349 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
14350 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
14351 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
14352 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
14353 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
14354 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
14355 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
14356 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
14357 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
14358 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
14359 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
14360 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
14361 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
14362 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
14363 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
14364 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
14365 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
14366 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
14367 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
14368 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
14369 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
14370 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
14371 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
14372 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
14373 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
14374 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
```

14375 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}  
14376 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}  
14377 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}  
14378 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}  
14379 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}  
14380 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}  
14381 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}  
14382 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}  
14383 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}  
14384 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}  
14385 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}  
14386 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}  
14387 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}  
14388 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}  
14389 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}  
14390 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}  
14391 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}  
14392 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}  
14393 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}  
14394 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}  
14395 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}  
14396 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}  
14397 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}  
14398 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}  
14399 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}  
14400 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}  
14401 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}  
14402 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}  
14403 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}  
14404 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}  
14405 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}  
14406 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}  
14407 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}  
14408 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}  
14409 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}  
14410 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}  
14411 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}  
14412 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}  
14413 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}  
14414 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}  
14415 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}  
14416 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}  
14417 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}  
14418 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}  
14419 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}  
14420 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}  
14421 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}  
14422 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}  
14423 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}  
14424 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}  
14425 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}  
14426 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}  
14427 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}  
14428 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}  
14429 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}  
14430 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}  
14431 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}

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14432 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
14433 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
14434 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
14435 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
14436 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
14437 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
14438 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
14439 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
14440 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
14441 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
14442 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
14443 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
14444 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
14445 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
14446 \DeclareTextCompositeCommand{\'}{PU}{UHORN}{\9036\350}
14447 \DeclareTextCompositeCommand{\d}{PU}{UHORN}{\9036\360}
14448 \DeclareTextCompositeCommand{\'}{PU}{UHORN}{\9036\352}
14449 \DeclareTextCompositeCommand{\h}{PU}{UHORN}{\9036\354}
14450 \DeclareTextCompositeCommand{\~}{PU}{UHORN}{\9036\356}
14451 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
14452 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
14453 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
14454 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
14455 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
14456 </puvnenc>

```

## 50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```
14457 <*puarenc>
```

```

14458 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
14459 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA A
14460 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA A
14461 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA AE
14462 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HA
14463 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
14464 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
14465 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
14466 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
14467 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
14468 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
14469 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
14470 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
14471 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
14472 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
14473 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
14474 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
14475 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
14476 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
14477 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
14478 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
14479 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
14480 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
14481 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
14482 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
14483 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN

```

```

14484 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
14485 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
14486 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
14487 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
14488 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
14489 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
14490 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
14491 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
14492 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
14493 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA
14494 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH

14495 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
14496 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
14497 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
14498 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
14499 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
14500 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
14501 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA
14502 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

Farsi

14503 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
14504 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
14505 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
14506 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii????;FARSI LETTER KAF
14507 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
14508 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii????;FARSI LETTER YEH

14509 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
14510 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ%
14511 \puarenc)

```

## 51 End of file hycheck.tex

```

14512 \*check)
14513 \typeout{}
14514 \begin{document}
14515 \end{document}
14516 \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	13175, 13177, 13179, 13181, 13183, 13185, 13187, 13189, 13244, 13246, 13248, 13250, 13308, 13311, 13313, 13338, 13357, 13503, 13522, 13871, 13873, 13883, 13885, 13899, 13901, 13931, 13933, 14336, 14341, 14346, 14351, 14356, 14361, 14366, 14371, 14376, 14381, 14386, 14391, 14396, 14401, 14406, 14411, 14416, 14421, 14426, 14431, 14436, 14441, 14446, 14451	\@@PasswordField . 10480, 10486, \@@Radio ... 10308, 10329, 10529, 10553, 10760, 10781, 11097, 11118	\@@TextField ..... 10482, 10497
\"	202, 227, 2421, 11750, 12056, 12068, 12080, 12201, 12287, 12301, 12309, 12324, 12336, 12352, 12366, 12377, 12378, 12392, 12404, 12410, 12461, 12489, 12508, 12529, 12656, 12670, 12678, 12692, 12704, 12720, 12734, 12745, 12746, 12760, 12772, 12778, 13025, 13240, 13242, 13252, 13304, 13306, 13334, 13347, 13499, 13512, 13745, 13747, 13761, 13763, 13765, 13767, 13769, 13771, 13781, 13783, 13785, 13787, 13793, 13795, 13797, 13799, 13805, 13807, 13813, 13815, 13821, 13823, 13863, 13865, 13935, 13937, 13947, 13949, 13965	\( . 190, 215, 596, 599, 601, 11814, 12124	\@@commahyperpage .. 6352, 6353	
\#	405, 1565, 1566, 3500, 3511, 3513, 3529, 3561, 3576, 3646, 6842, 6844, 7570, 7579, 7606, 8295, 9724, 9733, 9760, 9984, 9993, 10019	\) . 191, 216, 568, 574, 577, 11815, 12126	\@@hyperref ..... 3610, 3611	
\\$	184, 209, 406, 3502, 3575	\+ ..... 200, 225	\@latextohtmlX .... 2254, 3786	
\%	407, 1540, 1541, 3499, 3508, 3510, 3562, 6844	\- ..... 201, 226	\@writetorep ..... 6299, 6300	
\&	185, 210, 408, 3503, 3514, 3516, 9770	\. . 198, 223, 12059, 12071, 12083, 12143, 12434, 12441, 12459, 12492, 12511, 12535, 12575, 12576, 12800, 12802, 12824, 12826, 12844, 12846, 12880, 12911, 12913, 13031, 13033, 13124, 13126, 13132, 13134, 13831, 13833, 13839, 13841, 13851, 13853, 13859, 13861, 13887, 13889, 13891, 13893, 13903, 13905, 13907, 13909, 13915, 13917, 13939, 13941, 13943, 13945, 13951, 13953, 13971	\@BIBLABEL .... 5825, 5831, 5837	\@writetorep .... 11663, 11669
\'	203, 228, 2361, 2375, 2416, 2418, 2419, 2420, 2421, 2426, 2427, 2429, 2434, 2440, 2444, 2445, 2448, 2491, 2492, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2506, 2510, 2523, 11748, 12053, 12065, 12077, 12281, 12297, 12305, 12318, 12332, 12338, 12346, 12362, 12371, 12372, 12386, 12400, 12406, 12429, 12431, 12432, 12433, 12436, 12438, 12439, 12440, 12448, 12486, 12505, 12526, 12650, 12666, 12674, 12686, 12700, 12706, 12714, 12730, 12739, 12740, 12754, 12768, 12774, 12792, 12794, 12899, 12901, 12919, 12921, 12953, 12955, 12965, 12967, 13027, 13029, 13079, 13081, 13087, 13089, 13091, 13093,	\+ ..... 200, 225	\@BOOKMARK ..... 11743, 11744	\@Alph .... 5153, 5154, 5157, 5158
		\+ ..... 200, 225	\@CITE ..... 5902, 5910	\@Alph@bul ..... 5157
		\+ ..... 200, 225	\@CITEX ..... 5904	\@BIBLABEL .... 5825, 5831, 5837
		\+ ..... 200, 225	\@CheckBox ... 4442, 8355, 10420, 10450, 10584, 10893, 11248	\@BOOKMARK ..... 11743, 11744
		\+ ..... 200, 225	\@ChoiceMenu .. 4439, 8358, 10260, 10453, 10519, 10711, 11048	\@CITE ..... 5902, 5910
		\+ ..... 200, 225	\@Form .. 4244, 8347, 10047, 10442, 10463, 10636, 10973	\@CITEX ..... 5904
		\+ ..... 200, 225	\@Gauge . 4448, 8349, 10229, 10444, 10468, 10605, 10970	\@CheckBox ... 4442, 8355, 10420, 10450, 10584, 10893, 11248
		\+ ..... 200, 225	\@Localurlfalse ..... 8302	\@ChoiceMenu .. 4439, 8358, 10260, 10453, 10519, 10711, 11048
		\+ ..... 200, 225	\@Localurltrue ..... 8299	\@Form .. 4244, 8347, 10047, 10442, 10463, 10636, 10973
		\+ ..... 200, 225	\@M ..... 839, 1780, 5489	\@Gauge . 4448, 8349, 10229, 10444, 10468, 10605, 10970
		\+ ..... 200, 225	\@MM ..... 5615	\@Localurlfalse ..... 8302
		\+ ..... 200, 225	\@PushButton .. 4445, 8361, 10350, 10456, 10565, 10815, 11159	\@Localurltrue ..... 8299
		\+ ..... 200, 225	\@Refstar ..... 6652, 6659	\@M ..... 839, 1780, 5489
		\+ ..... 200, 225	\@Reset . 4454, 8364, 10396, 10459, 10581, 10868, 11218	\@MM ..... 5615
		\+ ..... 200, 225	\@Roman ..... 471	\@PushButton .. 4445, 8361, 10350, 10456, 10565, 10815, 11159
		\+ ..... 200, 225	\@SCTR ..... 6399, 6451	\@Refstar ..... 6652, 6659
		\+ ..... 200, 225	\@SetMaxRnhefLabel ..... 5899	\@Reset . 4454, 8364, 10396, 10459, 10581, 10868, 11218
		\+ ..... 200, 225	\@Submit 4451, 8367, 10378, 10460, 10578, 10845, 11194	\@Roman ..... 471
		\+ ..... 200, 225	\@TextField .. 4436, 8352, 10232, 10447, 10471, 10682, 11011	\@SCTR ..... 6399, 6451
		\+ ..... 200, 225	\@addchap ..... 12012	\@SetMaxRnhefLabel ..... 5899
		\+ ..... 200, 225	\@addtoreset .. 6216, 6217, 6231, 6396	\@Submit 4451, 8367, 10378, 10460, 10578, 10845, 11194
		\+ ..... 200, 225	\@afterheading ..... 12030	\@TextField .. 4436, 8352, 10232, 10447, 10471, 10682, 11011
		\+ ..... 200, 225	\@alph ..... 5160, 5161	\@addchap ..... 12012
		\+ ..... 200, 225	\@alph@bul ..... 5160	\@addtoreset .. 6216, 6217, 6231, 6396
		\+ ..... 200, 225	\@anchorcolor . 7541, 7625, 8411, 9695, 9956	\@afterheading ..... 12030
		\+ ..... 200, 225	\@arabic 809, 814, 818, 5154, 5158, 5161	\@alph ..... 5160, 5161
		\+ ..... 200, 225	\@auxout . 1735, 3645, 4645, 4647, 5222, 5250, 5845, 5860, 5876,	\@alph@bul ..... 5160
		\+ ..... 200, 225		\@anchorcolor . 7541, 7625, 8411, 9695, 9956
		\+ ..... 200, 225		\@arabic 809, 814, 818, 5154, 5158, 5161
		\+ ..... 200, 225		\@auxout . 1735, 3645, 4645, 4647, 5222, 5250, 5845, 5860, 5876,
		\+ ..... 200, 225		

5886, 5916, 5939, 5965, 5971, 5995  
\@backslashchar 1460, 1464, 1467, 3524, 6857, 6867  
\@baseurl 2717, 2719, 3738, 7277, 7280, 7527, 7529, 7768, 7770, 8222, 8232, 8269, 8271, 8765, 8767, 9109, 9123, 9681, 9683, 9863, 9877, 9943, 9945  
\@begintheorem . . . . . 5457, 5463  
\@bibitem . . . . . 5852, 5883  
\@biblabel . . . . . 5825, 5872  
\@bookmarkopenstatus 3338, 3355, 11717  
\@bookmarkopenlevel 2680, 2682, 3341  
\@bsphack . . . . . 1728, 3643, 5969  
\@capstartfalse . . . . . 5727  
\@caption 5696, 5708, 5742, 5776, 5778  
\@capter 1737, 5691, 5695, 5699, 5706, 5713, 5746, 5769, 5773, 5776  
\@car 1071, 1087, 1105, 1125, 2659, 3862, 7229, 7240  
\@cdr . . . . . 7230, 7241  
\@chapter . . . . . 11944, 11945  
\@cite . . . . . 5902, 5933, 6030, 6036  
\@cite@opt 6031, 6037, 6041, 6051  
\@citea . . . . . 5905, 5912, 5913, 5932, 5935, 5936  
\@citeb . . . . . 5911, 5914, 5916, 5918, 5922, 5925, 5934, 5937, 5939, 5941, 5945, 5948  
\@citebordercolor . . . . . 2959  
\@citedata@opt . . . . . 6032, 6038, 6040  
\@citedatax . . . . . 6047, 6052  
\@citedatax@opt . . . . . 6044, 6050  
\@citeseppen . . . . . 6029, 6035  
\@citex . . . . . 5931  
\@clubpenalty . . . . . 5491  
\@commahyperpage . . . . . 6347, 6352  
\@currDisplay 4298, 10272, 10334, 10548, 10562, 10723, 10786, 11060, 11124  
\@currValue . . . . . 4300, 4302, 10338, 10548, 10559, 10793, 11135, 11543  
\@currentHlabel 5165, 5167, 5176, 5299, 5310, 5538, 5549, 5552, 5554, 5599, 5626  
\@currentHref . . . . . 1743, 4544, 5124, 5175, 5180, 5262, 5265, 5300, 5311, 5313, 5352, 5363, 5367, 5374, 5398, 5483, 5539, 5550, 5553, 5555, 5600, 5627, 5711, 5733, 5735, 5747, 5749, 5974, 6098, 6121, 6130, 6136, 6187, 6188, 6212, 6213, 11652, 11653, 11937, 11939, 11948, 11950, 11980, 11982, 11989, 11994, 12022, 12024  
\@currentlabel 5618, 5967, 5974, 6193, 6200, 6405, 6457  
\@currentlabelname . . . . . 1733, 5540, 5601, 5628, 5715  
\@currentlabstr . . . . . 1732, 1740  
\@curropt . . . . . 10269, 10270, 10331, 10332, 10537, 10544, 10545, 10547, 10554, 10555, 10557, 10720, 10721, 10783, 10784, 11057, 11058, 11121, 11122  
\@dblarg . . . . . 1833, 5706, 5776  
\@definecounter . . . . . 6172, 6173  
\@ehc . . . . . 2066, 3078, 3702, 3956, 4080, 4275, 4391, 4427, 10360, 10408, 10826, 10880, 11170, 11230  
\@ehd . . . . . 63, 5692, 5770  
\@endForm . . . . . 4245, 8348, 10228, 10443, 10467, 10681, 10997  
\@endpary . . . . . 5453  
\@eqncr . . . . . 5382  
\@eqnstarfalse . . . . . 5358, 5385  
\@eqnstartrue . . . . . 5382  
\@eqnswtrue . . . . . 5328, 5337  
\@esphack . . . . . 1749, 3648, 5979, 6322  
\@extra@b@citeb 5810, 5813, 5830, 5835, 5855, 5903, 5925, 5941, 5948  
\@extra@b@info . . . . . 5809, 5812, 5816  
\@fifthoffive . . . . . 3038, 3453, 3637, 6606, 6721  
\@filebordercolor . . . . . 2957, 7146, 7148, 8086, 8088, 8486, 8488, 9419  
\@filecolor . . . . . 2709, 7166, 7720, 7732, 8098, 8492  
\@firstoffive . . . . . 3449, 3458, 6645, 6726  
\@firstofone . . . . . 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 463, 919, 923, 927, 2879, 3340, 4211, 4217, 5040, 5151, 5164, 5209, 5704, 5774, 5914, 5937, 6063, 7437, 11328, 11345, 11362  
\@firstoftwo . . . . . 480, 674, 801, 1199, 4623  
\@footnotemark 5499, 5545, 5634, 5636, 5648, 5649, 5679, 5681  
\@footnotetext 5498, 5505, 5530, 5635, 5637, 5651, 5652, 5672  
\@for 2736, 3852, 5911, 5934, 10269, 10331, 10537, 10544, 10554, 10720, 10783, 11057, 11121  
\@fourthoffive 3452, 3638, 6716, 6723  
\@gobble . . . . . 49, 56, 117, 456, 457, 458, 459, 483, 484, 485, 494, 681, 825, 829, 832, 1009, 1022, 1026, 1088, 1151, 1152, 1159, 1164, 1178, 1183, 1770, 2009, 2021, 2867, 3026, 3028, 3080, 3490, 4196, 4589, 4593, 4609, 4611, 4627, 4628, 4629, 4631, 4632, 4634, 5019, 5034, 5038, 5446, 5693, 5771, 6097, 6780, 7439, 8645, 8648, 10637, 10974, 11709, 11710, 11711, 11840  
\@gobblefour . . . . . 520, 935, 936, 937, 6520  
\@gobbleopt . . . . . 4634, 4636  
\@gobbletwo 487, 513, 521, 522, 934, 1106, 1183, 1187, 1887, 3030, 4142, 4613, 4622, 4630, 4634, 6704, 11935  
\@harvarditem . . . . . 5984, 5986  
\@hyper@@anchor . . . . . 3747, 3748  
\@hyper@itemfalse . . . . . 5070, 5086, 5100  
\@hyper@itemtrue . . . . . 5071  
\@hyper@launch 3708, 3717, 7170, 8548, 9431  
\@hyper@linkfile . . . . . 3689, 3692, 3696, 3728  
\@hyper@readexternallink 3683, 3687  
\@hyperdef . . . . . 3618, 3619  
\@hyperpage . . . . . 6344, 6345  
\@hyperref . . . . . 3599, 3610  
\@ifclasslater . . . . . 12036, 12041  
\@ifclassloaded 1720, 4965, 5194, 5231, 5894, 6380, 6384, 7442, 12035, 12040  
\@ifnextchar 12, 88, 103, 123, 514, 3569, 3599, 3618, 3656, 4244, 4436, 4439, 4442, 4445, 4448, 4451, 4454, 4634, 4690, 4699, 5638, 5656, 5984, 6042, 9134, 9357, 9371, 11743, 11744  
\@ifpackagelater . . . . . 1751, 3102, 5185, 6241  
\@ifpackageloaded 359, 634, 1723, 2118, 2636, 2640, 3017, 3101, 3190, 5108, 5184, 5197, 5259, 5278, 5282, 5290, 5324, 5438, 5495, 5562, 5607, 5743, 5954,

6027, 6184, 6240, 6276, 6277, 6389, 6651, 6793, 6797, 9935	198, 199, 200, 201, 202, 203, 3514, 6829, 11818	\@pdfauthor . . . 2848, 2962, 7335, 7752, 8176, 8804, 9045, 9796
\@ifpackagewith . . . . 3018, 6208	\@makeschapterhead 12027, 12029	\@pdfborder . . . 2258, 2762, 2765, 2767, 3421, 7046, 7901, 8400, 8916, 9007, 9349, 9361, 9376, 9397, 9416, 9441, 9469, 9544, 9632, 9775
\@ifstar . . . 66, 3474, 3476, 6659, 6685, 6704	\@menubordercolor . . 2956, 7497, 7499, 8141, 8143, 8579, 8581	\@pdfborderstyle . . . 2763, 2769, 2771, 3422, 7047, 7902, 8401, 8917, 9008, 9350, 9362, 9377, 9398, 9417, 9442, 9470, 9545, 9633, 9776
\@ifundefined . . . . .	\@menucolor . . . 7510, 8147, 8585	\@pdfcreationdate . . 2854, 2965, 7339, 7341, 7744, 7746, 8168, 8170, 9020, 9022, 9788, 9790
. . . . 34, 240, 464, 505, 580, 615, 645, 646, 647, 653, 661, 677, 680, 707, 713, 719, 724, 729, 736, 742, 748, 753, 759, 764, 774, 780, 786, 792, 1041, 1135, 1136, 1724, 1757, 1864, 1983, 2048, 2131, 2581, 2589, 2596, 2609, 2657, 2979, 2993, 3095, 3096, 3097, 3951, 4270, 4727, 5050, 5112, 5117, 5138, 5152, 5284, 5293, 5347, 5369, 5387, 5393, 5430, 5697, 5808, 5819, 5902, 5918, 5941, 6181, 6221, 6229, 6230, 6243, 6244, 6251, 6693, 6694, 6738, 6739, 6741, 6742, 6897, 7085, 7094, 7465, 8378, 8432, 8516, 8829, 8830, 8872, 8902, 8989, 9155, 10637, 10974, 11337, 11943, 11954	\@minipagefalse . . . . . 5469	\@pdfcreator . . . 2850, 2964, 7338, 7743, 8167, 8807, 9044, 9787
\@indexfile . . . 6303, 6311, 6315	\@mkboth 487, 6502, 11935, 12015, 12017	\@pdfdirection 7300, 7806, 8202, 8777, 9089, 9843
\@inlabelfalse . . . . . 5473	\@mpfn . . . . . 5502, 5657, 5669	\@pdfduplex . . . 7306, 7812, 8208, 8783, 9095, 9849
\@inmathwarn . . . . . 399, 400	\@mpfootnotetext . . . 5505, 5518, 5519	\@pdfhighlight 2755, 2960, 7066, 7068, 7113, 7142, 7144, 7178, 7180, 7493, 7495, 8915, 9006, 9348, 9396, 9415, 9440
\@inpenc@undefined@ . . . . 1595	\@mycount . . . . . 11794, 11804	\@pdfhightlight . . . . . 7111
\@labels . . . . . 5486	\@namedef 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 3962, 3963, 3964, 3965, 4286, 4287, 5195, 5381, 5384, 5959, 5960, 5961, 5962	\@pdfkeywords . . 2864, 2968, 7351, 7741, 8181, 8812, 9046, 9785
\@latex@ . . . . . 4721, 4722	\@nameuse . 1737, 2138, 3968, 4278	\@pdflang 2946, 2973, 7326, 7328, 7834, 7836, 8242, 8244, 9119, 9121, 9873, 9875
\@latex@error . . 2201, 2219, 2229, 2236, 5692, 5770	\@ne . . 808, 2085, 2180, 8026, 8031, 8744, 9538, 11006	\@pdfm@dest . . . 7848, 7904, 7908
\@latex@warning 3632, 5921, 5944, 6581, 6601, 6618, 6732	\@newctr . . . . . 6177, 6178	\@pdfm@mark . . . . . 4990, 7847, 7896, 7916, 7930, 7932, 7946, 7948, 7953, 7954, 7984, 8008, 8010, 8015, 8033, 8052, 8080, 8107, 8131, 8163, 8223, 8250, 10976, 10977, 10978, 10995, 11038, 11044, 11130, 11140, 11151, 11157, 11183, 11190, 11209, 11215, 11238, 11244, 11265, 11271, 11275, 11307, 11315, 11866
\@lbibitem . . . . . 5826, 5871	\@newl@bel . . . . . 4684, 5812	\@pdfmoddate . . 2860, 2966, 7343, 7345, 7748, 7750, 8172, 8174, 9024, 9028, 9792, 9794
\@linkbordercolor . . 2954, 7102, 8402	\@newlistfalse . . . . . 5470	\@pdfnonfullscreenpagemode . . 7299, 7805, 8201, 8776, 9088, 9842
\@linkcolor . . . . . 9156	\@nil . . . . . 345, 349, 354, 358, 373, 1071, 1089, 1107, 1123, 1125, 1128, 1131, 1134, 1604, 1606, 1622, 1624, 2659, 3546, 3550, 3555, 3862, 4709, 4712, 4719, 4721, 4722, 4807, 4854, 4855, 4857, 4880, 4897, 4945, 4947, 5294, 5304, 5306, 5319, 6331, 6333, 6340, 6363, 6366, 6376, 6585, 6588, 6740, 6770, 6853, 6859, 6863, 6869, 7229, 7230, 7240, 7241, 8611, 8612, 11335, 11348, 11353	\@pdfnumcopies 7315, 7317, 7821, 7823, 8217, 8219, 8792, 8794, 9104, 9106, 9858, 9860
\@linkdim . . . . . 326, 7585, 7586, 7591, 7592, 7593, 7653, 7654, 7663, 7664, 7665, 7682, 7683, 7692, 7693, 7694, 7712, 7713, 7722, 7723, 7724, 9739, 9740, 9745, 9746, 9747, 9999, 10000, 10006, 10007, 10008	\@nobreakfalse . . . . 4681, 5489	\@pdfpageduration . . 2725, 7387, 7390, 7395, 8701, 8703, 8706, 8952, 8954, 8962
\@listctr . . . . . 5861, 5887	\@nocnterr . . . . . 6230, 6244	\@pdfpagelayout 7325, 7833, 8241, 8797, 8799, 9118, 9872
\@m . . . . . 822, 5913, 5936, 8692	\@nocounterr . . . . . 6229, 6243	
\@mainaux . 4643, 4644, 5002, 5010	\@noparitemfalse . . . . . 5471	
\@makecaption . . 5728, 5730, 5788	\@number . . . . . 5151, 5209, 6063	
\@makefnmark . . . . . 5557, 5684	\@nx . . . . . 6233, 6247, 6250, 6252	
\@makefntext . . . . . 5619	\@onelevel@sanitize 1880, 1884, 2100, 2658, 3055, 3085, 3106, 3108, 3952, 4189, 4271, 4907, 4909, 6126, 6631, 7885	
\@makeoother . . 166, 167, 179, 180, 182, 183, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197,	\@oparg . . . . . 5457, 5463	
	\@outlinefile . . . 11715, 11827, 11828, 11830, 11893, 11894, 11896	
	\@pagerefstar . . 3476, 6647, 6675	
	\@pagesetref . . . . . 6597	
	\@parboxrestore 5617, 5720, 5783	
	\@parcount . . . . . 11796, 11804	
	\@part . . . . . 11963, 11970	



\@pdfpagemode . 3178, 3179, 3351, 3352, 3361, 3362, 7279, 7789, 8236, 8764, 9072, 9826	\@pdfviewparams 2871, 2873, 8866, 8884, 9472, 9547, 9635, 9886	10320, 10321, 10719, 10724, 10726, 10764, 10765, 10766, 10770, 10771, 10772, 10773, 11056, 11061, 11063, 11101, 11102, 11103, 11107, 11108, 11109, 11110
\@pdfpagescrop 2900, 2969, 7264, 7268, 7772, 7773, 7794, 7796, 8248, 8250, 8753, 8755, 9077, 9079, 9831, 9833	\@percentchar . . 3509, 3510, 3562	\@tempdimb . 10272, 10273, 10723, 10724, 11060, 11061
\@pdfpagetransition 2723, 7363, 7367, 7372, 8592, 8594, 8596, 8935, 8937, 8945	\@processme . . 4294, 4295, 7369, 7375, 7392, 7398, 7413, 7419, 9137, 9138, 9207, 9208, 9211, 9212	\@tempswafalse . . . . . 6046
\@pdfpicktraybypdfsize . . 7307, 7309, 7813, 7815, 8209, 8211, 8784, 8786, 9096, 9098, 9850, 9852	\@protected@testopt . . . . . 517	\@tempswatrue . 6016, 6019, 6022, 6043
\@pdfprintarea 7303, 7809, 8205, 8780, 9092, 9846	\@protected@testopt@xargs 518	\@temptokena . . 2528, 2533, 2536, 2538
\@pdfprintclip 7304, 7810, 8206, 8781, 9093, 9847	\@refstar . . . . . 3474, 6644	\@tfor . . . . . 5411
\@pdfprintpagerange 2836, 2972, 7311, 7313, 7817, 7819, 8213, 8215, 8788, 8790, 9100, 9102, 9854, 9856	\@runbordercolor . . 2958, 7182, 7184, 8563, 8565, 9444	\@the@H@page . . . . . 6065, 6067
\@pdfprintscaling . . 7305, 7811, 8207, 8782, 9094, 9848	\@runcolor . . . . . 7201, 8569	\@thefnmark . . 5503, 5514, 5576, 5577, 5618, 5658, 5670, 5677
\@pdfproducer . 2849, 2963, 7205, 7347, 7349, 7736, 7737, 7753, 7755, 8153, 8154, 8158, 8177, 8179, 8721, 8722, 8726, 8729, 8730, 8808, 8810, 9031, 9035, 9466, 9467, 9537, 9539, 9541, 9629, 9630, 9780, 9781, 9797, 9799	\@safe@activesfalse . 469, 3455	\@thirdoffive . . . . . 3451
\@pdfstartpage 2888, 2890, 2971, 7285, 7289, 7776, 7781, 8225, 8229, 8757, 8761, 9059, 9064, 9813, 9818	\@safe@activetrue . . 468, 3454	\@thm . . . . . 5439
\@pdfstartview 2895, 2897, 2970, 7159, 7287, 7289, 7778, 7782, 8093, 8227, 8229, 8759, 9061, 9065, 9425, 9815, 9819	\@schapter . . . . . 11931, 11932	\@topnewpage . . . . . 12027
\@pdfsubject . . 2863, 2967, 7337, 7757, 8166, 8806, 9043, 9801	\@secondoffive 3039, 3450, 3463, 6607, 6608, 6648	\@topsep . . . . . 5452
\@pdftempa . . . . 3694, 3695, 3698	\@secondoftwo . 460, 486, 672, 804, 1197, 3038, 3039	\@topsepadd . . . . . 5453
\@pdftempwordfile . . 3685, 3695	\@sect . . . . . 11985, 11986	\@undefined 523, 4624, 4648, 4668, 4869, 4887, 4926, 5691, 5745, 5757, 5760, 5769, 6639, 7023, 7209, 7218, 8372, 8732, 8746
\@pdftempwordrun . . 3686, 3698	\@seqncr . . . . . 5382	\@undottedtocline . . . . . 6566
\@pdftitle 2847, 2961, 7336, 7742, 8165, 8805, 9042, 9786	\@serial@counter . 11746, 11793, 11794, 11795	\@unprocessedoptions . . . . 3300
\@pdfview 2869, 7032, 7039, 7853, 7857, 7861, 7865, 7869, 7873, 7874, 7877, 7878, 7881, 7885, 7886, 7900, 8399, 8408, 8419, 8866, 8884, 9471, 9546, 9634, 9885	\@seteqlabel . . . . . 6209, 6210	\@urlbordercolor . . 2955, 7115, 7117, 8113, 8115, 8505, 8507, 9399
\@pdfviewarea . 7301, 7807, 8203, 8778, 9090, 9844	\@setminipage . . . . . 5722, 5785	\@urlcolor 7130, 7590, 7599, 7690, 7702, 8123, 8511, 9744, 9753, 10005, 10013
\@pdfviewclip . 7302, 7808, 8204, 8779, 9091, 9845	\@setref . 3458, 3463, 6576, 6577, 6614	\@urltype 7560, 7564, 8274, 8298, 8427, 8438, 9714, 9718, 9974, 9978
	\@sharp . . . . . 5294, 5301	\@vpageref . . . . . 6669
	\@skiphyperreffalse 5087, 5841, 5853	\@whilenum . . . . . 951
	\@skiphyperreftrue . 5827, 5853	\@wrintex . . . . . 6282, 6283, 6299
	\@spart . . . . . 11976, 11977	\@writefile . . . . . 5972
	\@sssect . . . . . 11926, 11927	\@x@sf . . . . 5547, 5559, 5683, 5685
	\@startlos . . . . 6514, 6521, 6570	\@xfootnote . . . . . 5656
	\@starttoc . . . . . 4669	\@xfootnotemark . . . . 5511, 5674
	\@tempa . . 5456, 5462, 5466, 5564, 5568, 5571, 5587	\@xfootnotenext . . . . 5500, 5667
	\@tempb . . . . . 5410, 5414	\@exp . 6199, 6232, 6233, 6246, 6247, 6249, 6250
	\@tempboxa 7584, 7585, 7591, 7650, 7653, 7656, 7657, 7663, 7668, 7669, 7680, 7682, 7685, 7686, 7692, 7697, 7698, 7710, 7712, 7715, 7716, 7722, 7727, 7728, 9738, 9739, 9745, 9998, 9999, 10006	\[ . . . . . 192, 217
	\@tempcnta . 11675, 11676, 11677, 11678, 11679, 11681, 11684, 11685, 11686, 11692, 11694, 11696, 11728, 11729, 11730, 11733, 11734, 11735, 11736, 11737, 11915, 11916, 11917	\{ . . . . . 402
	\@tempdima . . . . .	\} . . . . . 403
	1783, 4476, 4477, 4478, 4479, 4480, 4481, 4482, 4483, 7025, 10268, 10273, 10275, 10312, 10313, 10314, 10318, 10319,	\] . . . . . 193, 218
		\^ 186, 211, 2439, 3497, 3498, 3506, 12054, 12066, 12078, 12283, 12299, 12307, 12320, 12334, 12348, 12364, 12374, 12375, 12388, 12402, 12450, 12487, 12506, 12527, 12652, 12668,



12676, 12688, 12702, 12716,  
 12732, 12742, 12743, 12756,  
 12770, 12796, 12798, 12836,  
 12838, 12852, 12854, 12888,  
 12890, 12891, 12969, 12971,  
 13017, 13019, 13021, 13023,  
 13955, 13957  
 \\_ . 187, 212, 410, 3501, 3518, 3519  
 \^ . . . . . 166, 172, 179, 182,  
 2375, 2509, 2512, 2514, 2522,  
 12052, 12064, 12076, 12279,  
 12295, 12303, 12316, 12330,  
 12344, 12360, 12368, 12369,  
 12384, 12398, 12446, 12485,  
 12504, 12525, 12648, 12664,  
 12672, 12684, 12698, 12712,  
 12728, 12736, 12737, 12752,  
 12766, 13083, 13085, 13331,  
 13359, 13496, 13524, 13927,  
 13929, 13977, 13979, 14338,  
 14343, 14348, 14353, 14358,  
 14363, 14368, 14373, 14378,  
 14383, 14388, 14393, 14398,  
 14403, 14408, 14413, 14418,  
 14423, 14428, 14433, 14438,  
 14443, 14448, 14453  
 \l 188, 213, 1406, 1522, 2321, 3007,  
 6279, 6828, 6838  
 \~ . . . . . 409, 953, 1583, 2433,  
 2441, 2442, 2443, 3099, 3522,  
 12055, 12067, 12079, 12285,  
 12314, 12322, 12350, 12382,  
 12390, 12452, 12488, 12507,  
 12528, 12654, 12682, 12690,  
 12718, 12750, 12758, 12860,  
 12862, 12863, 12993, 12995,  
 13923, 13925, 13973, 13975,  
 13981, 13983, 14340, 14345,  
 14350, 14355, 14360, 14365,  
 14370, 14375, 14380, 14385,  
 14390, 14395, 14400, 14405,  
 14410, 14415, 14420, 14425,  
 14430, 14435, 14440, 14445,  
 14450, 14455  
**Numbers**  
 \3 . . . . . 387, 995, 996, 997, 998,  
 999, 1000, 1001, 1002, 1697,  
 11813, 12279, 12281, 12283,  
 12285, 12287, 12289, 12291,  
 12293, 12295, 12297, 12299,  
 12301, 12303, 12305, 12307,  
 12309, 12311, 12312, 12314,  
 12316, 12318, 12320, 12322,  
 12324, 12326, 12328, 12330,  
 12332, 12334, 12336, 12338,  
 12340, 12342, 12344, 12346,  
 12348, 12350, 12352, 12354,  
 12356, 12358, 12360, 12362,  
 12364, 12366, 12368, 12369,  
 12371, 12372, 12374, 12375,  
 12377, 12378, 12380, 12382,  
 12384, 12386, 12388, 12390,  
 12392, 12394, 12396, 12398,  
 12400, 12402, 12404, 12406,  
 12408, 12410, 12411, 12484,  
 12648, 12650, 12652, 12654,  
 12656, 12658, 12660, 12662,  
 12664, 12666, 12668, 12670,  
 12672, 12674, 12676, 12678,  
 12680, 12682, 12684, 12686,  
 12688, 12690, 12692, 12694,  
 12696, 12698, 12700, 12702,  
 12704, 12706, 12708, 12710,  
 12712, 12714, 12716, 12718,  
 12720, 12722, 12724, 12726,  
 12728, 12730, 12732, 12734,  
 12736, 12737, 12739, 12740,  
 12742, 12743, 12745, 12746,  
 12748, 12750, 12752, 12754,  
 12756, 12758, 12760, 12762,  
 12764, 12766, 12768, 12770,  
 12772, 12774, 12776, 12778,  
 13043, 13045, 13047, 13049,  
 13050, 13052, 13054, 13056,  
 13058, 13060, 13062, 13064,  
 13066, 13068, 13070, 13072,  
 13074, 13076, 13077, 13079,  
 13081, 13083, 13085, 13087,  
 13089, 13091, 13093, 13142,  
 13144, 13146, 13148, 13150,  
 13152, 13154, 13157, 13159,  
 13284, 13286, 13288, 13290,  
 13292, 13294, 13296, 13298,  
 13300, 13302, 13304, 13306,  
 13308, 13310, 13311, 13313,  
 13315, 13317, 13319, 13321,  
 13323, 13325, 13327, 13329,  
 13715, 13717, 13719, 13721,  
 13723, 13725, 13727, 13729,  
 13731, 13733, 13735, 13737,  
 13739, 13741, 13743, 13745,  
 13747, 13749, 13751, 13753,  
 13755, 13757, 13759, 13761,  
 13763, 13765, 13767, 13769,  
 13771, 13773, 13775, 13777,  
 13779, 13781, 13783, 13785,  
 13787, 13789, 13791, 13793,  
 13795, 13797, 13799, 13801,  
 13803, 13805, 13807, 13809,  
 13811, 13813, 13815, 13817,  
 13819, 13821, 13823, 13825,  
 13827, 13977, 13979, 13981,  
 13983, 14203, 14205, 14207,  
 14209, 14211, 14213, 14215,  
 14217, 14219, 14221, 14223,  
 14225, 14227, 14229, 14231,  
 14233, 14235, 14237, 14239,  
 14241, 14243, 14245, 14247,  
 14249, 14251, 14253, 14255,  
 14257, 14259, 14261, 14263,  
 14265, 14267, 14269, 14271,  
 14273, 14275, 14277, 14279,  
 14281, 14283, 14285, 14287,  
 14289, 14291, 14299, 14301,  
 14323, 14325, 14326, 14330,  
 14332, 14333, 14336, 14338,  
 14340, 14351, 14353, 14357,  
 14358, 14359, 14360, 14361,  
 14362, 14363, 14364, 14366,  
 14367, 14368, 14369, 14370,  
 14371, 14372, 14373, 14374,  
 14375, 14376, 14377, 14378,  
 14379, 14380, 14381, 14382,  
 14383, 14384, 14386, 14387,  
 14388, 14389, 14390, 14391,  
 14392, 14393, 14394, 14395,  
 14396, 14398, 14400, 14411,  
 14413, 14417, 14418, 14419,  
 14420, 14421, 14422, 14423,  
 14424, 14426, 14427, 14428,  
 14429, 14430, 14431, 14432,  
 14433, 14434, 14435, 14436,  
 14437, 14438, 14439, 14440,  
 14441, 14442, 14443, 14444,  
 14446, 14447, 14448, 14449,  
 14450, 14451, 14452, 14453,  
 14454, 14455, 14508, 14510  
 \9 390, 1625, 1640, 1649, 1677, 1697,  
 12484, 13829, 13831, 13833,  
 13835, 13837, 13839, 13841,  
 13843, 13845, 13847, 13849,  
 13851, 13853, 13855, 13857,  
 13859, 13861, 13863, 13865,  
 13867, 13869, 13871, 13873,  
 13875, 13877, 13879, 13881,  
 13883, 13885, 13887, 13889,  
 13891, 13893, 13895, 13897,  
 13899, 13901, 13903, 13905,  
 13907, 13909, 13911, 13913,  
 13915, 13917, 13919, 13921,  
 13923, 13925, 13927, 13929,  
 13931, 13933, 13935, 13937,  
 13939, 13941, 13943, 13945,  
 13947, 13949, 13951, 13953,  
 13955, 13957, 13959, 13961,  
 13963, 13965, 13967, 13969,  
 13971, 13973, 13975, 13977,  
 13979, 13981, 13983, 13985,  
 13987, 13989, 13991, 13993,  
 13995, 13997, 13999, 14001,  
 14003, 14005, 14007, 14009,

14011, 14013, 14015, 14017, 14019, 14021, 14023, 14025, 14027, 14029, 14031, 14033, 14035, 14037, 14039, 14041, 14043, 14045, 14047, 14049, 14051, 14053, 14055, 14057, 14059, 14061, 14063, 14065, 14067, 14069, 14071, 14073, 14075, 14077, 14079, 14081, 14083, 14085, 14087, 14089, 14091, 14093, 14095, 14097, 14099, 14101, 14103, 14105, 14107, 14109, 14111, 14113, 14115, 14117, 14119, 14121, 14123, 14125, 14127, 14129, 14131, 14133, 14135, 14137, 14139, 14141, 14143, 14145, 14147, 14149, 14151, 14153, 14155, 14157, 14159, 14161, 14163, 14165, 14167, 14169, 14171, 14173, 14175, 14177, 14179, 14181, 14183, 14185, 14187, 14189, 14191, 14193, 14195, 14197, 14199, 14201, 14203, 14205, 14207, 14209, 14211, 14213, 14215, 14217, 14219, 14221, 14223, 14225, 14227, 14229, 14231, 14233, 14235, 14237, 14239, 14241, 14243, 14245, 14247, 14249, 14251, 14253, 14255, 14257, 14259, 14261, 14263, 14265, 14267, 14269, 14271, 14273, 14275, 14277, 14279, 14281, 14283, 14285, 14287, 14289, 14291, 14293, 14295, 14297, 14299, 14301, 14303, 14305, 14337, 14339, 14341, 14342, 14343, 14344, 14345, 14346, 14347, 14348, 14349, 14350, 14352, 14354, 14355, 14356, 14357, 14358, 14359, 14360, 14362, 14364, 14367, 14369, 14371, 14372, 14373, 14374, 14375, 14376, 14377, 14378, 14379, 14380, 14382, 14384, 14386, 14387, 14388, 14389, 14390, 14392, 14393, 14394, 14395, 14397, 14399, 14401, 14402, 14403, 14404, 14405, 14406, 14407, 14408, 14409, 14410, 14412, 14414, 14415, 14416, 14417, 14418, 14419, 14420, 14422, 14424, 14427, 14429, 14431, 14432, 14433, 14434, 14435, 14436, 14437, 14438, 14439, 14440, 14442,	14444, 14446, 14447, 14448, 14449, 14450, 14452, 14453, 14454, 14455, 14509  \sqcup ... 502, 2456, 2459, 5913, 5936, 12076, 12077, 12078, 12079, 12080, 12081, 12082, 12083, 12084, 12085, 12086, 12087, 12504, 12505, 12506, 12507, 12508, 12509, 12510, 12511, 12512, 12513, 12514, 12515, 12516, 12517, 12518, 12519, 12520, 12521, 12522  A \ABREVE ... 14329, 14401, 14402, 14403, 14404, 14405 \abreve ... 14322, 14341, 14342, 14343, 14344, 14345 \AccFancyVerbLineautorefname . ..... 2483 \Accfootnoteautorefname . 2463 \Acctheoremautorefname .. 2487 \ACIRCUMFLEX 14330, 14406, 14407, 14408, 14409, 14410 \acircumflex . 2514, 14323, 14346, 14347, 14348, 14349, 14350 \Acrobatmenu .. 1772, 3035, 4621, 7488, 8128, 8572, 9343 \active 931, 938, 3498, 3499, 3500, 3501, 3502, 3503, 3506, 3508, 3511, 3519, 11817 \add@accent ..... 401 \addcontentsline ... 5716, 5780, 6095, 6100, 6166, 12032 \addtocontents 6135, 6167, 6397, 6449, 12019, 12020 \addtocounter . 5206, 5229, 5238, 5249, 5253, 5432, 8035 \addvspace ..... 12019, 12020 \advance ..... 324, 325, 952, 3812, 4141, 4187, 4477, 4478, 4481, 4482, 4824, 7254, 7592, 7664, 7693, 7723, 8728, 9746, 10007, 10275, 10319, 10320, 10726, 10771, 10772, 11006, 11063, 11108, 11109, 11676, 11678, 11679, 11685, 11694, 11736, 11916 \AE ..... 12291, 12660, 13087 \ae ..... 12356, 12724, 13089 \afterassignment ... 1295, 1301, 1307 \AfterBeginDocument 240, 2158, 2212, 3169, 3269, 3479, 4546, 4640, 5008, 9522, 9673 \aftergroup ..... 5622	\alef ..... 14464 \alefhamza ..... 14460 \aleflowerhamza ..... 14462 \alefmadda ..... 14459 \alefmaqsura ..... 14493 \Alph ..... 4873, 5139, 5140 \alph ..... 4874, 5403, 5434 \AMSautorefname ..... 6802 \anchor@spot .. 3752, 3765, 3772, 3778, 7081, 7541, 7625, 8342, 8411, 8863, 9695, 9956 \appendix ..... 5136, 5137 \appendixautorefname 2331, 2349, 2367, 2385, 2403, 2421, 2439, 2471, 2472, 2497, 2515, 6812 \arabic .. 4870, 5045, 5048, 5051, 5052, 5053, 5055, 5056, 5057, 5058, 5060, 5061, 5062, 5063, 5064, 5065, 5068, 5078, 5079, 5118, 5213, 6175, 6181, 6228, 6242, 6385, 6390, 6392 \AtBeginDocument 241, 2057, 2117, 2254, 2607, 3024, 3115, 3175, 3405, 5193, 5955, 6650, 6796, 6992, 7435, 7994, 8394 \AtBeginShipout 4753, 7521, 7981 \AtBeginShipoutBox . 4757, 4760, 7516, 7517, 7982, 7983 \AtBeginShipoutFirst 4764, 8253, 9625 \AtEndDocument 4660, 4968, 10644 \AtEndOfPackage 643, 1721, 2580, 2588, 2595, 3157, 3183, 3189, 3334, 3357 \author ..... 4689, 4699 \autopageref ..... 3177, 6684 \autoref .. 491, 3176, 6703, 10027 \ayn ..... 14482  B \b ... 635, 639, 645, 12062, 12074, 12086, 12476, 12499, 12518, 13835, 13837, 13843, 13845, 13875, 13877, 13879, 13881, 13895, 13897, 13911, 13913, 13919, 13921, 13959, 13961, 13963 \baa ..... 14465 \back@none .... 2266, 2276, 2289 \back@page ..... 2268, 2281 \back@section . 2267, 2273, 2279, 2285 \back@slide ..... 2269, 2278 \backcite ..... 5973 \backref ..... 6004, 10031 \baselineskip . 1775, 4490, 4491, 4492, 4493, 4494, 4495, 7642, 8880, 8901, 9505
---	--	--

<code>\bbl@cite@choice</code> . . . . .	5820	<code>\capitalnewtie</code> . . . . .	12537	<code>\contentsline</code> . . . . .	4649, 4650, 4661, 6136, 6140, 6167, 6169
<code>\BeforeTeXIVht</code> . . . . .	2154	<code>\capitalogonek</code> . . . . .	12524	<code>\copy</code> . . . . .	5306, 5315, 7007, 7517, 7983, 8009
<code>\begin</code> . . . . .	10036, 14514	<code>\capitalring</code> . . . . .	12531	<code>\count@</code> . . . . .	950, 951, 952, 953, 1296, 2666, 2667, 2672, 2673, 3811, 3812, 3827, 4124, 4139, 4141, 4165, 4187, 4203, 7249, 7250, 7251, 7252, 7253, 7254, 7257, 8724, 8725, 8726, 8727, 8728, 8731
<code>\belowpdfbookmark</code> . . . . .	11732	<code>\capitaltie</code> . . . . .	12536	<code>\CurrentBorderColor</code> . . . . .	7070, 7072, 7086, 7088, 7095, 7097, 7102, 8402, 8433, 8435, 8444, 8446, 8465, 8467, 8517, 8519, 8536, 8538
<code>\bfseries</code> . . . . .	438, 5919, 5942, 6580, 6600, 6617, 6731	<code>\capitaltilde</code> . . . . .	12528	<code>\currentpdfbookmark</code> . . . . .	11724
<code>\bgroup</code> . . . . .	511, 3569, 5609, 5621, 8342, 8893, 10475, 10567, 10588	<code>\caption</code> . . . . .	5690, 5692, 5768, 5770	<code>\curu</code> . . . . .	13527
<code>\bibcite</code> . . . . .	5811, 5817, 5821, 5846, 5861, 5877, 5887	<code>\catcode</code> . . . . .	172, 173, 184, 185, 186, 187, 206, 698, 931, 938, 1406, 1407, 1522, 1523, 3371, 3373, 3497, 3498, 3499, 3500, 3501, 3502, 3503, 3506, 3508, 3511, 3519, 3529, 3575, 3576, 6828, 8928, 8929, 11748, 11750, 11817	<code>\cyr</code> . . . . .	470, 2451, 2453, 2456, 2459, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2473, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488
<code>\bitsetGetDec</code> . . . . .	3864, 3997, 4015, 4029, 4042, 4058, 4090, 4115	<code>\cf@encoding</code> . . . . .	1007	<code>\CYRA</code> . . . . .	13366, 13741, 13745
<code>\bitsetGetHex</code> . . . . .	3865	<code>\chapterautorefname</code> . . . . .	2332, 2350, 2368, 2386, 2404, 2422, 2440, 2469, 2498, 2516, 6813	<code>\cyra</code> . . . . .	2453, 2460, 2462, 2467, 2470, 2475, 2476, 2482, 2486, 13431, 13743, 13747
<code>\bitsetGetSetBitList</code> . . . . .	3853	<code>\chapternumberline</code> . . . . .	11707, 11711	<code>\CYRABHCH</code> . . . . .	13705, 13710
<code>\bitsetIsEmpty</code> . . . . .	3994, 4012, 4026, 4039, 4055, 4087, 4112	<code>\char</code> . . . . .	10671, 11752, 11789	<code>\cyrabhch</code> . . . . .	13707, 13713
<code>\bitsetReset</code> . . . . .	3967, 4001, 4020, 4034, 4047, 4063, 4095	<code>\chardef</code> . . . . .	1973, 1974, 1975, 1976, 2180, 2182	<code>\CYRABHCHDSC</code> . . . . .	13709
<code>\bitsetSetValue</code> . . . . .	3833, 3843	<code>\check@bm@number</code> . . . . .	11851, 11859, 11907, 11915	<code>\cyrabhchdsc</code> . . . . .	13712
<code>\BOOKMARK</code> . . . . .	11716, 11743	<code>\CheckBox</code> . . . . .	4441	<code>\CYRABHDZE</code> . . . . .	13773
<code>\box</code> . . . . .	4484, 4760, 7011, 8013, 9190	<code>\CheckCommand</code> . . . . .	5563	<code>\cyrabhdze</code> . . . . .	13775
<code>\bullet</code> . . . . .	6532, 6540, 6550, 6558	<code>\checkcommand</code> . . . . .	42, 5248, 5667, 5674, 5681, 5768, 5778, 5871, 5883, 6166, 6169, 6228, 6614	<code>\CYRABHHA</code> . . . . .	13663
<b>C</b>					
<code>\C</code> . . . . .	12470, 13575, 13577	<code>\checkcommand</code> . . . . .	42, 5248, 5667, 5674, 5681, 5768, 5778, 5871, 5883, 6166, 6169, 6228, 6614	<code>\cyrabhha</code> . . . . .	13665
<code>\c</code> . . . . .	636, 640, 646, 2433, 2441, 2442, 2443, 4712, 4719, 12060, 12072, 12084, 12293, 12358, 12478, 12493, 12512, 12523, 12662, 12726, 12848, 12850, 12893, 12895, 12903, 12905, 12923, 12925, 12957, 12959, 12973, 12975, 12981, 12983, 13128, 13130, 13630, 13633, 13847, 13849, 13867, 13869	<code>\checklatex</code> . . . . .	4, 5666, 5767, 5870, 6165, 6613	<code>\CYRAE</code> . . . . .	13749
<code>\c@footnote</code> . . . . .	5513, 5566, 5574, 5676	<code>\checkpackage</code> . . . . .	9, 5247, 6227	<code>\cyrae</code> . . . . .	13751
<code>\c@page</code> . . . . .	4806, 4824, 4825, 4829, 4841, 4843, 4848, 4855, 4857, 4859, 4888, 6060	<code>\ChoiceBox</code> . . . . .	4191	<code>\CYRB</code> . . . . .	13368
<code>\c@secnumdepth</code> . . . . .	11953, 11971, 11987, 11992	<code>\ChoiceMenu</code> . . . . .	4438	<code>\cyrb</code> . . . . .	2467, 13433
<code>\c@slidesection</code> . . . . .	6398, 6526, 6527	<code>\citation</code> . . . . .	5916, 5939, 5965	<code>\CYRBYUS</code> . . . . .	13551
<code>\c@slidesubsection</code> . . . . .	6450	<code>\citeauthoryear</code> . . . . .	6031, 6037	<code>\cyrbyus</code> . . . . .	13553
<code>\c@tocdepth</code> . . . . .	2650, 2655	<code>\citeN</code> . . . . .	6028	<code>\CYRC</code> . . . . .	13411
<code>\calc@bm@number</code> . . . . .	11841, 11914	<code>\CJK@char</code> . . . . .	934	<code>\cyrch</code> . . . . .	13476
<code>\calculate@pdfview</code> . . . . .	2865, 2868	<code>\CJK@charx</code> . . . . .	935	<code>\CYRCH</code> . . . . .	13413, 13813
<code>\capitalacute</code> . . . . .	12526	<code>\CJK@ignorespaces</code> . . . . .	933	<code>\cyrch</code> . . . . .	2459, 2460, 2468, 13478, 13815
<code>\capitalbreve</code> . . . . .	12533	<code>\CJK@punctchar</code> . . . . .	936	<code>\CYRCHLDSC</code> . . . . .	13733
<code>\capitalcaron</code> . . . . .	12532	<code>\CJK@punctcharx</code> . . . . .	937	<code>\cyrchldsc</code> . . . . .	13735
<code>\capitalcedilla</code> . . . . .	12523	<code>\clear@document</code> . . . . .	4966	<code>\CYRCHDSC</code> . . . . .	13693
<code>\capitalcircumflex</code> . . . . .	12527	<code>\clearpage</code> . . . . .	4968	<code>\cyrchrdsc</code> . . . . .	13695
<code>\capitaldieresis</code> . . . . .	12529	<code>\close@pdflink</code> . . . . .	7080, 7092, 7100, 7131, 7167, 7202, 7511	<code>\CYRCHVCRS</code> . . . . .	13697
<code>\capitaldotaccent</code> . . . . .	12535	<code>\closeout</code> . . . . .	4643	<code>\cyrchvcrs</code> . . . . .	13699
<code>\capitalgrave</code> . . . . .	12525	<code>\clubpenalty</code> . . . . .	5489, 5491	<code>\CYRD</code> . . . . .	13374
<code>\capitalhungarumlaut</code> . . . . .	12530	<code>\codeof</code> . . . . .	5995	<code>\cyrd</code> . . . . .	2456, 2459, 2470, 2475, 2476, 13439
<code>\capitalmacron</code> . . . . .	12534	<code>\color@endbox</code> . . . . .	7004, 7584, 7650, 7680, 7710, 8006, 9738, 9998	<code>\CYRDJE</code> . . . . .	13336
		<code>\color@hbox</code> . . . . .	6997, 7584, 7650, 7680, 7710, 7999, 9738, 9998		
		<code>\columnwidth</code> . . . . .	5616		
		<code>\comma@entry</code> . . . . .	4182, 4189, 4191		
		<code>\comma@parse</code> . . . . .	4181		

\cyrdje	13501	\cyrizh	13573, 13577	\cyrotld	13791, 13795
\CYRDZE	13342	\CYRJE	13349	\CYRP	13397
\cyrdze	13507	\cyrje	13514	\cyrp	2456, 2459, 2460, 2464, 2465, 2471, 2473, 2477, 2478, 2479, 2480, 13462
\CYRDZHE	13364	\CYRK	13357, 13387	\CYRpalochka	13715
\cyrdzhe	13529	\cyrk	2462, 2463, 2465, 2479, 2480, 2482, 2483, 2484, 13452, 13522	\CYRPHK	13659
\CYRE	13331, 13334, 13376, 13753	\CYRKBEAK	13647	\cyrphk	13661
\cyre	2453, 2459, 2460, 2473, 2485, 2486, 2487, 13441, 13496, 13499, 13755	\CYRKDSC	13649	\CYRPSI	13563
\cyreref	13799	\cyrkdsc	13635	\cyrpsi	13565
\CYREREV	13425, 13797	\CYRKHCRS	13637	\CYRR	13399
\cyrerev	13490	\cyrkhcrs	13643	\cyrr	2451, 2453, 2456, 2459, 2460, 2466, 2470, 2471, 2473, 2475, 2476, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 13464
\CYRERY	13421, 13821	\CYRKHK	13721	\CYRRTICK	13609
\cyrery	2451, 2453, 13486, 13823	\cyrkhk	13723	\cyrrtick	13611
\CYRF	13407	\CYRKOPPA	13595	\CYRS	13401, 13668
\cyrf	13472	\cyrkoppa	13597	\cyrs	2456, 2459, 2462, 2463, 2466, 2481, 2482, 2483, 2484, 2488, 13466, 13671
\CYRFITA	13567	\CYRKSI	13559	\CYRSCHWA	13757, 13761
\cyrfita	13569	\cyrksi	13561	\cyrschwa	13759, 13763
\CYRG	13338, 13372	\CYRKVCRS	13639	\CYRSDSC	13667, 13668
\cyrg	2469, 13437, 13503	\cyrkvcrs	13641	\cyrsdsc	13670
\CYRGDSC	13817	\CYRL	13389	\CYRSEMISFTSN	13605
\cyrgdsc	13819	\cyrl	2467, 2469, 2471, 2473, 13454	\cyrsemisftsn	13607
\CYRGHCRS	13617	\CYRLDSC	13725	\CYRSFTSN	13423
\cyrghcrs	13619	\cyrl dsc	13727	\cyrstsn	13488
\CYRGHK	13621	\CYRLJE	13351	\CYRSH	13415
\cyrghk	13623	\cyrlje	13516	\cyrsh	13480
\CYRGUP	13613	\CYRLYUS	13543	\CYRSHCH	13417
\cyrgup	13615	\cyrlyus	13545	\cyrshch	13482
\CYRH	13409	\CYRM	13391	\CYRSHHA	13701
\cyrh	13474	\cyr	2456, 2460, 2486, 2487, 13456	\cyrshha	13703
\CYRHDSC	13685	\CYRMDSC	13737	\CYRT	13403
\cyrhdsc	13687	\cyrmdsc	13739	\cyrt	2456, 2459, 2465, 2467, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 13468
\CYRHHK	13825	\CYRN	13393	\CYRTDSC	13673
\cyrhhk	13827	\cyrn	2453, 2459, 2460, 2462, 2463, 2465, 2473, 2479, 2480, 13458	\cyrt dsc	13675
\CYRHRDSN	13419	\CYRNDSC	13651	\CYRTETSE	13689
\cyrhrdsn	13484	\cyrndsc	13653	\cyr tetse	13691
\CYRI	13359, 13382, 13385, 13777, 13781	\CYRNG	13655	\cyrthousands	13599
\cyri	2453, 2456, 2460, 2466, 2471, 2473, 13447, 13450, 13524, 13779, 13783	\cyrng	13657	\CYRTSHE	13355
\CYRIE	13340	\CYRNHK	13729	\cyrtshe	13520
\cyrie	13505	\cyrnhk	13731	\CYRU	13362, 13405, 13801, 13805, 13809
\CYRII	13344, 13347	\CYRNJE	13353	\cyru	2463, 2465, 2479, 2480, 2483, 2487, 13470, 13803, 13807, 13811
\cyr ii	13509, 13512	\cyrnje	13518	\CYRUK	13579
\CYRIOTBYUS	13555	\CYRO	13395, 13785	\cyruk	13581
\cyriotbyus	13557	\cyro	2456, 2459, 2462, 2463, 2473, 2482, 2483, 2485, 2486, 2487, 13460, 13787	\CYRUSHRT	13361
\CYRIOTE	13539	\CYROMEGA	13531	\cyrushrt	13526
\cyriote	13541	\cyromega	13533	\CYRV	13370
\CYRIOTLYUS	13547	\CYROMEGARND	13583	\cyr v	2451, 2453, 13435
\cyriotlyus	13549	\cyromegarnd	13585		
\CYRISHRT	13384	\CYROME GATITLO	13587		
\cyrishrt	13449	\cyromegatitlo	13589		
\CYRISHRTDSC	13601	\CYROT	13591		
\cyrishrt dsc	13603	\cyrot	13593		
\CYRIZH	13571, 13575	\CYROTLD	13789, 13793		

\CYRY .....	13677	\DeclareTextAccent	12052, 12053, 12054, 12055, 12056, 12057, 12058, 12059, 12060, 12061, 12062, 12063	2763, 2835, 2844, 2847, 2848, 2849, 2850, 2851, 2857, 2863, 2864, 2865, 2866, 2886, 2893, 2900, 2901, 2904, 2907, 2910, 2913, 2916, 2919, 2922, 2945, 2948, 2951, 3805, 3893, 3949, 4251, 4256, 4268, 4305, 4308, 4311, 4314, 4317, 4320, 4323, 4327, 4330, 4333, 4336, 4339, 4342, 4345, 4348, 4351, 4354, 4357, 4360, 4363, 4366, 4369, 4388, 4394, 4408, 4424, 4430, 9218, 9220, 9223, 9225, 9227, 9236, 9244, 9251, 9253, 9255, 9257, 9259, 9261, 9270, 9280, 9282, 9284, 9285, 9291, 9300, 9302, 9304, 9306, 9308, 9310, 9312, 9314, 9316, 9318, 9320, 9322, 9324, 9326, 9328, 9330, 9331, 9332, 9333, 9334, 9335, 9336, 9337, 9338, 9339, 9340	
\cyrY .....	13679	\DefaultHeightofCheckBox	4490, 10425, 10898, 11253	\df@tag .....	6191, 6197
\CYRYA .....	13429	\DefaultHeightofChoiceMenu	.. 4492, 10265, 10716, 11053	\DH .....	12311, 12680
\cyrYA .....	13494	\DefaultHeightofReset	... 4488, 10399, 10871, 11221	\dh .....	12380, 12748
\CYRYAT .....	13535	\DefaultHeightofSubmit	.. 4486, 10381, 10848, 11197	\dhal .....	14473
\cyrYAT .....	13537	\DefaultHeightofText	.... 4494, 10241, 10691, 11020	\dimen@ ..	365, 366, 370, 1302, 1370, 1371, 1374, 1376, 2994, 2995, 2997, 3004, 3005, 8691, 8692, 8694, 9181, 9193, 9196
\CYRYHCRS .....	13681	\DefaultHeightofTextMultiline	.. 4495, 10239, 10689, 11018	\dimexpr ..	377, 1601, 1603, 1611, 1616, 1619, 1621, 1635, 1637, 1640, 1641, 1648, 1651, 1654, 1655, 1656, 1657, 1667, 1672, 1680, 1684, 1689, 1699, 1702, 1707, 1710, 1715, 1716
\cyrYHCRS .....	13683	\DefaultOptionsofCheckBox	4500, 10428, 10901, 11256	\DingObject .....	10793
\CYRYI .....	13346	\DefaultOptionsofComboBox	4503	\discretionary .....	513
\cyrYI .....	13511	\DefaultOptionsofListBox	4502	\divide .....	7250, 8725
\CYRYO .....	13333	\DefaultOptionsofPopdownBox	.. 4504	\DJ ...	2523, 12312, 12812, 14331
\cyrYO .....	13498	\DefaultOptionsofPushButton	.. 4499, 10355, 10820, 11164	\dj ....	2520, 2521, 12814, 14324
\CYRYU .....	13427	\DefaultOptionsofRadio	.. 4505	\do .....	951, 1882, 1887, 1892, 2736, 2757, 2758, 2759, 2760, 2775, 2776, 2777, 2778, 2779, 2780, 2783, 2784, 2785, 2786, 2787, 2788, 2791, 2792, 2795, 2796, 2797, 2798, 2799, 2802, 2803, 2804, 2805, 2806, 2809, 2810, 2811, 2812, 2813, 2816, 2817, 2818, 2819, 2820, 2823, 2824, 2827, 2828, 2829, 2832, 2833, 2839, 2840, 2841, 2842, 2938, 2939, 2940, 2941, 2942, 2943, 3853, 5414, 5911, 5934, 10269, 10331, 10537, 10544, 10554, 10720, 10783, 11057, 11121, 11816
\cyrYU .....	13492	\DefaultOptionsofReset	.. 4498, 10402, 10874, 11224	\documentclass .....	2
\CYRZ .....	13380, 13630, 13769	\DefaultOptionsofSubmit	.. 4497, 10384, 10851, 11200		
\cyrz ...	2470, 2475, 2476, 13445, 13633, 13771	\DefaultOptionsofText	... 4501, 10247, 10697, 11026		
\CYRZDSC .....	13629	\DefaultWidthofCheckBox	.. 4491, 10424, 10897, 11252		
\cyrzDSC .....	13632	\DefaultWidthofChoiceMenu	4493, 10264, 10715, 11052		
\CYRZH .....	13378, 13717, 13765	\DefaultWidthofReset	.... 4489, 10398, 10870, 11220		
\cyrzh ..	2453, 2473, 13443, 13719, 13767	\DefaultWidthofSubmit	... 4487, 10380, 10847, 11196		
\CYRZHDSC .....	13625	\DefaultWidthofText	4496, 10236, 10686, 11015		
\cyrzhdsc .....	13627	\define@key	.. 1865, 1867, 1910, 1925, 1928, 1931, 1935, 1939, 1943, 1947, 1951, 1955, 1959, 1962, 1965, 1982, 1994, 1996, 1999, 2002, 2019, 2023, 2026, 2029, 2032, 2035, 2038, 2073, 2130, 2150, 2151, 2165, 2168, 2171, 2174, 2177, 2185, 2188, 2191, 2194, 2198, 2226, 2242, 2247, 2250, 2253, 2256, 2260, 2263, 2270, 2299, 2318, 2321, 2547, 2578, 2586, 2594, 2601, 2604, 2619, 2644, 2647, 2651, 2679, 2684, 2688, 2691, 2698, 2710, 2718, 2721, 2724, 2726, 2729, 2738, 2748, 2755, 2762,		
<b>D</b>					
\d	637, 641, 647, 2511, 2515, 2517, 2518, 2519, 2520, 2521, 2523, 12063, 12075, 12087, 12474, 12500, 12519, 14337, 14342, 14347, 14352, 14357, 14362, 14367, 14372, 14377, 14382, 14387, 14392, 14397, 14402, 14407, 14412, 14417, 14422, 14427, 14432, 14437, 14442, 14447, 14452				
\dad .....	14479				
\dal .....	14472				
\damma .....	14499				
\declare@shorthand	709, 710, 715, 716, 721, 731, 732, 733, 738, 739, 744, 745, 750, 755, 756, 761, 766, 767, 768, 769, 770, 771, 776, 777, 782, 783, 788, 789				
\DeclareFontEncoding	... 12051, 12444				
\DeclareFontFamily	.. 657, 665, 2052				
\DeclareFontShape	658, 666, 2053				
\DeclareFontSubstitution	.. 659, 667, 2054				
\DeclareRobustCommand	... 3474, 3475, 3568, 3585, 3587, 3589, 3598, 4435, 4438, 4441, 4444, 4447, 4450, 4453, 6658, 6684, 6703				

<code>\dospecials</code> . . . . .	11821	<code>\everypar</code> . . . . .	5491	11531, 11533, 11559, 11568,		
<code>\dots</code> . . . . .	413	<code>\ExecuteOptions</code> 3009, 3010, 3014		11570, 11594, 11602, 11604,		
<code>\dp</code> . . . . .	4480, 4483, 5614, 7585, 7653, 7682, 7712, 9182, 9185, 9739, 9999, 11001	<code>\ext@figure</code> . . . . .	6382	11628, 11636, 11638		
<code>\dth@counter</code> . . . . .	5454, 5455, 5480	<code>\ext@table</code> . . . . .	6381	<code>\Fld@bordersep</code> . . . . .	4239, 4346	
<code>\dth@everypar</code> . . . . .	5468	<code>\extra@b@citeb</code> . . . . .	5918	<code>\Fld@borderstyle</code> . . . . .	4241, 4343, 11385, 11415, 11492, 11525, 11557, 11592, 11644	
<code>\dvipdfm@setdim</code> . . . . .	10998, 11040, 11132, 11153, 11185, 11211, 11240, 11267	<code>\extrasvietnam</code> . . . . .	2587	<code>\Fld@borderwidth</code> . . . . .	4240, 4340, 4474, 4477, 4478, 4481, 4482, 10319, 10320, 10771, 10772, 11108, 11109, 11385, 11415, 11492, 11525, 11557, 11592, 11644	
<b>E</b>		<code>\extrasvietnamese</code> . . . . .	2579			
<code>\ECIRCUMFLEX</code> 14332, 14416, 14417, 14418, 14419, 14420		<b>F</b>		<code>\Fld@calculate@code</code> 4375, 11447, 11449		
<code>\ecircumflex</code> 14325, 14356, 14357, 14358, 14359, 14360		<code>\fa</code> . . . . .	14485	<code>\Fld@cbsymbol</code> . . . . .	4242, 4358, 11399	
<code>\EdefEscapeString</code> . . . . .	620	<code>\FancyVerbLineautorefname</code> 2338, 2356, 2374, 2392, 2410, 2428, 2446, 2481, 2484, 2504, 2522, 6819		<code>\Fld@charsize</code> . . . . .	4232, 4233, 4337, 10318, 10770, 11107, 11401, 11513, 11541, 11578, 11626	
<code>\EdefUnescapeString</code> . . . . .	617	<code>\farsikaf</code> . . . . .	14506	<code>\Fld@checkedfalse</code> . . . . .	4228	
<code>\egroup</code> . . . . .	512, 8342, 8924, 10484, 10576, 10601	<code>\farsiya</code> . . . . .	14508	<code>\Fld@checkequals</code> . . . . .	4297, 10270, 10332, 10545, 10555, 10721, 10784, 11058, 11122	
<code>\em</code> . . . . .	444	<code>\fatha</code> . . . . .	14498	<code>\Fld@choices</code> . . . . .	4121, 4129, 4131, 4135, 4144, 4152, 4157, 4205, 4207, 4215, 4216, 11515	
<code>\emph</code> . . . . .	423	<code>\fbox</code> . . . . .	10675, 10678	<code>\Fld@color</code> . . . . .	4236, 4370, 11402, 11514, 11542, 11579	
<code>\empty</code> . . . . .	933, 2654	<code>\Field@addtoks</code> 4293, 4315, 4318, 4409, 4432		<code>\Fld@default</code> . . . . .	4146, 4149, 4151, 4349, 10234, 10251, 10262, 10303, 10422, 10474, 10492, 10506, 10514, 10521, 10547, 10557, 10587, 10597, 10684, 10702, 10713, 10755, 10895, 11013, 11031, 11050, 11092, 11250, 11543, 11544, 11580	
<code>\enc@html</code> . . . . .	4255, 4258	<code>\Field@boolkey</code> 3806, 3894, 4288, 4309, 4312		<code>\Fld@disabledfalse</code> . . . . .	4229	
<code>\enc@update</code> . . . . .	398	<code>\Field@toks</code> . . . . .	4291, 4292, 4294, 10245, 10276, 10353, 10379, 10397, 10426, 10476, 10493, 10504, 10515, 10525, 10542, 10560, 10568, 10573, 10589, 10598, 10695, 10727, 10818, 10846, 10869, 10899, 11024, 11064, 11162, 11195, 11219, 11254		<code>\Fld@export</code> 3958, 3961, 3968, 4260	
<code>\END</code> . . . . .	1032, 1033, 1058, 1059, 1074, 1075, 1092, 1093, 1110, 1111, 1479, 1485, 1490, 1574, 1576, 7366, 7379, 7383, 7389, 7402, 7406, 7411, 7423, 7427	<code>\Field@width</code> . . . . .	4231, 4325	<code>\Fld@findlength</code> . . . . .	10524, 10535	
<code>\end</code> . . . . .	14515	<code>\figureautorefname</code> . . . . .	2328, 2346, 2364, 2382, 2400, 2418, 2436, 2466, 2494, 2512, 6809	<code>\Fld@flags</code> . . . . .	4027, 4029, 4040, 4042, 4056, 4058, 4088, 4090, 4113, 4115, 11383, 11413, 11490, 11523, 11555, 11590, 11624	
<code>\endeqnarray</code> . . . . .	5360, 5378, 5385	<code>\filename@area</code> . . . . .	3734	<code>\Fld@format@code</code> . . . . .	4373, 11439, 11441	
<code>\endequation</code> . . . . .	5323, 5355	<code>\filename@base</code> . . . . .	3734	<code>\Fld@getmethodfalse</code> . . . . .	4279	
<code>\endForm</code> . . . . .	4245	<code>\filename@ext</code> . . . . .	3731, 3732, 3734, 3735	<code>\Fld@getmethodtrue</code> . . . . .	4281	
<code>\endinput</code> . . . . .	64, 2162, 2202, 2203, 2216, 2220, 2221, 2230, 2231, 2237, 2238, 3173, 3273, 6574, 8872, 10034, 11922	<code>\filename@parse</code> . . . . .	3730	<code>\Fld@height</code> . . . . .	4334, 10237, 10254, 10265, 10321, 10336, 10346, 10381, 10399, 10425, 10434, 10687, 10706, 10716, 10773, 10798, 10811, 10848, 10871, 10898, 10909, 11016, 11033, 11053, 11110, 11120, 11147, 11197, 11221, 11253, 11261	
<code>\endlinechar</code> . . . . .	3496	<code>\find@pdfink</code> . . . . .	7049, 7090, 7099			
<code>\endNoHyper</code> . . . . .	4604	<code>\Fld@additionalactions</code> 11434, 11477, 11481				
<code>\EndPreamble</code> . . . . .	10037	<code>\Fld@additionalactions</code> . . . . .	11434, 11516, 11548, 11582			
<code>\endsubeqnarray</code> . . . . .	5389, 5400	<code>\Fld@align</code> . . . . .	4235, 4352, 11384, 11491, 11556			
<code>\eqnarray</code> . . . . .	5359, 5361, 5382	<code>\Fld@annotflags</code> . . . . .	4013, 4015, 11380, 11410, 11487, 11520, 11552, 11587, 11621			
<code>\equal</code> . . . . .	5992	<code>\Fld@bcolor</code> . . . . .	11495			
<code>\equation</code> . . . . .	5322, 5331, 5335, 5344	<code>\Fld@bordercolor</code> . . . . .	4238, 4367, 11391, 11393, 11417, 11425, 11427, 11494, 11503, 11505,			
<code>\equationautorefname</code> 2325, 2343, 2361, 2379, 2397, 2415, 2433, 2451, 2452, 2491, 2509, 6802, 6806						
<code>\errmessage</code> . . . . .	2544					
<code>\es@roman</code> . . . . .	471					
<code>\escapechar</code> . . . . .	383, 5407, 11839, 11840, 11889					
<code>\eTeX</code> . . . . .	419, 10042					
<code>\etex@unexpanded</code> . . . . .	1234, 1241					
<code>\eTeXversion</code> . . . . .	7209, 7211, 7213					
<code>\evensidemargin</code> . . . . .	6082					



\Fld@hiddenfalse . . . . .	3916	\Fld@validate@code 4374, 11443,	\g@addto@macro 4767, 4918, 4966,
\Fld@hiddentrue . . . . .	3917	11445	5820, 6092, 7430, 8715, 8979,
\Fld@invisiblefalse . . . .	3912	\Fld@value 4147, 4154, 4156, 4355,	9474, 9548, 9610, 9891, 10048
\Fld@invisibletrue . . . . .	3913	10235, 10251, 10263, 10302,	\G@refundefinedtrue 3631, 5920,
\Fld@keystroke@code 4376, 11435,		10303, 10685, 10702, 10714,	5943, 6579, 6599, 6616, 6730
11437		10754, 10755, 11014, 11031,	\gaf . . . . .
\Fld@listcount . . . 10330, 10333,		11051, 11091, 11092, 11581	14507
10342, 10782, 10785, 10799,		\Fld@width . . 4324, 10236, 10250,	\Gauge . . . . .
10805, 11119, 11123, 11127,		10254, 10264, 10301, 10312,	4447
11131, 11139, 11144		10314, 10336, 10346, 10367,	\GenericError . . . . .
\Fld@loc . . . . .	4306	10380, 10388, 10398, 10412,	520
\Fld@maxlen . . 4234, 4328, 11583		10424, 10431, 10434, 10686,	\GenericInfo . . . . .
\Fld@menulength . . . 4230, 4331,		10701, 10706, 10715, 10753,	522
10267, 10271, 10318, 10536,		10764, 10766, 10798, 10811,	\GenericWarning . . . . .
10537, 10540, 10718, 10722,		10833, 10847, 10855, 10870,	521
10770, 11055, 11059, 11107		10884, 10897, 10905, 10909,	\getpagerefnnumber . . . . .
\Fld@name . . . 4321, 10233, 10261,		11015, 11030, 11033, 11052,	5287
10351, 10421, 10473, 10478,		11090, 11101, 11103, 11120,	\getrefbykeydefault 5257, 5258
10489, 10490, 10501, 10502,		11147, 11178, 11196, 11204,	\gexmode . . . . .
10511, 10512, 10520, 10541,		11220, 11234, 11252, 11260,	8746, 8747, 8831
10558, 10566, 10571, 10586,		11261	\ghayn . . . . .
10595, 10683, 10712, 10816,		\float@caption . . . . 5700, 5751	14483
10894, 11012, 11049, 11160,		\float@makebox . . . . 5753, 5754	\Gin@setfile . . . . .
11249, 11374, 11376, 11381,		\floatingpenalty . . . . . 5615	6266, 6267
11411, 11488, 11521, 11553,		\flq . . . . .	\glossary . . . . .
11588, 11622		478	485
\Fld@norotatefalse . . . . .	3929	\flqq . . . . .	\glq . . . . .
\Fld@norotatetrue . . . . .	3928	476	474
\Fld@noviewfalse . . . . .	3932	\fmtname . . . . .	\glqq . . . . .
\Fld@noviewtrue . . . . .	3933	7	472
\Fld@nozoomfalse . . . . .	3925	\fmtversion . . . . .	\greek@Alph . . . . .
\Fld@nozoomtrue . . . . .	3924	7	5153
\Fld@onblur@code . . 4378, 11455,		\fontencoding . . . 391, 395, 10667	\Greeknumeral . . . . .
11457		\fontfamily . . . . . 10666	796
\Fld@onclick@code . . 4372, 4431,		\fontseries . . . . . 5447, 10668	\greeknumeral . . . . .
11431		\fontshape . . . . . 3437, 10669	796
\Fld@onenter@code . 4381, 11467,		\footins . . . . .	\grq . . . . .
11469		5609	475
\Fld@onexit@code . . 4382, 11471,		\footnote . . . . .	\grqq . . . . .
11473		3782	473
\Fld@onfocus@code . 4377, 11451,		\footnoteautorefname 2326, 2344,	\guill@spacing . . . . .
11453		2362, 2380, 2398, 2416, 2434,	726
\Fld@onmousedown@code . . . 4379,		2455, 2458, 2492, 2510, 6803,	\guillemotleft 766, 12238, 12418,
11459, 11461		6807	12606, 14311
\Fld@onmouseup@code 4380, 11463,		\footnotesep . . . . . 5613, 5620	\guillemotright . . . . 767, 12269,
11465		\footnotesize . . . . . 449, 5611	12419, 12638, 14312
\Fld@printfalse . . . . .	3921	\footnotetext . . . . . 5566	\guilsinglleft . . . 12169, 12420,
\Fld@printtrue . . . . .	3920	\Form . . . . .	14017, 14313
\Fld@rotation . 4243, 4361, 11387,		4244	\guilsinglright . . 12171, 12421,
11389, 11416, 11421, 11423,		\Form@action . 4254, 10465, 11612	14019, 14314
11493, 11499, 11501, 11527,		\Form@boolkey . . . . . 4248	
11529, 11558, 11564, 11566,		\Form@htmlfalse . . . . 4247, 4265	<b>H</b>
11593, 11598, 11600, 11627,		\Form@htmltrue . . . . . 4259	\H . . . 12465, 12497, 12516, 12530,
11632, 11634		\Form@method . . 4277, 4285, 10465	12945, 12947, 13009, 13011,
\Fld@submitflags . . . 3995, 3997,		\frq . . . . .	13809, 13811
11614		479	\h 2513, 14339, 14344, 14349, 14354,
		\futurelet . . . . . 532, 1026	14359, 14364, 14369, 14374,
		\FV@SetLineNo . . . . . 5187	14379, 14384, 14389, 14394,
		\FV@StepLineNo . 5186, 5188, 5189	14399, 14404, 14409, 14414,
			14419, 14424, 14429, 14434,
			14439, 14444, 14449, 14454
			\H@@footnotemark . . . 5499, 5516,
			5636, 5648, 5659
			\H@@footnotetext . . . 5498, 5508,
			5531, 5592, 5637, 5651, 5659
			\H@@mpfootnotetext . 5506, 5518,
			5520
			\H@definecounter . . . 6172, 6174
			\H@endeqnarray . . . . 5360, 5379
			\H@endequation . . . . 5323, 5355
			\H@endsubeqnarray . . 5389, 5401
			\H@eqnarray . . . . . 5359, 5364
			\H@equation . . . . . 5322, 5346
			\H@item . . . 5066, 5072, 5828, 5853
			\H@newctr . . . . . 6177, 6179

<code>\H@old@part</code> . . . . .	11963, 11974	<code>\htmladdnormallinkfoot</code> . .	3782	7911, 8328, 8344, 8412, 8424,
<code>\H@old@chapter</code> . .	11931, 11933	<code>\htmlref</code> . . . . .	3783	8887, 9697, 9711, 9958, 9971
<code>\H@old@sect</code> . . . . .	11985, 11991	<code>\Huge</code> . . . . .	446	<code>\Hy@activeanchortrue</code> 7082, 7540,
<code>\H@old@spart</code> . . . . .	11976, 11978	<code>\huge</code> . . . . .	450	7553, 7624, 7632, 7907, 8324,
<code>\H@old@essect</code> . . . . .	11926, 11928	<code>\Hurl</code> . . . . .	3584, 3586, 3588	8341, 8410, 8421, 8877, 9694,
<code>\H@refstepcounter</code> . .	5081, 5091,	<code>\hv@pdf@char</code> 11747, 11810, 11811,		9707, 9955, 9967
	5188, 5297, 5345, 5460, 5695,	11812, 11813		<code>\Hy@ActiveCarriageReturn</code> 3530,
	6395, 6448	<code>\hvtex@buffer</code> .	8611, 8614, 8622,	3533
<code>\H@seteqlabel</code> . . . . .	6209, 6211		8625, 8634, 8638, 8654	<code>\Hy@appendixstring</code> .
<code>\H@subeqnarray</code> . . . . .	5388, 5392	<code>\hvtex@gettoken</code> 8611, 8623, 8627,		5134, 5141
<code>\ha</code> . . . . .	14491		8636, 8640	<code>\Hy@author</code> . . . . .
<code>\Haa</code> . . . . .	14470	<code>\hvtex@gettoken@</code> . . .	8611, 8612	4701, 4705
<code>\halign</code> . . . . .	494	<code>\hvtex@par@dimension</code> 8607, 8646		<code>\Hy@babelnormalise</code> .
<code>\hamza</code> . . . . .	14458	<code>\hvtex@par@direction</code> 8608, 8649		3599, 3601
<code>\HAR@checkcitations</code> . . . .	6008	<code>\hvtex@par@duration</code> 8609, 8641		<code>\Hy@backout</code> 3490, 4589, 4593, 5794
<code>\HAR@citetoaux</code> . . . . .	5964	<code>\hvtex@par@motion</code> . .	8610, 8643	<code>\Hy@backreffalse</code> 288, 2290, 2312,
<code>\HAR@tempa</code> 6009, 6010, 6011, 6012,		<code>\hvtex@param@dimension</code> . .	8618,	3181
6013, 6014			8647, 8665, 8668	<code>\Hy@backreftrue</code> 2283, 2287, 2309
<code>\harvardcite</code> . . . . .	5958, 5995	<code>\hvtex@param@direction</code> . .	8619,	<code>\Hy@BeginAnnot</code> 8024, 8039, 8077,
<code>\harvarditem</code> . . . . .	5983		8650, 8676, 8684	8105, 8130
<code>\hbox</code> . . . . .	1294, 1300, 1306,	<code>\hvtex@param@duration</code> . . .	8620,	<code>\Hy@bibcite</code> . . . . .
	1787, 2665, 2671, 4325, 4468,		8642, 8689, 8691	5817, 5821
	4469, 4470, 4471, 5948, 6077,	<code>\hvtex@param@motion</code> 8621, 8644,		<code>\Hy@bookmarksdepth</code> .
	7516, 7586, 7593, 7654, 7665,		8665, 8672	2650, 2655,
	7683, 7694, 7713, 7724, 7982,	<code>\hvtex@parse@trans</code> .	8596, 8616	2667, 2673, 11661
	8893, 9185, 9196, 9740, 9747,	<code>\hvtex@produce@trans</code> 8655, 8661		<code>\Hy@bookmarksnumberedfalse</code> 289
	10000, 10008, 10613, 11032,	<code>\hvtex@token</code> . .	8613, 8624, 8630,	<code>\Hy@bookmarksopenfalse</code> . . .
	11120, 11147, 11176, 11205,		8637, 8642, 8645, 8648, 8650	290
	11235, 11261	<code>\hvtex@trans@code</code> . .	8600, 8601,	<code>\Hy@bookmarkstrue</code> . . . . .
<code>\hc@currentHref</code> . . . . .	5711		8602, 8603, 8604, 8605, 8606,	291
<code>\HCode</code> 10465, 10467, 10478, 10487,			8617, 8663, 8664, 8666, 8668,	<code>\Hy@bookmarkstype</code> . .
10499, 10507, 10509, 10540,			8670, 8672, 8674, 8676, 8678,	2685, 2687,
10546, 10551, 10556, 10570,			8679, 8680, 8681, 8682, 8684	6108, 11672
10575, 10579, 10582, 10591		<code>\hvtex@trans@effect@Blinds</code> . .		<code>\Hy@boolkey</code> . .
<code>\headerps@out</code> .	4976, 9464, 9475,		8600	1833, 1926, 1929,
	9535, 9549, 9602, 9611, 9624,	<code>\hvtex@trans@effect@Box</code> .	8601	1932, 1960, 1963, 1966, 1997,
	9637, 9675, 9778, 9892, 10049	<code>\hvtex@trans@effect@Dissolve</code> .		2000, 2003, 2020, 2024, 2027,
<code>\hfill</code> . . .	4468, 4469, 4470, 4471,		8602	2030, 2033, 2036, 2039, 2261,
	5839, 5872	<code>\hvtex@trans@effect@Glitter</code> .		2264, 2319, 2602, 2605, 2620,
<code>\Hfootnoteautorefname</code> . . .	6803		8603	2645, 2648, 2689, 2692, 2730,
<code>\hhyperref</code> . . . . .	3787	<code>\hvtex@trans@effect@R</code> . . .	8606	2845, 2902, 2905, 2908, 2911,
<code>\hoffset</code> . . . . .	6078	<code>\hvtex@trans@effect@Split</code> 8604		2914, 2917, 2920, 2928, 2949,
<code>\hphantom</code> . . . . .	459	<code>\hvtex@trans@effect@Wipe</code> 8605		2952
<code>\href</code> .	486, 3568, 3781, 3782, 4629	<code>\hvtex@trans@par</code> . . .	8637, 8641,	<code>\Hy@BorderArrayPatch</code> 9231, 9234,
<code>\href@</code> . . . . .	3569, 3572, 3577		8643, 8646, 8649	9473, 9890
<code>\href@split</code> . . . . .	3577, 3578	<code>\hvtex@trans@params</code> 8631, 8633,		<code>\Hy@breaklinks@unsupported</code> . .
<code>\hsize</code> . . . . .	5616		8657	. . . . .
<code>\hskip</code> . . .	1305, 1383, 1823, 1824,	<code>\Hy@@boolkey</code> . . . . .	1833, 1834	2008, 8859
	4474, 10613	<code>\Hy@@DefNameKey</code> . . . .	1907, 1909	<code>\Hy@breaklinksfalse</code> . . . . .
<code>\hspace</code> . . . . .	482, 5998, 5999	<code>\Hy@@escapeform</code> . .	11335, 11348,	292
<code>\hss</code> . . . . .	6086		11353	<code>\Hy@breaklinksunhbox</code> 9172, 9188
<code>\ht</code> . . . . .	4476, 4479, 7591, 7657,	<code>\Hy@@temp</code> .	2695, 2697, 4384, 4386	<code>\Hy@CatcodeWrapper</code> .
	7663, 7669, 7686, 7692, 7698,	<code>\Hy@abspage</code> 4787, 4852, 4962, 5001		3366, 3425,
	7716, 7722, 7728, 9181, 9745,	<code>\Hy@Acrobatmenu</code> 3051, 3092, 7489,		3469, 3482
	10006, 10999		8129, 8573, 9344	<code>\Hy@centerwindowfalse</code> . . . .
<code>\htmladdimg</code> . . . . .	3780	<code>\Hy@activeanchorfalse</code> . . .	3494,	293
<code>\htmladdnormallink</code> . . . . .	3781		7083, 7543, 7557, 7626, 7635,	<code>\Hy@chapapp</code> . .



8585, 8895, 9156, 9158, 9695, 9716, 9744, 9753, 9956, 9976, 10005, 10013	\Hy@DvipdfmxOutlineOpentruer . ..... 3307, 3314	\Hy@GlobalStepCount ..... ..... 325, 4852, 5179, 5261, 6070, 6186, 6437, 6488, 11651, 11936, 11947, 11979, 11988, 12021
\Hy@ColorList ..... 2735, 2736	\Hy@EndAnnot .. 8030, 8071, 8101, 8126, 8150	\Hy@Gtemp .. 631, 632, 4151, 4152, 4156, 4157, 4168, 4182, 6877, 6879, 11374, 11376
\Hy@CounterExists .. 5031, 5044, 5047	\Hy@endcolorlink ... 3433, 3438, 3442, 7002, 7080, 7541, 7576, 7594, 7601, 7625, 7647, 7661, 7673, 7690, 7702, 7720, 7732, 8004, 8032, 8411, 8475, 8492, 8511, 8542, 8569, 8585, 8921, 9165, 9695, 9730, 9748, 9755, 9956, 9990, 10005, 10013	\Hy@href ..... 3569, 3571
\Hy@currentbookmarklevel 11667, 11677, 11678, 11684, 11691, 11725, 11728, 11733, 11737	\Hy@EndWrap 3367, 3369, 3370, 3403	\Hy@hyperfootnotesfalse . 5495
\Hy@defaultdriver .. 3258, 3282, 3288	\Hy@escapeform ... 10253, 10335, 10345, 10370, 10389, 10413, 10433, 10704, 10788, 10809, 10836, 10857, 10885, 10907, 11037, 11126, 11149, 11182, 11207, 11236, 11264, 11329, 11358, 11365	\Hy@hyperfootnotestruer ... 298
\Hy@DefFormAction .. 4252, 4254	\Hy@escapeformfalse ..... 295	\Hy@hyperindextrue ..... 299
\Hy@DefNameKey 1906, 2756, 2774, 2782, 2790, 2794, 2801, 2808, 2815, 2822, 2826, 2831, 2838, 2937	\Hy@escapestring . 11326, 11399, 11431, 11437, 11441, 11445, 11449, 11453, 11457, 11461, 11465, 11469, 11473, 11580, 11581, 11612	\Hy@hypertexnamesfalse .. 1725
\Hy@DEST ..... 9173, 9198	\Hy@EveryPageAnchor 6055, 6093	\Hy@hypertexnamestruer ... 300
\Hy@DestName ..... 7039, 7043	\Hy@EveryPageBoxHook 4751, 4755, 4759, 6092, 8715, 8979	\Hy@implicittrue ..... 301
\Hy@DisableOption .. 1863, 3044, 3045, 3046, 3048, 3162, 3188, 3317, 3318, 3319, 3320, 3321, 3322, 3323, 3324, 3325, 3326, 3327, 3328, 3329, 3330, 3331, 3332, 3333, 3335, 3365, 3418, 3446, 3447, 3492, 3493, 4550, 4551, 4552, 4553, 4554, 4555, 4556, 4557, 4558, 4559, 4560, 4561, 4562, 4563, 4564, 4565, 4566, 4567, 4568, 4569, 4570, 4571, 4572, 4573, 4725, 4920, 5663, 6271, 6327, 6328, 6919, 7020, 7353, 7354, 7355, 7356, 7357, 7358, 7359, 7360, 7486, 7758, 7759, 7760, 7761, 7762, 7763, 7764, 7765, 8022, 8184, 8185, 8186, 8187, 8188, 8189, 8190, 8191, 8260, 8396, 8813, 8814, 8815, 8816, 8817, 8818, 8819, 8820, 9048, 9049, 9050, 9051, 9052, 9053, 9054, 9055, 9528, 9802, 9803, 9804, 9805, 9806, 9807, 9808, 9809	\Hy@EveryPageHook .. 4750, 4754, 4918, 7430	\Hy@Info .. 239, 1852, 3132, 3134, 3137, 3139, 3142, 3144, 3147, 3149, 3152, 3154, 3350, 3356, 3434, 3439, 3443, 3860, 4507, 4509, 4512, 4514, 4517, 4519, 4522, 4524, 4527, 4529, 4532, 4534, 4537, 4539, 5895, 5956, 6113
\Hy@displaydoctitlefalse . 322	\Hy@ExchangeLeftParenthesis . ..... 6853, 6859	\Hy@LastPage ..... 3065
\Hy@DistillerDestFix 6056, 8824, 8826	\Hy@ExchangeRightParenthesis . ..... 6863, 6869	\Hy@level .. 11673, 11675, 11686, 11691, 11692, 11693, 11717
\Hy@draftfalse ..... 254	\Hy@false . 1769, 1844, 2275, 2311	\Hy@levelcheck ... 11674, 11689
\Hy@drafttrue ..... 255	\Hy@figuresfalse ..... 296	\Hy@linkcounter ..... .. 329, 331, 5179, 5180, 5261, 5262, 6186, 6187, 6212, 6437, 6438, 6442, 6488, 6489, 6493, 11651, 11652, 11936, 11937, 11947, 11948, 11979, 11980, 11988, 11989, 12021, 12022
\Hy@driver 327, 2013, 2155, 2166, 2169, 2172, 2175, 2186, 2189, 2192, 2195, 2206, 2209, 2234, 2243, 2248, 2251, 2257, 3191, 3194, 3198, 3201, 3205, 3208, 3210, 3214, 3218, 3222, 3225, 3229, 3233, 3237, 3240, 3244, 3247, 3249, 3253, 3257, 3260, 3263, 3266, 3277, 3280, 3282, 3288, 3290, 3295, 3297, 3299	\Hy@finalfalse ..... 255	\Hy@linkfileprefix . 2720, 3719, 3740, 7579, 8295, 9733, 9993
	\Hy@finaltrue ..... 254	\Hy@linktoc .. 1968, 1970, 1978, 1980, 1990, 6144
	\Hy@FirstPage ..... 3062	\Hy@linktoc@all ..... 1976
	\Hy@FirstPageHook .. 4752, 4765, 4767, 4974, 4975, 9474, 9548, 9610, 9891, 10048	\Hy@linktoc@none ..... 1973
	\Hy@fitwindowfalse ..... 297	\Hy@linktoc@page ... 1968, 1975, 1978
	\Hy@FixNotFirstPage 7514, 7515, 7521	\Hy@linktoc@section 1970, 1974, 1980
	\Hy@float@caption .. 5701, 5742, 5744	\Hy@linktocpagefalse ..... 302
	\Hy@float@currentHref ... 5745, 5747, 5749, 5757, 5759, 5760	\Hy@LT@currentHLabel 5299, 5310
	\Hy@footnote@currentHLabel .. .. 5538, 5552, 5584, 5626	\Hy@LT@currentHref . 5300, 5311
	\Hy@footnote@currentHref 4545, 5522, 5525, 5533, 5536, 5539, 5553, 5556, 5583, 5624, 5627	\Hy@LT@footnotetext 5581, 5591
	\Hy@Gin@setfile .... 6266, 6268	\Hy@make@anchor 6185, 6192, 6198
		\Hy@make@df@tag@@ .. 6190, 6205
		\Hy@make@df@tag@@@ . 6196, 6206
		\Hy@maketitle@end .. 5640, 5645, 5647
		\Hy@maketitle@optarg 5638, 5643
		\Hy@MaybeStopNow ... 2197, 2202, 2220, 2230, 2237, 3015
		\Hy@menubartrue ..... 303

\Hy@naturalnamesfalse . . . .	304	7277, 7851, 8048, 8078, 8079,	\Hy@safe@activetrue <u>338</u> , 3457,
\Hy@nestingfalse . . . . .	305	8106, 8222, 8430, 8497, 8549,	3462, 3526, 3563, 3603, 3661,
\Hy@newline@author . . . . .	4744	8550, 9109, 9262, 9271, 9390,	6629, 6708
\Hy@newline@title . . . . .	4743	9408, 9409, 9433, 9434, 9863,	\Hy@saved@currentHlabel . 5549,
\Hy@newwindowfalse . . . . .	307	11351, 11849, 11865	5554
\Hy@newwindowsetfalse 306, 2925		\Hy@pstringDest 7038, 7039, 7851,	\Hy@saved@currentHref . . 5550,
\Hy@newwindowsettrue . . . .	2927	7896, 9262, 9263, 9267, 9271,	5555
\Hy@next 4868, 4878, 4883, 11946,		9272, 9276	\Hy@saved@footnotemark . . 5634,
11956, 11959		\Hy@pstringF . . 7136, 7155, 7172,	5649
\Hy@nextfalse . . . . .	3094, 6275	7191, 7196, 8078, 8092, 8549,	\Hy@saved@footnotetext . . 5635,
\Hy@NextPage . . . . .	3056	8556, 8558, 9408, 9424, 9433,	5652
\Hy@nexttrue . . 3095, 3096, 3097,		9449, 9452	\Hy@saved@hook . . . . . 4729, 4739
6276, 6277		\Hy@pstringName . . 11849, 11850,	\Hy@SaveLastskip . . . 1791, 7037,
\Hy@number . . . . 2878, 2882, 2890		11865, 11879	7533, 7547, 7619, 7630, 7849,
\Hy@numberline . . . 11668, 11705,		\Hy@pstringP . . 7173, 7196, 8550,	8317, 8332, 8404, 8416, 8861,
11706, 11707		8558, 9434, 9452	8874, 9688, 9701, 9949, 9962
\Hy@ocgcolor . . 6996, 7010, 7998,		\Hy@pstringURI 7105, 7126, 8106,	\Hy@scanauthor . . . . . 4699, 4704
8012		8119, 8430, 8440, 8497, 8501,	\Hy@scanoptauthor . . 4699, 4700
\Hy@ocgcolorlinksfalse . . 3413		9390, 9400	\Hy@scanopttitle . . . 4690, 4691
\Hy@org@chapter . . 11944, 11960		\Hy@PutCatalog . 4914, <u>4922</u> , <u>4990</u>	\Hy@scantitle . . . . . 4690, 4695
\Hy@OutlineName . . 11850, 11903		\Hy@raisedlink . . . . . 1776,	\Hy@secnum@part . . 11966, 11968,
\Hy@pageanchortrue . . . . . 308		5123, 5264, 5270, 5271, 5272,	11971
\Hy@pagecounter . 330, 332, 5219,		5275, 5312, 5352, 5355, 5482,	\Hy@seminarslidesfalse . . 6387
6070, 6071		5524, 5535, 5596, 5623, 5735,	\Hy@seminarslidestrue . . . 6385
\Hy@pageheight 1937, 1941, 1945,		5805, 5829, 5834, 5854, 6188,	\Hy@setbreaklinks . . 2005, 2009,
1949, 1953, 1957, 3005, 9550,		6213, 9462, 9533, 9774, 9934,	2021, 6885, 7845
9638		11653, 11938, 11949, 11981,	\Hy@SetCatcodes . <u>181</u> , 231, 3013
\Hy@pagelabelsfalse . . . . 4774		11993, 12023	\Hy@SetNewWindow . . . 2931, 7157,
\Hy@pagelabelstrue . . . . . 309		\Hy@raiselinksfalse . 313, 5957	7193, 8094, 8557, 9423, 9448
\Hy@param 5146, 5147, 5148, 5176,		\Hy@RemoveDurPageAttr . . 7389,	\Hy@setouterhbox . . . 9171, 9177
5180		<u>7402</u>	\Hy@setpagesizetrue . . . . . 314
\Hy@PatchLanguageShorthands .		\Hy@RemoveHidPageAttr . . . 7411,	\Hy@setpdfborder . . . 2764, 7065,
. . . . . 3103, 3122		<u>7423</u>	7110, 7141, 7177, 7492, 8057,
\Hy@pdfafalse . . . . . 323		\Hy@RemovePercentCr 3546, 3550,	8085, 8112, 8140, 8443, 8464,
\Hy@pdfencoding@pdfdoc . . 2112		3555	8485, 8504, 8535, 8562, 8578
\Hy@pdfmarkerrorfalse . . . 9136		\Hy@RemoveTransPageAttr . 7365,	\Hy@setpdfversiontrue . . . 2137
\Hy@pdfmarkerrortrue 9264, 9273		<u>7379</u>	\Hy@setref@link . . . . 6585, 6588
\Hy@pdfminorversion 6886, 6892,		\Hy@reserved@a 3655, 5362, 5391,	\Hy@slidetitle 6414, 6416, 6423,
6895, 6903, 6908, 6910, 6913,		10472, 10522, 10585	6431, 6441, 6465, 6467, 6474,
6917		\Hy@RestoreCatcodes <u>205</u> , 3011,	6482, 6492
\Hy@pdfpagehiddenfalse . . . 310		3301	\Hy@StartlinkName . . 7063, 7077
\Hy@pdfstringdef <u>630</u> , 4126, 4134		\Hy@RestoreLastskip <u>1791</u> , 7040,	\Hy@StepCount . <u>324</u> , 4829, 10271,
\Hy@pdfstringfalse . . 311, 4575		7544, 7558, 7627, 7636, 7898,	10333, 10537, 10722, 10785,
\Hy@pdfstringtrue . . . 499, 4547		8329, 8345, 8413, 8425, 8870,	11059, 11123, 11729, 11734,
\Hy@pdfversion 2138, 2149, 4128,		8888, 9698, 9712, 9959, 9972	11795
6908, 6910, 6914, 6917, 11369		\Hy@ReturnAfterElseFi <u>333</u> , 3534	\Hy@temp . . . . . 527, 534,
\Hy@plainpagesfalse . . . . 312		\Hy@ReturnAfterElseFiFiEnd 337,	2694, 2703, 2704, 2705, 2706,
\Hy@PrevPage . . . . . 3059		1268	2707, 2708, 2709, 2736, 2737,
\Hy@ps@CR <u>9592</u> , 9599, 9604, 9605,		\Hy@ReturnAfterFi <u>333</u> , 353, 1446,	2738, 2741, 2743, 2746, 2923,
9622, 9642, 9643, 9644, 9650,		3538, 3554, 6339, 6375, 6858,	2924, 3083, 3087, 3088, 3089,
9657, 9664, 9671		6868, 11352	3090, 3196, 3198, 3203, 3205,
\Hy@pstringB . . 7277, 7282, 8222,		\Hy@ReturnAfterFiFiEnd . . . 336,	3208, 3220, 3222, 3227, 3229,
8234, 9109, 9125, 9863, 9879		1260, 1274, 1352, 1359	3235, 3237, 3242, 3244, 3247,
\Hy@pstringD . . 7137, 7161, 8079,		\Hy@ReturnEnd 335, 336, 337, 1280,	3289, 3290, 3850, 3854, 3855,
8093, 9409, 9425		1364	3866, 3950, 3951, 3952, 3954,
\Hy@pstringdef <u>6823</u> , 7038, 7059,		\Hy@safe@activesfalse <u>338</u> , 3459,	3958, 4269, 4270, 4271, 4273,
7105, 7136, 7137, 7172, 7173,		3464, 3669, 6719	4277, 4278, 4383, 4399, 4400,

4401, 4402, 4403, 4404, 4405,  
 4406, 4407, 4412, 4413, 4414,  
 4415, 4416, 4417, 4418, 4419,  
 4420, 4421, 4422, 4809, 4812,  
 4821, 4823, 4827, 4831, 4875,  
 4877, 5213, 5216, 5219, 5225,  
 5325, 5331, 6336, 6337, 7292,  
 7321, 7323, 7775, 7780, 7786,  
 7790, 7793, 7798, 7829, 7831,  
 8194, 8237, 8239, 9019, 9022,  
 9026, 9027, 9033, 9034, 9040,  
 9058, 9063, 9069, 9073, 9076,  
 9081, 9114, 9116, 9228, 9229,  
 9237, 9238, 9812, 9817, 9823,  
 9827, 9830, 9835, 9868, 9870,  
 11334, 11335, 11847, 11853,  
 11861, 11876  
 \Hy@temp@A . 558, 559, 1252, 1254,  
 1265, 1267, 1272, 1273, 1276,  
 6288, 6289, 6290, 6307, 6308,  
 6309  
 \Hy@temp@B . . . . . 1253, 1254  
 \Hy@tempa . . . . . 1835,  
 1837, 1839, 1840, 1842, 1844,  
 1846, 1849, 1852, 1853, 2271,  
 2272, 2273, 2275, 2276, 2278,  
 2279, 2281, 2285, 2289, 2300,  
 2302, 2304, 2305, 2307, 2311,  
 3532, 3533, 3544, 3548, 3604,  
 3608, 3660, 3663, 3672, 3674,  
 4257, 4258, 4858, 4860, 4898,  
 4900, 5001, 5003, 5409, 5411,  
 5412, 5415, 5416, 5417, 5696,  
 5701, 5706, 6107, 6108, 6125,  
 6126, 6129, 6401, 6402, 6453,  
 6454, 7563, 7564, 8298, 8437,  
 8438, 9717, 9718, 9977, 9978,  
 11671, 11672, 11695, 11697,  
 11713, 11718, 12011, 12037,  
 12042, 12045, 12048  
 \Hy@tempb 4859, 4860, 4899, 4900,  
 11696, 11697, 11718  
 \Hy@tempcolor . 8903, 8905, 8918,  
 8990, 8992, 9004  
 \Hy@TempPageAnchor . 6060, 6067,  
 6071, 6085  
 \Hy@testname . . 7051, 7052, 7057,  
 7059, 7060, 7074, 8040, 8041,  
 8046, 8048, 8049, 8064, 8451,  
 8452, 8457, 8461, 8522, 8523,  
 8528, 8532, 8995, 8996, 9001,  
 9012  
 \Hy@texhtfalse . . . . . 315  
 \Hy@texhttrue . . . . . 2152, 3192  
 \Hy@title . . . . . 4692, 4696  
 \Hy@toclevel . . . 6118, 6122, 6131  
 \Hy@toolbartrue . . . . . 316  
 \Hy@true . 1768, 1840, 1842, 2305,  
 2307  
 \Hy@typexmlfalse . . . . . 317  
 \Hy@undefinedname . . 7048, 7055,  
 7057, 8037, 8044, 8046, 8428,  
 8455, 8457, 8526, 8528, 8987,  
 8999, 9001  
 \Hy@unicodefalse 318, 622, 2068,  
 2069, 2077, 2853, 2859, 5215,  
 6064, 11371  
 \Hy@unicodetrue . . . . . 2069  
 \Hy@useHidKeyfalse . . . . 2728  
 \Hy@useHidKeytrue . . . . . 2732  
 \Hy@UseMaketitleInfos . . 4745,  
 7333, 7740, 8162, 8803, 9018,  
 9784  
 \Hy@UseMaketitleString . . 4726,  
 4746, 4747  
 \Hy@UseNameKey 1919, 7299, 7300,  
 7301, 7302, 7303, 7304, 7305,  
 7306, 7325, 7805, 7806, 7807,  
 7808, 7809, 7810, 7811, 7812,  
 7833, 8201, 8202, 8203, 8204,  
 8205, 8206, 8207, 8208, 8241,  
 8776, 8777, 8778, 8779, 8780,  
 8781, 8782, 8783, 9088, 9089,  
 9090, 9091, 9092, 9093, 9094,  
 9095, 9118, 9842, 9843, 9844,  
 9845, 9846, 9847, 9848, 9849,  
 9872  
 \Hy@usetitlefalse . . . . . 319  
 \Hy@varioref@undefined . . 5281,  
 5285, 6714  
 \Hy@verbosefalse . . . . . 320  
 \Hy@vt@PutCatalog . . 4945, 4947  
 \Hy@VTeXversion 4925, 4937, 8481,  
 8589, 8723, 11749  
 \Hy@Warning 237, 360, 1192, 1857,  
 1872, 1897, 1984, 2096, 2101,  
 2611, 2663, 3409, 3675, 3907,  
 6099, 6695, 6744, 7053, 7882,  
 7886, 8042, 8453, 8524, 8997,  
 9265, 9274, 11680, 11698  
 \Hy@WarningNoLine . . 238, 2011,  
 2122, 2714, 2752, 2998, 3042,  
 3200, 3209, 3224, 3239, 3248,  
 3750, 4673, 4775, 4939, 5015,  
 5200, 6109, 6258, 9144  
 \Hy@WarningPageBorderColor . .  
 . . . . 2749, 2751, 2753  
 \Hy@WarningPageColor 2711, 2713,  
 2715  
 \Hy@WarnOptionDisabled . . 1869,  
 1871  
 \Hy@WarnOptionValue 1850, 1856,  
 2292, 2314  
 \Hy@windowuitrue . . . . . 321  
 \Hy@writebookmark . . 1773, 6119,  
 6421, 6429, 6439, 6472, 6480,  
 6490, 11657, 11740  
 \HyC@cmd . . . . . 87, 109, 122  
 \HyC@check . . . . . 68, 71, 74  
 \HyC@checkcommand . . . 50, 57, 59  
 \HyC@checkFailed . . . . 146, 157  
 \HyC@checkItem 132, 133, 134, 135,  
 138  
 \HyC@checklong . . . . . 45, 53  
 \HyC@checkOk . . . . . 144, 154  
 \HyC@checkPackage . . . 12, 16, 18  
 \HyC@cmd . . 62, 75, 87, 95, 118, 131  
 \HyC@date . . . . . 11, 15, 23, 29, 31  
 \HyC@DeclareRobustCommand 114  
 \HyC@def . . . . . 125  
 \HyC@defcmd . . . . . 47, 54, 93  
 \HyC@doCheck . . . . . 99, 130  
 \HyC@edef . . . . . 125  
 \HyC@getDate . . . . . 12, 14  
 \HyC@meaning . . . . . 152, 160  
 \HyC@nc@default . . . . 103, 105  
 \HyC@nc@noopt . . 88, 91, 103, 112,  
 123, 127  
 \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  
 \HyC@Toks . . . 79, 90, 96, 106, 126  
 \HyCal@do . . . . . 354, 358  
 \HyCal@scan . . . . . 345, 349, 373  
 \HyColor@FieldBColor 4364, 4367  
 \HyColor@FieldColor . . . . 4370  
 \HyColor@HyperrefBorderColor .  
 . . . . . 2739  
 \HyColor@HyperrefColor . . 2699  
 \HyColor@UseColor . . 3431, 6999,  
 7010, 8001, 8012  
 \HyField@@PDFChoices 4146, 4147,  
 4162  
 \HyField@@SetFlag . . 3840, 3842  
 \HyField@@UseFlag . . 3830, 3832  
 \HyField@AddToFields . . 10618,  
 10625, 10707, 10800, 10813,  
 10840, 10865, 10889, 10911

\HyField@AdvanceAnnotCount . .	11210, 11215, 11239, 11244, 11266, 11271	\HyOrg@author . . 4689, 4702, 4706
11005, 11035, 11128, 11150, 11179, 11208, 11237, 11262		\HyOrg@float@makebox 5753, 5755
\HyField@afields . 10615, 10626, 10627, 10629, 10647	\HyField@UseFlag . . . 3829, 3970, 3971, 3972, 3973, 3974, 3975, 3976, 3977, 3980, 3981, 3982, 3983, 3986, 3987, 3988, 3991, 4002, 4003, 4004, 4005, 4006, 4007, 4008, 4009, 4010, 4021, 4022, 4023, 4035, 4036, 4037, 4048, 4049, 4050, 4051, 4053, 4064, 4065, 4066, 4067, 4068, 4069, 4070, 4071, 4082, 4085, 4096, 4097, 4098, 4099, 4101, 4103, 4104, 4107, 4110	\HyOrg@languageshorthands 3112, 3119, 3125
\HyField@AnnotCount . . . 11003, 11006, 11009		\HyOrg@make@df@tag@@ . . . . 6203
\HyField@FlagsAnnot 4000, 4019, 4033, 4046, 4062, 4094	\HyInd@hyperpage . . 6334, 6344	\HyOrg@make@df@tag@@@ . . . 6204
\HyField@FlagsCheckBox . . 4032, 10430, 10904, 11259	\HyInd@wrindex . . . 6283, 6284	\HyOrg@maketitle . . . 5632, 5639, 5644
\HyField@FlagsChoice . . . . 4093, 10311, 10763, 11100	\HyInd@EncapChar . . . 2322, 3007, 6279	\HyOrg@subequations 5426, 5433
\HyField@FlagsPushButton 4018, 10366, 10386, 10411, 10832, 10853, 10883, 11177, 11202, 11233	\HyInd@hyperpage . . . 6331, 6333, 6340	\HyOrg@title . . . 4688, 4693, 4697
\HyField@FlagsRadioButton 4045, 10307, 10759, 11096	\HyInd@org@wrindex . 6282, 6286, 6292, 6294	\HyOrg@url . . . . . 3583
\HyField@FlagsSubmit . . . . 3966, 10387, 10854, 11203	\HyInd@pagelink 6349, 6355, 6357, 6360	\hyper@@anchor 3026, 3593, 3595, 3621, 3623, 3650, 3652, 3747, 4579, 4594, 4609, 5522, 5525, 5533, 5536, 5594, 5597, 5624, 5733, 5735, 5759, 6060, 6067, 6071, 6420, 6428, 6438, 6471, 6479, 6489
\HyField@FlagsText 4061, 10249, 10700, 11029	\HyInd@ParenLeft . . . 6273, 6289, 6308	\hyper@@link . . 3566, 3579, 3616, 3635, 3637, 3655, 5813, 5959, 5960, 5961, 6009, 6011, 6013, 6590, 6605, 6704
\HyField@NewBitsetFlag . . 3798, 3801, 3809	\HyInd@ParenRight . . 6274, 6290, 6309	\hyper@@normalise . . 3535, 3539, 3543
\HyField@NewFlag . . . 3796, 3872, 3873, 3874, 3875, 3876, 3877, 3878, 3879, 3880, 3881, 3882, 3883, 3884, 3885, 3886, 3887, 3888, 3889, 3890, 3891, 3896, 3897, 3898, 3899, 3900, 3901, 3902, 3903, 3904, 3937, 3939, 3940, 3942, 3943, 3945, 3946, 3947, 3948	\HyInd@removespaces 6363, 6366, 6376	\hyper@anchor . 3774, 4648, 7081, 7532, 7618, 7903, 8331, 8403, 8860, 9687, 9948
\HyField@NewFlagOnly 3800, 3938, 3941, 3944	\HyLang@addto . 2526, 2548, 2579, 2587	\hyper@anchorend . . . . . . . . . . 3029, 4574, 4583, 4597, 4612, 5124, 5265, 5313, 5355, 5374, 5398, 5483, 5807, 5832, 5835, 5855, 5988, 6188, 6213, 7083, 7555, 7634, 7910, 8326, 8423, 8879, 9709, 9969, 11653, 11741, 11939, 11950, 11982, 11994, 12024
\HyField@NewOption . 3797, 3803	\HyLang@afrikaans . . . . . 2324	\hyper@anchorstart . . . . . . . . . . 3028, 4574, 4582, 4596, 4611, 5124, 5265, 5313, 5352, 5374, 5398, 5483, 5805, 5830, 5835, 5855, 5988, 6188, 6213, 7082, 7546, 7629, 7906, 8316, 8415, 8873, 9700, 9961, 11653, 11741, 11939, 11950, 11982, 11994, 12024
\HyField@PDFAFlagWarning 3906, 3914, 3918, 3922, 3926, 3930, 3934	\HyLang@DeclareLang 2540, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577	\hyper@chars . . . . . 3560, 7106, 7536, 7549, 7568, 7587, 7597, 7610, 7678, 7708, 8284, 8304, 8319, 8335, 8407, 8418, 8498, 9391, 9703, 9722, 9741, 9751, 9764, 9964, 9982, 10002, 10011, 10023
\HyField@PDFChoices 4119, 10344, 10807, 11146	\HyLang@english . . . . . 2342	\hyper@currentanchor 8876, 8885, 8897, 8914
\HyField@PrintFlags 3847, 3993, 4011, 4025, 4038, 4054, 4086, 4111	\HyLang@french . . . . . 2360	\hyper@currentlinktype . . 8898, 8902, 8906
\HyField@SetFlag . . . 3839, 3979, 3985, 3990, 4024, 4052	\HyLang@german . . . . . 2378	\hyper@hash . . 3512, 3513, 3561,
\HyField@SetKeys . . 4223, 10246, 10278, 10281, 10300, 10354, 10383, 10401, 10427, 10696, 10729, 10732, 10751, 10819, 10850, 10873, 10900, 11025, 11066, 11069, 11088, 11163, 11199, 11223, 11255	\HyLang@italian . . . . . 2396	
\HyField@TheAnnotCount . 11008, 11039, 11044, 11131, 11140, 11152, 11157, 11184, 11190,	\HyLang@magyar . . . . . 2414	
	\HyLang@portuges . . . . . 2432	
	\HyLang@russian . . . . . 2450	
	\HyLang@spanish . . . . . 2490	
	\HyLang@vietnamese . 2508, 2579, 2587	
	\HyLinguex@OrgB . . . . . 635, 639	
	\HyLinguex@OrgC . . . . . 636, 640	
	\HyLinguex@OrgD . . . . . 637, 641	
	\HyLinguex@Restore 638, 651, 655, 663, 2050	
	\HyOrg@addtoreset . . 6216, 6218, 6245	
	\HyOrg@appendix . . . . 5136, 5142	

3711, 3723, 3740, 3743, 4541, 8278  
 \hyper@image . . 3589, 3590, 7608, 8545, 8984, 9762, 10021  
 \hyper@last . . . . . 4664, 4668  
 \hyper@link . . 3027, 3664, 4580, 4581, 4595, 4605, 4610, 7093, 7605, 7649, 8072, 8275, 8515, 8988, 9759, 10018  
 \hyper@link@ . . 3034, 3656, 3658, 4578, 4588, 4592, 4602, 4617  
 \hyper@linkend 3031, 4585, 4599, 4614, 5558, 5799, 5802, 6148, 6152, 6156, 6158, 7092, 7574, 7646, 8071, 8073, 8309, 8473, 8900, 9728, 9988  
 \hyper@linkfile 3033, 3736, 4587, 4601, 4616, 7134, 7578, 7706, 8075, 8294, 8477, 9406, 9732, 9992  
 \hyper@linkstart . . 3030, 4584, 4598, 4613, 5556, 5795, 5802, 6148, 6152, 6156, 6158, 7084, 7561, 7638, 8038, 8073, 8297, 8429, 8890, 9715, 9975  
 \hyper@linkurl 3032, 3588, 3711, 3718, 3739, 3743, 4586, 4600, 4615, 7103, 7579, 7581, 7606, 7676, 8103, 8282, 8295, 8495, 8546, 8985, 9388, 9733, 9735, 9760, 9993, 9995, 10019  
 \hyper@livelink . . . . 4580, 4605  
 \hyper@makecurrent . 5120, 5144, 5298, 5351, 5373, 5397, 5461, 5551, 5713, 5746  
 \hyper@n@rmalise . . 3527, 3531  
 \hyper@nat@current . . . . 5796  
 \hyper@nat@anchorend . . . . 5807  
 \hyper@nat@anchorstart . . . . 5804  
 \hyper@nat@linkbreak . . . . 5801  
 \hyper@nat@linkend . . . . 5798  
 \hyper@nat@linkstart . . . . 5793  
 \hyper@normalise . . 3009, 3014, 3504, 3569, 3572, 3585, 3587, 3589, 3610, 4252  
 \hyper@pageduration 7386, 7432, 8700, 8717, 8951, 8981  
 \hyper@pagehidden . . 7409, 7433, 8710, 8718, 8968, 8982  
 \hyper@pagetransition . . 7362, 7431, 8591, 8716, 8934, 8980  
 \hyper@quote . . 4543, 7538, 7551, 7565, 7570, 7588, 7598, 7611, 8278, 8288, 8300, 8322, 8339, 9692, 9705, 9719, 9724, 9742, 9752, 9765, 9953, 9965, 9979, 9984, 10002, 10012, 10024  
 \hyper@readexternallink . 3666, 3682  
 \hyper@refstepcounter . . . 5099, 5102, 5109  
 \hyper@tilde . . 3521, 3522, 3523, 4542  
 \hyperbaseurl . . 2717, 2718, 4628  
 \hypercalcbp . . . . . 340, 340  
 \hypercalcbpdef . . 342, 379, 2897  
 \hyperdef . . . . . 3618, 4630  
 \HyperDestNameFilter 2978, 7038, 7060, 7538, 7551, 7570, 7606, 7851, 8049, 8278, 8288, 8305, 8322, 8339, 8408, 8419, 8460, 8531, 9262, 9271, 9692, 9705, 9724, 9760, 9953, 9965, 9984, 10019, 11804, 11849, 11865  
 \hypergetpageref . . . . . 5258  
 \hypergetref . . . . . 5257  
 \hyperimage . . . 3589, 3780, 6268  
 \hyperlink 3565, 4631, 6372, 6510, 6518, 6533, 6541, 6551, 6559, 6566  
 \hyperlinkfileprefix 2720, 2721, 2722, 9940  
 \hyperpage . . . . . 4637, 6330  
 \HyperRaiseLinkDefault . . 1775, 1784  
 \HyperRaiseLinkHook 1774, 1785  
 \HyperRaiseLinkLength . . 1783, 1784, 1787  
 \hyperref 3598, 3787, 3788, 4633, 6662, 6666, 6676, 6690  
 \hypersetup . . 2089, 2564, 3008, 3010, 4627  
 \hypertarget . . . . . 3591, 4632  
 \HyPL@CheckThePage 4879, 4897  
 \HyPL@CheckThePage 4855, 4857  
 \HyPL@Alph . . . . . 4795  
 \HyPL@alph . . . . . 4796  
 \HyPL@arabic . . . . . 4792  
 \HyPL@CheckThePage . 4807, 4854  
 \HyPL@Entry 5003, 5011, 5019, 5021  
 \HyPL@EveryPage . . . 4797, 4918  
 \HyPL@Format . . 4870, 4871, 4872, 4873, 4874, 4886  
 \HyPL@found . . 4869, 4876, 4880, 4887, 4897, 4899  
 \HyPL@Labels . . 4786, 4909, 4910, 4912, 4914, 4959, 4960, 5014, 5022, 5023  
 \HyPL@LastNumber . . 4790, 4825, 4848  
 \HyPL@LastPrefix . . 4791, 4819, 4850  
 \HyPL@LastType . 4789, 4810, 4849  
 \HyPL@page 4800, 4802, 4807, 4815  
 \HyPL@Prefix . . 4815, 4817, 4819, 4833, 4836, 4838, 4850, 4864, 4902  
 \HyPL@Roman . . . . . 4793  
 \HyPL@roman . . . . . 4794  
 \HyPL@SetPageLabels 4908, 4966, 4968, 5017  
 \HyPL@StorePageLabel 4833, 4835, 4905, 4957, 4998  
 \HyPL@thisLabel 4783, 4785, 4799, 4802, 4803  
 \HyPL@Type 4805, 4810, 4814, 4832, 4840, 4849, 4863, 4901  
 \HyPL@Useless . . . . 4906, 4912  
 \HyPsd@@@autoref . . 1113, 1115, 1118  
 \HyPsd@@@nameref . . 1095, 1097, 1100  
 \HyPsd@@@pageref . . 1077, 1079, 1082  
 \HyPsd@@@ref . . 1061, 1063, 1066  
 \HyPsd@@@UTFviii@four . . 1650, 1653  
 \HyPsd@@AppendItalcorr . . 1282  
 \HyPsd@@autoref . . . 1110, 1111  
 \HyPsd@@autorefname 1131, 1134  
 \HyPsd@@ConvertToUnicode 1576  
 \HyPsd@@GetNextTwoTokens 1574  
 \HyPsd@@GlyphProcessWarning . . . . . 1452, 1455  
 \HyPsd@@GreekNum . 812, 821, 920, 924, 928  
 \HyPsd@@hspace . . . . 1032, 1033  
 \HyPsd@@LetCommand . 1155, 1176  
 \HyPsd@@nameref . . . 1092, 1093  
 \HyPsd@@pageref . . . 1074, 1075  
 \HyPsd@@ProtectSpacesFi . 1204, 1208, 1226, 1232, 1237  
 \HyPsd@@ref . . . . . 1058, 1059  
 \HyPsd@@RemoveBraces . . . 1250  
 \HyPsd@@RemoveBracesFi . 1247, 1250  
 \HyPsd@@RemoveCmdPrefix . 1409, 1412  
 \HyPsd@@ReplaceFi . . 1479, 1485, 1490  
 \HyPsd@@UTFviii@four 1634, 1639  
 \HyPsd@add@accent . . 401, 1021  
 \HyPsd@AfterCountRemove . 1295, 1366  
 \HyPsd@AfterDimenRemove . 1301, 1369  
 \HyPsd@AfterSkipRemove . 1307, 1381  
 \HyPsd@AMSclassfix . 481, 1042, 1044



\HyPsd@AppendItalcorr ... 1266,  
1273, 1282  
\HyPsd@autoref ..... 491, 1110  
\HyPsd@autorefname . 1122, 1128  
\HyPsd@babel@danish ..... 708  
\HyPsd@babel@dutch ..... 714  
\HyPsd@babel@finnish ..... 720  
\HyPsd@babel@frenchb ..... 725  
\HyPsd@babel@german ..... 730  
\HyPsd@babel@macedonian .. 737  
\HyPsd@babel@ngerman ..... 743  
\HyPsd@babel@portuges .... 749  
\HyPsd@babel@russian ..... 754  
\HyPsd@babel@slovene ..... 760  
\HyPsd@babel@spanish ..... 765  
\HyPsd@babel@swedish ..... 775  
\HyPsd@babel@ukrainian ... 781  
\HyPsd@babel@usorbian .... 787  
\HyPsd@CatcodeWarning ... 1311,  
1328, 1331, 1334, 1337, 1393  
\HyPsd@CheckCatCodes . 545, 1288  
\HyPsd@CJKActiveChars . 948, 961  
\HyPsd@CJKhook ..... 497, 930  
\HyPsd@ConvertToUnicode .. 613,  
1524  
\HyPsd@DecimalToOctal . 940, 969  
\HyPsd@DefCommand 528, 529, 530,  
531, 1144  
\HyPsd@DisableCommands 686, 688  
\HyPsd@DoConvert ... 1526, 1536  
\HyPsd@DoEscape ..... 1550  
\HyPsd@doxspace ..... 585, 1497  
\HyPsd@empty .. 570, 572, 576, 577,  
579, 587, 594  
\HyPsd@end . 545, 549, 1205, 1208,  
1211, 1214, 1217, 1230, 1240,  
1247, 1250, 1288, 1296, 1302,  
1308, 1353, 1360, 1366, 1369,  
1381  
\HyPsd@endWithElse . 1011, 1020  
\HyPsd@fi . 1222, 1228, 1232, 1238  
\HyPsd@GetNextTwoTokens . 1574  
\HyPsd@GetOneBye ..... 1569  
\HyPsd@GetTwoBytes ..... 1565  
\HyPsd@GLYPHERR 550, 1008, 1022,  
1029  
\HyPsd@GlyphProcess 552, 1440,  
1453  
\HyPsd@GlyphProcessWarning ..  
..... 1447, 1451  
\HyPsd@GobbleFiFi .. 1013, 1019  
\HyPsd@greeknum .. 801, 804, 806  
\HyPsd@greeknumeral .. 797, 803  
\HyPsd@greeknumeral .. 796, 800  
\HyPsd@greekNumI . 824, 850, 893,  
919  
\HyPsd@greekNumII 828, 872, 916,  
923  
\HyPsd@greekNumIII 831, 895, 927  
\HyPsd@greekNumIV .... 840, 918  
\HyPsd@greekNumV ..... 843, 922  
\HyPsd@greekNumVI .... 845, 926  
\HyPsd@greekPatch 467, 793, 795  
\HyPsd@hspace ..... 482, 1032  
\HyPsd@hspacetest .. 1035, 1037,  
1040  
\HyPsd@ifnextchar 514, 515, 516,  
1181  
\HyPsd@ignorespaces .. 495, 697  
\HyPsd@InitUnicode ..... 660  
\HyPsd@inmathwarn ... 400, 1005  
\HyPsd@ITALCORR . 506, 510, 1029  
\HyPsd@LetCommand 532, 533, 1144  
\HyPsd@LetUnexpandableSpace .  
... 501, 502, 503, 504, 1025,  
1028  
\HyPsd@LoadStringEnc 2093, 2113,  
2115, 2119, 2121  
\HyPsd@LoadUnicode . 2045, 2047,  
2055, 2058, 2060, 2067  
\HyPsd@nameref ..... 490, 1092  
\HyPsd@pageref ..... 489, 1074  
\HyPsd@pdfencoding . 614, 2041,  
2043, 2076, 2088, 2091, 2092,  
2097, 2112  
\HyPsd@pdfencoding@auto .. 614,  
2082, 2092, 2109  
\HyPsd@pdfencoding@pdfdoc 2075,  
2097, 2110  
\HyPsd@pdfencoding@unicode ..  
..... 2079, 2111  
\HyPsd@protected@testopt . 517,  
518, 1185  
\HyPsd@ProtectSpaces 538, 1202,  
1223, 1272  
\HyPsd@ref ..... 488, 1058  
\HyPsd@RemoveBraces 540, 1244,  
1261, 1269, 1275  
\HyPsd@RemoveCmdPrefix .. 1402,  
1408  
\HyPsd@RemoveMask .. 548, 1211,  
1217, 1230, 1240  
\HyPsd@RemoveSpaceWarning 1376,  
1388, 1414  
\HyPsd@ReplaceSpaceWarning ..  
.... 1371, 1383, 1427  
\HyPsd@Rest .. 1289, 1349, 1357,  
1360, 1367, 1372, 1378, 1384,  
1390  
\HyPsd@SPACEOPTI . 542, 557, 558,  
560, 562, 564, 565, 604, 606,  
1324, 1508  
\HyPsd@spaceopti .... 606, 1471  
\HyPsd@String ..... 539,  
541, 544, 546, 551, 553, 1255,  
1256, 1266, 1318, 1319, 1323,  
1324, 1339, 1340, 1370, 1382,  
1441, 1442  
\HyPsd@StringSubst 554, 556, 562,  
568, 571, 574, 577, 596, 599,  
601, 1494  
\HyPsd@Subst .. 550, 559, 563, 569,  
575, 579, 583, 588, 589, 590,  
591, 592, 593, 597, 600, 1478,  
1495  
\HyPsd@temp .. 617, 618, 620, 621,  
2074, 2075, 2076, 2079, 2082,  
2088, 2100, 2104  
\HyPsd@tocsection .. 1045, 1046,  
1047, 1048, 1049, 1050, 1051,  
1053  
\HyPsd@UnexpandableSpace 1028,  
1213, 1237, 1372, 1384  
\HyPsd@unichar 1592, 1659, 1665,  
1670  
\HyPsd@unichar@first@byte 1678,  
1698  
\HyPsd@unichar@octtwo ... 1700,  
1708, 1714  
\HyPsd@unichar@second@byte ..  
..... 1686, 1706  
\HyPsd@UnicodeReplacementCharacter  
..... 1662, 1697  
\HyPsd@UTFviii .. 392, 1580, 1585  
\HyPsd@UTFviii@three ... 1615,  
1624  
\HyPsd@UTFviii@two 1600, 1606  
\HyPsd@UTFviii@ccxliv@def 1590,  
1596  
\HyPsd@UTFviii@ccxliv@undef .  
..... 1589, 1595  
\HyPsd@UTFviii@four 1588, 1633  
\HyPsd@UTFviii@three 1587, 1614  
\HyPsd@UTFviii@two . 1586, 1599  
\HyPsd@Warning 1189, 1394, 1415,  
1428, 1457, 1463  
\HyPsd@XSPACE ... 508, 584, 1029  
\HyPsd@xspace .... 582, 584, 585  
\HyRef@@StarSetRef . 6633, 6638  
\HyRef@autopageref . 6687, 6689  
\HyRef@autopagerefname .. 6686,  
6690, 6692  
\HyRef@autoref ..... 6704, 6706  
\HyRef@autosetref .. 6709, 6712  
\HyRef@CaseStar .... 6772, 6778  
\HyRef@currentHtag . 6725, 6743,  
6746, 6752, 6758, 6764, 6779  
\HyRef@MakeUppercaseFirstOfFive  
..... 6653, 6655

`\HyRef@name` . . . 6741, 6742, 6747,  
 6753, 6771, 6772, 6773, 6775  
`\HyRef@Ref` . . . . . 6659, 6661  
`\HyRef@ShowKeysInit` 6781, 6794,  
 6798  
`\HyRef@ShowKeysRef` . 6713, 6780  
`\HyRef@StarSetRef` . . 6627, 6645,  
 6648, 6653  
`\HyRef@StripStar` . . . 6740, 6770  
`\HyRef@testreftype` . 6718, 6737  
`\HyRef@thisref` . . . . 6715, 6718  
`\HyTmp@found` . . . 4173, 4183, 4186  
`\HyTmp@key` . . . . . 4167, 4168  
`\HyTmp@optitem` 4123, 4139, 4166,  
 4171, 4177, 4198, 4209  
`\HyTmp@optlist` 4122, 4137, 4138,  
 4169, 4170, 4175, 4176, 4184,  
 4185, 4205, 4207, 4214, 4217

## I

`\i` . . . 12206, 12369, 12372, 12375,  
 12378, 12575, 12737, 12740,  
 12743, 12746, 12863, 12868,  
 12873, 12878, 12882, 13049,  
 13105  
`\if` . 1054, 1762, 4823, 4831, 5415,  
 5416, 8663, 8666, 8670, 8674,  
 8678, 8680, 8682, 11477  
`\if@eqnstar` . . . . . 5357, 5365  
`\if@files` . . . . . 1730, 3644,  
 4641, 4677, 4999, 5009, 5207,  
 5842, 5857, 5873, 5885, 5915,  
 5938, 5965, 5970, 5989, 6301,  
 11714, 11826, 11892  
`\if@hyper@item` . . . . 5084, 5097  
`\if@inlabel` . . . . . 5472  
`\if@Localurl` . . . . . 8266, 8310  
`\if@mid@expandable` . . . . . 480  
`\if@minipage` . . . . . 5721, 5784  
`\if@nmbrrlist` . . . . . 5071  
`\if@nobreak` . . . . . 5488  
`\if@skiphyperref` . . . 5085, 5095  
`\if@twocolumn` . . . . . 12026  
`\if@twoside` . . . . . 12014  
`\ifcase` . . . . . 857, 879,  
 902, 970, 1628, 2079, 2660,  
 3968, 4073, 4203, 4278, 6144,  
 6289, 6308, 6525, 6714, 8736,  
 11416, 11493, 11558, 11593,  
 11627, 11753  
`\ifcat` . . . 1290, 1317, 1322, 1327,  
 1330, 1333, 1336, 3758, 3760  
`\ifdim` . . . . . 1040, 1370,  
 1374, 1382, 1386, 1794, 1813,  
 2980, 2981, 2986, 2987, 2995,  
 3305, 7446, 7450, 7455, 7459,  
 7466, 7470, 7475, 7479, 8379,

8382, 8386, 8389, 9182, 9193,  
 10273, 10312, 10313, 10724,  
 10764, 10765, 11061, 11101,  
 11102  
`\ifetex@unexpanded` . . . . . 1196  
`\IfFileExists` . . . . . 4672, 10034  
`\ifFld@checked` 4226, 10592, 11404  
`\ifFld@comb` . . . . . 4072  
`\ifFld@combo` . . 4100, 4105, 10287,  
 10316, 10738, 10768, 11075,  
 11105  
`\ifFld@disabled` . . . 4227, 10593  
`\ifFld@edit` . . . . . 4106  
`\ifFld@fileselect` . . . . . 4075  
`\ifFld@hidden` . . . . 10250, 10301,  
 10367, 10388, 10412, 10431,  
 10491, 10503, 10513, 10596,  
 10701, 10753, 10833, 10855,  
 10884, 10905, 11030, 11090,  
 11178, 11204, 11234, 11260  
`\ifFld@multiline` . . 4073, 10238,  
 10498, 10688, 11017  
`\ifFld@multiselect` . . . . . 4145  
`\ifFld@password` . . . 4074, 10479  
`\ifFld@popdown` . . . . 3892, 10288,  
 10739, 11076  
`\ifFld@radio` 10284, 10306, 10528,  
 10735, 10758, 11072, 11095  
`\ifFld@readonly` . . 10500, 10510,  
 10594  
`\ifForm@html` . . . . . 4246  
`\ifhmode` . 1812, 1821, 5440, 5547,  
 5559, 5683, 5685  
`\ifHy@activeanchor` . . 244, 3771  
`\ifHy@backref` . . 245, 3151, 3487,  
 4521, 5966, 6002  
`\ifHy@bookmarks` . . . . 246, 3349  
`\ifHy@bookmarksnumbered` . . 247,  
 6413, 6464, 11704  
`\ifHy@bookmarksopen` . 248, 3339  
`\ifHy@breaklinks` 249, 2010, 8891,  
 8922, 9176, 9187  
`\ifHy@centerwindow` . 250, 7297,  
 7803, 8199, 8774, 9086, 9840  
`\ifHy@CJKbookmarks` . . . 251, 496  
`\ifHy@colorlinks` 252, 3420, 4526,  
 9674  
`\ifHy@displaydoctitle` 286, 7298,  
 7804, 8200, 8775, 9087, 9841  
`\ifHy@draft` . . . . . 253, 3025  
`\ifHy@DvipdfmxOutlineOpen` 3303,  
 11867  
`\ifHy@escapeform` . . . 256, 11330,  
 11359  
`\ifHy@figures` . . 257, 3131, 4506,  
 6265

`\ifHy@fitwindow` 258, 7296, 7802,  
 8198, 8773, 9085, 9839  
`\ifHy@frenchlinks` . . . 259, 3436  
`\ifHy@hyperfootnotes` . 260, 5496  
`\ifHy@hyperindex` 261, 3141, 4516,  
 6272  
`\ifHy@hypertextnames` 262, 5150,  
 5211, 6058, 6418, 6469  
`\ifHy@implicit` . 263, 3163, 11920  
`\ifHy@linktocpage` . . 264, 1967,  
 1977  
`\ifHy@menubar` . . 265, 7294, 7800,  
 8196, 8771, 9083, 9837  
`\ifHy@naturalnames` . 266, 5163,  
 6419, 6470  
`\ifHy@nesting` . . 267, 3136, 3592,  
 3620, 3649, 3756, 4511, 5521,  
 5532, 5593, 5732  
`\ifHy@newwindow` . 269, 2934, 8481  
`\ifHy@newwindowset` . . 268, 2932  
`\ifHy@next` . . . . . 706, 3098, 6281  
`\ifHy@ocgcolorlinks` 270, 2610,  
 3406, 3416, 4531, 6902, 6920,  
 6995, 7003, 7914, 7997, 8005  
`\ifHy@pageanchor` 271, 5198, 5210,  
 5225, 6057  
`\ifHy@pagelabels` 272, 4771, 4957,  
 4997  
`\ifHy@pdfa` . . . . . 287, 3049, 3408, 3699, 3905,  
 4387, 4423, 4536, 7064, 7122,  
 7153, 7189, 7504, 8056, 8084,  
 8111, 8135, 8442, 8463, 8484,  
 8503, 8534, 8561, 8577, 9286,  
 10209, 10357, 10405, 10655,  
 10823, 10877, 10989, 11167,  
 11227, 11406, 11479, 11617  
`\ifHy@pdfmarkerror` . 9133, 9141  
`\ifHy@pdfpagehidden` 273, 2731,  
 7412, 8712, 8974  
`\ifHy@pdfstring` . 274, 671, 5089  
`\ifHy@plainpages` 275, 3146, 5212,  
 6059  
`\ifHy@psize` . . . . . 276  
`\ifHy@raiselinks` 277, 7583, 7652,  
 7681, 7711, 9737, 9997  
`\ifHy@seminarslides` . . . . . 278  
`\ifHy@setpagesize` . . 279, 7436,  
 8256, 8376, 9524  
`\ifHy@setpdfversion` 2129, 6907  
`\ifHy@texht` 280, 3448, 3480, 4574,  
 6573  
`\ifHy@toolbar` . . 281, 7293, 7799,  
 8195, 8770, 9082, 9836  
`\ifHy@typexml` . . 243, 3156, 3423,  
 3467, 4642, 11829, 11895

<code>\ifHy@unicode</code> . 282, 388, 555, 567, 595, 603, 612, 807, 943, 1396, 1417, 1430, 1459, 1465, 1660, 2040, 2090, 11370	<code>\input</code> . 654, 662, 2049, 2582, 2590, 2597, 3299, 9465, 9536, 9627, 9779	<code>\label@hyperref</code> 3599, 3626, 3784
<code>\ifHy@useHidKey</code> 2727, 7410, 8711, 8969	<code>\InputIfFileExists</code> 3012, 11822, 11842, 11887, 11889	<code>\labelsep</code> . . . . . 5999
<code>\ifHy@usetitle</code> . . . . . 283, 4687	<code>\inputlineno</code> . . . 3763, 6127, 7035	<code>\labelwidth</code> . . . . . 5998
<code>\ifHy@verbose</code> . . 284, 3848, 6124, 7034	<code>\insert</code> . . . . . 5609	<code>\lam</code> . . . . . 14488
<code>\ifHy@windowui</code> . 285, 7295, 7801, 8197, 8772, 9084, 9838	<code>\interfootnotelinepenalty</code> 5612	<code>\language@group</code> . . . . . 465
<code>\ifmeasuring@</code> . . . . . 5108, 5121	<code>\interlinepenalty</code> . . . . . 5612	<code>\languageshorthands</code> 3120, 3121, 3124
<code>\ifnum</code> . . . 808, 811, 822, 823, 827, 835, 839, 842, 852, 874, 897, 1618, 1661, 1664, 1676, 2205, 2208, 2233, 2661, 2662, 3313, 3340, 4128, 4199, 4210, 4806, 4825, 4841, 4937, 6527, 6565, 6903, 6908, 7213, 7220, 7226, 7234, 8026, 8031, 8481, 8589, 8723, 8731, 8733, 8734, 8744, 8747, 8829, 8831, 8931, 9538, 10639, 10799, 11127, 11131, 11139, 11369, 11387, 11416, 11421, 11493, 11499, 11527, 11558, 11564, 11583, 11593, 11598, 11627, 11632, 11661, 11677, 11749, 11817, 11869, 11953, 11971, 11987, 11992	<code>\item</code> 5066, 5069, 5872, 5884, 5987	<code>\LARGE</code> . . . . . 447
<code>\ifodd</code> . . . . . 1642, 1647, 6079	<code>\Itemautorefname</code> . . . . . 6804	<code>\Large</code> . . . . . 448
<code>\ifpdf</code> . . . . . 3197, 3259	<code>\itemautorefname</code> . . . 2327, 2345, 2363, 2381, 2399, 2417, 2435, 2464, 2465, 2493, 2511, 6804, 6805, 6808	<code>\large</code> 451, 6530, 6538, 6548, 6556
<code>\ifpdfstringunicode</code> . . 393, 396	<code>\itemindent</code> . . . . . 5477	<code>\lastbox</code> . . . . . 5475
<code>\ifportrait</code> . . . . . 7445	<code>\itshape</code> . . . . . 440	<code>\lastpage@putlabel</code> . . . . . 5193
<code>\ifthenelse</code> . . . . . 5992	<b>J</b>	<code>\lastskip</code> 1794, 1798, 1805, 1813, 1817, 1824
<code>\iftrue</code> . . 1203, 1225, 1489, 11955	<code>\j</code> . . . . . 12891, 13076, 13140	<code>\LaTeX</code> . . . . 417, 418, 10040, 10041
<code>\ifvmode</code> . . . . . 1777, 1793, 1802	<code>\jarr</code> . . . . . 14497	<code>\LaTeXe</code> . . . . . 418, 10041
<code>\ifvoid</code> . . . . . 5306, 5315, 5476	<code>\jeem</code> . . . . . 14469	<code>\LayoutCheckField</code> . 4462, 10432, 10906, 11263
<code>\ifvtexhtml</code> . . . . . 3236, 3265	<code>\jeh</code> . . . . . 14505	<code>\LayoutChoiceField</code> 4459, 10305, 10757, 11094
<code>\ifvtexpdf</code> . . . . . 3276	<code>\jobname</code> 4644, 4672, 4679, 10034, 11822, 11828, 11842, 11887, 11889, 11894	<code>\LayoutPushButtonField</code> . . 4465, 10361, 10368, 10827, 10834, 11171, 11180
<code>\ifvtexps</code> . . . . . 3279	<b>K</b>	<code>\LayoutTextField</code> . . 4456, 10252, 10703, 11036
<code>\ifxetex</code> . . . . . 3221, 3262, 3304	<code>\k</code> . . . 12088, 12428, 12430, 12435, 12437, 12480, 12498, 12517, 12524, 12788, 12790, 12828, 12830, 12875, 12877, 12878, 13013, 13015, 13072, 13074, 13671, 13710, 13713	<code>\lccode</code> . . . . . 953, 1583, 6279
<code>\ignorespaces</code> . . 495, 5279, 5435, 5629, 5717, 5728, 5731, 5781, 5788, 5850, 5865, 5881, 5890, 6000, 6398, 6450	<code>\kaf</code> . . . . . 14487	<code>\ldots</code> . . . . . 412
<code>\IJ</code> . . . . . 12202, 12884	<code>\kasra</code> . . . . . 14500	<code>\leavevmode</code> . . . . . 492, 1772, 3035, 3052, 3092, 3704, 4621, 5546, 5682, 5906, 6665, 6673, 7050, 7107, 7138, 7174, 7582, 7651, 7679, 7709, 8076, 8104, 8276, 8285, 8336, 8478, 8499, 8521, 8551, 8893, 9175, 9392, 9410, 9435, 9736, 9996, 10362, 10369, 10404, 10787, 10808, 10828, 10835, 10856, 10876, 11125, 11148, 11172, 11181, 11206, 11226
<code>\ij</code> . . . . . 12411, 12886	<code>\keepPDF@SetupDoc</code> . . 9678, 9685	<code>\limits</code> . . . . . 3552
<code>\immediate</code> . . . 4643, 4644, 4645, 4647, 4679, 4950, 5002, 5010, 5222, 5250, 5845, 5860, 5876, 5886, 5916, 5939, 5965, 5995, 6921, 6936, 6951, 8834, 9535, 10609, 10645, 11803, 11828, 11830, 11894, 11896	<code>\kern</code> 1299, 1371, 1376, 1388, 5477, 6074, 6075, 6076, 6078, 6079, 6084	<code>\listofslides</code> . . . . . 6499
<code>\incr@eqnum</code> . . . . . 5326, 5339	<code>\kernel@ifnextchar</code> . . . . . 515	<code>\listslidenam</code> 6498, 6501, 6503, 6505
<code>\index</code> . . . . . 484	<code>\kha</code> . . . . . 14471	<code>\literalps@out</code> 1770, 8823, 8828, 8875, 8880, 8896, 8901, 9151, 9162, 9183, 9185, 9194, 9196, 9463, 9534, 9597, 9777
<code>\indexentry</code> . . . 6304, 6312, 6316	<code>\KV@Hyp@draft</code> . . . . . 1934	<code>\lower</code> . . . 7586, 7654, 7683, 7713, 9185, 9740, 10000
	<code>\KV@Hyp@nolinks</code> . . . . . 1934	<code>\lowercase</code> 954, 1584, 1836, 2271, 2301, 3797, 3798, 3801, 3806, 3830, 3840, 3894, 3950, 4269, 4309, 4312, 6280, 8930
	<code>\kv@key</code> . . 4126, 4129, 4131, 4135, 4139	<code>\lslide@flag</code> . . 6525, 6528, 6546, 6565, 6569
	<code>\kv@parse</code> . . . . . 4125	<code>\LT@array</code> . . . . . 5292
	<code>\kv@value</code> . . . . 4127, 4134, 4135	<code>\LT@firsthead</code> . . . . . 5306, 5315
	<b>L</b>	
	<code>\L</code> . . . . . 12195, 12915	
	<code>\l</code> . . . . . 12208, 12917	
	<code>\l@slide</code> . 6398, 6508, 6513, 6517, 6524	
	<code>\l@subslide</code> 6450, 6513, 6520, 6564	
	<code>\label</code> . . . . . 483, 6097	
	<code>\label@hyperref</code> . . . 3627, 3629	
	<code>\label@hyperdef</code> . . . 3618, 3641	



`\LTp@ftn` . 5565, 5568, 5572, 5586  
`\LTp@ftntext` . . . . . 5563, 5570  
`\LT@start` . . . . . 5308, 5319  
`\luatexrevision` . . . . . 7257  
`\luatexversion` . . . . . 7249, 7254

## M

`\m@ne` . . . . . 3812, 5238, 5407, 8035,  
 11889, 11953, 11968  
`\make@df@tag@` . . . . . 6203, 6205  
`\make@df@tag@@` . . . . . 6204, 6206  
`\make@stripped@name` 5113, 5348,  
 5370, 5394, 5405  
`\makeatletter` . . . . . 3, 685, 4671  
`\MakeButtonField` . . 4472, 10363,  
 10371, 10390, 10409, 10414,  
 10829, 10838, 10863, 10881,  
 10887, 11173, 11176, 11205,  
 11231, 11235  
`\MakeCheckField` . . . 4469, 10434,  
 10909, 11261  
`\MakeChoiceField` . . 4471, 10346,  
 10811, 11147  
`\MakeFieldObject` . . 10608, 10664,  
 10674, 10677  
`\MakeLowercase` . . . . . 462  
`\MakeLowercaseIsNotSupportedInPdfStrings`  
 . . . . . 462  
`\MakeRadioField` . . . 4468, 10336,  
 10798, 11120  
`\makeslideheading` . . . . . 6408  
`\makeslidesubheading` . . . . 6460  
`\maketag@@@` . . . . . 6192  
`\MakeTextField` . . . . 4470, 10254,  
 10706, 11033  
`\maketitle` . . . . . 5632, 5633  
`\MakeUppercase` . . . 461, 6503, 6505,  
 6656  
`\MakeUppercaseIsNotSupportedInPdfStrings`  
 . . . . . 461  
`\MathBSuppress` . . . . . 8286, 8290  
`\mathdisplay` . . . . . 5329, 5338  
`\mathdisplay@push` . . 5327, 5336  
`\mathversion` . . . . . 456  
`\maxdimen` . . . . . 2682, 10613  
`\MaybeStopEarly` 328, 2156, 2210,  
 3167, 3267, 5030  
`\mbox` . . . . . 493, 5919, 5942, 7005, 8007  
`\mddefault` . . . . . 5447  
`\mdseries` . . . . . 439  
`\meaning` . . . . . 62, 153,  
 159, 1733, 4711, 5176, 5412,  
 11853, 11861, 11876  
`\measuring@false` . . . . . 5108  
`\mediaheight` . . . . 8372, 8374, 8380,  
 8387  
`\mediawidth` . . . . . 8383, 8390

`\meem` . . . . . 14489  
`\message` . . . . . 6526  
`\MessageBreak` . . . . .  
 361, 1402, 1423, 1436, 1459,  
 1464, 1466, 1858, 1859, 1873,  
 1895, 1898, 1900, 1985, 1986,  
 2012, 2013, 2062, 2063, 2064,  
 2102, 2103, 2123, 2133, 2293,  
 2612, 3000, 3201, 3202, 3210,  
 3211, 3225, 3226, 3240, 3241,  
 3249, 3250, 3410, 3851, 3856,  
 3865, 3908, 3954, 4078, 4192,  
 4273, 4776, 5201, 6101, 6260,  
 7054, 8043, 8454, 8525, 8998,  
 10620, 10621, 11682, 11700  
`\MF` . . . . . 421, 10043  
`\MP` . . . . . 422, 10044  
`\multiply` . . . . . 7253, 8692, 8727

## N

`\name@of@eq` . . . . . 5082, 5111  
`\name@of@slide` . . . . 5083, 5093  
`\nameref` . . . . . 490  
`\nasb` . . . . . 14495  
`\netscape` . . . . . 7617  
`\new@ifnextchar` . . . . . 516  
`\new@pdflink` . . . . 7033, 7081, 7082  
`\new@refstepcounter` 5321, 5353  
`\newblock` . . . . . 6003  
`\newcommand` . . . . 4, 9, 42, 1771, 4625,  
 5045, 5048, 5051, 5052, 5053,  
 5055, 5056, 5057, 5058, 5060,  
 5061, 5062, 5063, 5064, 5065,  
 5074, 5075, 5076, 5077, 5078,  
 5079, 5403, 6228, 6385, 6390,  
 6391, 11724, 11727, 11732  
`\newcount` . . . . . 329, 330, 4230, 4787,  
 10342, 10805, 11003, 11144,  
 11746  
`\newcounter` . . . . . 5067, 5497, 7913  
`\newdimen` . . . . . 326, 4231, 4232  
`\newif` . . . . . 243, 244, 245,  
 246, 247, 248, 249, 250, 251,  
 252, 253, 256, 257, 258, 259,  
 260, 261, 262, 263, 264, 265,  
 266, 267, 268, 269, 270, 271,  
 272, 273, 274, 275, 276, 277,  
 278, 279, 280, 281, 282, 283,  
 284, 285, 286, 287, 706, 2129,  
 2727, 3303, 3804, 3892, 4226,  
 4227, 4246, 5084, 5085, 5108,  
 5357, 8266, 9133  
`\newlabel` 1736, 3646, 4654, 4655,  
 4662, 4684, 5223, 5251  
`\newlabelxx` . . . . . 4656, 4657  
`\newline` . . . . . 415, 4732  
`\newname` . . . . . 5114, 5349, 5371, 5395,  
 5408, 5417

`\newsavebox` . . . . . 7846, 9170  
`\newtie` . . . . . 12090, 12472, 12502,  
 12521, 12537  
`\newtoks` 90, 4291, 9016, 9203, 9204  
`\newwrite` . . . . . 4678, 11827, 11893  
`\next` 5993, 5994, 5995, 8655, 8657,  
 8659  
`\nfss@text` 6580, 6600, 6617, 6731  
`\NG` . . . . . 12933  
`\ng` . . . . . 12935  
`\noboundary` . . . . . 14510  
`\nobreak` . . . . . 1795, 1803, 1814, 1822,  
 5547, 5683  
`\nobreakspace` . . . 504, 6668, 6697,  
 6700  
`\noexpand` . . . . . 22,  
 93, 95, 108, 116, 169, 171, 172,  
 173, 176, 206, 695, 965, 1150,  
 1167, 1290, 1597, 1801, 1802,  
 1803, 1806, 1820, 1821, 1822,  
 1825, 2543, 2545, 2547, 2548,  
 2564, 2738, 2739, 2741, 3119,  
 3120, 3121, 3122, 3124, 3125,  
 3546, 3606, 3675, 3758, 3760,  
 3860, 4879, 4880, 4889, 4891,  
 4894, 4976, 5235, 5236, 5238,  
 5411, 5566, 5574, 5575, 5576,  
 5577, 5578, 5580, 5692, 5770,  
 5844, 5859, 5875, 6220, 6222,  
 6633, 6634, 6747, 6748, 6753,  
 6754, 6759, 6760, 6765, 6766,  
 7256, 7787, 9070, 9137, 9594,  
 9824, 10280, 10281, 10282,  
 10283, 10731, 10732, 10733,  
 10734, 11068, 11069, 11070,  
 11071, 11332  
`\nofrenchguillemets` . . 523, 525  
`\NoHyper` . . . . . 4577  
`\nohyperpage` . . . 4620, 6329, 6331,  
 6333  
`\nolinkurl` . . . . . 3585  
`\nolinkurl@` . . . . . 3585, 3586  
`\NomFancyVerbLineautorefname` .  
 . . . . . 2482  
`\Nomfootnoteautorefname` . 2462  
`\Nomtheoremautorefname` . . 2486  
`\nonumber` . . . . . 5382, 5385  
`\normalfont` . . . . . 434, 5443  
`\normalsize` . . . . . 452, 5724, 5787  
`\null` . . . . . 5984, 5992, 6622, 6727  
`\number` . . . . . 825,  
 829, 832, 840, 843, 845, 1601,  
 1602, 1603, 1604, 1608, 1609,  
 1610, 1611, 1612, 1616, 1617,  
 1618, 1619, 1620, 1621, 1622,  
 1626, 1627, 1628, 1629, 1630,  
 1631, 1634, 1636, 1640, 1641,

1643, 1645, 1647, 1650, 1654,  
1655, 1656, 1657, 1666, 1667,  
1671, 1672, 1679, 1680, 1684,  
1687, 1688, 1689, 1699, 1701,  
1702, 1707, 1709, 1710, 1715,  
1716, 2879, 3305, 3341, 3818,  
6914, 6917, 7642, 7656, 7657,  
7668, 7669, 7685, 7686, 7697,  
7698, 7715, 7716, 7727, 7728  
\numberline . . 5717, 5781, 11705,  
11709  
\numberwithin . . . . . 6225  
\numexpr . 1608, 1609, 1610, 1612,  
1618, 1626, 1627, 1628, 1629,  
1630, 1631, 1635, 1637, 1641,  
1643, 1645, 1647, 1651, 1654,  
1655, 1657, 1666, 1671, 1688,  
1702, 1710, 1716, 2883  
\nun . . . . . 14490

**O**

\O . . . . . 12328, 12696, 13091  
\o . . . . . 12396, 12764, 13093  
\obeylines . . . . . 9593  
\OBJ@acroform . . . 10661, 10662  
\OBJ@Helv . . 10642, 10651, 10967  
\OBJ@OCG@print 6950, 6953, 6961,  
6987, 7931, 7933, 7946, 7950,  
7959, 7988  
\OBJ@OCG@view . 6935, 6953, 6986,  
7915, 7917, 7930, 7950, 7987  
\OBJ@OCGs 6956, 6959, 6965, 6970,  
6975, 7947, 7949, 7953, 7957,  
7963, 7968, 7973  
\OBJ@pdfdocencoding . . . 10640,  
10948, 10964  
\OBJ@ZaDb . . 10641, 10650, 10957  
\OCIRCUFLEX 14333, 14431, 14432,  
14433, 14434, 14435  
\ocircumflex 14326, 14371, 14372,  
14373, 14374, 14375  
\oddsidemargin . . . . . 6080  
\OE . . . . . 12197, 12949  
\oe . . . . . 12210, 12951  
\offinterlineskip . . . . . 4758  
\OHORN 14334, 14436, 14437, 14438,  
14439, 14440  
\ohorn . . 2509, 2516, 14327, 14376,  
14377, 14378, 14379, 14380  
\oldb . . . . . 645  
\oldc . . . . . 646  
\oldcontentsline . . . 4649, 4652,  
4661  
\oldd . . . . . 647  
\oldnewlabel . . . 4654, 4659, 4662  
\OMEGA . . . . . 10039  
\openout 4644, 4679, 11828, 11894

\OpMode . . 2205, 2208, 2219, 2233,  
2236, 8744, 8831, 9538  
\or . . . . . 859, 860, 861,  
862, 863, 864, 865, 866, 867,  
881, 882, 883, 884, 885, 886,  
887, 888, 889, 904, 905, 906,  
907, 908, 909, 910, 911, 912,  
971, 972, 973, 974, 975, 976,  
977, 978, 979, 980, 981, 982,  
983, 984, 985, 986, 987, 988,  
989, 990, 991, 992, 993, 994,  
995, 996, 997, 998, 999, 1000,  
1001, 1002, 3978, 3984, 3989,  
4204, 6146, 6150, 6545, 6554,  
8737, 11754, 11755, 11756,  
11757, 11758, 11759, 11760,  
11761, 11762, 11763, 11764,  
11765, 11766, 11767, 11768,  
11769, 11770, 11771, 11772,  
11773, 11774, 11775, 11776,  
11777, 11778, 11779, 11780,  
11781, 11782, 11783, 11784,  
11785

**P**

\P . . . . . 411  
\p@ . . . . . 1667,  
1672, 4233, 4239, 5449, 7592,  
7664, 7693, 7723, 8691, 9746,  
10007, 10275, 10726, 11063,  
12019, 12020  
\p@equation . . . . . 6199  
\PackageError 61, 2061, 3076, 3700,  
3953, 4077, 4272, 4389, 4425,  
10358, 10406, 10824, 10878,  
11168, 11228  
\PackageInfo . . . 239, 6898, 6912,  
10619  
\PackageWarning . 237, 2132, 4190  
\PackageWarningNoLine . . . 238  
\pageautorefname . . . 2340, 2358,  
2376, 2394, 2412, 2430, 2448,  
2488, 2506, 2524, 6700, 6821  
\pagename . . . . . 6697  
\pageref . . 489, 3177, 3475, 5201,  
6686, 6690  
\paperheight . . 2981, 2982, 2993,  
7450, 7452, 7455, 7457, 7470,  
7472, 8379, 8380, 8382  
\paperwidth . . 2980, 2982, 7446,  
7448, 7459, 7461, 7466, 7468,  
8383  
\par . 5441, 5716, 5739, 5779, 5788,  
5986, 6006  
\paragraphautorefname . . . 2336,  
2354, 2372, 2390, 2408, 2426,  
2444, 2477, 2479, 2502, 2520,  
6817

\partautorefname . . . 2330, 2348,  
2366, 2384, 2402, 2420, 2438,  
2468, 2496, 2514, 6811  
\partnumberline . . 11706, 11710  
\PassOptionsToPackage . . . 2245,  
2282, 2286, 2308, 3019, 3292  
\pdf@addtoks . . 9206, 9225, 9231,  
9240, 9247, 9251, 9253, 9255,  
9257, 9259, 9267, 9276, 9280,  
9282, 9284, 9287, 9296, 9300,  
9302, 9304, 9306, 9308, 9310,  
9312, 9314, 9316, 9318, 9320,  
9322, 9324, 9326, 9328, 9330,  
9331, 9332, 9333, 9334, 9335,  
9336, 9337, 9338, 9339, 9340  
\pdf@addtoksx . . 9200, 9210, 9223  
\pdf@box . 9170, 9177, 9179, 9181,  
9182, 9185, 9192  
\pdf@defaulttoks . . . 9137, 9204,  
9205, 9215  
\pdf@docset . . . . . 9016  
\pdf@endanchor . 7042, 7081, 7083  
\pdf@escapestring . . . . . 6877  
\PDF@FinishDoc 2159, 2160, 2213,  
2214, 2975, 3037, 3170, 3171,  
3270, 3271, 4619, 4768, 4769,  
7332, 7525, 7739, 8161, 8267,  
8802, 9017, 9783, 9941  
\pdf@linktype . 9155, 9159, 9220,  
9221  
\pdf@rect . . . . . 9147, 9161, 9174  
\PDF@SetupDoc . 2974, 3036, 4548,  
4549, 4618, 7263, 7526, 7767,  
8193, 8268, 8752, 9057, 9680,  
9811, 9942  
\PDF@SetupDox . . . . . 7263  
\pdf@toks 9137, 9152, 9163, 9203,  
9207, 9211  
\pdf@type 9139, 9143, 9152, 9163,  
9198, 9218  
\pdfannotlink . . . . . 7024  
\pdfbookmark . . 1771, 4624, 4625,  
11725, 11730, 11735, 11739  
\pdfcatalog . . 4922, 6957, 7278,  
7320, 10662  
\PDFdefaults . . . . . 9214  
\pdfdest . . . . . 7044  
\pdfendlink . 7080, 10706, 10798,  
10812, 10839, 10864, 10888,  
10910  
\pdfescapestring . . . . . 11360  
\pdfform . . . . . 7026  
\PDFForm@Check . . . 10433, 10435,  
10907, 10908, 11264, 11268,  
11378  
\PDFForm@List . . . . 10345, 10347,  
10809, 10810, 11149, 11154,

<u>11485</u>		
\PDFForm@Name . . . .	10699, 10752, 10822, 10903, 11028, 11089, 11166, 11258, <u>11367</u>	
\PDFForm@Push . . . .	10370, 10372, 10836, 10837, 11182, 11186, <u>11406</u>	
\PDFForm@Radio . . .	10335, 10338, 10788, 10790, 11126, 11134, <u>11518</u>	
\PDFForm@Reset . . .	10413, 10415, 10885, 10886, 11236, 11241, <u>11617</u>	
\PDFForm@Submit . .	10389, 10392, 10857, 10859, 11207, 11212, <u>11585</u>	
\PDFForm@Text . . . .	10253, 10255, 10704, 10705, 11037, 11040, <u>11550</u>	
\pdfhorigin . . . . .	7443	
\pdfinfo . . . . .	7334	
\pdflastform . . . . .	7027	
\pdflastlink . . . . .	10632	
\pdflastobj . . . . .	6935, 6950, 6956, 10661, 10948, 10957, 10967	
\pdflastxform . . . .	7027, 10611, 10613	
\pdflinkmargin . . . .	7022, 7025, 7030	
\pdfliteral . . . . .	7006, 7008, 7013	
\pdfm@box . . . . .	7846, 10999, 11000, 11001, 11032, 11043, 11120, 11138, 11147, 11156, 11176, 11189, 11205, 11214, 11235, 11243, 11261, 11270	
\pdfmark . . . . .	4993, 7787, 7796, 7826, 8863, 8881, 8909, 8941, 8958, 8970, 9003, 9039, 9070, 9079, 9110, 9134, 9345, 9359, 9374, 9386, 9393, 9411, 9436, 9824, 9833, 9864, 10254, 10336, 10346, 10371, 10390, 10414, 10434, 11857	
\pdfmark@ . . . . .	9134, 9135	
\pdfminorversion . . . . .	6895	
\PDFNextPage . . . . .	9357	
\PDFNextPage@ . . . . .	9357, 9358	
\pdfobj . . . . .	6921, 6936, 6951, 10645, 10915, 10949, 10958	
\PDFOpen . . . . .	9385	
\pdfoptionpdfminorversion . . . . .	6892	
\pdfoutline . . . . .	11904	
\pdfpageattr . . . . .	7366, 7370, 7371, 7381, 7389, 7393, 7394, 7404, 7411, 7414, 7415, 7425	
\pdfpageheight . . . . .	7452, 7461, 7472, 7481	
\pdfpageresources . . . . .	6984	
\pdfpagesattr . . . . .	7267, 7269, 7271	
\pdfpagewidth . . . . .	7448, 7457, 7468, 7477	
\PDFPreviousPage . . . . .	9370	
\PDFPreviousPage@ . . . . .	9371, 9373	
\pdfreform . . . . .	7028	
\pdfrefobj . . . . .	10640, 10641, 10642	
\pdfrefxform . . . . .	7028, 10613	
\pdfstartlink . . . . .	7023, 7024, 7078, 7108, 7139, 7175, 7490, 10705, 10789, 10810, 10837, 10858, 10886, 10908	
\pdfstringdef . . . . .	381, 631, 2847, 2848, 2849, 2850, 2854, 2860, 2863, 2864, 4151, 4156, 4182, 4735, 4815, 4817, 5216, 6065, 11374, 11713	
\pdfstringdefDisableCommands . . . . .	644, <u>683</u> , 4622, 4730	
\pdfstringdefPostHook . . . . .	627, <u>677</u>	
\pdfstringdefPreHook . . . . .	500, <u>677</u> , 689, 691, 3117, 3118, 4729, 4739	
\pdfstringdefWarn . . . . .	414, 415, 494, <u>694</u> , 1158, 1163, 1182, 1186	
\pdfTeXrevision . . . . .	7223, 7231, 7242	
\pdfTeXversion . . . . .	7218, 7220, 7223, 7226, 7229, 7230, 7234, 7240, 7241, 10639	
\pdfvorigin . . . . .	7444	
\pdfxform . . . . .	7026, 10609	
\peh . . . . .	14503	
\penalty . . . . .	1293, 1780, 5913, 5936	
\phantom . . . . .	457	
\phantomsection . . . . .	2976, 4626, 6103, 11650, 11702, 11929, 11972	
\Preamble . . . . .	10035	
\process@me . . . . .	4709, 4721, 4722, 7266, 7275	
\ProcessKeyvalOptions . . . . .	3023	
\protect . . . . .	1291, 3631, 5717, 5781, 5844, 5859, 5875, 5991, 5998, 5999, 6136, 6167, 6398, 6450, 6579, 6599, 6605, 6616, 6730, 7535, 7621, 8334, 8406, 9690, 9951, 11716, 12019, 12020	
\protected@edef . . . . .	3660, 4875, 5409, 5429, 7051, 8040, 8451, 8522, 8995	
\protected@write . . . . .	1735, 3645, 5971, 6303, 6311, 6315, 11715	
\protected@xdef . . . . .	5575, 5577, 5658	
\providecommand . . . . .	1752, 1753, 2258, 2637, 2638, 2641, 2642, 3258, 3454, 3455, 3560, 3590, 4905, 4924, 5011, 5809, 5810, 5825, 5903, 6381, 6382, 6498, 6802, 6803, 6804, 6805, 6806, 6807, 6808, 6809, 6810, 6811, 6812, 6813, 6814, 6815, 6816, 6817, 6818, 6819, 6820, 6821, 6884, 7032, 7046, 7047, 7524, 7616, 7617, 7844, 7900, 7901, 7902, 8264, 8377, 8399, 8400, 8401, 8824, 9171, 9172, 9461, 9469, 9470, 9471, 9472, 9532, 9544, 9545, 9546, 9547, 9591, 9632, 9633, 9634, 9635, 9773, 9775, 9776, 9885, 9886, 9933	
\PushButton . . . . .	4444	
\put@me@back . . . . .	3753, 3766, 3776	
<b>Q</b>		
\qaf . . . . .	14486	
\quotedblbase . . . . .	12177, 12414, 14003, 14307	
\quotesinglbase . . . . .	12187, 12416, 13997, 14309	
<b>R</b>		
\r . . . . .	12057, 12069, 12081, 12289, 12354, 12463, 12490, 12509, 12531, 12658, 12722, 13005, 13007, 13967, 13969	
\ra . . . . .	14474	
\raff . . . . .	14496	
\raise . . . . .	1787, 7593, 7665, 7694, 7724, 9196, 9747, 10008	
\ReadBookmarks . . . . .	3022, 3040, 3184, 3358, 3483, <u>11808</u> , 11837	
\real@setref . . . . .	6576, 6642	
\realfootnote . . . . .	<u>5655</u>	
\Ref . . . . .	6658, 6662, 6667	
\ref . . . . .	488, 3176, 3474, 3792, 6677, 10027	
\ref@one . . . . .	3612, 3613	
\rEfLiNK . . . . .	10028, 10029	
\refstepcounter . . . . .	5081, 5088, 5274, 5294, 5321, 5345, 5353, 5773	
\rem@ptetc . . . . .	8931, 8933	
\renewcommand . . . . .	1727, 5754, 6242, 11739	
\RequirePackage . . . . .	22, 232, 233, 234, 235, 236, 1195, 1721, 2114, 3016, 3158, 3159, 3426, 3470, 3488, 3582, 3795, 4118, 4749, 6824, 8265, 9938	
\Reset . . . . .	4453	
\reset@font . . . . .	5919, 5942, 6580, 6600, 6617, 6731	
\revtex@checking . . . . .	5896	
\Rightarrow . . . . .	6532	
\rlap . . . . .	7007, 8009	
\rm . . . . .	445	
\rmfamily . . . . .	435	
\Roman . . . . .	4871	

\roman ..... 4872  
 \romannumeral ..... 701, 702  
 \rule ..... 5620

## S

\sad ..... 14478  
 \sbox ..... 4473, 9171, 9179, 10608  
 \scr@LT@array ..... 5293  
 \scriptsize ..... 453  
 \scriptstyle ..... 5909  
 \scrollmode .. 1210, 1235, 1245,  
 1258, 1350, 1482  
 \scshape ..... 441  
 \section ..... 6500  
 \sectionautorefname 2333, 2351,  
 2369, 2387, 2405, 2423, 2441,  
 2470, 2499, 2517, 6814  
 \seen ..... 14476  
 \selectfont ..... 3437, 10670  
 \setbox ..... 1294, 1300, 1306,  
 2665, 2671, 4325, 4757, 5475,  
 6997, 7516, 7584, 7650, 7680,  
 7710, 7982, 7999, 9738, 9998,  
 11032, 11120, 11147, 11176,  
 11205, 11235, 11261  
 \setkeys . 2153, 2244, 3008, 3050,  
 3291, 3407, 4224, 6904, 9140,  
 10226, 10464, 10477, 10526,  
 10569, 10590, 10638, 10975  
 \setlength . 365, 366, 1784, 7443,  
 7444, 7448, 7452, 7457, 7461,  
 7468, 7472, 7477, 7481, 8380,  
 8383, 8387, 8390, 8691  
 \setpdflinkmargin .. 2866, 2867,  
 7022  
 \settowidth 10272, 10723, 11060  
 \sffamily ..... 436  
 \shadda ..... 14501  
 \sheen ..... 14477  
 \shortciteN ..... 6034  
 \SK@ ..... 6788  
 \SK@ref ..... 6788  
 \SK@ref ..... 6785  
 \skip@ ... 1308, 1382, 1383, 1386,  
 1388, 1798, 1804, 1817, 1823  
 \slide@cline .. 6518, 6531, 6539,  
 6549, 6557  
 \Slide@contents ..... 6523  
 \slide@contents ..... 6516  
 \slide@heading ..... 6394  
 \slide@subheading ..... 6447  
 \slide@undottedcline .... 6509  
 \slidenumberline ... 6510, 6518,  
 6532, 6540, 6550, 6558  
 \SliTeX ..... 420  
 \slshape ..... 442  
 \small ..... 454

\smash ..... 1781  
 \spacefactor .. 5547, 5559, 5683,  
 5685  
 \special@paper 1936, 1940, 1944,  
 1948, 1952, 1956, 2977, 2982,  
 2988, 8254, 8257, 9523, 9525  
 \SpecialDvipdfmxOutlineOpen .  
 .... 2180, 2182, 3313  
 \splitmaxdepth ..... 5614  
 \splittopskip ..... 5613  
 \SS ..... 12412, 14306  
 \ss ... 2380, 12342, 12427, 12710  
 \st@rredfalse ..... 5328, 5337  
 \stepcounter .. 5098, 5236, 5428,  
 5548, 5657, 8025  
 \stockheight .. 2987, 2988, 2993,  
 7479, 7481, 8386, 8387  
 \stockwidth .. 2986, 2988, 7475,  
 7477, 8389, 8390  
 \stop@hyper ..... 4591  
 \StringEncodingConvertTest 618  
 \strip@period ..... 1740  
 \strip@prefix 62, 1733, 4711, 5176,  
 5412, 11853, 11861, 11876  
 \strip@pt ..... 370, 377, 3005,  
 7448, 7452, 7457, 7461, 8694,  
 11401, 11513, 11541, 11578,  
 11626  
 \strip@pt@and@otherjunk . 8880,  
 8901, 8933  
 \strutbox ..... 5614  
 \sub@label ..... 1727  
 \subeqnarray ..... 5388, 5390  
 \subequations ..... 5426, 5427  
 \subfig@oldlabel ..... 1729  
 \Submit ..... 4450  
 \SubmitObject ..... 10860  
 \SubmitPObject ..... 10860  
 \subparagraphautorefname 2337,  
 2355, 2373, 2391, 2409, 2427,  
 2445, 2478, 2480, 2503, 2521,  
 6818  
 \subpdfbookmark ..... 11727  
 \subsection ..... 9769  
 \subsectionautorefname .. 2334,  
 2352, 2370, 2388, 2406, 2424,  
 2442, 2475, 2500, 2518, 6815  
 \subsubsectionautorefname 2335,  
 2353, 2371, 2389, 2407, 2425,  
 2443, 2476, 2501, 2519, 6816  
 \sukun ..... 14502  
 \surd ..... 6540

## T

\T ..... 14466  
 \t ... 12089, 12482, 12501, 12520,  
 12536

\T@pageref .... 3461, 3476, 6675  
 \T@ref ..... 3456, 3474  
 \T@temp ..... 5897, 5900  
 \Ta ..... 14480  
 \taa ..... 14467  
 \tableautorefname .. 2329, 2347,  
 2365, 2383, 2401, 2419, 2437,  
 2467, 2495, 2513, 6810  
 \tagform@ ..... 6198  
 \tatweel ..... 14484  
 \tcheh ..... 14504  
 \TeX .... 416, 417, 419, 420, 10038,  
 10040, 10042  
 \texorpdfstring ..... 670, 4623  
 \textacute . 12053, 12065, 12077,  
 12255, 12486, 12505, 12623  
 \textacutedbl ..... 13155  
 \textaleph ..... 14121  
 \textAlpha ... 859, 13175, 13191  
 \textalpha ... 859, 13244, 13254  
 \textampersand 408, 12122, 12553  
 \textangstrom ..... 14117  
 \textasciicircum ..... 12624  
 \textasciibreve .. 12098, 12494,  
 12513, 13144  
 \textasciicaron .. 12058, 12070,  
 12082, 12100, 12491, 12510,  
 13142  
 \textasciicircum . 12054, 12066,  
 12078, 12136, 12487, 12506,  
 12569  
 \textasciidieresis 12056, 12068,  
 12080, 12232, 12489, 12508,  
 12600  
 \textasciigrave .. 12052, 12064,  
 12076, 12141, 12485, 12504,  
 12573  
 \textasciimacron . 12061, 12073,  
 12085, 12245, 12496, 12515,  
 12613  
 \textasciitilde 409, 3523, 12151,  
 12584  
 \textasteriskcentered .. 12561  
 \textbackslash . 404, 554, 12134,  
 12567  
 \textbaht ..... 13829  
 \textbar ..... 12147, 12580  
 \textbardbl ..... 13991  
 \textBeta ..... 860, 13193  
 \textbeta .... 860, 12427, 13256  
 \textbf ..... 428  
 \textbigcircle ... 12503, 12522,  
 14291  
 \textblank ..... 14139  
 \textbraceleft 402, 12145, 12578  
 \textbraceright 403, 12149, 12582  
 \textbrokenbar ... 12228, 12596

<code>\textbullet</code> . . . . .	12153, 14009	<code>\textdoublegrave</code> .	12495, 12514, 13161	<code>\textkra</code> . . . . .	12897
<code>\textcdot</code> . . . . .	12426, 14319	<code>\textdownarrow</code> . . . . .	14129	<code>\textLambda</code> . . . . .	883, 13211
<code>\textcedilla</code> 12060, 12072, 12084, 12263, 12493, 12512, 12632		<code>\texteightinferior</code> . . . .	14075	<code>\textlambda</code> . . . . .	883, 13274
<code>\textcelsius</code> . . . . .	12413, 14101	<code>\teightsuperior</code> . . . .	14043	<code>\textlatin</code> . . . . .	463, 5164
<code>\textcent</code> . . . . .	12220, 12588	<code>\textellipsis</code> . .	412, 413, 12159, 14011	<code>\textlbrackdbl</code> . . . . .	14299
<code>\textChi</code> . . . . .	909, 13233	<code>\textemdash</code> . .	588, 12161, 13989	<code>\textleftarrow</code> . . . . .	14123
<code>\textchi</code> . . . . .	909, 13298	<code>\textendash</code> . .	589, 12163, 13987	<code>\textless</code> . . . . .	12130, 12563
<code>\textcircled</code> 12484, 12503, 12522, 14143, 14145, 14147, 14149, 14151, 14153, 14155, 14157, 14159, 14161, 14163, 14165, 14167, 14169, 14171, 14173, 14175, 14177, 14179, 14181, 14183, 14185, 14187, 14189, 14191, 14193, 14195, 14197, 14199, 14201, 14203, 14205, 14207, 14209, 14211, 14213, 14215, 14217, 14219, 14221, 14223, 14225, 14227, 14229, 14231, 14233, 14235, 14237, 14239, 14241, 14243, 14245, 14247, 14249, 14251, 14253, 14255, 14257, 14259, 14261, 14263, 14265, 14267, 14269, 14271, 14273, 14275, 14277, 14279, 14281, 14283, 14285, 14287		<code>\textEpsilon</code> . .	863, 13177, 13199	<code>\textLF</code> . . . . .	12094, 12541
<code>\textcircledP</code> . . . . .	14105	<code>\textepsilonsuperior</code> . . . .	14051	<code>\textlira</code> . . . . .	14085
<code>\textcircumflex</code> . . . . .	12102	<code>\textestimated</code> . . . . .	14119	<code>\textlnot</code> . . . . .	12241, 12609
<code>\textcolonmonetary</code> . . . .	14083	<code>\textEta</code> . . . .	866, 13179, 13203	<code>\textlogicalnot</code> . .	12240, 12422, 12608, 14315
<code>\textcolor</code> . . .	460, 10637, 10675, 10678, 10974	<code>\texteta</code> . . . .	866, 13248, 13266	<code>\textlongS</code> . . . . .	13039, 13971
<code>\textcompwordmark</code> . . . . .	13985	<code>\texteuro</code> . . . . .	12216, 14095	<code>\textlquill</code> . . . . .	14027
<code>\textcopyright</code> . . .	12234, 12602	<code>\textexclamdown</code> 592, 770, 12218, 12586		<code>\textmacronbelow</code> .	12062, 12074, 12086, 12139, 12499, 12518, 13167
<code>\textCR</code> . . . . .	12096, 12543	<code>\textfi</code> . . . . .	590, 12191, 14303	<code>\textmarried</code> . . . . .	14295
<code>\textcurrency</code> . . . .	12224, 12592	<code>\TextField</code> . . . . .	4435	<code>\textmd</code> . . . . .	429
<code>\textdagger</code> . . . . .	12155, 14005	<code>\textfiveinferior</code> . . . .	14069	<code>\textmho</code> . . . . .	14115
<code>\textdaggerdbl</code> . . .	12157, 14007	<code>\textfivesuperior</code> . . . .	14037	<code>\textminus</code> . . . . .	12173, 14131
<code>\textdegree</code> 12247, 12413, 12615		<code>\textfl</code> . . . . .	591, 12193, 14305	<code>\textminussuperior</code> . . . .	14049
<code>\textDelta</code> . . . . .	862, 13197	<code>\textflorin</code> . . . .	12165, 13041	<code>\textMu</code> . . . . .	884, 13213
<code>\textdelta</code> . . . . .	862, 13260	<code>\textflq</code> . . . .	478, 12420, 14313	<code>\textmu</code> . . . . .	884, 12257, 12626
<code>\textDigammagreek</code> . . . .	13319	<code>\textflqq</code> . . . .	476, 12418, 14311	<code>\textmugreek</code> . . . . .	13276
<code>\textdigammagreek</code> . . . .	13321	<code>\textfourinferior</code> . . . .	14067	<code>\textmultiply</code> . . . .	12326, 12423, 12694, 14316
<code>\textdiscount</code> . . . . .	14031	<code>\textfoursuperior</code> . . . .	14035	<code>\textmusicalnote</code> . . . . .	14293
<code>\textdiv</code> . . . . .	12424, 14317	<code>\textfractionsolidus</code> . . .	12167, 14025	<code>\textnaira</code> . . . . .	14087
<code>\textdivide</code> 12394, 12424, 12762, 14317		<code>\textfrq</code> . . . .	479, 12421, 14314	<code>\textnapostrophe</code> . . . .	12931
<code>\textdivorced</code> . . . . .	14297	<code>\textfrqq</code> . . . .	477, 12419, 14312	<code>\textneg</code> . . . . .	12422, 14315
<code>\textdollar</code> . .	406, 12118, 12549	<code>\textGamma</code> . . . . .	861, 13195	<code>\textnewtie</code> 12502, 12521, 13163	
<code>\textdong</code> . . . . .	14093	<code>\textgamma</code> . . . . .	861, 13258	<code>\textnineinferior</code> . . . .	14077
<code>\textdotaccent</code> . . .	12059, 12071, 12083, 12104, 12492, 12511, 13146	<code>\textglq</code> . . . .	474, 12416, 14309	<code>\textninesuperior</code> . . . .	14045
<code>\textdotbelow</code> . . . .	12063, 12075, 12087, 12128, 12500, 12519, 13165	<code>\textglqq</code> . . . .	472, 12414, 14307	<code>\textnormal</code> . . . . .	424
		<code>\textgravedbl</code> . . . . .	13157	<code>\textnsuperior</code> . . . . .	14057
		<code>\textgreater</code> . . . .	12132, 12565	<code>\textNu</code> . . . . .	885, 13215
		<code>\textgrq</code> . . . .	475, 12417, 14310	<code>\textnu</code> . . . . .	885, 13278
		<code>\textgrqq</code> . . . .	473, 12415, 14308	<code>\textnumbersign</code> 405, 12116, 12547	
		<code>\textGslash</code> . . . . .	13060	<code>\textnumeralsigngreek</code> . . . .	836, 13171
		<code>\textgslash</code> . . . . .	13062	<code>\textnumeralsignlowergreek</code> 853, 875, 898, 13173	
		<code>\textguarani</code> . . . . .	14099	<code>\textnumero</code> . . . . .	14103
		<code>\textHslash</code> . . . . .	12856	<code>\textogonek</code> 12108, 12498, 12517, 13150	
		<code>\texthslash</code> . . . . .	12858	<code>\textohm</code> . . . . .	14113
		<code>\textHT</code> . . . . .	12092, 12539	<code>\textOmega</code> . . .	911, 13187, 13237
		<code>\texthungarumlaut</code> 12106, 12497, 12516, 13154, 13155		<code>\textomega</code> . . .	911, 13302, 13313
		<code>\textinterrobang</code> . . . . .	14023	<code>\textOmicron</code> . .	887, 13183, 13219
		<code>\textIota</code> 881, 13181, 13207, 13240		<code>\textomicron</code> . .	887, 13282, 13308
		<code>\textiota</code> 881, 13250, 13270, 13304		<code>\textonehalf</code> . . . .	12273, 12642
		<code>\textIotadieresis</code> 13189, 13239		<code>\textoneinferior</code> . . . . .	14061
		<code>\textit</code> . . . . .	430	<code>\textonequarter</code> . .	12271, 12640
		<code>\textKappa</code> . . . . .	882, 13209	<code>\textonesuperior</code> .	12265, 12634
		<code>\textkappa</code> . . . . .	882, 13272	<code>\textopenbullet</code> . . . . .	14289
		<code>\textKoppagreek</code> . . . .	889, 13323		
		<code>\textkoppagreek</code> . . . .	889, 13325		



<code>\textordfeminine</code> .	12236, 12604	<code>\textSigma</code> . . . . .	905, 13225	<code>\theHenumi</code> . . . . .	5074
<code>\textordmasculine</code>	12267, 12636	<code>\textsigma</code> . . . . .	905, 13290	<code>\theHenumii</code> . . . . .	5075
<code>\textparagraph</code>	411, 12259, 12628	<code>\textsixinferior</code> . . . . .	14071	<code>\theHenumiii</code> . . . . .	5076
<code>\textparenleft</code> .	596, 597, 12124, 12557	<code>\textsixsuperior</code> . . . . .	14039	<code>\theHenumiv</code> . . . . .	5077
<code>\textparenleftinferior</code> .	14079	<code>\textsl</code> . . . . .	432	<code>\theHequation</code> .	5045, 5114, 5349, 5371, 5395, 5403, 5430, 5434
<code>\textparenleftsuperior</code> .	14053	<code>\textsterling</code> . . . . .	12222, 12590	<code>\theHfigure</code> . . . . .	5052, 5056
<code>\textparenright</code> . .	12126, 12559	<code>\textStigmagreek</code> . . .	864, 13315	<code>\theHHfootnote</code> . . . . .	5078, 5080
<code>\textparenrightinferior</code>	14081	<code>\textstigmagreek</code> . . .	864, 13317	<code>\theHHmpfootnote</code> . . . . .	5080
<code>\textparenrightsuperior</code>	14055	<code>\textsurd</code> . . . . .	14133	<code>\theHItem</code>	5068, 5074, 5075, 5076, 5077
<code>\textpercent</code> . .	407, 12120, 12551	<code>\TextSymbolUnavailable</code> .	12088, 12089, 12090	<code>\theHlisting</code> . . . . .	2641
<code>\textperiodcentered</code> . . .	12261, 12426, 12630, 14319	<code>\textTau</code> . . . . .	906, 13227	<code>\theHlstlisting</code> . . . . .	2637
<code>\textpertenthousand</code> . . .	14015	<code>\texttau</code> . . . . .	906, 13292	<code>\theHmpfootnote</code> . . . . .	5079
<code>\textperthousand</code> .	12175, 14013	<code>\textTheta</code> . . . . .	867, 13205	<code>\theHparagraph</code> . . . . .	5062, 5063
<code>\textpeseta</code> . . . . .	14089	<code>\texttheta</code> . . . . .	867, 13268	<code>\theHparentequation</code>	5429, 5434
<code>\textpeso</code> . . . . .	14097	<code>\textthreeinferior</code> . . . .	14065	<code>\theHpart</code> . . . . .	5048
<code>\textPhi</code> . . . . .	908, 13231	<code>\textthreequarters</code>	12275, 12644	<code>\theHsection</code> . .	5045, 5051, 5058, 5060, 5064, 5065, 5139
<code>\textphi</code> . . . . .	908, 13296	<code>\textthreesuperior</code>	12253, 12621	<code>\theHslide</code> . . . . .	6385
<code>\textPi</code> . . . . .	888, 13221	<code>\texttie</code> . .	12501, 12520, 13169	<code>\theHslidesection</code> . .	6390, 6392, 6428, 6432
<code>\textpi</code> . . . . .	888, 13284	<code>\texttilde</code> . .	3099, 12055, 12067, 12079, 12112, 12488, 12507, 13152	<code>\theHslidesubsection</code>	6391, 6479, 6483
<code>\textplusminus</code> . .	12249, 12425, 12617, 14318	<code>\texttildelow</code> . . . . .	13159	<code>\theHsubequation</code> . . . . .	5403
<code>\textplussuperior</code> . . . . .	14047	<code>\texttimes</code> . . . . .	12423, 14316	<code>\theHsubparagraph</code> . . . . .	5063
<code>\textpm</code> . . . . .	12425, 14318	<code>\texttrademark</code> . . .	12189, 14111	<code>\theHsubsection</code> . . . .	5060, 5061
<code>\textPsi</code> . . . . .	910, 13235	<code>\textTslash</code> . . . . .	12989	<code>\theHsubsubsection</code> .	5061, 5062
<code>\textpsi</code> . . . . .	910, 13300	<code>\texttslash</code> . . . . .	12991	<code>\theHtable</code> . . . . .	5053, 5057
<code>\textquestiondown</code> . . .	593, 771, 12277, 12646	<code>\texttt</code> . . . . .	427	<code>\theHtheorem</code> . . . . .	5064
<code>\textquotedbl</code> . . .	12114, 12545	<code>\texttwoinferior</code> . . . . .	14063	<code>\theHthm</code> . . . . .	5065
<code>\textquotedblleft</code>	12179, 12415, 13999, 14308	<code>\texttwosuperior</code> .	12251, 12619	<code>\thelisting</code> . . . . .	2641
<code>\textquotedblright</code>	12181, 14001	<code>\textunderscore</code>	410, 3517, 3518, 3520, 12138, 12571	<code>\thelstlisting</code> . . . . .	2637
<code>\textquoteleft</code> . .	12183, 12417, 13993, 14310	<code>\textup</code> . . . . .	433	<code>\thempfn</code> .	5503, 5576, 5578, 5658, 5670
<code>\textquoteright</code> . .	12185, 13995	<code>\textUpsilon</code> . .	907, 13185, 13229, 13242	<code>\theoremautorefname</code>	2339, 2357, 2375, 2393, 2411, 2429, 2447, 2485, 2505, 2523, 6820
<code>\textquotesingle</code> . . . . .	12555	<code>\textupsilon</code> . .	907, 13294, 13306, 13311	<code>\thepage</code> .	1738, 3633, 4777, 4800, 5216, 5224, 5251, 5922, 5945, 5974, 6065, 6136, 6167, 6304, 6312, 6316, 6582, 6602, 6619, 6733
<code>\texttriangle</code> . . . . .	14137	<code>\textupsilonacute</code>	13252, 13310	<code>\theslideheading</code> . . . . .	6411
<code>\texttrbrackdbl</code> . . . . .	14301	<code>\textvarsigma</code> . . . . .	13288	<code>\theslidesection</code> . .	6399, 6406, 6414, 6420, 6422, 6424, 6430, 6440
<code>\textrecipe</code> . . . . .	14107	<code>\textvisiblespace</code> . . . .	14141	<code>\theslidesubheading</code>	6412, 6463
<code>\textreferencemark</code> . . . .	14021	<code>\textwon</code> . . . . .	14091	<code>\theslidesubsection</code>	6451, 6458, 6465, 6471, 6473, 6475, 6481, 6491
<code>\textregistered</code> . .	12243, 12611	<code>\textXi</code> . . . . .	886, 13217	<code>\This@name</code>	5092, 5093, 5110, 5111
<code>\textRho</code> . . . . .	904, 13223	<code>\textxi</code> . . . . .	886, 13280	<code>\thispdfpagelabel</code> . . . . .	4782
<code>\textrho</code> . . . . .	904, 13286	<code>\textyen</code> . . . . .	12226, 12594	<code>\ThisShouldNotHappen</code> . . .	11339
<code>\textrightarrow</code> . . . . .	14127	<code>\textzeroinferior</code> . . . .	14059	<code>\thm@headpunct</code> . . . . .	5448
<code>\textring</code> . .	12057, 12069, 12081, 12110, 12490, 12509, 13148	<code>\textzerosuperior</code> . . . .	14033	<code>\thm@headsep</code> . . . . .	5449
<code>\textrm</code> . . . . .	425	<code>\textZeta</code> . . . . .	865, 13201	<code>\thm@notefont</code> . . . . .	5447
<code>\textrquill</code> . . . . .	14029	<code>\textzeta</code> . . . . .	865, 13264		
<code>\textSampigreek</code> . . . .	912, 13327	<code>\TH</code> . . . . .	12340, 12708		
<code>\textsampigreek</code> . . . .	912, 13329	<code>\th</code> . . . . .	12408, 12776		
<code>\textsc</code> . . . . .	431	<code>\thaa</code> . . . . .	14468		
<code>\textsection</code> . . . .	12230, 12598	<code>\theequation</code> . .	5113, 5348, 5370, 5394, 5430		
<code>\textservicemark</code> . . . . .	14109	<code>\thefootnote</code> . . . . .	5514, 5677		
<code>\textseveninferior</code> . . . .	14073	<code>\theHchapter</code> . .	5055, 5056, 5057, 5058, 5140		
<code>\textsevensuperior</code> . . . .	14041				
<code>\textsf</code> . . . . .	426, 10675, 10678				



10279, 10299, 10730, 10750,  
 11067, 11087  
 \XeTeXrevision . . . . . 3305, 8158  
 \XeTeXversion . . . . . 3305, 8158  
 \XR@dURL . . . . . 1759, 1760  
 \XR@addURL . . . . . 1759  
 \XR@ext . . . . . 1994, 1995, 3732, 3735,  
 4924, 6884, 7524, 7616, 7844,  
 8264, 9461, 9532, 9591, 9773,  
 9933  
 \XR@URL . . . . . 1764  
 \xspace . . . . . 506, 508

**Y**  
 \y . . . . . 1881, 1886, 1891, 2659, 2660,  
 2661, 2662, 3057, 3060, 3063,  
 3066, 3068, 3074, 3107, 3108,  
 3110, 4711, 4719, 5292, 5293,  
 5296, 5304  
 \ya . . . . . 14494  
 \yahamza . . . . . 14463  
**Z**  
 \z . . . . . 1883, 1884, 1885  
 \z@ . . . . . 835, 852, 874,  
 897, 1040, 1294, 1300, 1306,  
 1370, 1374, 1382, 1386, 1794,

1813, 2080, 2083, 2182  
 2671, 2980, 2981, 2986  
 2995, 3313, 4927, 4930  
 5476, 5620, 7446, 7450  
 7459, 7466, 7470, 7475  
 8723, 8747, 8931, 9182  
 10268, 10719, 11004,  
 11387, 11416, 11421,  
 11499, 11527, 11558,  
 11583, 11593, 11598,  
 11632, 11869, 11966  
 \za . . . . .  
 \zay . . . . .  
 \ZWNJ . . . . .