

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

Sebastian Rahtz

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

Heiko Oberdiek (maintainer)

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

2012/08/03 v6.82y

## 1 Documentation overview for hyperref

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

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

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


[ChangeLog](#) This file records the version history (also available as text file).

[Options](#) This file provides a short option summary.

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

[Bookmark talk, paper](#) The paper version of the talk.

Source code documentation:

 [hyperref.dtx](#) This is the source code documentation for hyperref (this file).

[backref.dtx](#) “Back referencing from bibliographical citations”

[nameref.dtx](#) “Section name references in L<sup>A</sup>T<sub>E</sub>X”

## 2 Contents

<b>1</b>	<b>Documentation overview for hyperref</b>	<b>1</b>
<b>2</b>	<b>Contents</b>	<b>2</b>
<b>3</b>	<b>File hycheck.tex</b>	<b>7</b>
<b>4</b>	<b>Package options and setup</b>	<b>11</b>
4.1	Save catcodes . . . . .	11
4.2	Version check . . . . .	13
4.3	Checks with regular expressions . . . . .	14
4.4	Compatibility with format dumps . . . . .	15
4.5	Switches . . . . .	15
<b>5</b>	<b>Common help macros</b>	<b>17</b>
5.1	Macros for recursions . . . . .	17
5.2	Babel's protection of shorthand characters . . . . .	17
5.3	Coordinate transformations . . . . .	18
<b>6</b>	<b>Dealing with PDF strings</b>	<b>19</b>
6.1	Description of PDF strings . . . . .	19
6.2	Definition of <code>\pdfstringdef</code> . . . . .	19
6.2.1	Preprocessing . . . . .	20
6.2.2	Expansion . . . . .	26
6.2.3	Postprocessing . . . . .	27
6.3	Encodings . . . . .	31
6.3.1	XeTeX . . . . .	31
6.3.2	Workaround for package linguex . . . . .	32
6.3.3	PD1 encoding . . . . .	33
6.3.4	PU encoding . . . . .	33
6.4	Additional user commands . . . . .	34
6.4.1	<code>\texorpdfstring</code> . . . . .	34
6.4.2	Hooks for <code>\pdfstringdef</code> . . . . .	34
6.5	Help macros for expansion . . . . .	35
6.5.1	<code>\ignorespaces</code> . . . . .	35
6.5.2	Babel languages . . . . .	35
6.5.3	CJK patch . . . . .	40
6.5.4	CJK bookmarks . . . . .	41
6.5.5	CJK unicode . . . . .	42
6.5.6	<code>\@inmathwarn-Patch</code> . . . . .	47
6.5.7	Unexpandable spaces . . . . .	48
6.5.8	Marker for commands . . . . .	48
6.5.9	<code>\hspace fix</code> . . . . .	48
6.5.10	Fix for AMS classes . . . . .	49
6.5.11	Reference commands . . . . .	49
6.5.12	Redefining the defining commands . . . . .	51
6.5.13	<code>\ifnextchar</code> . . . . .	53
6.5.14	<code>\@protected@testoptifnextchar</code> . . . . .	53
6.6	Help macros for postprocessing . . . . .	53
6.6.1	Generic warning. . . . .	53
6.6.2	Protecting spaces . . . . .	53
6.6.3	Remove grouping braces . . . . .	55
6.6.4	Catcode check . . . . .	56

6.6.5	Check for wrong glyphs . . . . .	59
6.6.6	Replacing tokens . . . . .	60
6.6.7	Support for package <code>xspace</code> . . . . .	61
6.6.8	Converting to Unicode . . . . .	62
6.6.9	Support for UTF-8 input encoding . . . . .	64
6.6.10	Support for die faces (ifsym et. al.) . . . . .	67
6.6.11	Support for moon phases of package <code>china2e</code> . . . . .	68
6.6.12	Support for package <code>pifont</code> . . . . .	69
<b>7</b>	<b>Support of other packages</b>	<b>70</b>
7.1	Class memoir . . . . .	70
7.2	Package subfigure . . . . .	70
7.3	Package xr and xr-hyper . . . . .	71
<b>8</b>	<b>Help macros for links</b>	<b>71</b>
<b>9</b>	<b>Options</b>	<b>73</b>
9.1	Help macros . . . . .	73
9.2	Defining the options . . . . .	75
<b>10</b>	<b>Options for different drivers</b>	<b>80</b>
<b>11</b>	<b>Options to add extra features</b>	<b>83</b>
<b>12</b>	<b>Language options</b>	<b>84</b>
<b>13</b>	<b>Options to change appearance of links</b>	<b>91</b>
<b>14</b>	<b>Bookmarking</b>	<b>92</b>
<b>15</b>	<b>PDF-specific options</b>	<b>94</b>
15.1	Package <code>xspace</code> support . . . . .	105
15.2	Option <code>draft</code> . . . . .	105
15.3	PDF/A . . . . .	106
15.4	Patch for babel's <code>\texttilde</code> . . . . .	106
15.4.1	Driver loading . . . . .	108
15.4.2	Bookmarks . . . . .	111
<b>16</b>	<b>User hypertext macros</b>	<b>114</b>
<b>17</b>	<b>Underlying basic hypertext macros</b>	<b>120</b>
<b>18</b>	<b>Option ‘<code>destlabel</code>’</b>	<b>124</b>
<b>19</b>	<b>Compatibility with the <i>L<sup>A</sup>T<sub>E</sub>X</i>2html package</b>	<b>126</b>
<b>20</b>	<b>Forms creation</b>	<b>126</b>
20.1	Field flags . . . . .	126
20.1.1	Declarations of field flags . . . . .	128
20.1.2	Set submit flags . . . . .	130
20.1.3	Set annot flags in fields . . . . .	131
20.1.4	Pushbutton field . . . . .	131
20.1.5	Check box field . . . . .	132
20.1.6	Radio button field . . . . .	132
20.1.7	Text fields . . . . .	132

20.1.8 Choice fields . . . . .	133
20.2 Choice field . . . . .	134
20.3 Forms . . . . .	136
<b>21 Setup</b>	<b>143</b>
<b>22 Low-level utility macros</b>	<b>144</b>
<b>23 Localized nullifying of package</b>	<b>145</b>
<b>24 Package nohyperref</b>	<b>145</b>
<b>25 The Mangling Of Aux and Toc Files</b>	<b>146</b>
<b>26 Title strings</b>	<b>148</b>
<b>27 Page numbers</b>	<b>149</b>
<b>28 Every page</b>	<b>149</b>
28.1 PDF /PageLabels . . . . .	150
28.1.1 pdfTeX and VTeX . . . . .	154
28.1.2 xetex . . . . .	155
28.1.3 pdfmarkbase, dvipdfm, xetex . . . . .	156
<b>29 Automated L<sup>A</sup>T<sub>E</sub>X hypertext cross-references</b>	<b>157</b>
<b>30 Package lastpage support</b>	<b>163</b>
<b>31 Package ifthen support</b>	<b>164</b>
<b>32 Package titlesec and titletoc support</b>	<b>164</b>
<b>33 Package varioref support</b>	<b>165</b>
<b>34 Package longtable support</b>	<b>166</b>
<b>35 Equations</b>	<b>166</b>
<b>36 Footnotes</b>	<b>171</b>
<b>37 Float captions</b>	<b>176</b>
<b>38 Bibliographic references</b>	<b>178</b>
38.1 Package harvard . . . . .	182
38.2 Package chicago . . . . .	183
<b>39 Page numbers</b>	<b>184</b>
<b>40 Table of contents</b>	<b>186</b>
<b>41 New counters</b>	<b>187</b>
<b>42 AMSL<sup>A</sup>T<sub>E</sub>X compatibility</b>	<b>188</b>
42.1 \@addtoreset and \numberwithin patches . . . . .	189
<b>43 Included figures</b>	<b>190</b>

<b>44 hyperindex entries</b>	<b>190</b>
<b>45 Compatibility with foiltex</b>	<b>193</b>
<b>46 Compatibility with seminar slide package</b>	<b>193</b>
<b>47 Configuration files</b>	<b>201</b>
47.1 PS/PDF strings . . . . .	201
47.2 pdftex . . . . .	203
47.2.1 Fix for problem with different nesting levels . . . . .	217
47.3 hypertex . . . . .	217
47.4 dviwindo . . . . .	220
47.5 dvipdfm/xetex dvi to PDF converter . . . . .	225
47.6 VTeX typesetting system . . . . .	235
47.7 Fix for Adobe bug number 466320 . . . . .	247
47.8 Direct pdfmark support . . . . .	248
47.9 Rokicki's dvips . . . . .	261
47.10 VTeX's vtexpdfmark driver . . . . .	263
47.11 Textures . . . . .	265
47.12 dvipsone . . . . .	269
47.13 TeX4ht . . . . .	272
<b>48 Driver-specific form support</b>	<b>275</b>
48.1 pdfmarks . . . . .	275
48.2 HyperTeX . . . . .	282
48.3 TeX4ht . . . . .	282
48.4 pdfTeX . . . . .	285
48.5 dvipdfm, xetex . . . . .	292
48.6 Common forms part . . . . .	299
<b>49 Bookmarks in the PDF file</b>	<b>306</b>
49.1 Bookmarks . . . . .	306
49.1.1 Rerun warning . . . . .	310
49.1.2 Driver stuff . . . . .	310
<b>50 Compatibility with koma-script classes</b>	<b>316</b>
<b>51 Encoding definition files for encodings of PDF strings</b>	<b>317</b>
51.1 PD1 encoding . . . . .	317
51.2 PU encoding . . . . .	325
51.2.1 NFSS2 accents . . . . .	325
51.2.2 Basic Latin: U+0000 to U+007F . . . . .	327
51.2.3 Latin-1 Supplement: U+0080 to U+00FF . . . . .	329
51.2.4 Latin Extended-A: U+0080 to U+017F . . . . .	332
51.2.5 Latin Extended-B: U+0180 to U+024F . . . . .	338
51.2.6 IPA Extensions: U+0250 to U+02AF . . . . .	341
51.2.7 Spacing Modifier Letters: U+02B0 to U+02FF . . . . .	347
51.2.8 Combining Diacritical Marks: U+0300 to U+036F . . . . .	348
51.2.9 Greek and Coptic: U+0370 to U+03FF . . . . .	348
51.2.10 Cyrillic: U+0400 to U+04FF . . . . .	351
51.2.11 Hebrew: U+0590 to U+05FF . . . . .	362
51.2.12 Thai: U+0E00 to U+0E7F . . . . .	363
51.2.13 Phonetic Extensions: U+1D00 to U+1D7F . . . . .	363
51.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF . . . . .	364

51.2.15	Latin Extended Additional: U+1E00 to U+1EFF . . . . .	364
51.2.16	General Punctuation: U+2000 to U+206F . . . . .	370
51.2.17	Superscripts and Subscripts: U+2070 to U+209F . . . . .	371
51.2.18	Currency Symbols: U+20A0 to U+20CF . . . . .	373
51.2.19	Letterlike Symbols: U+2100 to U+214F . . . . .	373
51.2.20	Number Forms: U+2150 to U+218F . . . . .	374
51.2.21	Arrows: U+2190 to U+21FF . . . . .	375
51.2.22	Mathematical Operators: U+2200 to U+22FF . . . . .	378
51.2.23	Miscellaneous Technical: U+2300 to U+23FF . . . . .	386
51.2.24	Control Pictures: U+2400 to U+243F . . . . .	387
51.2.25	Optical Character Recognition: U+2440 to U+245F . . . . .	387
51.2.26	Enclosed Alphanumerics: U+2460 to U+24FF . . . . .	387
51.2.27	Geometric Shapes: U+25A0 to U+25FF . . . . .	390
51.2.28	Miscellaneous Symbols: U+2600 to U+26FF . . . . .	390
51.2.29	Dingbats: U+2700 to U+27BF . . . . .	394
51.2.30	Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF . . . . .	397
51.2.31	Supplemental Arrows-A: U+27F0 to U+27FF . . . . .	397
51.2.32	Supplemental Arrows-B . . . . .	398
51.2.33	Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF . . . . .	399
51.2.34	Supplemental Mathematical Operators: U+2A00 to U+2AFF . . . . .	400
51.2.35	Latin Extended-C: U+2C60 to U+2C7F . . . . .	402
51.2.36	Supplemental Punctuation: U+2E00 to U+2E7F . . . . .	402
51.2.37	Modifier Tone Letters: U+A700 to U+A71F . . . . .	402
51.2.38	Latin Extended-D: U+A720 to U+A7FF . . . . .	402
51.2.39	Alphabetic Presentation Forms: U+FB00 to U+FB4F . . . . .	403
51.2.40	Musical Symbols: U+1D100 to U+1D1FF . . . . .	403
51.2.41	Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF . . . . .	403
51.2.42	Transport and Map Symbols: U+1F680 to U+1F6FF . . . . .	404
51.2.43	Miscellaneous . . . . .	404
51.2.44	Aliases . . . . .	404
51.3	PU encoding, additions for VnTeX . . . . .	404
51.4	PU encoding, additions for Arabi . . . . .	407
<b>52</b>	<b>End of file hycheck.tex</b>	<b>426</b>
<b>53</b>	<b>Index</b>	<b>427</b>

### 3 File hycheck.tex

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

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

`\checklatex` Optional argument: release date of L<sup>A</sup>T<sub>E</sub>X.

```
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 L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X'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#{%
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!

Use package `hobsub-hyperref` for faster package loading.

```

232 \IfFileExists{hobsub-hyperref.sty}{%
233 \RequirePackage{hobsub-hyperref}[2011/01/30]%
234 }{}

235 \RequirePackage{ltxcmds}[2010/10/25]
236 \RequirePackage{ifpdf}[2006/02/20]
237 \RequirePackage{pdftexcmds}[2009/04/10]
238 \@ifpackagelater{pdftexcmds}{2010/11/04}{%}{%
239 \ltx@ifundefined{pdfdraftmode}{%
240 \let\pdf@ifdraftmode\ltx@secondoftwo
241 }{%
242 \ifpdf
243 \def\pdf@ifdraftmode{%
244 \ifnum\pdfdraftmode=\ltx@one
245 \expandafter\ltx@firstoftwo
246 \else
247 \expandafter\ltx@secondoftwo
248 \fi
249 }%
250 \else
251 \let\pdf@ifdraftmode\ltx@secondoftwo
252 \fi
253 }%
254 }

255 \RequirePackage{infwarerr}[2010/04/08]
256 \RequirePackage{keyval}[1997/11/10]
257 \RequirePackage{kvsetkeys}[2007/09/29]
258 \RequirePackage{pdfescape}[2007/11/11]
259 \RequirePackage{ifvtex}
260 \RequirePackage{ifxetex}[2006/08/21]

```

```

261 \RequirePackage{hycolor}
262 \RequirePackage{letltxmacro}[2008/06/13]
263 \RequirePackage{auxhook}[2009/12/14]
264 \def\Hy@Error{\@PackageError{hyperref}}
265 \def\Hy@Warning{\@PackageWarning{hyperref}}
266 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
267 \def\Hy@Info{\@PackageInfo{hyperref}}
268 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
269 \def\Hy@Message#1{%
270   \GenericWarning{%
271     (hyperref)\@spaces\@spaces\@spaces\@spaces
272   }{%
273     Package hyperref Message: #1\ltx@gobble
274   }%
275 }

```

## 4.2 Version check

\Hy@VersionChecked

```

276 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

277 \def\Hy@VersionCheck#1{%
278   \begingroup
279   \ltx@ifundefined{ver@hyperref.sty}{%
280     \Hy@Error{%
281       This should not happen!\MessageBreak
282       Missing hyperref version%
283     }\@ehd
284   }{%
285     \ltx@ifundefined{ver@#1}{%
286       \Hy@Error{%
287         This should not happen!\MessageBreak
288         Missing version of '#1'%
289       }\@ehd
290     }{%
291       \def\x##1##2##3{%
292         \expandafter\expandafter\expandafter\Hy@@VersionCheck
293         \expandafter\expandafter\expandafter##2%
294         \csname ver@##3\endcsname##1##1\@nil
295       }%
296       \x{ }\y{hyperref.sty}%
297       \x{ }\z{#1}%
298       \ifx\y\z
299         \else
300         \Hy@Error{%
301           Version mismatch!\MessageBreak
302           * \y: hyperref.sty\MessageBreak
303           * \z: #1%
304         }\@ehd
305       \fi
306     }%
307   }%
308   \endgroup
309   \chardef\Hy@VersionChecked=1 %
310 }

```

\Hy@@VersionCheck

```
311 \def\Hy@@VersionCheck #1#2 #3 #4\@nil{%
312 \def#1{#2 #3}%
313 }
```

### 4.3 Checks with regular expressions

```
314 \ltx@ifundefined{pdfmatch}{}%
315 \let\Hy@Match\ltx@gobblefour
316 }{%
317 \def\Hy@Match#1#2{%
318 \begingroup
319 \edef\~{\ltx@backslashchar\string~}%
320 \edef\.{\ltx@backslashchar.}%
321 \edef\[\{\ltx@backslashchar[]%
322 \edef\$\{\ltx@backslashchar$}%
323 \edef\(\{\ltx@backslashchar(%
324 \edef\)\{\ltx@backslashchar)%
325 \edef\|\{\ltx@backslashchar|}%
326 \edef\*\{\ltx@backslashchar*}%
327 \edef\+\{\ltx@backslashchar+}%
328 \edef\?\{\ltx@backslashchar?}%
329 \edef\{\{\ltx@backslashchar\ltx@leftbracechar}%
330 \edef\}\{\ltx@rightbracechar}%
331 \edef\\{\ltx@backslashchar\ltx@backslashchar}%
332 \let\ \ltx@space
333 \ifcase\pdfmatch{#2}{#1} %
334 \endgroup
335 \expandafter\ltx@secondoftwo
336 \or
337 \endgroup
338 \expandafter\ltx@firstoftwo
339 \else
340 \Hy@Warning{%
341 Internal error: Wrong pattern!\MessageBreak
342 --> #2 <--\MessageBreak
343 Pattern check ignored%
344 }%
345 \endgroup
346 \expandafter\ltx@firstoftwo
347 \fi
348 }%
349 \ltx@ifpackagelater{ltxcmds}{2010/09/11}{}{}%
350 \begingroup
351 \lccode'0='\relax
352 \lowercase{\endgroup
353 \def\ltx@leftbracechar{0}%
354 }%
355 \begingroup
356 \lccode'0='\relax
357 \lowercase{\endgroup
358 \def\ltx@rightbracechar{0}%
359 }%
360 }%
361 }
```

## 4.4 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`.

```
362 \@ifundefined{AfterBeginDocument}{%
363   \def\AfterBeginDocument{\AtBeginDocument}%
364 }{}%
```

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

```
365 \def\Hy@AtBeginDocument{%
366   \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
367 }
```

`\Hy@AtEndOfPackage`

```
368 \def\Hy@AtEndOfPackage{%
369   \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
370 }
```

`\Hy@AtBeginDocumentHook`

```
371 \let\Hy@AtBeginDocumentHook\ltx@empty
```

`\Hy@AtEndOfPackageHook`

```
372 \let\Hy@AtEndOfPackageHook\ltx@empty
```

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

```
373 \AtEndOfPackage{%
374   \Hy@AtEndOfPackageHook
375   \let\Hy@AtEndOfPackageHook\@undefined
376   \AfterBeginDocument{%
377     \Hy@AtBeginDocumentHook}%
378   \let\Hy@AtBeginDocumentHook\@undefined
379 }%
380 }
```

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

```
381 \RequirePackage{kvoptions}[2009/07/21]
```

## 4.5 Switches

```
382 \newif\ifHy@stoppeearly
383 \newif\ifHy@typexml
384 \newif\ifHy@activeanchor
385 \newif\ifHy@backref
386 \newif\ifHy@bookmarks
387 \newif\ifHy@bookmarksnumbered
388 \newif\ifHy@bookmarksopen
389 \newif\ifHy@breaklinks
```

```

390 \newif\ifHy@pdfcenterwindow
391 \newif\ifHy@CJKbookmarks
392 \newif\ifHy@colorlinks
393 \newif\ifHy@destlabel
394 \newif\ifHy@draft
395 \let\Hy@finaltrue\Hy@draftfalse
396 \let\Hy@finalfalse\Hy@drafttrue
397 \newif\ifHy@pdfescapeform
398 \newif\ifHy@hyperfigures
399 \newif\ifHy@pdffitwindow
400 \newif\ifHy@frenchlinks
401 \newif\ifHy@hyperfootnotes
402 \newif\ifHy@hyperindex
403 \newif\ifHy@hypertextnames
404 \newif\ifHy@implicit
405 \newif\ifHy@linktocpage
406 \newif\ifHy@localanchorname
407 \newif\ifHy@pdfmenubar
408 \newif\ifHy@naturalnames
409 \newif\ifHy@nesting
410 \newif\ifHy@pdfnewwindowset
411 \newif\ifHy@pdfnewwindow
412 \newif\ifHy@ocgcolorlinks
413 \newif\ifHy@pageanchor
414 \newif\ifHy@pdfpagelabels
415 \newif\ifHy@pdfpagehidden
416 \newif\ifHy@pdfstring
417 \newif\ifHy@plainpages
418 \newif\ifHy@psize
419 \newif\ifHy@raiselinks
420 \newif\ifHy@seminarslides
421 \newif\ifHy@setpagesize
422 \newif\ifHy@texht
423 \newif\ifHy@psdextra
424 \newif\ifHy@pdftoolbar
425 \newif\ifHy@unicode
426 \newif\ifHy@pdfusetitle
427 \newif\ifHy@verbose
428 \let\Hy@debugtrue\Hy@verbosetrue
429 \let\Hy@debugfalse\Hy@verbosefalse
430 \newif\ifHy@pdfwindowui
431 \newif\ifHy@pdfdisplaydoctitle
432 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

433 \Hy@backreffalse
434 \Hy@bookmarksnumberedfalse
435 \Hy@bookmarksopenfalse
436 \Hy@bookmarksstrue
437 \Hy@breaklinksfalse
438 \Hy@pdfcenterwindowfalse
439 \Hy@CJKbookmarksfalse
440 \Hy@destlabelfalse
441 \Hy@pdfescapeformfalse
442 \Hy@hyperfiguresfalse
443 \Hy@pdffitwindowfalse
444 \Hy@hyperfootnotetrue
445 \Hy@hyperindextrue

```



```

446 \Hy@hypertextnamestrue
447 \Hy@implicitttrue
448 \Hy@linktocpagefalse
449 \Hy@localanchornamefalse
450 \Hy@pdfmenubartrue
451 \Hy@naturalnamesfalse
452 \Hy@nestingfalse
453 \Hy@pdfnewwindowsetfalse
454 \Hy@pdfnewwindowfalse
455 \Hy@pageanchortrue
456 \Hy@pdfpagelabelstrue
457 \Hy@pdfpagehiddenfalse
458 \Hy@pdfstringfalse
459 \Hy@plainpagesfalse
460 \Hy@raiselinksfalse
461 \Hy@setpagesizetrue
462 \Hy@texhtfalse
463 \Hy@psdextrafalse
464 \Hy@pdftoolbartrue
465 \Hy@typexmlfalse
466 \Hy@unicodefalse
467 \Hy@pdfusetitlefalse
468 \Hy@verbosefalse
469 \Hy@pdfwindowuitrue
470 \Hy@pdfdisplaydoctitlefalse
471 \Hy@pdfafalse

```

## 5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

474 \newdimen\@linkdim
475 \let\Hy@driver\ltx@empty
476 \let\MaybeStopEarly\relax
477 \newcount\Hy@linkcounter
478 \newcount\Hy@pagecounter
479 \Hy@linkcounter0
480 \Hy@pagecounter0

```

### 5.1 Macros for recursions

```

481 \let\Hy@ReturnEnd\@empty
482 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
483 \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 babel is not loaded.

\Hy@safe@activesfalse

```

484 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
485 \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 (TeX):

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

`\hypercalcbp`

```
486 \begingroup\expandafter\expandafter\expandafter\endgroup
487 \expandafter\ifx\csname dimexpr\endcsname\relax
488   \def\hypercalcbpdef#1#2{%
489     \begingroup
490       \toks@{}%
491       \HyCal@scan#2\hypercalcbp\@nil
492     \expandafter\endgroup
493     \expandafter\def\expandafter#1\expandafter{\the\toks@}%
494   }%
495   \def\HyCal@scan#1\hypercalcbp#2\@nil{%
496     \toks@\expandafter{\the\toks@ #1}%
497     \ifx\#2\%
498       \else
499         \ltx@ReturnAfterFi{%
500           \HyCal@do#2\@nil
501         }%
502       \fi
503     }%
504   \def\HyCal@do#1#2\@nil{%
505     \@ifpackageloaded{calc}{%}{%
506       \Hy@Warning{%
507         For calculations \string\hypercalcbp\space needs\MessageBreak
508         package calc or e-TeX%
509       }%
510     }%
```

```

511 \setlength{\dimen@}{#1}%
512 \setlength{\dimen@}{0.99626401\dimen@}%
513 \edef\x{%
514   \toks@{%
515     \the\toks@
516     \strip@pt\dimen@
517   }%
518 } \x
519 \HyCal@scan#2\@nil
520 }%
521 \else
522 \def\hypercalcbp#1{%
523   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
524 }%
525 \def\hypercalcbpdef{\def}%
526 \fi

```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

### 6.1 Description of PDF strings

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

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

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

### 6.2 Definition of `\pdfstringdef`

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

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

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

1. Preprocessing. Here the expansion is prepared. The encoding is set and many commands are redefined, so that they work appropriate.

2. Expansion. The  $\text{\TeX}$  string is expanded the first time to get a PDF string.
3. Postprocessing. The result of the expansion is checked and converted to the final form.

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

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

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

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

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

```
528 \begingroup
```

### 6.2.1 Preprocessing

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

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

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

```
529 \escapechar'\%
```

From the view of  $\text{\TeX}$  an 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.

```
530 \edef\0{\string\0}%
531 \edef\1{\string\1}%
532 \edef\2{\string\2}%
533 \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.

```
534 \ifHy@unicode
535 \edef\8{\string\8}%
536 \edef\9{\string\9}%
```

```

537 \fontencoding{PU}%
538 \HyPsd@UTFviii
539 \def\ifpdfstringunicode##1##2{##1}%
540 \else
541 \fontencoding{PD1}%
542 \def\ifpdfstringunicode##1##2{##2}%
543 \fi
544 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
545 \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).

```

546 \@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).

```

547 \let\@inmathwarn\HyPsd@inmathwarn

```

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

```

548 \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.

```

549 \let\{\textbraceleft
550 \let\}\textbraceright
551 \let\\\textbackslash
552 \let\#\textnumbersign
553 \let\$\textdollar
554 \let\%\textpercent
555 \let\&\textampersand
556 % \let\~\textasciitilde
557 \let\_ \textunderscore
558 \let\P\textparagraph
559 \let\ldots\textellipsis
560 \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.

```
561 \def\{\pdfstringdefWarn\}%
562 \def\newline{\pdfstringdefWarn\newline}%
```

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

```
563 \def\TeX{\TeX}%
564 \def\LaTeX{\LaTeX}%
565 \def\LaTeXe{%
566   \LaTeX2%
567   \ifHy@unicode\textepsilon\else e\fi
568 }%
569 \def\eTeX{%
570   \ifHy@unicode\textepsilon\else e\fi
571   -\TeX%
572 }%
573 \def\SliTeX{\SliTeX}%
574 \def\MF{Metafont}%
575 \def\MP{Metapost}%
```

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

```
576 \let\fontencoding\@gobble
577 \let\fontfamily\@gobble
578 \let\fontseries\@gobble
579 \let\fontshape\@gobble
580 \let\fontsize\@gobbletwo
581 \let\selectfont\@empty
582 \let\usefont\@gobblefour
583 \let\emph\@firstofone
584 \let\textnormal\@firstofone
585 \let\textrm\@firstofone
586 \let\textsf\@firstofone
587 \let\texttt\@firstofone
588 \let\textbf\@firstofone
589 \let\textmd\@firstofone
590 \let\textit\@firstofone
591 \let\textsc\@firstofone
592 \let\textsl\@firstofone
593 \let\textup\@firstofone
594 \let\normalfont\@empty
595 \let\rmfamily\@empty
596 \let\sffamily\@empty
597 \let\ttfamily\@empty
598 \let\bfseries\@empty
599 \let\mdseries\@empty
600 \let\itshape\@empty
601 \let\scshape\@empty
602 \let\slshape\@empty
603 \let\upshape\@empty
604 \let\em\@empty
605 \let\rm\@empty
606 \let\Huge\@empty
607 \let\LARGE\@empty
608 \let\Large\@empty
```

```

609 \let\footnotesize\@empty
610 \let\huge\@empty
611 \let\large\@empty
612 \let\normalsize\@empty
613 \let\scriptsize\@empty
614 \let\small\@empty
615 \let\tiny\@empty
616 \let\mathversion\@gobble
617 \let\phantom\@gobble
618 \let\vphantom\@gobble
619 \let\hphantom\@gobble

```

### Package pifont.

```

620 \let\ding\HyPsd@ding
621 \let\Cube\HyPsd@DieFace
622 %* \HyPsd@DieFace -> \epsdice (epsdice)
623 %* \HyPsd@DieFace -> \fcdice (hhcount)

```

### Environments.

```

624 \def\begin#1{\csname#1\endcsname}%
625 \def\end#1{\csname end#1\endcsname}%

```

### Package color.

```

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

```

### Upper- and lowercase.

```

627 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
628 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

**Support of math commands without prefix text.** This is controlled by option “psdextra” and only activated with Unicode PDF strings.

```

629 \ifHy@psdextra
630 \ifHy@unicode
631 \csname psdmapshortnames\endcsname
632 \csname psdaliasnames\endcsname
633 \fi
634 \fi

```

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

```

635 \let\foreignlanguage\@secondoftwo
636 \let\textlatin\@firstofone
637 \ltx@ifundefined{language@group}{\}%
638 \csname HyPsd@babel@language@group\endcsname
639 }%
640 \HyPsd@GreekPatch
641 \HyPsd@SpanishPatch
642 \HyPsd@RussianPatch
643 \HyPsd@BabelPatch
644 \let\@safe@activetrue\relax
645 \let\@safe@activesfalse\relax

```

Disable `\cyr`, used in `russianb.ldf`.  
646 `\let\cyr\relax`  
Redefine `\es@roman`, used in `spanish.ldf`.  
647 `\let\es@roman\@Roman`

**Package german.**

648 `\let\glqq\textglqq`  
649 `\let\grqq\textgrqq`  
650 `\let\glq\textglq`  
651 `\let\grq\textgrq`  
652 `\let\flqq\textflqq`  
653 `\let\frqq\textfrqq`  
654 `\let\flq\textflq`  
655 `\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}`  
656 `\let\if@mid@expandable\@firstoftwo`

**AMS classes.**

657 `\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.

658 `\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.

659 `\let\label\@gobble`  
660 `\let\index\@gobble`  
661 `\let\glossary\@gobble`  
662 `\let\href\HyPsd@href`  
663 `\let\@mkboth\@gobbletwo`

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

664 `\let\ref\HyPsd@ref`  
665 `\let\pageref\HyPsd@pageref`  
666 `\let\nameref\HyPsd@nameref`  
667 `\let\autoref\HyPsd@autoref`

**Miscellaneous commands.**

668 `\let\leavevmode\@empty`  
669 `\let\mbox\@empty`

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

670 `\def\halign{\pdfstringdefWarn\halign\@gobble}%`  
671 `\let\ignorespaces\HyPsd@ignorespaces`  
672 `\let\Hy@SectionAnchorHref\@gobble`  
673 `\let\ensuremath\@firstofone`



### Patch for cjk bookmarks.

```
674 \HyPsd@CJKhook
```

**User hook.** The switch `\Hy@pdfstring` is turned on. So user commands can detect that they are processed not to be typesetted within  $\text{\TeX}$ '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`).

```
675 \Hy@pdfstringtrue
676 \pdfstringdefPreHook
```

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

```
677 \HyPsd@LetUnexpandableSpace\space
678 \HyPsd@LetUnexpandableSpace\ %
679 \HyPsd@LetUnexpandableSpace-%
680 \HyPsd@LetUnexpandableSpace\nobreakspace
```

### Package xspace.

```
681 \ltx@ifundefined{@xspace}{%
682 \let\xspace\HyPsd@ITALCORR
683 }{%
684 \let\xspace\HyPsd@XSPACE
685 }%
686 \let\/\HyPsd@ITALCORR
687 \let\bgroup\/%
688 \let\egroup\/%
```

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

```
689 \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:

```
690 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
691 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
692 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
693 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'args':

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

### 6.2.2 Expansion

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

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

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

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

```
695 \begingroup
696 \let\GenericError\@gobblefour
697 \let\GenericWarning\@gobbletwo
698 \let\GenericInfo\@gobbletwo
```

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

```
699 \ifx\nofrenchguillemets\@undefined
700 \else
701 \nofrenchguillemets
702 \fi
```

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

```
703 \let\Hy@temp\xdef
```

```

704 \let\def\HyPsd@DefCommand
705 \let\gdef\HyPsd@DefCommand
706 \let\edef\HyPsd@DefCommand
707 \let\xdef\HyPsd@DefCommand
708 \let\futurelet\HyPsd@LetCommand
709 \let\let\HyPsd@LetCommand
710 \Hy@temp#1{#2}%
711 \endgroup

```

### 6.2.3 Postprocessing

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

```

712 \ifx#1\@empty
713 \else

```

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

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

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

```

714 \HyPsd@ProtectSpaces#1%
715 \let\HyPsd@String\@empty
716 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
717 \global\let#1\HyPsd@String

```

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

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

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

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

```

718 \let\HyPsd@SPACEOPTI\relax
719 {%
720 \let\HyPsd@String\@empty
721 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
722 \global\let#1\HyPsd@String
723 }%
724 \expandafter\HyPsd@RemoveMask\expandafter
725 |\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.

```

726 \expandafter
727 \HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
728 \let\HyPsd@String\@empty
729 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
730 \global\let#1\HyPsd@String
```

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

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

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

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

```

732 \ifHy@unicode
733 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
734 \HyPsd@SPACEOPTI#1%
735 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
736 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
737 {\HyPsd@SPACEOPTI\80\273}#1%
738 \else
739 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
740 \expandafter\HyPsd@Subst\expandafter{%
741 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
742 \string\273}{\HyPsd@SPACEOPTI\273}#1%
743 \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 be removed later.

```

744 \ifHy@unicode
745 \HyPsd@StringSubst{\)}{\80\051}#1%
746 \HyPsd@Subst){\80\051}#1%
747 \let\HyPsd@empty\relax
748 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
749 {\HyPsd@empty\80\051}#1%
750 \else
751 \HyPsd@StringSubst{\)}{\051}#1%
752 \HyPsd@Subst){\051}#1%
753 \let\HyPsd@empty\relax
754 \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
755 \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`.

```

756 \expandafter\HyPsd@Subst\expandafter{\//}\HyPsd@empty#1%
757 \ltx@ifundefined{@xspace}{%
758 }{%
759 \let\HyPsd@xspace\relax
760 \expandafter\HyPsd@Subst\expandafter
761 {\HyPsd@XSPACE}\HyPsd@xspace#1%
762 \let\HyPsd@xspace\HyPsd@doxspace
763 }%
764 \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 6.78l.

```

765 \HyPsd@Subst{---}\textemdash#1%
766 \HyPsd@Subst{--}\textendash#1%

```

```

767 %    \HyPsd@Subst{fi}\textfi#1%
768 %    \HyPsd@Subst{fi}\textfi#1%
769 \HyPsd@Subst{!}\textexclamdown#1%
770 \HyPsd@Subst{?}\textquestiondown#1%

```

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

```

771 \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.

```

772 \ifHy@unicode
773 \HyPsd@StringSubst\(\textparenleft#1%
774 \HyPsd@Subst(\textparenleft#1%
775 \else
776 \HyPsd@StringSubst\({\050}#1%
777 \HyPsd@Subst({\050}#1%
778 \HyPsd@StringSubst{\050}{\string\}#1%
779 \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.

```

780 \ifHy@unicode
781 \edef\HyPsd@SPACEOPTI{\80\040}%
782 \else
783 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
784 \fi
785 \xdef#1{#1\@empty}%
786 \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.

```

787 \endgroup
788 \begingroup
789 \ifHy@unicode
790 \HyPsd@ConvertToUnicode#1%

```

**Try conversion back to `PDFDocEncoding`.**

```

791 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
792 \ltx@ifundefined{StringEncodingConvertTest}{%
793 }{%
794 \EdefUnescapeString\HyPsd@temp#1%
795 \ifxetex
796 \let\HyPsd@UnescapedString\HyPsd@temp
797 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
798 {\utf16be}{\asci-print}{%
799 \EdefEscapeString\HyPsd@temp\HyPsd@temp
800 \global\let#1\HyPsd@temp
801 \HyPsd@EscapeTeX#1%
802 \Hy@unicodedefalse

```

```

803     }{%
804     \HyPsd@ToBigChars#1%
805     }%
806     \else
807     \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
808         {utf16be}{pdfdoc}{%
809     \EdefEscapeString\HyPsd@temp\HyPsd@temp
810     \global\let#1\HyPsd@temp
811     \HyPsd@EscapeTeX#1%
812     \Hy@unicodedefalse
813     }{%}%
814     \fi
815     }%
816     \fi
817     \fi
818     \HyPsd@XeTeXBigCharsfalse

```

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

```

819     \pdfstringdefPostHook#1%
820     \endgroup
821 }

```

`\Hy@pdfstringdef`

```

822 \def\Hy@pdfstringdef#1#2{%
823   \pdfstringdef\Hy@gtemp{#2}%
824   \let#1\Hy@gtemp
825 }

```

## 6.3 Encodings

### 6.3.1 XeTeX

```

826 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
827 \catcode\z@=12 %
828 \ifxetex
829   \expandafter\@firstofone
830 \else
831   \let\HyPsd@XeTeXBigCharstrue\@empty
832   \let\HyPsd@XeTeXBigCharsfalse\@empty
833   \expandafter\@gobble
834 \fi
835 {%
836   \newif\ifHyPsd@XeTeXBigChars
837   \def\HyPsd@XeTeXBigCharsfalse{%
838     \global\let\ifHyPsd@XeTeXBigChars\iffalse
839   }%
840   \def\HyPsd@XeTeXBigCharstrue{%
841     \global\let\ifHyPsd@XeTeXBigChars\iftrue
842   }%
843   \def\HyPsd@ToBigChars#1{%
844     \ifHyPsd@XeTeXBigChars
845       \EdefEscapeHex\HyPsd@UnescapedString{%
846         \expandafter\@gobbletwo\HyPsd@UnescapedString
847       }%
848     \begingroup
849     \toks@{}%

```

```

850 \escapechar=92\relax
851 \let\x\HyPsd@ToBigChar
852 \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
853 \relax\relax\relax\relax\relax\relax\relax
854 \edef\x{%
855 \endgroup
856 \gdef\noexpand#1{\the\toks@}%
857 }%
858 \x
859 \fi
860 }%
861 \def\HyPsd@ToBigChar#1#2#3#4{%
862 \ifx\relax#1\relax
863 \let\x\relax
864 \else
865 \count@=#1#2#3#4\relax
866 \let\y\@empty
867 \lccode\z@=\count@
868 \ifnum\count@=40 % (
869 \let\y\@backslashchar
870 \else
871 \ifnum\count@=41 % )
872 \let\y\@backslashchar
873 \else
874 \ifnum\count@=92 % backslash
875 \let\y\@backslashchar
876 \else
877 \ifnum\count@=10 % newline
878 \edef\y##1{\string\n}%
879 \else
880 \ifnum\count@=13 % carriage return
881 \edef\y##1{\string\r}%
882 \fi
883 \fi
884 \fi
885 \fi
886 \fi
887 \lowercase{%
888 \toks@\expandafter{%
889 \the\expandafter\toks@
890 \y
891 ^^@%
892 }%
893 }%
894 \fi
895 \x
896 }%
897 }
898 \Hy@temp

```

### 6.3.2 Workaround for package linguex

```

899 \@ifpackageloaded{linguex}{%
900 \let\HyLinguex@OrgB\b
901 \let\HyLinguex@OrgC\c
902 \let\HyLinguex@OrgD\d
903 \def\HyLinguex@Restore{%
904 \let\b\HyLinguex@OrgB

```



```

905 \let\c\HyLinguex@OrgC
906 \let\d\HyLinguex@OrgD
907 }%
908 \Hy@AtEndOfPackage{%
909 \pdfstringdefDisableCommands{%
910 \ltx@ifundefined{oldb}{\let\b\oldb}%
911 \ltx@ifundefined{oldc}{\let\c\oldc}%
912 \ltx@ifundefined{oldd}{\let\d\oldd}%
913 }%
914 }%
915 }{%
916 \let\HyLinguex@Restore\relax
917 }%

```

### 6.3.3 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with  $\text{\LaTeX}$  2 $\epsilon$ 's NFSS. Because the informational strings are not set by  $\text{\TeX}$ 's typesetting mechanism but for 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  $\text{\TeX}$  does not process it anyway. So use CM.

```

918 \ifundefined{T@PD1}{%
919 \input{pd1enc.def}%
920 \HyLinguex@Restore
921 }{}
922 \DeclareFontFamily{PD1}{pdf}{}
923 \DeclareFontShape{PD1}{pdf}{m}{n}{<-> cmr10 }{}
924 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

### 6.3.4 PU encoding

The PU encoding implements the Unicode encoding for use with  $\text{\LaTeX}$ '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@LoadUnicode` Because the file `puenc.def` takes a lot of memory, the loading is defined in the macro `\HyPsd@LoadUnicode` called by the package option `unicode`.

```

925 \def\HyPsd@LoadUnicode{%
926 \ifundefined{T@PU}{%
927 \input{puenc.def}%
928 \HyLinguex@Restore
929 }{}%
930 \DeclareFontFamily{PU}{pdf}{}%
931 \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
932 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
933 \ifHy@psdextra
934 \edef\Hy@atrestore{\catcode64=\the\catcode64\relax}% @
935 \makeatletter
936 \input{psdextra.def}%
937 \Hy@atrestore
938 \fi
939 \let\HyPsd@LoadUnicode\relax
940 }

```

## 6.4 Additional user commands

### 6.4.1 `\texorpdfstring`

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

```

941 \def\texorpdfstring{%
942   \ifHy@pdfstring
943     \expandafter\@secondoftwo
944   \else
945     \expandafter\@firstoftwo
946   \fi
947 }
```

### 6.4.2 Hooks for `\pdfstringdef`

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

```

948 \@ifundefined{pdfstringdefPreHook}{%
949   \let\pdfstringdefPreHook\@empty
950 }{}
951 \@ifundefined{pdfstringdefPostHook}{%
952   \let\pdfstringdefPostHook\@gobble
953 }{}
```

`\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`.

```

954 \def\pdfstringdefDisableCommands{%
955   \begingroup
956     \makeatletter
957     \HyPsd@DisableCommands
958 }
```

`\HyPsd@DisableCommands`

```

959 \long\def\HyPsd@DisableCommands#1{%
960   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
961   \endgroup
962 }
```

`\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`.

```
963 \def\pdfstringdefWarn#1{%
964   \expandafter\noexpand\csname<>-string#1\endcsname
965 }
```

## 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.

```
966 \begingroup
967   \catcode0=12 %
968   \def\x{\endgroup
969     \def\HyPsd@ignorespaces{%
970       \romannumeral\expandafter'\expandafter^^@%
971       \romannumeral'^^@%
972     }%
973   }%
974   \x
```

### 6.5.2 Babel languages

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

```
\pdfstringdefDisableCommands{%
  \languageshorthands\system}%
}
```

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

```
975 \def\HyPsd@BabelPatch{%
976   \let\HyOrg@languageshorthands\languageshorthands
977   \let\languageshorthands\HyPsd@LanguageShorthands
978 }
979 \begingroup\expandafter\expandafter\expandafter\endgroup
980 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
981   \let\HyPsd@langshort@system\@empty
982   \def\HyPsd@LanguageShorthands#1{%
983     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
984       \HyPsd@langshort@system
985     \expandafter\@gobble
986   \else
```

```

987 \expandafter\@firstofone
988 \fi
989 {%
990 \HyOrg@languageshorthands{#1}%
991 }%
992 }%
993 \else
994 \def\HyPsd@LanguageShorthands#1{%
995 \ifnum\pdf@strcmp{#1}{system}=\z@
996 \expandafter\@gobble
997 \else
998 \expandafter\@firstofone
999 \fi
1000 {%
1001 \HyOrg@languageshorthands{#1}%
1002 }%
1003 }%
1004 \fi
1005 \def\Hy@temp{%
1006 \@ifpackageloaded{babel}{%
1007 \@ifpackagelater{babel}{2008/03/16}{%
1008 \let\Hy@temp\@empty
1009 }{%
1010 \def\HyPsd@BabelPatch{%
1011 \let\HyOrg@languageshorthands\languageshorthands
1012 }%
1013 }%
1014 }{}%
1015 }
1016 \Hy@temp
1017 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
1018 \newif\ifHy@next

Nothing to do for english.
1019 \ltx@ifundefined{danish@sh@}{}{}%
1020 \def\HyPsd@babel@danish{%
1021 \declare@shorthand{danish}{"}{}%
1022 \declare@shorthand{danish}{"}~{}%
1023 }%
1024 }
1025 \ltx@ifundefined{dutch@sh@}{}{}%
1026 \def\HyPsd@babel@dutch{%
1027 \declare@shorthand{dutch}{"}{}%
1028 \declare@shorthand{dutch}{"}~{}%
1029 }%
1030 }
1031 \ltx@ifundefined{finnish@sh@}{}{}%
1032 \def\HyPsd@babel@finnish{%
1033 \declare@shorthand{finnish}{"}{}%
1034 }%
1035 }
1036 \ltx@ifundefined{french@sh@}{}{}%
1037 \def\HyPsd@babel@frenchb{%
1038 \def\guill@spacing{ }%
1039 }%
1040 }
1041 \ltx@ifundefined{german@sh@}{}{}%

```

```

1042 \def\HyPsd@babel@german{%
1043   \declare@shorthand{german}{"}{f}%
1044   \declare@shorthand{german}{"}|}{}%
1045   \declare@shorthand{german}{"}~}{-}%
1046 }%
1047 }
1048 \ltx@ifundefined{macedonian@sh@"@sel}{}{}%
1049 \def\HyPsd@babel@macedonian{%
1050   \declare@shorthand{macedonian}{"}|}{}%
1051   \declare@shorthand{macedonian}{"}~}{-}%
1052 }%
1053 }
1054 \ltx@ifundefined{ngerman@sh@"@sel}{}{}%
1055 \def\HyPsd@babel@ngerman{%
1056   \declare@shorthand{ngerman}{"}|}{}%
1057   \declare@shorthand{ngerman}{"}~}{-}%
1058 }%
1059 }
1060 \ltx@ifundefined{portuges@sh@"@sel}{}{}%
1061 \def\HyPsd@babel@portuges{%
1062   \declare@shorthand{portuges}{"}|}{}%
1063 }%
1064 }
1065 \ltx@ifundefined{russian@sh@"@sel}{}{}%
1066 \def\HyPsd@babel@russian{%
1067   \declare@shorthand{russian}{"}|}{}%
1068   \declare@shorthand{russian}{"}~}{-}%
1069 }%
1070 }
1071 \ltx@ifundefined{slovene@sh@"@sel}{}{}%
1072 \def\HyPsd@babel@slovene{%
1073   \declare@shorthand{slovene}{"}|}{}%
1074 }%
1075 }

```

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

```

1076 \ltx@ifundefined{spanish@sh@>@sel}{}{}%
1077 \def\HyPsd@babel@spanish{%
1078   \declare@shorthand{spanish}{<<}{\guillemotleft}%
1079   \declare@shorthand{spanish}{>>}{\guillemotright}%
1080   \declare@shorthand{spanish}{"}=}{-}%
1081   \declare@shorthand{spanish}{"}~}{-}%
1082   \declare@shorthand{spanish}{"}!}{\textexclamdown}%
1083   \declare@shorthand{spanish}{"}?}{\textquestiondown}%
1084 }%
1085 }
1086 \ltx@ifundefined{swedish@sh@"@sel}{}{}%
1087 \def\HyPsd@babel@swedish{%
1088   \declare@shorthand{swedish}{"}|}{}%
1089   \declare@shorthand{swedish}{"}~}{-}%
1090 }%
1091 }
1092 \ltx@ifundefined{ukrainian@sh@"@sel}{}{}%
1093 \def\HyPsd@babel@ukrainian{%
1094   \declare@shorthand{ukrainian}{"}|}{}%
1095   \declare@shorthand{ukrainian}{"}~}{-}%
1096 }%
1097 }

```

```

1098 \ltx@ifundefined{usorbian@sh@"@sel}{ }{%
1099 \def\HyPsd@babel@usorbian{%
1100 \declare@shorthand{usorbian}{"}f}{f}%
1101 \declare@shorthand{usorbian}{"}|}{ }{%
1102 }%
1103 }

1104 \ltx@ifundefined{greek@sh@\string~@sel}{ }{%
1105 \let\HyPsd@GreekPatch\@empty
1106 }{%
1107 \def\HyPsd@GreekPatch{%
1108 \let\greeknumeral\HyPsd@greeknumeral
1109 \let\Greeknumeral\HyPsd@Greeknumeral
1110 }%
1111 }

1112 \def\HyPsd@greeknumeral#1{%
1113 \HyPsd@GreekNum\@firsttwo{#1}%
1114 }

1115 \def\HyPsd@Greeknumeral#1{%
1116 \HyPsd@GreekNum\@secondtwo{#1}%
1117 }

1118 \def\HyPsd@GreekNum#1#2{%
1119 \ifHy@unicode
1120 \ifnum#2<\@ne
1121 \@arabic{#2}%
1122 \else
1123 \ifnum#2<1000000 %
1124 \HyPsd@@GreekNum#1{#2}%
1125 \else
1126 \@arabic{#2}%
1127 \fi
1128 \fi
1129 \else
1130 \@arabic{#2}%
1131 \fi
1132 }

1133 \def\HyPsd@@GreekNum#1#2{%
1134 \ifnum#2<\@m
1135 \ifnum#2<10 %
1136 \expandafter\HyPsd@GreekNumI
1137 \expandafter\@gobble\expandafter#1\number#2%
1138 \else
1139 \ifnum#2<100 %
1140 \expandafter\HyPsd@GreekNumII
1141 \expandafter\@gobble\expandafter#1\number#2%
1142 \else
1143 \expandafter\HyPsd@GreekNumIII
1144 \expandafter\@gobble\expandafter#1\number#2%
1145 \fi
1146 \fi
1147 \ifnum#2>\z@
1148 \textnumeralsigngreek
1149 \fi
1150 \else
1151 \ifnum#2<\@M
1152 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1153 \else
1154 \ifnum#2<100000 %

```

```

1155     \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1156   \else
1157     \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1158   \fi
1159 \fi
1160 \fi
1161 }
1162 \def\HyPsd@GreekNumI#1#2#3{%
1163   #1{%
1164     \ifnum#3>\z@
1165       \textnumeralsignlowergreek
1166     \fi
1167   }%
1168   \expandafter#2%
1169   \ifcase#3 %
1170     {}{}%
1171   \or\textalpha\textAlpha
1172   \or\textbeta\textBeta
1173   \or\textgamma\textGamma
1174   \or\textdelta\textDelta
1175   \or\textepsilon\textEpsilon
1176   \or\textstigmagreek\textStigmagreek
1177   \or\textzeta\textZeta
1178   \or\texteta\textEta
1179   \or\texttheta\textTheta
1180   \else
1181     {}{}%
1182   \fi
1183 }
1184 \def\HyPsd@GreekNumII#1#2#3#4{%
1185   #1{%
1186     \ifnum#3>\z@
1187       \textnumeralsignlowergreek
1188     \fi
1189   }%
1190   \expandafter#2%
1191   \ifcase#3 %
1192     {}{}%
1193   \or\textiota\textIota
1194   \or\textkappa\textKappa
1195   \or\textlambda\textLambda
1196   \or\textmu\textMu
1197   \or\textnu\textNu
1198   \or\textxi\textXi
1199   \or\textomicron\textOmicron
1200   \or\textpi\textPi
1201   \or\textkoppagreek\textKoppagreek
1202   \else
1203     {}{}%
1204   \fi
1205   \HyPsd@GreekNumI#1#2#4%
1206 }
1207 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1208   #1{%
1209     \ifnum#3>\z@
1210       \textnumeralsignlowergreek
1211     \fi

```

```

1212 }%
1213 \expandafter#2%
1214 \ifcase#3 %
1215 {}{}%
1216 \or\textrho\textRho
1217 \or\textsigma\textSigma
1218 \or\texttau\textTau
1219 \or\textupsilon\textUpsilon
1220 \or\textphi\textPhi
1221 \or\textchi\textChi
1222 \or\textpsi\textPsi
1223 \or\textomega\textOmega
1224 \or\textsampigreek\textSampigreek
1225 \else
1226 {}{}%
1227 \fi
1228 \HyPsd@GreekNumII#1#2#4#5%
1229 }
1230 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1231 \HyPsd@GreekNumI\@firstofone#1#2%
1232 \HyPsd@@@GreekNum#1{#3#4#5}%
1233 }
1234 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1235 \HyPsd@GreekNumII\@firstofone#1#2#3%
1236 \HyPsd@@@GreekNum#1{#4#5#6}%
1237 }
1238 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1239 \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1240 \HyPsd@@@GreekNum#1{#5#6#7}%
1241 }
1242 \def\HyPsd@SpanishPatch{%
1243 \ltx@ifundefined{es@save@dot}{%
1244 }{%
1245 \let\.\es@save@dot
1246 }%
1247 }

```

Shorthand "- of 'russianb.lda' is not expandable, therefore it is disabled and replaced by -.

```

1248 \def\HyPsd@RussianPatch{%
1249 \ltx@ifundefined{russian@sh@"@-@}{%
1250 }{%
1251 \@namedef{russian@sh@"@-@}{-}%
1252 }%
1253 }

```

### 6.5.3 CJK patch

```

1254 \RequirePackage{intcalc}[2007/09/27]

\HyPsd@CJKhook

1255 \def\HyPsd@CJKhook{%
1256 \ltx@ifpackageloaded{CJK}{%
1257 \let\CJK@kern\relax
1258 \let\CJKkern\relax
1259 \let\CJK@CJK\relax
1260 \ifHy@CJKbookmarks
1261 \HyPsd@CJKhook@bookmarks

```



```

1262 \fi
1263 \HyPsd@CJKhook@unicode
1264 }{}%
1265 }

```

#### 6.5.4 CJK bookmarks

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

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

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

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

```

1266 \begingroup
1267 \catcode"7F=\active
1268 \toks@{%
1269 \let\CJK@ignorespaces\empty
1270 \def\CJK@char#1{\@gobbletwo}%
1271 \let\CJK@charx\@gobblefour
1272 \let\CJK@punctchar\@gobblefour
1273 \def\CJK@punctcharx#1{\@gobblefour}%
1274 \catcode"7F=\active
1275 \def^^7f#1^^7f#2^^7f{%
1276 \string #1\HyPsd@DecimalToOctal{#2}%
1277 }%
1278 % ... ?
1279 \ifHy@unicode
1280 \def\Hy@cjkpu{\80}%
1281 \else
1282 \let\Hy@cjkpu\@empty
1283 \fi
1284 \HyPsd@CJKActiveChars
1285 }%
1286 \count@=127 %
1287 \@whilenum\count@<255 \do{%
1288 \advance\count@ by 1 %
1289 \lccode'\-=\count@
1290 \lowercase{%
1291 \toks@\expandafter{\the\toks@ ~}%
1292 }%
1293 }%
1294 \toks@\expandafter{\the\toks@ !}%
1295 \xdef\HyPsd@CJKhook@bookmarks{%
1296 \the\toks@
1297 }%
1298 \endgroup

```

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

```

1299 \def\HyPsd@CJKActiveChars#1{%
1300 \ifx#1!%
1301 \let\HyPsd@CJKActiveChars\relax
1302 \else

```

```

1303 \edef#1{\noexpand\Hy@cjkpu\string#1}%
1304 \fi
1305 \HyPsd@CJKActiveChars
1306 }

```

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

```

1307 \def\HyPsd@DecimalToOctal#1{%
1308 \ifcase #1 %
1309 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1310 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1311 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1312 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1313 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1314 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1315 \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1316 \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1317 \or @\or A\or B\or C\or D\or E\or F\or G%
1318 \or H\or I\or J\or K\or L\or M\or N\or O%
1319 \or P\or Q\or R\or S\or T\or U\or V\or W%
1320 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1321 \or \140\or a\or b\or c\or d\or e\or f\or g%
1322 \or h\or i\or j\or k\or l\or m\or n\or o%
1323 \or p\or q\or r\or s\or t\or u\or v\or w%
1324 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1325 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1326 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1327 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1328 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1329 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1330 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1331 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1332 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1333 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1334 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1335 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1336 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1337 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1338 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1339 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1340 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1341 \fi
1342 }

```

## 6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1343 \def\HyPsd@CJKhook@unicode{%
1344 \let\Unicode\HyPsd@CJK@Unicode
1345 \let\CJKnumber\HyPsd@CJKnumber
1346 \let\CJKdigits\HyPsd@CJKdigits
1347 }

```

\HyPsd@CJK@Unicode

```

1348 \def\HyPsd@CJK@Unicode#1#2{%
1349 \ifnum#1<256 %
1350 \HyPsd@DecimalToOctalFirst{#1}%
1351 \HyPsd@DecimalToOctalSecond{#2}%

```

```

1352 \else
1353 \933%
1354 \expandafter\expandafter\expandafter\HyPsd@HighA
1355 \intcalcDiv{#1}{4}!%
1356 \933%
1357 \ifcase\intcalcMod{#1}{4} %
1358 4\or 5\or 6\or 7%
1359 \fi
1360 \HyPsd@DecimalToOctalSecond{#2}%
1361 \fi
1362 }

1363 \def\HyPsd@HighA#1!{%
1364 \expandafter\expandafter\expandafter\HyPsd@HighB
1365 \IntCalcDiv#1!64!!%
1366 \expandafter\expandafter\expandafter\HyPsd@HighD
1367 \IntCalcMod#1!64!!%
1368 }
1369 \def\HyPsd@HighB#1!{%
1370 \expandafter\expandafter\expandafter\HyPsd@HighC
1371 \IntCalcDec#1!!%
1372 }
1373 \def\HyPsd@HighC#1!{%
1374 \IntCalcDiv#1!4!%
1375 \@backslashchar
1376 \IntCalcMod#1!4!%
1377 }
1378 \def\HyPsd@HighD#1!{%
1379 \ifcase\IntCalcDiv#1!8! %
1380 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1381 \fi
1382 \ifcase\IntCalcMod#1!8! %
1383 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1384 \fi
1385 }
1386 \def\HyPsd@DecimalToOctalFirst#1{%
1387 \9%
1388 \ifcase#1 %
1389 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1390 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1391 \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1392 \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1393 \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1394 \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1395 \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1396 \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1397 \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1398 \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1399 \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1400 \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1401 \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1402 \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1403 \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1404 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1405 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1406 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1407 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1408 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%

```

```

1409 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1410 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1411 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1412 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1413 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1414 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1415 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1416 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1417 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1418 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1419 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1420 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1421 \fi
1422 }
1423 \def\HyPsd@DecimalToOctalSecond#1{%
1424 \ifcase #1 %
1425 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1426 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1427 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1428 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1429 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1430 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1431 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1432 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1433 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1434 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1435 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1436 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1437 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1438 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1439 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1440 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1441 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1442 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1443 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1444 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1445 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1446 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1447 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1448 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1449 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1450 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1451 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1452 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1453 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1454 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1455 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1456 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1457 \fi
1458 }
1459 \def\HyPsd@CJKNumber#1{%
1460 \ifnum#1<\z@
1461 \CJK@minus
1462 \expandafter\HyPsd@@@CJKNumber\expandafter{\number-\number#1}%
1463 \else
1464 \expandafter\HyPsd@@@CJKNumber\expandafter{\number#1}%
1465 \fi

```

```

1466 }
1467 \def\HyPsd@@CJKnumber#1{%
1468   \ifcase#1 %
1469     \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1470     \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1471     \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1472     \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1473     \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1474     \CJK@ten\CJK@nine
1475   \else
1476     \ifnum#1<10000 %
1477       \HyPsd@CJKnumberFour#1!\@empty{20}%
1478       \@empty
1479     \else
1480       \ifnum#1<100000000 %
1481         \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1482         \IntCalcDiv#1!10000!%
1483         !\{20}%
1484         \CJK@tenthousand
1485         \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1486         \IntCalcMod#1!10000!%
1487         !\CJK@zero{10}%
1488         \@empty
1489       \else
1490         \expandafter\HyPsd@CJKnumberLarge
1491         \number\IntCalcDiv#1!100000000!\expandafter!%
1492         \number\IntCalcMod#1!100000000!!%
1493       \fi
1494     \fi
1495   \fi
1496 }
1497 \def\HyPsd@CJKnumberLarge#1!#2!{%
1498   \HyPsd@CJKnumberFour#1!\{20}%
1499   \CJK@hundredmillion
1500   \ifnum#2=\z@
1501     \else
1502       \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1503       \IntCalcDiv#2!10000!%
1504       !\CJK@zero{10}%
1505       \CJK@tenthousand
1506       \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1507       \IntCalcMod#2!10000!%
1508       !\CJK@zero{10}%
1509       \@empty
1510     \fi
1511 }
1512 \def\HyPsd@CJKnumberFour#1!#2#3{%
1513   \ifnum#1=\z@
1514     \expandafter\@gobble
1515   \else
1516     \ifnum#1<1000 %
1517       #2%
1518       \HyPsd@CJKnumberThree#1!\{#3}%
1519     \else
1520       \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1521       \CJK@thousand
1522       \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree

```

```

1523     \IntCalcMod#1!1000!%
1524     !\CJK@zero{10}%
1525     \fi
1526 \fi
1527 }
1528 \def\HyPsd@CJKnumberThree#1!#2#3{%
1529     \ifnum#1=\z@
1530     \else
1531         \ifnum#1<100 %
1532             #2%
1533             \HyPsd@CJKnumberTwo#1!#{#3}%
1534         \else
1535             \HyPsd@@@CJKnumber{\IntCalcDiv#1!100!}%
1536             \CJK@hundred
1537             \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1538             \IntCalcMod#1!100!%
1539             !\CJK@zero{10}%
1540         \fi
1541     \fi
1542 }
1543 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1544     \ifnum#1=\z@
1545     \else
1546         \ifnum#1<#3 %
1547             #2%
1548             \HyPsd@@@CJKnumber{#1}%
1549         \else
1550             \HyPsd@@@CJKnumber{\IntCalcDiv#1!10!}%
1551             \CJK@ten
1552             \ifnum\IntCalcMod#1!10!=\z@
1553             \else
1554                 \HyPsd@@@CJKnumber{\IntCalcMod#1!10!}%
1555             \fi
1556         \fi
1557     \fi
1558 }
1559 \def\HyPsd@CJKdigits#1{%
1560     \ifx*#1\relax
1561         \expandafter\HyPsd@@@CJKdigits\expandafter\CJK@zero
1562     \else
1563         \HyPsd@@@CJKdigits\CJK@null{#1}%
1564     \fi
1565 }
1566 \def\HyPsd@@@CJKdigits#1#2{%
1567     \ifx\#2\%
1568     \else
1569         \HyPsd@@@@CJKdigits#1#2\@nil
1570     \fi
1571 }%
1572 \def\HyPsd@@@@CJKdigits#1#2#3\@nil{%
1573     \HyPsd@CJKdigit#1{#2}%
1574     \ifx\#3\%
1575         \expandafter\@gobble
1576     \else
1577         \expandafter\@firstofone
1578     \fi
1579 }%

```

```

1580 \HyPsd@@@CJKdigits#1#3\@nil
1581 }%
1582 }
1583 \def\HyPsd@CJKdigit#1#2{%
1584 \ifcase#2 %
1585 #1\or
1586 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1587 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1588 \fi
1589 }

```

### 6.5.6 \@inmathwarn-Patch

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

To understand the patch easier, the original code of `\@current@cmd` and `\@changed@cmd` follows ( $\text{\LaTeX}$  2 $\epsilon$  release [1998/12/01]). In the normal case `\pdfstringdef` is executed in a context where `\protect` has the meaning of `\@typeset-protect` (`=\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}
1590 \def\HyPsd@inmathwarn#1#2{%
1591 \ifx#2\expandafter

```

```

1592 \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1593 \HyPsd@GLYPHERR
1594 \expandafter\@gobble\string#1%
1595 >%
1596 \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1597 \else
1598 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1599 \fi
1600 \else
1601 \expandafter#2%
1602 \fi
1603 }
1604 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1605 \def\HyPsd@EndWithElse#1\else{\else}

```

\HyPsd@add@accent

```

1606 \def\HyPsd@add@accent#1#2{%
1607 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1608 #2%
1609 }%

```

### 6.5.7 Unexpandable spaces

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

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

These properties are used in \HyPsd@CheckCatcodes.

```

1610 \def\HyPsd@LetUnexpandableSpace#1{%
1611 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1612 }

```

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

```

1613 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

### 6.5.8 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.

```

1614 \edef\HyPsd@XSPACE{\string#\string X}
1615 \edef\HyPsd@ITALCORR{\string#\string I}
1616 \edef\HyPsd@GLYPHERR{\string#\string G}

```

### 6.5.9 \hspace fix

\HyPsd@hspace

```

1617 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*END}

```



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

```
1618 \def\HyPsd@@hspace#1*#2\END{%
1619   \ifx\|#2\|
1620     \HyPsd@hspacetest{#1}%
1621   \else
1622     \expandafter\HyPsd@hspacetest
1623   \fi
1624 }
```

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

```
1625 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

#### 6.5.10 Fix for AMS classes

```
1626 \ltx@ifundefined{tocsection}{%
1627   \let\HyPsd@AMSclassfix\relax
1628 }{%
1629   \def\HyPsd@AMSclassfix{%
1630     \let\tocpart\HyPsd@tocsection
1631     \let\tocchapter\HyPsd@tocsection
1632     \let\tocappendix\HyPsd@tocsection
1633     \let\tocsection\HyPsd@tocsection
1634     \let\tocsubsection\HyPsd@tocsection
1635     \let\tocsubsubsection\HyPsd@tocsection
1636     \let\tocparagraph\HyPsd@tocsection
1637   }%
1638   \def\HyPsd@tocsection#1#2#3{%
1639     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1640     #3%
1641   }%
1642 }
```

#### 6.5.11 Reference commands

`\HyPsd@href`

```
1643 \def\HyPsd@href#1#{\@secondoftwo}
```

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

```
1644 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1645 \def\HyPsd@@ref#1*#2\END{%
1646   \ifx\|#2\|
1647     \HyPsd@@@ref{#1}%
1648   \else
1649     \expandafter\HyPsd@@@ref
1650   \fi
1651 }
```

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

```
1652 \def\HyPsd@@@ref#1{%
1653   \expandafter\ifx\csname r@#1\endcsname\relax
1654     ??%
1655   \else
1656     \expandafter\expandafter\expandafter
```

```

1657 \car\csname r@#1\endcsname\@nil
1658 \fi
1659 }

```

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

```

1660 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

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

```

1661 \def\HyPsd@@pageref#1*#2\END{%
1662 \ifx\#2\%
1663 \HyPsd@@@pageref{#1}%
1664 \else
1665 \expandafter\HyPsd@@@pageref
1666 \fi
1667 }

```

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

```

1668 \def\HyPsd@@@pageref#1{%
1669 \expandafter\ifx\csname r@#1\endcsname\relax
1670 ??%
1671 \else
1672 \expandafter\expandafter\expandafter\expandafter
1673 \expandafter\expandafter\expandafter\@car
1674 \expandafter\expandafter\expandafter\@gobble
1675 \csname r@#1\endcsname{}\@nil
1676 \fi
1677 }

```

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

```

1678 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

1679 \def\HyPsd@@nameref#1*#2\END{%
1680 \ifx\#2\%
1681 \HyPsd@@@nameref{#1}%
1682 \else
1683 \expandafter\HyPsd@@@nameref
1684 \fi
1685 }

```

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

```

1686 \def\HyPsd@@@nameref#1{%
1687 \expandafter\ifx\csname r@#1\endcsname\relax
1688 ??%
1689 \else
1690 \expandafter\expandafter\expandafter\expandafter
1691 \expandafter\expandafter\expandafter\@car
1692 \expandafter\expandafter\expandafter\@gobbletwo
1693 \csname r@#1\endcsname{}\@nil
1694 \fi
1695 }

```

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

```

1696 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```
1697 \def\HyPsd@@autoref#1*#2\END{%
1698   \ifx\#2\%
1699     \HyPsd@@@autoref{#1}%
1700   \else
1701     \expandafter\HyPsd@@@autoref
1702   \fi
1703 }
```

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

```
1704 \def\HyPsd@@@autoref#1{%
1705   \expandafter\ifx\csname r@#1\endcsname\relax
1706     ??%
1707   \else
1708     \expandafter\expandafter\expandafter\HyPsd@autorefname
1709       \csname r@#1\endcsname{}{}{}{}\@nil
1710     \expandafter\expandafter\expandafter
1711       \@car\csname r@#1\endcsname\@nil
1712   \fi
1713 }
```

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

```
1714 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1715   \ifx\#4\%
1716   \else
1717     \HyPsd@@autorefname#4.\@nil
1718   \fi
1719 }
```

`\HyPsd@@@autorefname`

```
1720 \def\HyPsd@@@autorefname#1.#2\@nil{%
1721   \ltx@ifundefined{#1autorefname}{%
1722     \ltx@ifundefined{#1name}{%
1723       }{%
1724         \csname#1name\endcsname\space
1725       }%
1726     }{%
1727       \csname#1autorefname\endcsname\space
1728     }%
1729 }
```

### 6.5.12 Redefining the defining commands

Definitions aren't allowed, because they aren't executed in an only expanding context. So the command to be defined isn't defined and can perhaps be undefined. This would 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 `\HyPsdLetCommand` is that the first one also cancels this arguments, the parameter and definition text. The right side of the `\let` commands cannot be canceled with an undelimited parameter because of a possible space token after `\futurelet`.

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand 1730 \begingroup
1731 \def\x#1#2{%
1732 \endgroup
1733 \let#1\def
1734 \def\HyPsd@DefCommand##1##2###{%
1735 #1%
1736 \expandafter\noexpand
1737 \csname\expandafter\@gobble\string##1\@empty\endcsname
1738 \@gobble
1739 }%
1740 \let#2\let
1741 \def\HyPsd@@LetCommand##1{%
1742 \expandafter\ifx\csname##1\expandafter\endcsname
1743 \csname iftrue\endcsname
1744 \pdfstringdefWarn\let
1745 \expandafter\@gobble
1746 \else
1747 \expandafter\ifx\csname##1\expandafter\endcsname
1748 \csname iffalse\endcsname
1749 \pdfstringdefWarn\let
1750 \expandafter\expandafter\expandafter\@gobble
1751 \else
1752 #2%
1753 \expandafter\noexpand
1754 \csname##1\expandafter\expandafter\expandafter\endcsname
1755 \fi
1756 \fi
1757 }%
1758 }%
1759 \expandafter\x\csname <def>-command\expandafter\endcsname
1760 \csname <let>-command\endcsname
1761 \def\HyPsd@LetCommand#1{%
1762 \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1763 \expandafter\expandafter\expandafter{%
1764 \expandafter\@gobble\string#1\@empty
1765 }%
1766 }

```

### 6.5.13 \ifnextchar

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

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

```
1767 \def\HyPsd@ifnextchar#1{%
1768   \pdfstringdefWarn#1%
1769   \expandafter\@gobbletwo\@gobble
1770 }
```

### 6.5.14 \@protected@testoptifnextchar

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

```
1771 \def\HyPsd@protected@testopt#1{%
1772   \pdfstringdefWarn#1%
1773   \@gobbletwo
1774 }
```

## 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:

```
1775 \def\HyPsd@Warning#1{%
1776   \begingroup
1777   \let\space\ltx@space
1778   \Hy@Warning{#1}%
1779   \endgroup
1780 }
```

### 6.6.2 Protecting spaces

```
1781 \RequirePackage{etexcmds}[2007/09/09]
1782 \ifetex@unexpanded
1783   \expandafter\@secondoftwo
1784 \else
1785   \expandafter\@firstoftwo
1786 \fi
1787 {%
```

`\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`.

```

1788 \def\HyPsd@ProtectSpaces#1{%
1789   \iftrue
1790     \expandafter\HyPsd@@ProtectSpacesFi
1791     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1792   \fi
1793 }%
```

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

```

1794 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1795   \fi
1796   \ifx\scrollmode#2\scrollmode
1797     \HyPsd@RemoveMask#1\HyPsd@End#3%
1798   \else
1799     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1800     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1801   \fi
1802 }%
```

### 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.

```

1803 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1804   \toks@\expandafter{#1}%
1805   \xdef#2{\the\toks@}%
1806 }%

1807 }{%
1808   \let\HyPsd@fi\fi
1809   \def\HyPsd@ProtectSpaces#1{%
1810     \xdef#1{%
1811       \iftrue
1812         \expandafter\HyPsd@@ProtectSpacesFi
1813         \expandafter|\expandafter\@empty#1| %
1814       \HyPsd@fi
1815     }%
1816     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1817   }%
1818   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1819     \fi
1820     \etex@unexpanded{#1}%
1821     \ifx\scrollmode#2\scrollmode
1822     \else
1823       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1824     \HyPsd@fi
1825   }%
1826   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1827     \xdef#2{\etex@unexpanded\expandafter{#1}}%
1828   }%
1829 }
```

### 6.6.3 Remove grouping braces

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

```
1830 \def\HyPsd@RemoveBraces#1{%
1831   \ifx\scrollmode#1\scrollmode
1832   \else
1833     \HyPsd@@RemoveBracesFi#1\HyPsd@end{#1}%
1834   \fi
1835 }
```

`\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 `\ltx@ReturnAfterFi`.

```
1836 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@end#3\fi{%
1837   \fi
1838   \def\Hy@temp@A{#1#2}%
1839   \def\Hy@temp@B{#3}%
1840   \ifx\Hy@temp@A\Hy@temp@B
1841     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1842       \HyPsd@String#1%
1843     }%
1844     \ifx\scrollmode#2\scrollmode
1845     \else
1846       \Hy@ReturnAfterFiFiEnd{%
1847         \HyPsd@RemoveBraces{#2}%
1848       }%
1849     \fi
1850   \else
1851     \def\Hy@temp@A{#1}%
1852     \HyPsd@AppendItalcorr\HyPsd@String
1853     \ifx\Hy@temp@A\@empty
1854       \Hy@ReturnAfterElseFiFiEnd{%
1855         \HyPsd@RemoveBraces{#2}%
1856       }%
1857     \else
1858       \HyPsd@ProtectSpaces\Hy@temp@A
1859       \HyPsd@AppendItalcorr\Hy@temp@A
1860       \Hy@ReturnAfterFiFiEnd{%
1861         \expandafter\HyPsd@RemoveBraces\expandafter
1862           {\Hy@temp@A#2}%
1863       }%
1864     \fi
1865   \fi
1866   \Hy@ReturnEnd
1867 }
```

`\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`.

```

1868 \def\HyPsd@AppendItalcorr#1{%
1869   \expandafter\HyPsd@@AppendItalcorr\expandafter{/}\#1%
1870 }
1871 \def\HyPsd@@AppendItalcorr#1#2{%
1872   \expandafter\def\expandafter#2\expandafter{#2#1}%
1873 }

```

#### 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`).

For the comparison with active characters, `~` cannot be used because it has the meaning of a blank space here. And active characters need to be checked, if they have been defined using `\protected`.

```

1874 \catcode'\Q=\active
1875 \let Q\ltx@empty
1876 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1877   \global\let\HyPsd@Rest\relax
1878   \ifcat\relax\noexpand#1\relax
1879     \ifx#1\protect
1880       \else
1881         \ifx#1\penalty
1882           \setbox\z@=\hbox{%
1883             \afterassignment\HyPsd@AfterCountRemove
1884             \count@=#2\HyPsd@End
1885           }%
1886         \else
1887           \ifx#1\kern
1888             \setbox\z@=\hbox{%
1889               \afterassignment\HyPsd@AfterDimenRemove
1890               \dimen@=#2\HyPsd@End
1891             }%
1892           \else
1893             \ifx#1\hskip
1894               \setbox\z@=\hbox{%
1895                 \afterassignment\HyPsd@AfterSkipRemove
1896                 \skip@=#2\HyPsd@End
1897               }%
1898             \else
1899               \HyPsd@CatcodeWarning{#1}%
1900             \fi
1901           \fi
1902         \fi
1903       \fi
1904     \else
1905       \ifcat\noexpand#1\noexpandQ% active character
1906       \expandafter\expandafter\expandafter\def

```



```

1907 \expandafter\expandafter\expandafter\HyPsd@String
1908 \expandafter\expandafter\expandafter{%
1909 \expandafter\HyPsd@String\string#1%
1910 }%
1911 \else
1912 \ifcat#1A% letter
1913 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1914 \HyPsd@String#1%
1915 }%
1916 \else
1917 \ifcat#1 % SPACE
1918 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1919 \HyPsd@String\HyPsd@SPACEOPTI
1920 }%
1921 \else
1922 \ifcat$#1%
1923 \HyPsd@CatcodeWarning{math shift}%
1924 \else
1925 \ifcat&#1%
1926 \HyPsd@CatcodeWarning{alignment tab}%
1927 \else
1928 \ifcat^#1%
1929 \HyPsd@CatcodeWarning{superscript}%
1930 \else
1931 \ifcat_#1%
1932 \HyPsd@CatcodeWarning{subscript}%
1933 \else
1934 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1935 \HyPsd@String#1%
1936 }%
1937 \fi
1938 \fi
1939 \fi
1940 \fi
1941 \fi
1942 \fi
1943 \fi
1944 \fi
1945 \ifx\HyPsd@Rest\relax
1946 \ifx\scrollmode#2\scrollmode
1947 \else
1948 \Hy@ReturnAfterFiFiEnd{%
1949 \HyPsd@CheckCatcodes#2\HyPsd@End
1950 }%
1951 \fi
1952 \else
1953 \ifx\HyPsd@Rest\@empty
1954 \else
1955 \Hy@ReturnAfterFiFiEnd{%
1956 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1957 }%
1958 \fi
1959 \fi
1960 \Hy@ReturnEnd
1961 }
1962 \catcode'\Q=11 %

```

### Remove counts, dimens, skips.

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

```
1963 \def\HyPsd@AfterCountRemove#1\HyPsd@end{%
1964   \gdef\HyPsd@Rest{#1}%
1965 }
```

`\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.

```
1966 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
1967   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1968     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1969     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1970   \else
1971     \ifdim\dimen@=\z@
1972       \else
1973         \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1974       \fi
1975     \gdef\HyPsd@Rest{#1}%
1976   \fi
1977 }
```

`\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).

```
1978 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1979   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1980     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1981     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1982   \else
1983     \ifdim\skip@=\z@
1984       \else
1985         \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1986       \fi
1987     \gdef\HyPsd@Rest{#1}%
1988   \fi
1989 }
```

### Catcode warnings.

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

```
1990 \def\HyPsd@CatcodeWarning#1{%
1991   \HyPsd@Warning{%
1992     Token not allowed in a PDF string (%
1993     \ifHy@unicode
1994       Unicode%
1995     \else
1996       PDFDocEncoding%
1997     \fi
1998   ):%
1999   \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
2000 }%
2001 }
2002 \begingroup
2003 \catcode'\|=0 %
2004 \catcode'\|=12 %
```

```

2005 |gdef|HyPsd@RemoveCmdPrefix#1{%
2006   |expandafter|HyPsd@@RemoveCmdPrefix
2007   |string#1|@empty\<>-|@empty|@empty
2008 }%
2009 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
2010 |endgroup

```

\HyPsd@RemoveSpaceWarning

```

2011 \def\HyPsd@RemoveSpaceWarning#1{%
2012   \HyPsd@Warning{%
2013     Token not allowed in a PDF string (%)
2014     \ifHy@unicode
2015       Unicode%
2016     \else
2017       PDFDocEncoding%
2018     \fi
2019   }:%
2020   \MessageBreak #1\MessageBreak
2021   removed%
2022 }%
2023 }

```

\HyPsd@ReplaceSpaceWarning

```

2024 \def\HyPsd@ReplaceSpaceWarning#1{%
2025   \HyPsd@Warning{%
2026     Token not allowed in a PDF string (%)
2027     \ifHy@unicode
2028       Unicode%
2029     \else
2030       PDFDocEncoding%
2031     \fi
2032   }:%
2033   \MessageBreak #1\MessageBreak
2034   replaced by space%
2035 }%
2036 }

```

### 6.6.5 Check for wrong glyphs

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

```

2037 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2038   \expandafter\def\expandafter\HyPsd@String\expandafter{%
2039     \HyPsd@String#1%
2040   }%
2041   \ifx\|#2\%
2042   \else
2043     \ltx@ReturnAfterFi{%
2044       \HyPsd@GlyphProcessWarning#2\@empty
2045     }%
2046   \fi
2047 }
2048 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2049   \HyPsd@@GlyphProcessWarning#1++>%
2050   \HyPsd@GlyphProcess#2\@empty
2051 }
2052 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%

```

```

2053 \ifx\|#2\%
2054 \HyPsd@Warning{%
2055   Glyph not defined in %
2056   P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2057   removing '@backslashchar#1'%
2058 }%
2059 \else
2060 \HyPsd@Warning{%
2061   Composite letter '@backslashchar#1+#2'\MessageBreak
2062   not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2063   \MessageBreak
2064   removing '@backslashchar#1'%
2065 }%
2066 \fi
2067 }

```

### 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`.

```

2068 \def\HyPsd@spaceopti#1{ % first space
2069 \ifx\HyPsd@spaceopti#1%
2070 \040%
2071 \else
2072 #1%
2073 \fi
2074 }%

```

### 6.6.6 Replacing tokens

`\HyPsd@Subst` To save tokens `\HyPsd@StringSubst` is a 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.
2075 \def\HyPsd@Subst#1#2#3{%
2076 \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
2077 \fi
2078 ##1%
2079 \ifx\scrollmode##2\scrollmode
2080 \else
2081 #2%
2082 \HyPsd@@@ReplaceFi##2\END
2083 \fi
2084 }%
2085 \xdef#3{%
2086 \iftrue
2087 \expandafter\HyPsd@@@ReplaceFi#3#1\END
2088 \fi
2089 }%
2090 }

```

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

```

2091 \def\HyPsd@StringSubst#1{%
2092   \expandafter\HyPsd@Subst\expandafter{\string#1}%
2093 }

```

\HyPsd@EscapeTeX

```

2094 \begingroup
2095   \lccode'\!='\%%
2096   \lccode'\|='\%%
2097   \lccode'\(=\{\%
2098   \lccode'\)=\}%
2099   \lccode'0=\ltx@zero
2100   \lccode'1=\ltx@zero
2101   \lccode'3=\ltx@zero
2102   \lccode'4=\ltx@zero
2103   \lccode'5=\ltx@zero
2104   \lccode'7=\ltx@zero
2105 \lowercase{\endgroup
2106   \def\HyPsd@EscapeTeX#1{%
2107     \HyPsd@Subst!{|045}#1%
2108     \HyPsd@Subst({|173}#1%
2109     \HyPsd@Subst){|175}#1%
2110   }%
2111 }

```

### 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.

```

2112 \def\HyPsd@doxspace#1{%
2113   \ifx#1\relax\else
2114     \ifx#1.\else
2115       \ifx#1:\else
2116         \ifx#1,\else
2117         \ifx#1;\else
2118         \ifx#1!\else
2119         \ifx#1?\else
2120         \ifx#1/\else
2121         \ifx#1-\else
2122         \ifx#1'\else
2123           \HyPsd@SPACEOPTI
2124         \fi
2125       \fi
2126     \fi
2127   \fi
2128   \fi
2129   \fi
2130   \fi
2131   \fi
2132   \fi
2133   \fi
2134   #1%
2135 }%

```

### 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.

```
2136 \begingroup
2137 \catcode'\|=0 %
2138 \catcode'\|=12 %
```

\HyPsd@ConvertToUnicode

```
2139 |gdef|HyPsd@ConvertToUnicode#1{%
2140 |xdef#1{%
2141 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
2142 }%
2143 |ifx#1|@empty
2144 |else
2145 |xdef#1{%
2146 \376\377%
2147 #1%
2148 }%
2149 |fi
2150 }%
```

\HyPsd@DoConvert

```
2151 |gdef|HyPsd@DoConvert#1{%
2152 |ifx#1|@empty
2153 |else
2154 |ltx@ReturnAfterFi{%
2155 |ifx#1\%%
2156 \%%
2157 |expandafter|HyPsd@DoEscape
2158 |else
2159 |HyPsd@Char{#1}%
2160 |expandafter|HyPsd@DoConvert
2161 |fi
2162 }%
2163 |fi
2164 }%
```

\HyPsd@DoEscape

```
2165 |gdef|HyPsd@DoEscape#1{%
2166 |ifx#19%
2167 |expandafter|HyPsd@GetTwoBytes
2168 |else
2169 |ltx@ReturnAfterFi{%
2170 |ifx#18%
2171 00%
2172 |expandafter|HyPsd@GetTwoBytes
2173 |else
2174 #1%
2175 |expandafter|HyPsd@GetOneByte
2176 |fi
2177 }%
2178 |fi
2179 }%
```

\HyPsd@GetTwoBytes

```

2180 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2181   #1\#2#3#4%
2182   |HyPsd@DoConvert
2183 }%

```

\HyPsd@GetOneByte

```

2184 |gdef|HyPsd@GetOneByte#1#2{%
2185   #1#2%
2186   |HyPsd@DoConvert
2187 }%
2188 |endgroup

```

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

```

2189 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2190   \xdef#4{#4#1#2}%
2191   \HyPsd@@ConvertToUnicode#3\END#4%
2192 }

```

\HyPsd@Char

```

2193 \begingroup
2194 \catcode0=9 %
2195 \catcode'\^=7 %
2196 \catcode'\^^=12 %
2197 \def\x{~~~~0000}%
2198 \expandafter\endgroup
2199 \ifx\x\@empty
2200 \def\HyPsd@Char#1{%
2201   \ifnum'#1<128 %
2202     \@backslashchar 000#1%
2203   \else
2204     \ifnum'#1<65536 %
2205       \expandafter\HyPsd@CharTwoByte\number'#1!%
2206     \else
2207       \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2208       \intcalcSub{'#1}{65536}!%
2209     \fi
2210   \fi
2211 }%
2212 \def\HyPsd@CharTwoByte#1!{%
2213   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2214   \IntCalcDiv#1!256!!%
2215   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2216   \IntCalcMod#1!256!!%
2217 }%
2218 \def\HyPsd@CharOctByte#1!{%
2219   \@backslashchar
2220   \IntCalcDiv#1!64!%
2221   \intcalcDiv{\IntCalcMod#1!64!}{8}%
2222   \IntCalcMod#1!8!%
2223 }%
2224 \def\HyPsd@CharSurrogate#1!{%
2225   \@backslashchar 33%
2226   \IntCalcDiv#1!262144!%
2227   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2228   \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2229   \@backslashchar 33%

```

```

2230 \expandafter\expandafter\expandafter\IntCalcAdd
2231 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2232 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2233 \IntCalcMod#1!256!!%
2234 }%
2235 \else
2236 \def\HyPsd@Char#1{%
2237 \@backslashchar 000#1%
2238 }%
2239 \fi

```

### 6.6.9 Support for UTF-8 input encoding

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

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

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

```

2240 \begingroup\expandafter\expandafter\expandafter\endgroup
2241 \expandafter\ifx\csname numexpr\endcsname\relax
2242 \let\HyPsd@UTFviii\relax
2243 \else
2244 \begingroup
2245 \lccode'\~='^f4\relax
2246 \lowercase{\endgroup
2247 \def\HyPsd@UTFviii{%
2248 \let\UTFviii@two@octets\HyPsd@UTFviii@two
2249 \let\UTFviii@three@octets\HyPsd@UTFviii@three
2250 \let\UTFviii@four@octets\HyPsd@UTFviii@four
2251 \ifx~\HyPsd@UTFviii@ccxliv@undef
2252 \let~\HyPsd@UTFviii@ccxliv@def
2253 \fi
2254 \let\unichar\HyPsd@unichar
2255 }%
2256 }%
2257 \def\HyPsd@UTFviii@ccxliv@undef{\@inpencl@undefined@{utf8}}%
2258 \edef\HyPsd@UTFviii@ccxliv@def{%
2259 \noexpand\UTFviii@four@octets\string ^f4%
2260 }%

```

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.

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

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

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

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

$$(5)$$



```

2261 \def\HyPsd@UTFviii@two#1#2{%
2262   \expandafter\HyPsd@UTFviii@@two
2263   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
2264   \number'#1\expandafter|
2265   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|
2266   \number'#2 \@nil
2267 }%
2268 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2269   \expandafter\8
2270   \number\numexpr #1-48\expandafter\relax
2271   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2272   \number\numexpr #3-8*
2273   \number\dimexpr.125\dimexpr'#3sp\relax\relax\expandafter\relax
2274   \number\numexpr #4-8*#3\relax
2275 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

2276 \def\HyPsd@UTFviii@three#1#2#3{%
2277   \expandafter\HyPsd@UTFviii@@three
2278   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
2279   \number'#1\expandafter|
2280   \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|
2281   \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|
2282   \number'#2\expandafter|
2283   \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|
2284   \number'#3 \@nil
2285 }%
2286 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2287   \expandafter\9
2288   \number\numexpr #1-56\expandafter\relax
2289   \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2290   \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2291   \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2292   \number\numexpr #6-16\expandafter\relax
2293   \number\numexpr #7-8*#6\relax
2294 }%

```

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

```

```

2295 \def\HyPsd@UTFviii@four#1#2{%
2296   \expandafter\HyPsd@@UTFviii@four\number

```

```

2297 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2298 \expandafter|\number
2299 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2300 }%
2301 \def\HyPsd@@@UTFviii@four#1|#2|#3{%
2302 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2303 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2304 \ifodd#2 %
2305 \number\dimexpr(#2-1)/2\relax
2306 \else
2307 \number\dimexpr#2/2\relax
2308 \fi
2309 \number\dimexpr\ifodd#2 4+\fi
2310 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2311 \933%
2312 \expandafter\HyPsd@@@UTFviii@four\number
2313 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2314 }%
2315 \def\HyPsd@@@UTFviii@four#1|#2{%
2316 \number\dimexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2317 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2318 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2319 \number\dimexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2320 }%

```

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

```

2321 \def\HyPsd@unichar#1{%
2322 \ifHy@unicode
2323 \ifnum#1>"10FFFF %
2324 \HyPsd@UnicodeReplacementCharacter % illegal
2325 \else
2326 \ifnum#1>"FFFF %

```

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

```

2327 \expandafter\HyPsd@unichar\expandafter{%
2328 \number\dimexpr 55296+%
2329 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2330 \relax\relax\relax
2331 }%

```

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

```

2332 \expandafter\HyPsd@unichar\expandafter{%
2333 \number\dimexpr#1-9216%
2334 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2335 \relax\relax\relax
2336 }%
2337 \else
2338 \ifnum#1>"7FFF %
2339 \9%
2340 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2341 \number
2342 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2343 }%
2344 \else
2345 \8%
2346 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2347 \fi

```

```

2348 \expandafter\HyPsd@unichar@second@byte\expandafter{%
2349 \number
2350 \numexpr#1-256*\number
2351 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2352 }%
2353 \fi
2354 \fi
2355 \else
2356 .% unsupported (Unicode -> PDF Doc Encoding)
2357 \fi
2358 }%
2359 \def\HyPsd@UnicodeReplacementCharacter{9377\375}%
2360 \def\HyPsd@unichar@first@byte#1{%
2361 \number\dimexpr.015625\dimexpr#1sp\relax\relax
2362 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2363 \number
2364 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2365 \relax\relax\relax
2366 }%
2367 }%
2368 \def\HyPsd@unichar@second@byte#1{%
2369 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2370 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2371 \number
2372 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2373 \relax\relax\relax
2374 }%
2375 }%
2376 \def\HyPsd@unichar@octtwo#1{%
2377 \number\dimexpr.125\dimexpr#1sp\relax\relax
2378 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2379 \relax\relax\relax
2380 }%
2381 \fi

```

\HyPsd@utf@viii@undeferr \utf@viii@undeferr comes from file utf8x.def from package ucs.

```

2382 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2383 \ifx\@gobble#1%
2384 \else
2385 [Please insert \textbackslash PrerenderUnicode%
2386 \textbraceleft#1\textbraceright\space
2387 into preamble]%
2388 \fi
2389 }%

```

### 6.6.10 Support for die faces (ifsym et. al.)

\HyPsd@DieFace Die faces are provided by

Package	Macro
ifsym	\Cube
epsdice	\epsdice
hhcount	\fcdice

\Cube and \epsdice restrict the range to the numbers one to six. \fcdice generates for larger numbers several dice faces with the sum matching the number. The implementation for the PDF strings follows \fcdice.

```

2390 \def\HyPsd@DieFace#1{%
2391   \ifHy@unicode
2392     \ifnum#1<1 %
2393       \HyPsd@UnicodeReplacementCharacter
2394     \else
2395       \ifnum#1>6 %
2396         \9046\205%
2397         \expandafter\expandafter\expandafter
2398         \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2399       \else
2400         \9046\20\intcalcDec{#1}%
2401       \fi
2402     \fi
2403   \else
2404     .% Die faces are not part of PDFDocEncoding
2405   \fi
2406 }

```

\HyPsd@DieFaceLarge

```

2407 \def\HyPsd@DieFaceLarge#1!{%
2408   \ifnum#1>6 %
2409     \expandafter\ltx@firstoftwo
2410   \else
2411     \expandafter\ltx@secondoftwo
2412   \fi
2413   {%
2414     \9046\205%
2415     \expandafter\expandafter\expandafter
2416     \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2417   }{%
2418     \9046\20\IntCalcDec#1!%
2419   }%
2420 }

```

## 6.6.11 Support for moon phases of package china2e

```

2421 \def\HyPsd@MoonPha#1{%
2422   \ifcase\intcalcNum{#1} %
2423     \HyPsd@UnicodeReplacementCharacter
2424   \or % 1
2425   % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2426   \9330\074\9337\032%
2427   \or % 2
2428   \HyPsd@UnicodeReplacementCharacter
2429   \or % 3
2430   % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2431   \9330\074\9337\035%
2432   \or % 4
2433   % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2434   \9330\074\9337\034%
2435   \else
2436     \HyPsd@UnicodeReplacementCharacter
2437   \fi
2438 }
2439 %* \HyPsd@MoonPha -> \MoonPha

```

## 6.6.12 Support for package pifont

\HyPsd@ding

```

2440 \def\HyPsd@ding#1{%
2441   \ifHy@unicode
2442     \ifnum#1<32 %
2443       \HyPsd@UnicodeReplacementCharacter
2444     \else
2445       \ifnum#1>254 %
2446         \HyPsd@UnicodeReplacementCharacter
2447       \else
2448         \ifnum#1<127 %
2449           \expandafter\expandafter\expandafter
2450             \HyPsd@@ding\intcalcNum{#1}!%
2451         \else
2452           \ifnum#1>160 %
2453             \expandafter\expandafter\expandafter
2454               \HyPsd@@ding\intcalcNum{#1}!%
2455           \else
2456             \HyPsd@UnicodeReplacementCharacter
2457           \fi
2458         \fi
2459       \fi
2460     \fi
2461   \else
2462     .% Dingbats are not part of PDFDocEncoding
2463   \fi
2464 }
```

\HyPsd@@ding

```

2465 \def\HyPsd@@ding#1!{%
2466   \ltx@ifundefined{HyPsd@ding@#1}{%
2467     \ifnum#1<127 %
2468       \9047%
2469       \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2470     \else
2471       \ifnum#1<168 %
2472         \9047\14\IntCalcSub#1!160!%
2473       \else
2474         \ifnum#1>181 %
2475           \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2476         \else
2477           % 172..181 -> U+2460..U+2469
2478           \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2479         \fi
2480       \fi
2481     \fi
2482   }{%
2483     \csname HyPsd@ding@#1\endcsname
2484   }%
2485 }

2486 \@namedef{HyPsd@ding@32}{\space}
2487 % U+260E BLACK TELEPHONE
2488 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2489 % U+261B BLACK RIGHT POINTING INDEX
2490 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2491 % U+261E WHITE RIGHT POINTING INDEX
```

```

2492 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2493 % U+2605 BLACK STAR
2494 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2495 % U+25CF BLACK CIRCLE
2496 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2497 % U+25A0 BLACK SQUARE
2498 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2499 % U+25B2 BLACK UP-POINTING TRIANGLE
2500 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2501 % U+25BC BLACK DOWN-POINTING TRIANGLE
2502 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2503 % U+25C6 BLACK DIAMOND
2504 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2505 % U+25D7 RIGHT HALF BLACK CIRCLE
2506 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2507 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2508 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2509 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2510 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2511 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2512 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2513 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2514 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}

```

## 7 Support of other packages

### 7.1 Class memoir

```

2515 \@ifclassloaded{memoir}{%
2516 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}%
2517 }{}

```

### 7.2 Package subfigure

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

```

2518 \@ifpackageloaded{subfigure}{%
2519 \ltx@ifundefined{sub@label}{%
2520 \Hy@hypertextnamesfalse
2521 }{%
2522 \renewcommand*{\sub@label}[1]{%
2523 \@bsphack
2524 \subfig@oldlabel{#1}%
2525 \if@filesw
2526 \begingroup
2527 \edef\@currentlabstr{%
2528 \expandafter\strip@prefix\meaning\@currentlabelname
2529 }%
2530 \protected@write\@auxout{}{%
2531 \string\newlabel{sub@#1}{%
2532 {\@nameuse{@@thesub\@capytype}}%
2533 {\thepage}%
2534 {%
2535 \expandafter\strip@period\@currentlabstr
2536 \relax.\relax\@@@%
2537 }%
2538 {\@currentHref}%
2539 }%

```

```

2540         }%
2541     }%
2542     \endgroup
2543     \fi
2544     \@esphack
2545 }%
2546 \@ifpackagelater{subfigure}{2002/03/26}{\%
2547     \providecommand*\toclevel@subfigure{1}%
2548     \providecommand*\toclevel@subtable{1}%
2549 }%
2550 }%
2551 }{}

```

### 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:

```

2552 \ltx@ifundefined{XR@addURL}{%
2553 }{%

```

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.

```

2554 \def\xr@addURL#1{\xr@dURL#1{}{}{}\\}%
2555 \def\xr@dURL#1#2#3#4#5\\{%
2556   {#1}{#2}%
2557   \if!#4!%
2558   \else
2559     {#3}{#4}{\xr@URL}%
2560   \fi
2561 }%
2562 }

2563 \def\Hy@true{true}
2564 \def\Hy@false{false}

```

Providing dummy definitions.

```

2565 \let\literalps@out\@gobble
2566 \newcommand\pdfbookmark[3]{}{}
2567 \def\Acrobatmenu#1#2{\leavevmode#2}
2568 \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

```

2569 \let\HyperRaiseLinkHook\@empty
2570 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2571 \newcount\Hy@SavedSpaceFactor
2572 \def\Hy@SaveSpaceFactor{%
2573   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2574 }
2575 \def\Hy@RestoreSpaceFactor{%
2576   \relax
2577   \ifhmode
2578     \ifnum\Hy@SavedSpaceFactor>\z@
2579       \spacefactor=\Hy@SavedSpaceFactor
2580     \fi
2581   \fi
2582 }
2583 \def\Hy@SaveSavedSpaceFactor{%
2584   \edef\Hy@RestoreSavedSpaceFactor{%
2585     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2586   }%
2587 }
2588 \def\Hy@raisedlink#1{%
2589   \ifvmode
2590     #1%
2591   \else
2592     \Hy@SaveSpaceFactor
2593     \penalty\@M
2594     \smash{%
2595       \begingroup
2596         \let\HyperRaiseLinkLength\@tempdima
2597         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2598         \HyperRaiseLinkHook
2599       \expandafter\endgroup
2600       \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2601         \Hy@RestoreSpaceFactor
2602         #1%
2603         \Hy@SaveSpaceFactor
2604       }%
2605     }%
2606     \Hy@RestoreSpaceFactor
2607   \fi
2608 }

```

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

```

2609 \def\Hy@SaveLastskip{%
2610   \let\Hy@RestoreLastskip\relax
2611   \ifvmode
2612     \ifdim\lastskip=\z@
2613       \let\Hy@RestoreLastskip\nobreak
2614     \else
2615       \begingroup
2616         \skip@=-\lastskip
2617       \edef\x{%
2618         \endgroup
2619         \def\noexpand\Hy@RestoreLastskip{%
2620           \noexpand\ifvmode
2621             \noexpand\nobreak
2622             \vskip\the\skip@
2623             \vskip\the\lastskip\relax
2624           \noexpand\fi

```



```

2625     }%
2626     }%
2627     \x
2628     \fi
2629 \else
2630 \ifhmode
2631 \ifdim\lastskip=\z@
2632 \let\Hy@RestoreLastskip\nobreak
2633 \else
2634 \begingroup
2635 \skip@=-\lastskip
2636 \edef\x{%
2637 \endgroup
2638 \def\noexpand\Hy@RestoreLastskip{%
2639 \noexpand\ifhmode
2640 \noexpand\nobreak
2641 \hskip\the\skip@
2642 \hskip\the\lastskip\relax
2643 \noexpand\fi
2644 }%
2645 }%
2646 \x
2647 \fi
2648 \fi
2649 \fi
2650 }%

```

## 9 Options

```

2651 \SetupKeyvalOptions{%
2652 family=Hyp,%
2653 prefix=HyOpt%
2654 }

```

### 9.1 Help macros

\IfHyperBooleanExists

```

2655 \def\IfHyperBooleanExists#1{%
2656 \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2657 \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2658 }%
2659 }

```

```

2660 \@namedef{KV@Hyp@stoppeearly@default}{}

```

\IfHyperBoolean

```

2661 \def\IfHyperBoolean#1{%
2662 \IfHyperBooleanExists{#1}{%
2663 \csname ifHy@#1\endcsname
2664 \expandafter\ltx@firstoftwo
2665 \else
2666 \expandafter\ltx@secondoftwo
2667 \fi
2668 }\ltx@secondoftwo
2669 }

```

\Hy@boolkey

```

2670 \def\Hy@boolkey#1#2{%
2671   \edef\Hy@tempa{#2}%
2672   \lowercase\expandafter{%
2673     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2674   }%
2675   \ifx\Hy@tempa\@empty
2676     \let\Hy@tempa\Hy@true
2677   \fi
2678   \ifx\Hy@tempa\Hy@true
2679   \else
2680     \ifx\Hy@tempa\Hy@false
2681     \else
2682       \let\Hy@tempa\relax
2683     \fi
2684   \fi
2685   \ifx\Hy@tempa\relax
2686     \Hy@WarnOptionValue{#2}{#1}{‘true’ or ‘false’}%
2687   \else
2688     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2689     \csname Hy@#1\Hy@tempa\endcsname
2690   \fi
2691 }

```

\Hy@WarnOptionValue

```

2692 \def\Hy@WarnOptionValue#1#2#3{%
2693   \Hy@Warning{%
2694     Unexpected value ‘#1’\MessageBreak
2695     of option ‘#2’ instead of\MessageBreak
2696     #3%
2697   }%
2698 }

```

\Hy@DisableOption

```

2699 \def\Hy@DisableOption#1{%
2700   \ltx@ifundefined{KV@Hyp@#1@default}{%
2701     \define@key{Hyp}{#1}%
2702   }{%
2703     \define@key{Hyp}{#1}[]%
2704   }%
2705   {\Hy@WarnOptionDisabled{#1}}%
2706 }

```

\Hy@WarnOptionDisabled

```

2707 \def\Hy@WarnOptionDisabled#1{%
2708   \Hy@Warning{%
2709     Option ‘#1’ has already been used,\MessageBreak
2710     setting the option has no effect%
2711   }%
2712 }

```

\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.

```

2713 \def\Hy@CheckOptionValue#1#2#3{%
2714   \begingroup
2715   \edef\x{#1}%
2716   \@onelevel@sanitize\x

```

```

2717 \let\y=y%
2718 \def\do##1##2{%
2719 \def\z{##1}%
2720 \@onelevel@sanitize\z
2721 \ifx\x\z
2722 \let\y=n%
2723 \let\do\@gobbletwo
2724 \fi
2725 }%
2726 #3%
2727 \ifx\y y%
2728 \def\do##1##2{%
2729 * '##1'%
2730 \ifx\\##2\\\else\space(##2)\fi
2731 \MessageBreak
2732 }%
2733 \Hy@Warning{%
2734 Values of option '#2':\MessageBreak
2735 #3%
2736 * An empty value disables the option.\MessageBreak
2737 Unknown value '\x'%
2738 }%
2739 \fi
2740 \endgroup
2741 }

```

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

```

2742 \def\Hy@DefNameKey#1{%
2743 \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2744 }

```

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

```

2745 \def\Hy@@DefNameKey#1#2#3{%
2746 \define@key{Hyp}{#2}{%
2747 \edef#1{##1}%
2748 \ifx#1\@empty
2749 \else
2750 \Hy@CheckOptionValue{##1}{#2}{#3}%
2751 \fi
2752 }%
2753 \let#1\@empty
2754 }

```

`\Hy@UseNameKey`

```

2755 \def\Hy@UseNameKey#1#2{%
2756 \ifx#2\@empty
2757 \else
2758 /#1/#2%
2759 \fi
2760 }

```

## 9.2 Defining the options

```

2761 \define@key{Hyp}{implicit}[true]{%
2762   \Hy@boolkey{implicit}{#1}%
2763 }
2764 \define@key{Hyp}{draft}[true]{%
2765   \Hy@boolkey{draft}{#1}%
2766 }
2767 \define@key{Hyp}{final}[true]{%
2768   \Hy@boolkey{final}{#1}%
2769 }
2770 \let\KV@Hyp@nolinks\KV@Hyp@draft
2771 \def\Hy@ObsoletePaperOption#1{%
2772   \Hy@WarningNoLine{%
2773     Option ‘#1’ is no longer used%
2774   }%
2775   \define@key{Hyp}{#1}[true]{}%
2776 }
2777 \def\Hy@temp#1{%
2778   \define@key{Hyp}{#1}[true]{%
2779     \Hy@ObsoletePaperOption{#1}%
2780   }%
2781 }
2782 \Hy@temp{a4paper}
2783 \Hy@temp{a5paper}
2784 \Hy@temp{b5paper}
2785 \Hy@temp{letterpaper}
2786 \Hy@temp{legalpaper}
2787 \Hy@temp{executivepaper}
2788 \define@key{Hyp}{setpagesize}[true]{%
2789   \Hy@boolkey{setpagesize}{#1}%
2790 }
2791 \define@key{Hyp}{debug}[true]{%
2792   \Hy@boolkey{debug}{#1}%
2793 }
2794 \define@key{Hyp}{linktocpage}[true]{%
2795   \Hy@boolkey{linktocpage}{#1}%
2796   \ifHy@linktocpage
2797     \let\Hy@linktoc\Hy@linktoc@page
2798   \else
2799     \let\Hy@linktoc\Hy@linktoc@section
2800   \fi
2801 }
2802 \chardef\Hy@linktoc@none=0 %
2803 \chardef\Hy@linktoc@section=1 %
2804 \chardef\Hy@linktoc@page=2 %
2805 \chardef\Hy@linktoc@all=3 %
2806 \ifHy@linktocpage
2807   \let\Hy@linktoc\Hy@linktoc@page
2808 \else
2809   \let\Hy@linktoc\Hy@linktoc@section
2810 \fi
2811 \define@key{Hyp}{linktoc}{%
2812   \@ifundefined{Hy@linktoc@#1}{%
2813     \Hy@Warning{%
2814       Unexpected value ‘#1’ of\MessageBreak
2815       option ‘linktoc’ instead of ‘none’,\MessageBreak
2816       ‘section’, ‘page’ or ‘all’%
2817     }%

```

```

2818 }{%
2819   \expandafter\let\expandafter\Hy@linktoc
2820   \csname Hy@linktoc@#1\endcsname
2821 }%
2822 }
2823 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2824 \let\XR@ext\relax
2825 \define@key{Hyp}{verbose}[true]{%
2826   \Hy@boolkey{verbose}{#1}%
2827 }
2828 \define@key{Hyp}{typexml}[true]{%
2829   \Hy@boolkey{typexml}{#1}%
2830 }

```

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.

```

2831 \define@key{Hyp}{raiselinks}[true]{%
2832   \Hy@boolkey{raiselinks}{#1}%
2833 }

```

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

```

2834 \def\Hy@setbreaklinks#1{%
2835   \csname breaklinks#1\endcsname
2836 }
2837 \def\Hy@breaklinks@unsupported{%
2838   \ifx\Hy@setbreaklinks\@gobble
2839     \ifHy@breaklinks
2840       \Hy@WarningNoLine{%
2841         You have enabled option 'breaklinks'.\MessageBreak
2842         But driver '\Hy@driver.def' does not support this.\MessageBreak
2843         Expect trouble with the link areas of broken links%
2844       }%
2845     \fi
2846   \fi
2847 }
2848 \define@key{Hyp}{breaklinks}[true]{%
2849   \Hy@boolkey{breaklinks}{#1}%
2850   \let\Hy@setbreaklinks\@gobble
2851 }
2852 \define@key{Hyp}{localanchorname}[true]{%
2853   \Hy@boolkey{localanchorname}{#1}%
2854 }

```

Determines whether an automatic anchor is put on each page

```

2855 \define@key{Hyp}{pageanchor}[true]{%
2856   \Hy@boolkey{pageanchor}{#1}%
2857 }

```

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.

```

2858 \define@key{Hyp}{plainpages}[true]{%
2859   \Hy@boolkey{plainpages}{#1}%
2860 }

```

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?

```

2861 \define@key{Hyp}{naturalnames}[true]{%

```

```

2862 \Hy@boolkey{naturalnames}{#1}%
2863 }

```

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

```

2864 \define@key{Hyp}{hypertexnames}[true]{%
2865   \Hy@boolkey{hypertexnames}{#1}%
2866 }

```

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

```

2867 \define@key{Hyp}{nesting}[true]{%
2868   \Hy@boolkey{nesting}{#1}%
2869 }

```

```

2870 \define@key{Hyp}{destlabel}[true]{%
2871   \Hy@boolkey{destlabel}{#1}%
2872 }

```

```

2873 \define@key{Hyp}{unicode}[true]{%
2874   \Hy@boolkey{unicode}{#1}%
2875   \ifHy@unicode
2876     \def\HyPsd@pdfencoding{unicode}%
2877     \HyPsd@LoadUnicode
2878   \else
2879     \def\HyPsd@pdfencoding{pdfdoc}%
2880   \fi
2881 }

```

```

2882 \Hy@AtBeginDocument{%
2883   \ifx\HyPsd@LoadUnicode\relax
2884   \else
2885     \def\HyPsd@LoadUnicode{%
2886       \Hy@Error{%
2887         Unicode support for bookmarks is not available.\MessageBreak
2888         Activate unicode support by using one of the options\MessageBreak
2889         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2890         in the preamble%
2891       }\@ehc
2892       \global\let\HyPsd@LoadUnicode\relax
2893       \global\Hy@unicodedefalse
2894       \global\let\Hy@unicodetrue\Hy@unicodedefalse
2895     }%
2896   \fi
2897 }

```

```

2898 \define@key{Hyp}{pdfencoding}{%
2899   \edef\HyPsd@temp{#1}%
2900   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2901     \let\HyPsd@pdfencoding\HyPsd@temp
2902     \Hy@unicodedefalse
2903   \else
2904     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2905       \z@
2906     \else
2907       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2908         \z@
2909       \else
2910         \@ne
2911       \fi
2912     \fi
2913     \let\HyPsd@pdfencoding\HyPsd@temp

```

```

2914 \hypersetup{unicode}%
2915 \ifHy@unicode
2916 \def\HyPsd@pdfencoding{#1}%
2917 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2918 \HyPsd@LoadStringEnc
2919 \fi
2920 \else
2921 \Hy@Warning{Cannot switch to unicode bookmarks}%
2922 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2923 \fi
2924 \else
2925 \@onelevel@sanitize\HyPsd@temp
2926 \Hy@Warning{%
2927 Values of option 'pdfencoding':\MessageBreak
2928 'pdfdoc', 'unicode', 'auto'.\MessageBreak
2929 Ignoring unknown value '\HyPsd@temp'%
2930 }%
2931 \fi
2932 \fi
2933 }
2934 \def\HyPsd@pdfencoding@auto{auto}
2935 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2936 \def\HyPsd@pdfencoding@unicode{unicode}
2937 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2938 \def\HyPsd@LoadStringEnc{%
2939 \RequirePackage{stringenc}[2009/12/15]%
2940 \let\HyPsd@LoadStringEnc\relax
2941 }
2942 \Hy@AtBeginDocument{%
2943 \@ifpackageloaded{stringenc}{%
2944 \let\HyPsd@LoadStringEnc\relax
2945 }{%
2946 \def\HyPsd@LoadStringEnc{%
2947 \Hy@WarningNoLine{%
2948 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2949 in the preamble or load the package there%
2950 }%
2951 }%
2952 }%
2953 }
2954 \define@key{Hyp}{psdextra}[true]{%
2955 \Hy@boolkey{psdextra}{#1}%
2956 }
2957 \def\hypersetup{\kvsetkeys{Hyp}}
2958 \newif\ifHy@setpdfversion
2959 \define@key{Hyp}{pdfversion}{%
2960 \@ifundefined{Hy@pdfversion@#1}{%
2961 \PackageWarning{hyperref}{%
2962 Unsupported PDF version '#1'.\MessageBreak
2963 Valid values: 1.2 until 1.9%
2964 }%
2965 }{%
2966 \Hy@setpdfversiontrue
2967 \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2968 }%
2969 }

```

```

2970 \@namedef{Hy@pdfversion@1.2}{2}%
2971 \@namedef{Hy@pdfversion@1.3}{3}%
2972 \@namedef{Hy@pdfversion@1.4}{4}%
2973 \@namedef{Hy@pdfversion@1.5}{5}%
2974 \@namedef{Hy@pdfversion@1.6}{6}%
2975 \@namedef{Hy@pdfversion@1.7}{7}%
2976 \@namedef{Hy@pdfversion@1.8}{8}%
2977 \@namedef{Hy@pdfversion@1.9}{9}%
2978 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

2979 \newif\ifHy@DviMode
2980 \let\Hy@DviErrMsg\ltx@empty
2981 \ifpdf
2982   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2983 \else
2984   \ifxetex
2985     \def\Hy@DviErrMsg{XeTeX is running}%
2986   \else
2987     \ifvtex
2988       \ifvtexdvi
2989         \Hy@DviModetrue
2990       \else
2991         \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2992       \fi
2993     \else
2994       \Hy@DviModetrue
2995     \fi
2996   \fi
2997 \fi
2998 \def\HyOpt@CheckDvi#1{%
2999   \ifHy@DviMode
3000     \expandafter\ltx@firstofone
3001   \else
3002     \Hy@Error{%
3003       Wrong DVI mode driver option ‘#1’,\MessageBreak
3004       because \Hy@DviErrMsg
3005     }\@ehc
3006     \expandafter\ltx@gobble
3007   \fi
3008 }
3009 \DeclareVoidOption{tex4ht}{%
3010   \Hy@texhttrue
3011   \kvsetkeys{Hyp}{colorlinks=true}%
3012   \def\BeforeTeXIVht{\RequirePackage{color}}%
3013   \def\Hy@driver{htex4ht}%
3014   \def\MaybeStopEarly{%
3015     \Hy@Message{Stopped early}%
3016     \Hy@AtBeginDocument{%
3017       \PDF@FinishDoc
3018       \gdef\PDF@FinishDoc{}%
3019     }%
3020   \endinput
3021 }%
3022 }
3023 \DeclareVoidOption{pdftex}{%

```



```

3024 \ifpdf
3025   \def\Hy@driver{hpdftex}%
3026 \else
3027   \Hy@Error{%
3028     Wrong driver option 'pdftex',\MessageBreak
3029     because pdfTeX in PDF mode is not detected%
3030   }\@ehc
3031 \fi
3032 }
3033 \DeclareVoidOption{nativepdf}{%
3034   \HyOpt@CheckDvi{nativepdf}{%
3035     \def\Hy@driver{hdvips}%
3036   }%
3037 }
3038 \DeclareVoidOption{dvipdfm}{%
3039   \HyOpt@CheckDvi{dvipdfm}{%
3040     \def\Hy@driver{hdvipdfm}%
3041   }%
3042 }
3043 \DeclareVoidOption{dvipdfmx}{%
3044   \HyOpt@CheckDvi{dvipdfmx}{%
3045     \def\Hy@driver{hdvipdfm}%
3046   }%
3047 }
3048 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
3049   \expandafter\ifx\csname if#1\expandafter\endcsname
3050     \csname iftrue\endcsname
3051     \chardef\SpecialDvipdfmxOutlineOpen\@ne
3052   \else
3053     \chardef\SpecialDvipdfmxOutlineOpen\z@
3054   \fi
3055 }
3056 \DeclareVoidOption{xetex}{%
3057   \ifxetex
3058     \def\Hy@driver{hxetex}%
3059   \else
3060     \Hy@Error{%
3061       Wrong driver option 'xetex',\MessageBreak
3062       because XeTeX is not detected%
3063     }\@ehc
3064   \fi
3065 }
3066 \DeclareVoidOption{pdfmark}{%
3067   \HyOpt@CheckDvi{pdfmark}{%
3068     \def\Hy@driver{hdvips}%
3069   }%
3070 }
3071 \DeclareVoidOption{dvips}{%
3072   \HyOpt@CheckDvi{dvips}{%
3073     \def\Hy@driver{hdvips}%
3074   }%
3075 }
3076 \DeclareVoidOption{hypertex}{%
3077   \HyOpt@CheckDvi{hypertex}{%
3078     \def\Hy@driver{hypertex}%
3079   }%
3080 }

```

```

3081 \let\Hy@MaybeStopNow\relax
3082 \DeclareVoidOption{vtex}{%
3083   \ifvtex
3084     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3085     \def\Hy@driver{hvtex}%
3086   \else
3087     \ifnum\OpMode=10\relax
3088     \def\Hy@driver{hvtexhtm}%
3089     \def\MaybeStopEarly{%
3090       \Hy@Message{Stopped early}%
3091       \Hy@AtBeginDocument{%
3092         \PDF@FinishDoc
3093         \gdef\PDF@FinishDoc{}}%
3094       }%
3095     \endinput
3096   }%
3097   \else
3098     \Hy@Error{%
3099       Wrong driver option 'vtex',\MessageBreak
3100       because of wrong OpMode (\the\OpMode)%
3101     }\@ehc
3102   \fi
3103 \fi
3104 \else
3105   \Hy@Error{%
3106     Wrong driver option 'vtex',\MessageBreak
3107     because VTeX is not running%
3108   }\@ehc
3109 \fi
3110 }
3111 \DeclareVoidOption{vtexpdfmark}{%
3112   \ifvtex
3113     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3114     \def\Hy@driver{hvtexmrk}%
3115   \else
3116     \Hy@Error{%
3117       Wrong driver option 'vtexpdfmark',\MessageBreak
3118       because of wrong OpMode (\the\OpMode)%
3119     }\@ehc
3120   \fi
3121   \else
3122     \Hy@Error{%
3123       Wrong driver option 'vtexpdfmark',\MessageBreak
3124       because VTeX is not running%
3125     }\@ehc
3126   \fi
3127 }
3128 \DeclareVoidOption{dviwindo}{%
3129   \HyOpt@CheckDvi{dviwindo}{%
3130     \def\Hy@driver{hdviwind}%
3131     \kvsetkeys{Hyp}{colorlinks}%
3132     \PassOptionsToPackage{dviwindo}{color}%
3133   }%
3134 }
3135 \DeclareVoidOption{dvipsone}{%
3136   \HyOpt@CheckDvi{dvipsone}{%
3137     \def\Hy@driver{hdvipson}%

```

```

3138 }%
3139 }
3140 \DeclareVoidOption{textures}{%
3141   \HyOpt@CheckDvi{textures}{%
3142     \def\Hy@driver{htexture}%
3143   }%
3144 }
3145 \DeclareVoidOption{latex2html}{%
3146   \HyOpt@CheckDvi{latex2html}{%
3147     \Hy@AtBeginDocument{\@@latextohtmlX}%
3148   }%
3149 }

```

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

```

3150 \DeclareVoidOption{ps2pdf}{%
3151   \HyOpt@CheckDvi{ps2pdf}{%
3152     \def\Hy@driver{hdvips}%
3153   }%
3154 }
3155 \let\HyOpt@DriverFallback\ltx@empty
3156 \define@key{Hyp}{driverfallback}{%
3157   \ifHy@DviMode
3158     \def\HyOpt@DriverFallback{#1}%
3159     \Hy@Match\HyOpt@DriverFallback{%
3160       ~(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
3161       latex2html|tex4ht)$%
3162     }{}{%
3163       \let\HyOpt@DriverFallback\ltx@empty
3164     }%
3165   \fi
3166 }

```

## 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.

```

3167 \define@key{Hyp}{hyperfigures}[true]{%
3168   \Hy@boolkey{hyperfigures}{#1}%
3169 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

3170 \define@key{Hyp}{hyperfootnotes}[true]{%
3171   \Hy@boolkey{hyperfootnotes}{#1}%
3172 }

```

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

```

3173 \def\back@none{none}
3174 \def\back@section{section}
3175 \def\back@page{page}
3176 \def\back@slide{slide}
3177 \define@key{Hyp}{backref}[section]{%
3178   \lowercase{\def\Hy@tempa{#1}}%
3179   \ifx\Hy@tempa\@empty
3180     \let\Hy@tempa\back@section
3181   \fi
3182   \ifx\Hy@tempa\Hy>false
3183     \let\Hy@tempa\back@none
3184   \fi

```

```

3185 \ifx\Hy@tempa\back@slide
3186 \let\Hy@tempa\back@section
3187 \fi
3188 \ifx\Hy@tempa\back@page
3189 \PassOptionsToPackage{hyperpageref}{backref}%
3190 \Hy@backreftrue
3191 \else
3192 \ifx\Hy@tempa\back@section
3193 \PassOptionsToPackage{hyperref}{backref}%
3194 \Hy@backreftrue
3195 \else
3196 \ifx\Hy@tempa\back@none
3197 \Hy@backreffalse
3198 \else
3199 \Hy@WarnOptionValue{#1}{backref}{%
3200 'section', 'slide', 'page', 'none',\MessageBreak
3201 or 'false'}%
3202 \fi
3203 \fi
3204 \fi
3205 }
3206 \define@key{Hyp}{pagebackref}[true]{%
3207 \edef\Hy@tempa{#1}%
3208 \lowercase\expandafter{%
3209 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3210 }%
3211 \ifx\Hy@tempa\@empty
3212 \let\Hy@tempa\Hy@true
3213 \fi
3214 \ifx\Hy@tempa\Hy@true
3215 \PassOptionsToPackage{hyperpageref}{backref}%
3216 \Hy@backreftrue
3217 \else
3218 \ifx\Hy@tempa\Hy@false
3219 \Hy@backreffalse
3220 \else
3221 \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
3222 \fi
3223 \fi
3224 }

```

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

```

3225 \define@key{Hyp}{hyperindex}[true]{%
3226 \Hy@boolkey{hyperindex}{#1}%
3227 }

```

Configuration of encap char.

```

3228 \define@key{Hyp}{encap}[|]{%
3229 \def\HyInd@EncapChar{#1}%
3230 }

```

## 12 Language options

The \autoref feature depends on the language.

```

3231 \def\HyLang@afrikaans{%
3232 \def\equationautorefname{Vergelyking}%

```

```

3233 \def\footnoteautorefname{Voetnota}%
3234 \def\itemautorefname{Item}%
3235 \def\figureautorefname{Figuur}%
3236 \def\tableautorefname{Tabel}%
3237 \def\partautorefname{Deel}%
3238 \def\appendixautorefname{Bylae}%
3239 \def\chapterautorefname{Hoofstuk}%
3240 \def\sectionautorefname{Afdeling}%
3241 \def\subsectionautorefname{Subafdeling}%
3242 \def\subsubsectionautorefname{Subsubafdeling}%
3243 \def\paragraphautorefname{Paragraaf}%
3244 \def\subparagraphautorefname{Subparagraaf}%
3245 \def\FancyVerbLineautorefname{Lyn}%
3246 \def\theoremautorefname{Teorema}%
3247 \def\pageautorefname{Bladsy}%
3248 }
3249 \def\HyLang@english{%
3250 \def\equationautorefname{Equation}%
3251 \def\footnoteautorefname{footnote}%
3252 \def\itemautorefname{item}%
3253 \def\figureautorefname{Figure}%
3254 \def\tableautorefname{Table}%
3255 \def\partautorefname{Part}%
3256 \def\appendixautorefname{Appendix}%
3257 \def\chapterautorefname{chapter}%
3258 \def\sectionautorefname{section}%
3259 \def\subsectionautorefname{subsection}%
3260 \def\subsubsectionautorefname{subsubsection}%
3261 \def\paragraphautorefname{paragraph}%
3262 \def\subparagraphautorefname{subparagraph}%
3263 \def\FancyVerbLineautorefname{line}%
3264 \def\theoremautorefname{Theorem}%
3265 \def\pageautorefname{page}%
3266 }
3267 \def\HyLang@french{%
3268 \def\equationautorefname{'Equation}%
3269 \def\footnoteautorefname{note}%
3270 \def\itemautorefname{item}%
3271 \def\figureautorefname{Figure}%
3272 \def\tableautorefname{Tableau}%
3273 \def\partautorefname{Partie}%
3274 \def\appendixautorefname{Appendice}%
3275 \def\chapterautorefname{chapitre}%
3276 \def\sectionautorefname{section}%
3277 \def\subsectionautorefname{sous-section}%
3278 \def\subsubsectionautorefname{sous-sous-section}%
3279 \def\paragraphautorefname{paragraphe}%
3280 \def\subparagraphautorefname{sous-paragraphe}%
3281 \def\FancyVerbLineautorefname{ligne}%
3282 \def\theoremautorefname{Th'eor'eme}%
3283 \def\pageautorefname{page}%
3284 }
3285 \def\HyLang@german{%
3286 \def\equationautorefname{Gleichung}%
3287 \def\footnoteautorefname{Fu'ss note}%
3288 \def\itemautorefname{Punkt}%
3289 \def\figureautorefname{Abbildung}%

```

```

3290 \def\tableautorefname{Tabelle}%
3291 \def\partautorefname{Teil}%
3292 \def\appendixautorefname{Anhang}%
3293 \def\chapterautorefname{Kapitel}%
3294 \def\sectionautorefname{Abschnitt}%
3295 \def\subsectionautorefname{Unterabschnitt}%
3296 \def\subsubsectionautorefname{Unterunterabschnitt}%
3297 \def\paragraphautorefname{Absatz}%
3298 \def\subparagraphautorefname{Unterabsatz}%
3299 \def\FancyVerbLineautorefname{Zeile}%
3300 \def\theoremautorefname{Theorem}%
3301 \def\pageautorefname{Seite}%
3302 }
3303 \def\HyLang@italian{%
3304 \def\equationautorefname{Equazione}%
3305 \def\footnoteautorefname{nota}%
3306 \def\itemautorefname{punto}%
3307 \def\figureautorefname{Figura}%
3308 \def\tableautorefname{Tabella}%
3309 \def\partautorefname{Parte}%
3310 \def\appendixautorefname{Appendice}%
3311 \def\chapterautorefname{Capitolo}%
3312 \def\sectionautorefname{sezione}%
3313 \def\subsectionautorefname{sottosezione}%
3314 \def\subsubsectionautorefname{sottosottosezione}%
3315 \def\paragraphautorefname{paragrafo}%
3316 \def\subparagraphautorefname{sottoparagrafo}%
3317 \def\FancyVerbLineautorefname{linea}%
3318 \def\theoremautorefname{Teorema}%
3319 \def\pageautorefname{Pag.\@}%
3320 }
3321 \def\HyLang@magyar{%
3322 \def\equationautorefname{Egyenlet}%
3323 \def\footnoteautorefname{l'abjegyzet}%
3324 \def\itemautorefname{Elem}%
3325 \def\figureautorefname{'Abra}%
3326 \def\tableautorefname{T\abl'azat}%
3327 \def\partautorefname{R'esz}%
3328 \def\appendixautorefname{F\"uggel'ek}%
3329 \def\chapterautorefname{fejezet}%
3330 \def\sectionautorefname{szakasz}%
3331 \def\subsectionautorefname{alszakasz}%
3332 \def\subsubsectionautorefname{alalszakasz}%
3333 \def\paragraphautorefname{bekezd'es}%
3334 \def\subparagraphautorefname{albekezd'es}%
3335 \def\FancyVerbLineautorefname{sor}%
3336 \def\theoremautorefname{T'etel}%
3337 \def\pageautorefname{oldal}%
3338 }
3339 \def\HyLang@portuges{%
3340 \def\equationautorefname{Equa\c c\~ao}%
3341 \def\footnoteautorefname{Nota de rodap'e}%
3342 \def\itemautorefname{Item}%
3343 \def\figureautorefname{Figura}%
3344 \def\tableautorefname{Tabela}%
3345 \def\partautorefname{Parte}%
3346 \def\appendixautorefname{Ap\^endice}%

```

```

3347 \def\chapterautorefname{Cap\`itulo}%
3348 \def\sectionautorefname{Se\c c\~ao}%
3349 \def\subsectionautorefname{Subse\c c\~ao}%
3350 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3351 \def\paragraphautorefname{par\`agrafo}%
3352 \def\subparagraphautorefname{subpar\`agrafo}%
3353 \def\FancyVerbLineautorefname{linha}%
3354 \def\theoremautorefname{Teorema}%
3355 \def\pageautorefname{P\`agina}%
3356 }

```

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`.

```

3357 \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`?

```

3358 \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`.

```

3359 % \def\equationautorefname{%
3360 %   \cyr\cyrv\cyrery\cyr\cyra\cyrzh\cyre\cyrn\cyri\cyre
3361 % }%

```

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

```

3362 \def\footnoteautorefname{%
3363   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyr. \cyrp\cyr\cyri\cyr. %
3364 }%

```

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

```

3365 % \def\footnoteautorefname{%
3366 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyr\cyro\cyrch\cyrn\cyro\cyre \
3367 %   \cyrp\cyr\cyri\cyr\cyr\cyre\cyrch\cyra\cyrn\cyri\cyre
3368 % }%

```

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

```

3369 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
3370 % \def\Accfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyr.}%

```

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

```

3371 \def\itemautorefname{\cyr\cyrp.}%
3372 % \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.

```
3373 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
3374 \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.

```
3375 \def\partautorefname{\cyr\cyrch.}%
3376 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
3377 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
```

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

```
3378 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
3379 % \def\appendixautorefname{%
3380 %   \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrzh\cyre\cyrn\cyri\cyre
3381 % }%
```

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.

```
3382 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3383 \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.

```
3384 \def\paragraphautorefname{\cyr\cyrp.}%
3385 \def\subparagraphautorefname{\cyr\cyrp.}%
```

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

```
3386 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3387 % \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.

```
3388 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3389 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3390 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3391 % \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 ...

```
3392 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3393 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3394 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```



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

```

3395 \def\pageautorefname{\cyr\cyr.s.}%
3396 }

3397 \def\HyLang@spanish{%
3398 \def\equationautorefname{Ecuaci'on}%
3399 \def\footnoteautorefname{Nota a pie de p'agina}%
3400 \def\itemautorefname{Elemento}%
3401 \def\figureautorefname{Figura}%
3402 \def\tableautorefname{Tabla}%
3403 \def\partautorefname{Parte}%
3404 \def\appendixautorefname{Ap'endice}%
3405 \def\chapterautorefname{Cap'itulo}%
3406 \def\sectionautorefname{Secci'on}%
3407 \def\subsectionautorefname{Subsecci'on}%
3408 \def\subsubsectionautorefname{Subsubsecci'on}%
3409 \def\paragraphautorefname{P'arrafo}%
3410 \def\subparagraphautorefname{Subp'arrafo}%
3411 \def\FancyVerbLineautorefname{L'inea}%
3412 \def\theoremautorefname{Teorema}%
3413 \def\pageautorefname{P'agina}%
3414 }

3415 \def\HyLang@vietnamese{%
3416 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr'inh}%
3417 \def\footnoteautorefname{Ch'u th'ich}%
3418 \def\itemautorefname{m\d{u}c}%
3419 \def\figureautorefname{H'inh}%
3420 \def\tableautorefname{B'h{a}ng}%
3421 \def\partautorefname{Ph'\acircumflex{}n}%
3422 \def\appendixautorefname{Ph\d{u}l\d{u}c}%
3423 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
3424 \def\sectionautorefname{m\d{u}c}%
3425 \def\subsectionautorefname{m\d{u}c}%
3426 \def\subsubsectionautorefname{m\d{u}c}%
3427 \def\paragraphautorefname{\dj{}o\d{a}n}%
3428 \def\subparagraphautorefname{\dj{}o\d{a}n}%
3429 \def\FancyVerbLineautorefname{d'ong}%
3430 \def\theoremautorefname{DJ{}\d{i}nh l'y}%
3431 \def\pageautorefname{Trang}%
3432 }

```

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

```

3433 \def\HyLang@addto#1#2{%
3434 #2%
3435 \@temptokena{#2}%
3436 \ifx#1\relax
3437 \let#1\@empty
3438 \fi
3439 \ifx#1\@undefined
3440 \edef#1{\the\@temptokena}%
3441 \else
3442 \toks@\expandafter{#1}%
3443 \edef#1{\the\toks@\the\@temptokena}%
3444 \fi
3445 \@temptokena{}\toks@\@temptokena
3446 }

3447 \def\HyLang@DeclareLang#1#2#3{%

```

```

3448 \@ifpackagewith{babel}{#1}{%
3449   \expandafter\HyLang@addto
3450     \csname extras#1\expandafter\endcsname
3451     \csname HyLang@#2\endcsname
3452   \begingroup
3453     \edef\x{\endgroup
3454       #3%
3455     }%
3456   \x
3457   \@namedef{HyLang@#1@done}{}%
3458 }{}%
3459 \begingroup
3460   \edef\x##1##2{%
3461     \noexpand\ifx##2\relax
3462       \errmessage{No definitions for language #2' found!}%
3463     \noexpand\fi
3464   \endgroup
3465   \noexpand\define@key{Hyp}{#1}[]{}%
3466   \noexpand\@ifundefined{HyLang@#1@done}{%
3467     \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3468     #3%
3469     \noexpand\@namedef{HyLang@#1@done}{}%
3470   }{}%
3471   }%
3472 }%
3473 \expandafter\x\csname extras#1\expandafter\endcsname
3474       \csname HyLang@#2\endcsname
3475 }
3476 \HyLang@DeclareLang{english}{english}{}
3477 \HyLang@DeclareLang{UKenglish}{english}{}
3478 \HyLang@DeclareLang{british}{english}{}
3479 \HyLang@DeclareLang{USenglish}{english}{}
3480 \HyLang@DeclareLang{american}{english}{}
3481 \HyLang@DeclareLang{german}{german}{}
3482 \HyLang@DeclareLang{austrian}{german}{}
3483 \HyLang@DeclareLang{ngerman}{german}{}
3484 \HyLang@DeclareLang{naustrian}{german}{}
3485 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3486 \HyLang@DeclareLang{brazil}{portuges}{}
3487 \HyLang@DeclareLang{brazilian}{portuges}{}
3488 \HyLang@DeclareLang{portuguese}{portuges}{}
3489 \HyLang@DeclareLang{spanish}{spanish}{}
3490 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3491 \HyLang@DeclareLang{french}{french}{}
3492 \HyLang@DeclareLang{frenchb}{french}{}
3493 \HyLang@DeclareLang{français}{french}{}
3494 \HyLang@DeclareLang{acadian}{french}{}
3495 \HyLang@DeclareLang{canadien}{french}{}
3496 \HyLang@DeclareLang{italian}{italian}{}
3497 \HyLang@DeclareLang{magyar}{magyar}{}
3498 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3499 \DeclareVoidOption{vietnamese}{%
3500   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3501   \Hy@AtEndOfPackage{%
3502     \@ifundefined{T@PU}{}{}%
3503     \input{puvnc.def}%

```

```

3504 }%
3505 }%
3506 }
3507 \DeclareVoidOption{vietnam}{%
3508   \HyLang@addto\extrasvietnam\HyLang@vietnamese
3509   \Hy@AtEndOfPackage{%
3510     \ifundefined{T@PU}{}%
3511     \input{puvnenc.def}%
3512   }%
3513 }%
3514 }

```

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

```

3515 \DeclareVoidOption{arabic}{%
3516   \Hy@AtEndOfPackage{%
3517     \ifundefined{T@PU}{}%
3518     \input{puarenc.def}%
3519   }%
3520 }%
3521 }

```

## 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.

```

3522 \define@key{Hyp}{colorlinks}[true]{%
3523   \Hy@boolkey{colorlinks}{#1}%
3524 }
3525 \DeclareVoidOption{hidelinks}{%
3526   \Hy@colorlinksfalse
3527   \Hy@ocgcolorlinksfalse
3528   \Hy@frenchlinksfalse
3529   \def\Hy@colorlink##1{\begingroup}%
3530   \def\Hy@endcolorlink{\endgroup}%
3531   \def\@pdfborder{0 0 0}%
3532   \let\@pdfborderstyle\ltx@empty
3533 }
3534 \define@key{Hyp}{ocgcolorlinks}[true]{%
3535   \Hy@boolkey{ocgcolorlinks}{#1}%
3536 }
3537 \Hy@AtBeginDocument{%
3538   \begingroup
3539   \ifundefined{OBJ@OCG@view}{%
3540     \ifHy@ocgcolorlinks
3541       \Hy@Warning{%
3542         Driver does not support ‘ocgcolorlinks’,\MessageBreak
3543         using ‘colorlinks’ instead%
3544       }%
3545     \fi
3546   }%
3547 \endgroup
3548 }
3549 \define@key{Hyp}{frenchlinks}[true]{%
3550   \Hy@boolkey{frenchlinks}{#1}%
3551 }

```

## 14 Bookmarking

```

3552 \begingroup\expandafter\expandafter\expandafter\endgroup
3553 \expandafter\ifx\csname chapter\endcsname\relax
3554   \def\toclevel@part{0}%
3555 \else
3556   \def\toclevel@part{-1}%
3557 \fi
3558 \def\toclevel@chapter{0}
3559 \def\toclevel@section{1}
3560 \def\toclevel@subsection{2}
3561 \def\toclevel@subsubsection{3}
3562 \def\toclevel@paragraph{4}
3563 \def\toclevel@subparagraph{5}
3564 \def\toclevel@figure{0}
3565 \def\toclevel@table{0}
3566 \@ifpackageloaded{listings}{%
3567   \providecommand*\theHlstlisting{\thelstlisting}%
3568   \providecommand*\toclevel@lstlisting{0}%
3569 }{}
3570 \@ifpackageloaded{listing}{%
3571   \providecommand*\theHlisting{\thelisting}%
3572   \providecommand*\toclevel@listing{0}%
3573 }{}

3574 \define@key{Hyp}{bookmarks}[true]{%
3575   \Hy@boolkey{bookmarks}{#1}%
3576 }

3577 \define@key{Hyp}{bookmarksopen}[true]{%
3578   \Hy@boolkey{bookmarksopen}{#1}%
3579 }

```

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.

```

3580 \let\Hy@bookmarksdepth\c@tocdepth
3581 \define@key{Hyp}{bookmarksdepth}[]{%
3582   \begingroup
3583     \edef\x{#1}%
3584     \ifx\x\empty
3585       \global\let\Hy@bookmarksdepth\c@tocdepth
3586     \else
3587       \@ifundefined{toclevel@\x}{%
3588         \@onelevel@sanitize\x
3589         \edef\y{\expandafter\@car\x\@nil}%
3590         \ifcase 0\expandafter\ifx\y-1\fi
3591           \expandafter\ifnum\expandafter\y>47 %
3592           \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
3593         \Hy@Warning{Unknown document division name (\x)}%
3594       \else
3595         \setbox\z@=\hbox{%

```

```

3596         \count@=\x
3597         \xdef\Hy@bookmarksdepth{\the\count@}%
3598     }%
3599     \fi
3600 }{%
3601     \setbox\z@=\hbox{%
3602         \count@=\csname toplevel@\x\endcsname
3603         \xdef\Hy@bookmarksdepth{\the\count@}%
3604     }%
3605 }%
3606 \fi
3607 \endgroup
3608 }

```

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

```

3609 \define@key{Hyp}{bookmarksopenlevel}{%
3610     \def\@bookmarksopenlevel{#1}%
3611 }
3612 \def\@bookmarksopenlevel{\maxdimen}
3613 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3614 \define@key{Hyp}{bookmarkstype}{%
3615     \def\Hy@bookmarkstype{#1}%
3616 }
3617 \def\Hy@bookmarkstype{toc}

```

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

```

3618 \define@key{Hyp}{bookmarksnumbered}[true]{%
3619     \Hy@boolkey{bookmarksnumbered}{#1}%
3620 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3621 \define@key{Hyp}{CJKbookmarks}[true]{%
3622     \Hy@boolkey{CJKbookmarks}{#1}%
3623 }
3624 \def\Hy@temp#1{%
3625     \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3626 }
3627 \def\Hy@@temp#1#2#3{%
3628     \define@key{Hyp}{#2color}{%
3629         \HyColor@HyperrefColor{##1}#1%
3630     }%
3631     \def#1{#3}%
3632 }
3633 \Hy@temp{link}{red}
3634 \Hy@temp{anchor}{black}
3635 \Hy@temp{cite}{green}
3636 \Hy@temp{file}{cyan}
3637 \Hy@temp{url}{magenta}
3638 \Hy@temp{menu}{red}
3639 \Hy@temp{run}{\@filecolor}
3640 \define@key{Hyp}{pagecolor}{%
3641     \Hy@WarningPageColor
3642 }
3643 \def\Hy@WarningPageColor{%
3644     \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
3645     \global\let\Hy@WarningPageColor\relax
3646 }

```

```

3647 \define@key{Hyp}{allcolors}{%
3648   \HyColor@HyperrefColor{#1}\@linkcolor
3649   \HyColor@HyperrefColor{#1}\@anchorcolor
3650   \HyColor@HyperrefColor{#1}\@citecolor
3651   \HyColor@HyperrefColor{#1}\@filecolor
3652   \HyColor@HyperrefColor{#1}\@urlcolor
3653   \HyColor@HyperrefColor{#1}\@menucolor
3654   \HyColor@HyperrefColor{#1}\@runcolor
3655 }

3656 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3657 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3658 \let\@baseurl\@empty
3659 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3660 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3661 \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.

```

3662 \let\@pdfpagetransition\relax
3663 \define@key{Hyp}{pdfpagetransition}{%
3664   \def\@pdfpagetransition{#1}%
3665 }

```

`\@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.

```

3666 \let\@pdfpageduration\relax
3667 \define@key{Hyp}{pdfpageduration}{%
3668   \def\@pdfpageduration{#1}%
3669   \Hy@Match\@pdfpageduration{%
3670     ^([0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3671   }{%
3672     \Hy@Warning{%
3673       Invalid value '\@pdfpageduration'\MessageBreak
3674       of option 'pdfpageduration'\MessageBreak
3675       is replaced by an empty value%
3676     }%
3677     \let\@pdfpageduration\ltx@empty
3678   }%
3679 }

```

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.

```

3680 \newif\ifHy@useHidKey
3681 \Hy@useHidKeyfalse
3682 \define@key{Hyp}{pdfpagehidden}[true]{%
3683   \Hy@boolkey{pdfpagehidden}{#1}%
3684   \ifHy@pdfpagehidden
3685     \global\Hy@useHidKeytrue
3686   \fi
3687 }

```

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).

```

3688 \def\Hy@ColorList{cite,file,link,menu,run,url}
3689 \@for\Hy@temp:=\Hy@ColorList\do{%
3690   \edef\Hy@temp{%
3691     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3692       \noexpand\HyColor@HyperrefBorderColor
3693       {##1}%
3694       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3695       {hyperref}%
3696       {\Hy@temp bordercolor}%
3697     }%
3698   }%
3699   \Hy@temp
3700 }
3701 \define@key{Hyp}{pagebordercolor}{%
3702   \Hy@WarningPageBorderColor
3703 }
3704 \def\Hy@WarningPageBorderColor{%
3705   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3706   \global\let\Hy@WarningPageBorderColor\relax
3707 }
3708 \define@key{Hyp}{allbordercolors}{%
3709   \def\Hy@temp##1##2{%
3710     \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3711   }%
3712   \Hy@temp\@citebordercolor{cite}%
3713   \Hy@temp\@filebordercolor{file}%
3714   \Hy@temp\@linkbordercolor{link}%
3715   \Hy@temp\@menubordercolor{menu}%
3716   \Hy@temp\@runbordercolor{run}%
3717   \Hy@temp\@urlbordercolor{url}%
3718 }
3719 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3720 \Hy@DefNameKey{pdfhighlight}{%
3721   \do{/I}{Invert}%
3722   \do{/N}{None}%
3723   \do{/O}{Outline}%
3724   \do{/P}{Push}%
3725 }
3726 \define@key{Hyp}{pdfborder}{%
3727   \let\Hy@temp\@pdfborder
3728   \def\@pdfborder{#1}%
3729   \Hy@Match\@pdfborder{%
3730     ~\HyPat@NonNegativeReal/ %
3731     \HyPat@NonNegativeReal/ %
3732     \HyPat@NonNegativeReal/%
3733     ( ?\[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*\])?%%
3734   }{}%
3735   \Hy@Warning{%

```

```

3736     Invalid value '@pdfborder'\MessageBreak
3737     for option 'pdfborder'.\MessageBreak
3738     Option setting is ignored%
3739 }%
3740 \let\@pdfborder\Hy@temp
3741 }%
3742 }
3743 \define@key{Hyp}{pdfborderstyle}{%
3744 \let\Hy@temp\@pdfborderstyle
3745 \def\@pdfborderstyle{#1}%
3746 \Hy@Match\@pdfborderstyle{%
3747 ~%
3748 ( */Type */Border%
3749 | */W +\HyPat@NonNegativeReal/%
3750 | */S */[SDBIU]%
3751 | */D *\[ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/))?)?}%
3752 )* *$%
3753 }{}{%
3754 \Hy@Warning{%
3755     Invalid value '@pdfborderstyle'\MessageBreak
3756     for option 'pdfborderstyle'.\MessageBreak
3757     Option setting is ignored%
3758 }%
3759 \let\@pdfborderstyle\Hy@temp
3760 }%
3761 }
3762 \def\Hy@setpdfborder{%
3763 \ifx\@pdfborder\@empty
3764 \else
3765 /Border[\@pdfborder]%
3766 \fi
3767 \ifx\@pdfborderstyle\@empty
3768 \else
3769 /BS<<\@pdfborderstyle>>%
3770 \fi
3771 }
3772 \Hy@DefNameKey{pdfpagemode}{%
3773 \do{UseNone}{}%
3774 \do{UseOutlines}{}%
3775 \do{UseThumbs}{}%
3776 \do{FullScreen}{}%
3777 \do{UseOC}{PDF 1.5}%
3778 \do{UseAttachments}{PDF 1.6}%
3779 }
3780 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3781 \do{UseNone}{}%
3782 \do{UseOutlines}{}%
3783 \do{UseThumbs}{}%
3784 \do{FullScreen}{}%
3785 \do{UseOC}{PDF 1.5}%
3786 \do{UseAttachments}{PDF 1.6}%
3787 }
3788 \Hy@DefNameKey{pdfdirection}{%
3789 \do{L2R}{Left to right}%
3790 \do{R2L}{Right to left}%
3791 }
3792 \Hy@DefNameKey{pdfviewarea}{%

```



```

3793 \do{MediaBox}{}%
3794 \do{CropBox}{}%
3795 \do{BleedBox}{}%
3796 \do{TrimBox}{}%
3797 \do{ArtBox}{}%
3798 }
3799 \Hy@DefNameKey{pdfviewclip}{%
3800 \do{MediaBox}{}%
3801 \do{CropBox}{}%
3802 \do{BleedBox}{}%
3803 \do{TrimBox}{}%
3804 \do{ArtBox}{}%
3805 }
3806 \Hy@DefNameKey{pdfprintarea}{%
3807 \do{MediaBox}{}%
3808 \do{CropBox}{}%
3809 \do{BleedBox}{}%
3810 \do{TrimBox}{}%
3811 \do{ArtBox}{}%
3812 }
3813 \Hy@DefNameKey{pdfprintclip}{%
3814 \do{MediaBox}{}%
3815 \do{CropBox}{}%
3816 \do{BleedBox}{}%
3817 \do{TrimBox}{}%
3818 \do{ArtBox}{}%
3819 }
3820 \Hy@DefNameKey{pdfprintscaling}{%
3821 \do{AppDefault}{}%
3822 \do{None}{}%
3823 }
3824 \Hy@DefNameKey{pdfduplex}{%
3825 \do{Simplex}{}%
3826 \do{DuplexFlipShortEdge}{}%
3827 \do{DuplexFlipLongEdge}{}%
3828 }
3829 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3830 \do{true}{}%
3831 \do{false}{}%
3832 }
3833 \define@key{Hyp}{pdfprintpagerange}{%
3834 \def\@pdfprintpagerange{#1}%
3835 }
3836 \Hy@DefNameKey{pdfnumcopies}{%
3837 \do{2}{two copies}%
3838 \do{3}{three copies}%
3839 \do{4}{four copies}%
3840 \do{5}{five copies}%
3841 }
3842 \define@key{Hyp}{pdfusetitle}[true]{%
3843 \Hy@boolkey{pdfusetitle}{#1}%
3844 }
3845 \def\HyXeTeX@CheckUnicode{%
3846 \ifxetex
3847 \ifHy@unicode
3848 \else
3849 \Hy@WarningNoLine{%

```

```

3850     XeTeX driver only supports unicode.\MessageBreak
3851     Enabling option 'unicode'%
3852 }%
3853 \kvsetkeys{Hyp}{unicode}%
3854 \fi
3855 \else
3856 \let\HyXeTeX@CheckUnicode\relax
3857 \fi
3858 }
3859 \def\HyPsd@PrerenderUnicode#1{%
3860 \begingroup
3861 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3862 \else
3863 \sbox0{%
3864 \let\GenericInfo\@gobbletwo
3865 \let\GenericWarning\@gobbletwo
3866 \let\GenericError\@gobblefour
3867 \PrerenderUnicode{#1}%
3868 }%
3869 \fi
3870 \endgroup
3871 }
3872 \define@key{Hyp}{pdftitle}{%
3873 \HyXeTeX@CheckUnicode
3874 \HyPsd@XeTeXBigCharstrue
3875 \HyPsd@PrerenderUnicode{#1}%
3876 \pdfstringdef\@pdftitle{#1}%
3877 }
3878 \define@key{Hyp}{pdfauthor}{%
3879 \HyXeTeX@CheckUnicode
3880 \HyPsd@XeTeXBigCharstrue
3881 \HyPsd@PrerenderUnicode{#1}%
3882 \pdfstringdef\@pdfauthor{#1}%
3883 }
3884 \define@key{Hyp}{pdfproducer}{%
3885 \HyXeTeX@CheckUnicode
3886 \HyPsd@XeTeXBigCharstrue
3887 \HyPsd@PrerenderUnicode{#1}%
3888 \pdfstringdef\@pdfproducer{#1}%
3889 \ifxetex
3890 \Hy@Warning{%
3891 pdfproducer: %
3892 xdvipdfmx will use its own setting\MessageBreak
3893 instead of the value given%
3894 }%
3895 \else
3896 \def\Hy@temp{hdvipdfm}%
3897 \ifx\Hy@driver\Hy@temp
3898 \Hy@Warning{%
3899 pdfproducer: %
3900 dvipdfm(x) will use its own setting\MessageBreak
3901 instead of the value given%
3902 }%
3903 \fi
3904 \fi
3905 }
3906 \define@key{Hyp}{pdfcreator}{%

```

```

3907 \HyXeTeX@CheckUnicode
3908 \HyPsd@XeTeXBigCharstrue
3909 \HyPsd@PrerenderUnicode{#1}%
3910 \pdfstringdef\@pdfcreator{#1}%
3911 }
3912 \define@key{Hyp}{pdfcreationdate}{%
3913 \begingroup
3914 \Hy@unicodedefalse
3915 \pdfstringdef\@pdfcreationdate{#1}%
3916 \endgroup
3917 }
3918 \define@key{Hyp}{pdfmoddate}{%
3919 \begingroup
3920 \Hy@unicodedefalse
3921 \pdfstringdef\@pdfmoddate{#1}%
3922 \endgroup
3923 }
3924 \define@key{Hyp}{pdfsubject}{%
3925 \HyXeTeX@CheckUnicode
3926 \HyPsd@XeTeXBigCharstrue
3927 \HyPsd@PrerenderUnicode{#1}%
3928 \pdfstringdef\@pdfsubject{#1}%
3929 }
3930 \define@key{Hyp}{pdfkeywords}{%
3931 \HyXeTeX@CheckUnicode
3932 \HyPsd@XeTeXBigCharstrue
3933 \HyPsd@PrerenderUnicode{#1}%
3934 \pdfstringdef\@pdfkeywords{#1}%
3935 }
3936 \define@key{Hyp}{pdftrapped}{%
3937 \lowercase{\edef\Hy@temp{#1}}%
3938 \ifx\Hy@temp\HyInfo@trapped@true
3939 \def\@pdftrapped{True}%
3940 \else
3941 \ifx\Hy@temp\HyInfo@trapped@false
3942 \def\@pdftrapped{False}%
3943 \else
3944 \ifx\Hy@temp\HyInfo@trapped@unknown
3945 \def\@pdftrapped{Unknown}%
3946 \else
3947 \ifx\Hy@temp\@empty
3948 \else
3949 \Hy@Warning{%
3950 Unsupported value '#1'\MessageBreak
3951 for option 'pdftrapped'%
3952 }%
3953 \fi
3954 \def\@pdftrapped{}%
3955 \fi
3956 \fi
3957 \fi
3958 }
3959 \def\HyInfo@trapped@true{true}
3960 \def\HyInfo@trapped@false{false}
3961 \def\HyInfo@trapped@unknown{unknown}
3962 \def\HyInfo@TrappedUnsupported{%
3963 \ifx\@pdftrapped\@empty

```

```

3964 \else
3965   \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3966   \gdef\HyInfo@TrappedUnsupported{}%
3967 \fi
3968 }
3969 \define@key{Hyp}{pdfinfo}{%
3970   \kvsetkeys{pdfinfo}{#1}%
3971 }
3972 \def\Hy@temp#1{%
3973   \lowercase{\Hy@temp@A{#1}}{#1}%
3974 }
3975 \def\Hy@temp@A#1#2{%
3976   \define@key{pdfinfo}{#2}{%
3977     \hypersetup{pdf#1={##1}}%
3978   }%
3979 }
3980 \Hy@temp{Title}
3981 \Hy@temp{Author}
3982 \Hy@temp{Keywords}
3983 \Hy@temp{Subject}
3984 \Hy@temp{Creator}
3985 \Hy@temp{Producer}
3986 \Hy@temp{CreationDate}
3987 \Hy@temp{ModDate}
3988 \Hy@temp{Trapped}
3989 \newif\ifHyInfo@AddonUnsupported
3990 \kv@set@family@handler{pdfinfo}{%
3991   \HyInfo@AddonHandler{#1}{#2}%
3992 }
3993 \let\HyInfo@do\relax
3994 \def\HyInfo@AddonHandler#1#2{%
3995   \ifx\kv@value\relax
3996     \Hy@Warning{%
3997       Option 'pdfinfo': ignoring key '\kv@key' without value%
3998     }%
3999   \else
4000     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
4001     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
4002     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
4003       \ifHyInfo@AddonUnsupported
4004         \Hy@Warning{%
4005           This driver does not support additional\MessageBreak
4006           information entries, therefore\MessageBreak
4007           '\kv@key' is ignored%
4008         }%
4009       \else
4010         \define@key{pdfinfo}{\HyInfo@Key}{%
4011           \HyXeTeX@CheckUnicode
4012           \HyPsd@XeTeXBigCharstrue
4013           \HyPsd@PrerenderUnicode{##1}%
4014           \pdfstringdef\HyInfo@Value{##1}%
4015           \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
4016             \HyInfo@Value
4017         }%
4018       \edef\HyInfo@AddonList{%
4019         \HyInfo@AddonList
4020         \HyInfo@do{\HyInfo@Key}%

```

```

4021     }%
4022     \kv@parse@normalized{%
4023       \HyInfo@Key={#2}%
4024     }{%
4025       \kv@processor@default{pdfinfo}%
4026     }%
4027   \fi
4028 \else
4029   \kv@parse@normalized{%
4030     \HyInfo@Key={#2}%
4031   }{%
4032     \kv@processor@default{pdfinfo}%
4033   }%
4034 \fi
4035 \fi
4036 }
4037 \def\HyInfo@GenerateAddons{%
4038   \ifHyInfo@AddonUnsupported
4039     \def\HyInfo@Addons{}%
4040   \else
4041     \begingroup
4042     \toks@{}%
4043     \def\HyInfo@do##1{%
4044       \EdefEscapeName\HyInfo@Key{##1}%
4045       \edef\x{%
4046         \toks@{%
4047           \the\toks@
4048           /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
4049         }%
4050       }%
4051       \x
4052     }%
4053     \HyInfo@AddonList
4054     \edef\x{\endgroup
4055       \def\noexpand\HyInfo@Addons{\the\toks@}%
4056     }%
4057     \x
4058   \fi
4059 }
4060 \let\HyInfo@AddonList\ltx@empty
4061 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
4062 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
4063 \let\setpdfinkmargin\@gobble
4064 \def\calculate@pdfview#1 #2\{\%
4065   \def\@pdfview{#1}%
4066   \ifx\#2\%
4067     \def\@pdfviewparams{ -32768}%
4068   \else
4069     \def\@pdfviewparams{ #2}%
4070   \fi
4071 }
4072 \begingroup\expandafter\expandafter\expandafter\endgroup
4073 \expandafter\ifx\csname numexpr\endcsname\relax
4074   \def\Hy@number#1{%
4075     \expandafter\@firstofone\expandafter{\number#1}%
4076   }%
4077 \else

```

```

4078 \def\Hy@number#1{%
4079 \the\numexpr#1\relax
4080 }%
4081 \fi
4082 \define@key{Hyp}{pdfstartpage}{%
4083 \ifx\#1\%
4084 \let\@pdfstartpage\ltx@empty
4085 \else
4086 \edef\@pdfstartpage{\Hy@number{#1}}%
4087 \fi
4088 }%
4089 \define@key{Hyp}{pdfstartview}{%
4090 \ifx\#1\%
4091 \let\@pdfstartview\ltx@empty
4092 \else
4093 \hypercalcbpdef\@pdfstartview{/#1}%
4094 \fi
4095 }
4096 \def\HyPat@NonNegativeReal/{%
4097 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
4098 }
4099 \define@key{Hyp}{pdfremotestartview}{%
4100 \ifx\#1\%
4101 \def\@pdfremotestartview{/Fit}%
4102 \else
4103 \hypercalcbpdef\@pdfremotestartview{#1}%
4104 \edef\@pdfremotestartview{\@pdfremotestartview}%
4105 \Hy@Match\@pdfremotestartview{%
4106 ^{XYZ}?(null|\HyPat@NonNegativeReal/)%
4107 -(null|\HyPat@NonNegativeReal/)%
4108 (null|\HyPat@NonNegativeReal/)|%
4109 Fit(|B|%
4110 (H|V|BH|BV)(null|\HyPat@NonNegativeReal/)|%
4111 R\HyPat@NonNegativeReal/\HyPat@NonNegativeReal/%
4112 \HyPat@NonNegativeReal/\HyPat@NonNegativeReal/%
4113 )}$%
4114 }{}{%
4115 \Hy@Warning{%
4116 Invalid value '\@pdfremotestartview'\MessageBreak
4117 of 'pdfremotestartview'\MessageBreak
4118 is replaced by 'Fit'%
4119 }%
4120 \let\@pdfremotestartview\@empty
4121 }%
4122 \ifx\@pdfremotestartview\@empty
4123 \def\@pdfremotestartview{/Fit}%
4124 \else
4125 \edef\@pdfremotestartview{/ \@pdfremotestartview}%
4126 \fi
4127 \fi
4128 }
4129 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
4130 \define@key{Hyp}{pdftoolbar}[true]{%
4131 \Hy@boolkey{pdftoolbar}{#1}%
4132 }
4133 \define@key{Hyp}{pdfmenubar}[true]{%
4134 \Hy@boolkey{pdfmenubar}{#1}%

```

```

4135 }
4136 \define@key{Hyp}{pdfwindowui}[true]{%
4137   \Hy@boolkey{pdfwindowui}{#1}%
4138 }
4139 \define@key{Hyp}{pdffitwindow}[true]{%
4140   \Hy@boolkey{pdffitwindow}{#1}%
4141 }
4142 \define@key{Hyp}{pdfcenterwindow}[true]{%
4143   \Hy@boolkey{pdfcenterwindow}{#1}%
4144 }
4145 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
4146   \Hy@boolkey{pdfdisplaydoctitle}{#1}%
4147 }
4148 \define@key{Hyp}{pdfa}[true]{%
4149   \Hy@boolkey{pdfa}{#1}%
4150 }
4151 \define@key{Hyp}{pdfnewwindow}[true]{%
4152   \def\Hy@temp{#1}%
4153   \ifx\Hy@temp\@empty
4154     \Hy@pdfnewwindowsetfalse
4155   \else
4156     \Hy@pdfnewwindowsettrue
4157     \Hy@boolkey{pdfnewwindow}{#1}%
4158   \fi
4159 }
4160 \def\Hy@SetNewWindow{%
4161   \ifHy@pdfnewwindowset
4162     /NewWindow %
4163     \ifHy@pdfnewwindow true\else false\fi
4164   \fi
4165 }
4166 \Hy@DefNameKey{pdfpagelayout}{%
4167   \do{SinglePage}{}%
4168   \do{OneColumn}{}%
4169   \do{TwoColumnLeft}{}%
4170   \do{TwoColumnRight}{}%
4171   \do{TwoPageLeft}{PDF 1.5}%
4172   \do{TwoPageRight}{PDF 1.5}%
4173 }
4174 \define@key{Hyp}{pdflang}{%
4175   \def\@pdflang{#1}%
4176 }
4177 \define@key{Hyp}{pdfpagelabels}[true]{%
4178   \Hy@boolkey{pdfpagelabels}{#1}%
4179 }
4180 \define@key{Hyp}{pdfescapeform}[true]{%
4181   \Hy@boolkey{pdfescapeform}{#1}%
4182 }

```

Default values:

```

4183 \def\@linkbordercolor{1 0 0}
4184 \def\@urlbordercolor{0 1 1}
4185 \def\@menubordercolor{1 0 0}
4186 \def\@filebordercolor{0 .5 .5}
4187 \def\@runbordercolor{0 .7 .7}
4188 \def\@citebordercolor{0 1 0}
4189 \def\@pdfhighlight{/I}
4190 \let\@pdftitle\ltx@empty

```

```

4191 \let\@pdfauthor\ltx@empty
4192 \let\@pdfproducer\relax
4193 \def\@pdfcreator{LaTeX with hyperref package}
4194 \let\@pdfcreationdate\ltx@empty
4195 \let\@pdfmoddate\ltx@empty
4196 \let\@pdfsubject\ltx@empty
4197 \let\@pdfkeywords\ltx@empty
4198 \let\@pdftrapped\ltx@empty
4199 \let\@pdfpagescrop\ltx@empty
4200 \def\@pdfstartview{/Fit}
4201 \def\@pdfremotestartview{/Fit}
4202 \def\@pdfstartpage{1}
4203 \let\@pdfprintpagerange\ltx@empty
4204 \let\@pdflang\ltx@empty
4205 \let\PDF@SetupDoc\@empty
4206 \let\PDF@FinishDoc\@empty
4207 \let\phantomsection\@empty
4208 \let\special@paper\@empty
4209 \def\HyperDestNameFilter#1{#1}
4210 \Hy@AtBeginDocument{%
4211   \begingroup
4212     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4213     \dimen@=\x\relax
4214     \ifdim\dimen@>\z@
4215       \else
4216         \dimen@=11in\relax
4217         \Hy@WarningNoLine{%
4218           Height of page (\expandafter\string\x) %
4219           is invalid (\the\x),\MessageBreak
4220           using 11in%
4221         }%
4222       \fi
4223       \dimen@=0.99626401\dimen@
4224       \xdef\Hy@pageheight{\strip@pt\dimen@}%
4225     \endgroup
4226 }
4227 \def\HyInd@EncapChar{\|}

```

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.

```

4228 \let\hyper@normalise\ExecuteOptions
4229 \let\ExecuteOptions\hypersetup
4230 \Hy@RestoreCatcodes
4231 \InputIfFileExists{hyperref.cfg}{-}{-}
4232 \Hy@SetCatcodes
4233 \let\ExecuteOptions\hyper@normalise
4234 \ifx\Hy@MaybeStopNow\relax
4235 \else
4236   \Hy@stoppedeasilytrue
4237   \expandafter\Hy@MaybeStopNow
4238 \fi
4239 \Hy@stoppedeasilyfalse

```

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.

```

4240 \SetupKeyvalOptions{family=Hyp}
4241 \DeclareLocalOptions{%

```



```

4242 a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4243 }

```

Add option tex4ht if package tex4ht is loaded.

```

4244 \@ifpackageloaded{tex4ht}{%
4245   \@ifpackagewith{hyperref}{tex4ht}{-}{%
4246     \PassOptionsToPackage{tex4ht}{hyperref}%
4247   }%
4248 }{}

```

```

4249 \let\ReadBookmarks\relax
4250 \ProcessKeyvalOptions{Hyp}

```

After processing options.

## 15.1 Package xspace support

```

4251 \def\Hy@xspace@end{}
4252 \ltx@ifundefined{xspaceaddexceptions}{%
4253   \Hy@AtBeginDocument{%
4254     \ltx@ifundefined{xspaceaddexceptions}{%
4255       }{%
4256         \def\Hy@xspace@end{%
4257           \ltx@gobble{end for xspace}%
4258         }%
4259         \xspaceaddexceptions{%
4260           \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4261         }%
4262       }%
4263     }%
4264   }{}%
4265   \def\Hy@xspace@end{%
4266     \ltx@gobble{end for xspace}%
4267   }%
4268   \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4269 }

```

## 15.2 Option draft

```

4270 \Hy@AtBeginDocument{%
4271   \ifHy@draft
4272     \let\hyper@@anchor\@gobble
4273     \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4274     \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4275     \def\hyper@anchorend{\Hy@xspace@end}%
4276     \let\hyper@linkstart\@gobbletwo
4277     \def\hyper@linkend{\Hy@xspace@end}%
4278     \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4279     \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4280     \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4281     \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4282     \let\PDF@SetupDoc\@empty
4283     \let\PDF@FinishDoc\@empty
4284     \let\@fifthoffive\@secondoftwo
4285     \let\@secondoffive\@secondoftwo
4286     \let\ReadBookmarks\relax
4287     \let\WriteBookmarks\relax
4288     \Hy@WarningNoLine{Draft mode on}%
4289   \fi

```

```

4290 \Hy@DisableOption{draft}%
4291 \Hy@DisableOption{nolinks}%
4292 \Hy@DisableOption{final}%
4293 }

```

### 15.3 PDF/A

```

4294 \Hy@DisableOption{pdfa}
4295 \ifHy@pdfa
4296 \kvsetkeys{Hyp}{pdfversion=1.4}%
4297 \Hy@DisableOption{pdfversion}%
4298 \def\Hy@Acrobatmenu#1#2{%
4299 \leavevmode
4300 \begingroup
4301 \edef\x{#1}%
4302 \@onelevel@sanitize\x
4303 \ifx\x\Hy@NextPage
4304 \let\y=Y%
4305 \else
4306 \ifx\x\Hy@PrevPage
4307 \let\y=Y%
4308 \else
4309 \ifx\x\Hy@FirstPage
4310 \let\y=Y%
4311 \else
4312 \ifx\x\Hy@LastPage
4313 \let\y=Y%
4314 \else
4315 \let\y=N%
4316 \fi
4317 \fi
4318 \fi
4319 \fi
4320 \expandafter\endgroup
4321 \ifx\y Y%
4322 \else
4323 \Hy@Error{%
4324 PDF/A: Named action ‘#1’ is not permitted%
4325 }\@ehc
4326 {#2}%
4327 \expandafter\@gobble
4328 \fi
4329 }%
4330 \def\Hy@temp#1{%
4331 \expandafter\def\csname Hy@#1\endcsname{#1}%
4332 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4333 }%
4334 \Hy@temp{NextPage}%
4335 \Hy@temp{PrevPage}%
4336 \Hy@temp{FirstPage}%
4337 \Hy@temp{LastPage}%
4338 \else
4339 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4340 \fi

```

### 15.4 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.

```
4341 \Hy@nextfalse
4342 \ltx@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
4343 \ltx@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
4344 \ltx@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
4345 \ifHy@next
4346 \let\texttilde\~%
4347 \fi

4348 \def\Hy@wrapper@babel#1#2{%
4349 \begingroup
4350 \Hy@safe@activetrue
4351 \set@display@protect
4352 \edef\x{#2}%
4353 \@onelevel@sanitize\x
4354 \toks@{#1}%
4355 \edef\x{\endgroup\the\toks@{\x}}%
4356 \x
4357 }

4358 \def\Hy@WrapperDef#1{%
4359 \begingroup
4360 \escapechar=\m@ne
4361 \xdef\Hy@gtemp{%
4362 \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4363 }%
4364 \endgroup
4365 \edef#1{%
4366 \noexpand\Hy@wrapper@babel
4367 \expandafter\noexpand\Hy@gtemp
4368 }%
4369 \expandafter\def\Hy@gtemp
4370 }

4371 \ifHy@hyperfigures
4372 \Hy@Info{Hyper figures ON}%
4373 \else
4374 \Hy@Info{Hyper figures OFF}%
4375 \fi
4376 \ifHy@nesting
4377 \Hy@Info{Link nesting ON}%
4378 \else
4379 \Hy@Info{Link nesting OFF}%
4380 \fi
4381 \ifHy@hyperindex
4382 \Hy@Info{Hyper index ON}%
4383 \else
4384 \Hy@Info{Hyper index OFF}%
4385 \fi
4386 \ifHy@plainpages
4387 \Hy@Info{Plain pages ON}%
4388 \else
4389 \Hy@Info{Plain pages OFF}%
4390 \fi
4391 \ifHy@backref
4392 \Hy@Info{Backreferencing ON}%
4393 \else
4394 \Hy@Info{Backreferencing OFF}%
4395 \fi
4396 \ifHy@typexml
```

```

4397 \Hy@AtEndOfPackage{%
4398   \RequirePackage{color}%
4399   \RequirePackage{nameref}[2012/07/28]%
4400 }%
4401 \fi
4402 \Hy@DisableOption{typexml}
4403 \ifHy@implicit
4404   \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4405 \else
4406   \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4407   \def\MaybeStopEarly{%
4408     \Hy@Message{Stopped early}}%
4409   \Hy@AtBeginDocument{%
4410     \PDF@FinishDoc
4411     \gdef\PDF@FinishDoc{}%
4412   }%
4413   \endinput
4414 }%
4415 \Hy@AtBeginDocument{%
4416   \let\autoref\ref
4417   \let\autopageref\pageref
4418   \ifx\@pdfpagemode\@empty
4419     \gdef\@pdfpagemode{UseNone}%
4420   \fi
4421   \global\Hy@backreffalse
4422 }%
4423 \Hy@AtEndOfPackage{%
4424   \global\let\ReadBookmarks\relax
4425   \global\let\WriteBookmarks\relax
4426 }%
4427 \fi
4428 \Hy@DisableOption{implicit}

```

#### 15.4.1 Driver loading

```

4429 \Hy@AtEndOfPackage{%
4430   \@ifpackageloaded{tex4ht}{%
4431     \def\Hy@driver{htex4ht}%
4432     \Hy@texhttrue
4433   }{}%

```

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.

```

4434   \ifx\Hy@driver\@empty
4435   \else
4436     \def\Hy@temp{hpdftex}%
4437     \ifpdf
4438       \ifx\Hy@driver\Hy@temp
4439       \else
4440         \Hy@WarningNoLine{%
4441           Wrong driver ‘\Hy@driver.def’;\MessageBreak
4442           pdfTeX is running in PDF mode.\MessageBreak
4443           Forcing driver ‘\Hy@temp.def’%
4444         }%
4445         \let\Hy@driver\Hy@temp
4446       \fi
4447     \else
4448       \ifx\Hy@driver\Hy@temp

```

```

4449 \Hy@WarningNoLine{%
4450 Wrong driver '\Hy@driver.def';\MessageBreak
4451 pdfTeX is not running in PDF mode.\MessageBreak
4452 Using default driver%
4453 }%
4454 \let\Hy@driver\@empty
4455 \fi
4456 \fi
4457 \fi
4458 \ifHy@texht
4459 \else
4460 \ifx\Hy@driver\@empty
4461 \else
4462 \def\Hy@temp{hxtex}%
4463 \ifxetex
4464 \ifx\Hy@driver\Hy@temp
4465 \else
4466 \Hy@WarningNoLine{%
4467 Wrong driver '\Hy@driver.def';\MessageBreak
4468 XeTeX is running.\MessageBreak
4469 Forcing driver '\Hy@temp.def' for XeTeX%
4470 }%
4471 \let\Hy@driver\Hy@temp
4472 \fi
4473 \fi
4474 \fi
4475 \fi
4476 \ifx\Hy@driver\@empty
4477 \else
4478 \def\Hy@temp{hvtexhtm}%
4479 \ifvtexhtml
4480 \ifx\Hy@driver\Hy@temp
4481 \else
4482 \Hy@WarningNoLine{%
4483 Wrong driver '\Hy@driver.def';\MessageBreak
4484 VTeX is running in HTML mode.\MessageBreak
4485 Forcing driver '\Hy@temp.def'%
4486 }%
4487 \let\Hy@driver\Hy@temp
4488 \fi
4489 \else
4490 \ifx\Hy@driver\Hy@temp
4491 \Hy@WarningNoLine{%
4492 Wrong driver '\Hy@driver.def';\MessageBreak
4493 VTeX is not running in HTML mode.\MessageBreak
4494 Using default driver%
4495 }%
4496 \let\Hy@driver\@empty
4497 \fi
4498 \fi
4499 \fi

```

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

```

4500 \def\HyOpt@DriverType{%
4501 \ifx\Hy@driver\@empty
4502 \def\HyOpt@DriverType{ (autodetected)}%
4503 \providecommand*{\Hy@defaultdriver}{hypertex}%
4504 \ifpdf

```

```

4505 \def\Hy@driver{hpdfTEX}%
4506 \else
4507 \ifxetex
4508 \def\Hy@driver{hxetex}%
4509 \else
4510 \ifvtexhtml
4511 \def\Hy@driver{hvtexhtm}%
4512 \def\MaybeStopEarly{%
4513 \Hy@Message{Stopped early}}%
4514 \Hy@AtBeginDocument{%
4515 \PDF@FinishDoc
4516 \gdef\PDF@FinishDoc{}}%
4517 }%
4518 \endinput
4519 }%
4520 \else
4521 \ifvtexpdf
4522 \def\Hy@driver{hvtex}%
4523 \else
4524 \ifvtexps
4525 \def\Hy@driver{hvtex}%
4526 \else
4527 \ifx\HyOpt@DriverFallback\ltx@empty
4528 \let\Hy@driver\Hy@defaultdriver
4529 \def\HyOpt@DriverType{ (default)}%
4530 \else
4531 \begingroup
4532 \toks@{\expandafter{\HyOpt@DriverFallback}}%
4533 \edef\x{\endgroup
4534 \noexpand\kvsetkeys{Hyp}{\the\toks@}}%
4535 }%
4536 \x
4537 \ifx\Hy@driver\ltx@empty
4538 \let\Hy@driver\Hy@defaultdriver
4539 \def\HyOpt@DriverType{ (default)}%
4540 \else
4541 \def\HyOpt@DriverType{ (fallback)}%
4542 \fi
4543 \fi
4544 \fi
4545 \fi
4546 \fi
4547 \fi
4548 \fi
4549 \ifx\Hy@driver\Hy@defaultdriver
4550 \def\Hy@temp{hdvwind}%
4551 \ifx\Hy@temp\Hy@driver
4552 \kvsetkeys{Hyp}{colorlinks}%
4553 \PassOptionsToPackage{dviwindo}{color}%
4554 \fi
4555 \fi
4556 \fi
4557 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4558 \chardef\Hy@VersionChecked=0 %
4559 \input{\Hy@driver.def}%
4560 \ifcase\Hy@VersionChecked
4561 \Hy@VersionCheck{\Hy@driver.def}%

```

```

4562 \fi
4563 \let\@unprocessedoptions\relax
4564 \Hy@RestoreCatcodes
4565 \Hy@DisableOption{tex4ht}%
4566 \Hy@DisableOption{pdftex}%
4567 \Hy@DisableOption{nativepdf}%
4568 \Hy@DisableOption{dvipdfm}%
4569 \Hy@DisableOption{dvipdfmx}%
4570 \Hy@DisableOption{dvipdfmx-outline-open}%
4571 \Hy@DisableOption{pdfmark}%
4572 \Hy@DisableOption{dvips}%
4573 \Hy@DisableOption{hypertex}%
4574 \Hy@DisableOption{vtex}%
4575 \Hy@DisableOption{vtexpdfmark}%
4576 \Hy@DisableOption{dviwindo}%
4577 \Hy@DisableOption{dvipsone}%
4578 \Hy@DisableOption{textures}%
4579 \Hy@DisableOption{latex2html}%
4580 \Hy@DisableOption{ps2pdf}%
4581 \Hy@DisableOption{xetex}%
4582 \Hy@DisableOption{pdfversion}%
4583 }

```

Support for open outlines is enabled for XeTeX  $\geq 0.9995$ . 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.

```

4584 \newif\ifHy@DvipdfmxOutlineOpen
4585 \ifxetex
4586   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4587   \else
4588     \chardef\SpecialDvipdfmxOutlineOpen\@ne
4589     \Hy@DvipdfmxOutlineOpenttrue
4590   \fi
4591 \fi
4592 \begingroup\expandafter\expandafter\expandafter\endgroup
4593 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4594 \else
4595   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4596     \Hy@DvipdfmxOutlineOpenttrue
4597   \fi
4598 \fi

```

### 15.4.2 Bookmarks

```

4599 \def\WriteBookmarks{0}
4600 \def\@bookmarkopenstatus#1{%
4601   \ifHy@bookmarksopen

```

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

```

4602   \ifnum#1<\expandafter\@firstofone\expandafter
4603     {\number\@bookmarkopenlevel} % explicit space
4604   \else
4605     -%
4606   \fi
4607 \else
4608   -%
4609 \fi
4610 }

```

```

4611 \ifHy@bookmarks
4612 \Hy@Info{Bookmarks ON}%
4613 \ifx\@pdfpagemode\@empty
4614 \def\@pdfpagemode{UseOutlines}%
4615 \fi
4616 \else
4617 \let\@bookmarkopenstatus\ltx@gobble
4618 \Hy@Info{Bookmarks OFF}%
4619 \Hy@AtEndOfPackage{%
4620 \global\let\ReadBookmarks\relax
4621 \global\let\WriteBookmarks\relax
4622 }%
4623 \ifx\@pdfpagemode\@empty
4624 \def\@pdfpagemode{UseNone}%
4625 \fi
4626 \fi
4627 \Hy@DisableOption{bookmarks}

Add wrapper for setting standard catcodes (babel's shorthands).
4628 \def\Hy@CatcodeWrapper#1{%
4629 \let\Hy@endWrap\ltx@empty
4630 \def\TMP@EnsureCode##1##2{%
4631 \edef\Hy@endWrap{%
4632 \Hy@endWrap
4633 \catcode##1 \the\catcode##1\relax
4634 }%
4635 \catcode##1 ##2\relax
4636 }%
4637 \TMP@EnsureCode{10}{12}% ^^J
4638 \TMP@EnsureCode{33}{12}% !
4639 \TMP@EnsureCode{34}{12}% "
4640 \TMP@EnsureCode{36}{3}% $ (math)
4641 \TMP@EnsureCode{38}{4}% & (alignment)
4642 \TMP@EnsureCode{39}{12}% '
4643 \TMP@EnsureCode{40}{12}% (
4644 \TMP@EnsureCode{41}{12}% )
4645 \TMP@EnsureCode{42}{12}% *
4646 \TMP@EnsureCode{43}{12}% +
4647 \TMP@EnsureCode{44}{12}% ,
4648 \TMP@EnsureCode{45}{12}% -
4649 \TMP@EnsureCode{46}{12}% .
4650 \TMP@EnsureCode{47}{12}% /
4651 \TMP@EnsureCode{58}{12}% :
4652 \TMP@EnsureCode{59}{12}% ;
4653 \TMP@EnsureCode{60}{12}% <
4654 \TMP@EnsureCode{61}{12}% =
4655 \TMP@EnsureCode{62}{12}% >
4656 \TMP@EnsureCode{63}{12}% ?
4657 \TMP@EnsureCode{91}{12}% [
4658 \TMP@EnsureCode{93}{12}% ]
4659 \TMP@EnsureCode{94}{7}% ^ (superscript)
4660 \TMP@EnsureCode{95}{8}% _ (subscript)
4661 \TMP@EnsureCode{96}{12}% '
4662 \TMP@EnsureCode{124}{12}% |
4663 \TMP@EnsureCode{126}{13}% ~ (active)
4664 #1\relax
4665 \Hy@endWrap
4666 }

```



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

```

4667 \Hy@AtBeginDocument{%
4668   \ifHy@ocgcolorlinks
4669     \kvsetkeys{Hyp}{colorlinks}%
4670     \ifHy@pdfa
4671       \Hy@Warning{%
4672         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4673         using 'colorlinks' instead of 'ocgcolorlinks'%
4674       }%
4675     \Hy@ocgcolorlinksfalse
4676   \fi
4677 \fi
4678 \ifHy@ocgcolorlinks
4679 \else
4680   \Hy@DisableOption{ocgcolorlinks}%
4681 \fi
4682 \ifHy@colorlinks
4683   \def\@pdfborder{0 0 0}%
4684   \let\@pdfborderstyle\@empty
4685   \ifHy@typexml
4686   \else
4687     \Hy@CatcodeWrapper{%
4688       \RequirePackage{color}%
4689     }%
4690   \fi
4691   \def\Hy@colorlink#1{%
4692     \begingroup
4693     \HyColor@UseColor#1%
4694   }%
4695   \def\Hy@endcolorlink{\endgroup}%
4696   \Hy@Info{Link coloring ON}%
4697 \else
4698   \ifHy@frenchlinks
4699     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4700     \def\Hy@endcolorlink{\endgroup}%
4701     \Hy@Info{French linking ON}%
4702   \else
4703     \def\Hy@colorlink#1{\begingroup}%
4704     \def\Hy@endcolorlink{\endgroup}%
4705     \Hy@Info{Link coloring OFF}%
4706   \fi
4707 \fi
4708 \Hy@DisableOption{colorlinks}%
4709 \Hy@DisableOption{frenchlinks}%
4710 \ifHy@texht
4711   \long\def\@firstoffive#1#2#3#4#5{#1}%
4712   \long\def\@secondoffive#1#2#3#4#5{#2}%
4713   \long\def\@thirdoffive#1#2#3#4#5{#3}%
4714   \long\def\@fourthoffive#1#2#3#4#5{#4}%
4715   \long\def\@fifthoffive#1#2#3#4#5{#5}%
4716   \providecommand*\@safe@activetrue{}%
4717   \providecommand*\@safe@activesfalse{}%
4718   \def\T@ref#1{%
4719     \Hy@safe@activetrue
4720     \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%

```

```

4721 \Hy@safe@activesfalse
4722 }%
4723 \def\T@pageref#1{%
4724 \Hy@safe@activetrue
4725 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4726 \Hy@safe@activesfalse
4727 }%
4728 \else
4729 \ifHy@typexml
4730 \else
4731 \Hy@CatcodeWrapper{%
4732 \RequirePackage{nameref}[2012/07/28]%
4733 }%
4734 \fi
4735 \fi
4736 \DeclareRobustCommand\ref{%
4737 \@ifstar\@refstar\T@ref
4738 }%
4739 \DeclareRobustCommand\pageref{%
4740 \@ifstar\@pagerefstar\T@pageref
4741 }%
4742 % \@ifclassloaded{memoir}{%
4743 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4744 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4745 % }%
4746 % }\ltx@secondoftwo
4747 % {%
4748 % \DeclareRobustCommand*{\nameref}{%
4749 % \@ifstar\@mem@titlerefno link\@mem@titleref
4750 % }%
4751 % }{%
4752 \DeclareRobustCommand*{\nameref}{%
4753 \@ifstar\@namerefstar\T@nameref
4754 }%
4755 % }%
4756 }
4757 \Hy@AtBeginDocument{%
4758 \ifHy@texht
4759 \else
4760 \Hy@CatcodeWrapper\ReadBookmarks
4761 \fi
4762 }
4763 \ifHy@backref
4764 \RequirePackage{backref}%
4765 \else
4766 \let\Hy@backout\@gobble
4767 \fi
4768 \Hy@DisableOption{backref}
4769 \Hy@DisableOption{pagebackref}
4770 \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`.

```

4771 \begingroup
4772 \endlinechar=-1 %
4773 \catcode'\^^A=14 %
4774 \catcode'\^^M\active
4775 \catcode'\%\active
4776 \catcode'\#\active
4777 \catcode'\_\active
4778 \catcode'\$\active
4779 \catcode'\&\active
4780 \gdef\hyper@normalise{^^A
4781 \begingroup
4782 \catcode'\^^M\active
4783 \def^^M{ }^^A
4784 \catcode'\%\active
4785 \let%\@percentchar
4786 \let%\@percentchar
4787 \catcode'\#\active
4788 \def#{\hyper@hash}^^A
4789 \def\#{\hyper@hash}^^A
4790 \@makeother\&^^A
4791 \edef&{\string&}^^A
4792 \edef\&{\string&}^^A
4793 \edef\textunderscore{\string_}^^A
4794 \let\_ \textunderscore
4795 \catcode'\_\active
4796 \let\_ \textunderscore
4797 \let~\hyper@tilde
4798 \let\~\hyper@tilde
4799 \let\textasciitilde\hyper@tilde
4800 \let\\ \@backslashchar
4801 \edef${\string$}^^A
4802 \Hy@safe@activestrue
4803 \hyper@n@rmalise
4804 }^^A
4805 \catcode'\#=6 ^^A
4806 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4807 \gdef\hyper@n@rmalise#1#2{^^A
4808 \def\Hy@tempa{#2}^^A
4809 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4810 \ltx@ReturnAfterElseFi{^^A
4811 \hyper@@normalise{#1}^^A
4812 }^^A
4813 \else
4814 \ltx@ReturnAfterFi{^^A
4815 \hyper@@normalise{#1}{#2}^^A
4816 }^^A
4817 \fi
4818 }^^A
4819 \gdef\hyper@@normalise#1#2{^^A
4820 \edef\Hy@tempa{^^A
4821 \endgroup
4822 \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
4823 }^^A
4824 \Hy@tempa

```

```

4825 }^^A
4826 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4827   #1^^A
4828   \ifx\limits#2\limits
4829   \else
4830     \ltx@ReturnAfterFi{^^A
4831       \Hy@RemovePercentCr #2\@nil
4832     }^^A
4833   \fi
4834 }^^A
4835 \endgroup
4836 \providecommand*\hyper@chars{%
4837   \let\#\hyper@hash
4838   \let\%\@percentchar
4839   \Hy@safe@activestrue
4840 }

4841 \def\hyperlink#1#2{%
4842   \hyper@@link{}\{#1\}{#2}%
4843 }

4844 \def\Hy@VerboseLinkStart#1#2{%
4845   \ifHy@verbose
4846     \begingroup
4847       \Hy@safe@activestrue
4848       \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4849       \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4850       \xdef\Hy@VerboseGlobalTemp{%
4851         \Hy@VerboseGlobalTemp, %
4852         line \the\inputlineno
4853       }%
4854     \endgroup
4855     \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4856     \@onelevel@sanitize\Hy@VerboseLinkInfo
4857   \fi
4858 }

4859 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4860 \def\Hy@VerboseLinkStop{%
4861   \ifHy@verbose
4862     \begingroup
4863     \edef\x{\endgroup
4864       \write\m@ne{%
4865         Package 'hyperref' Info: %
4866         End of reference \Hy@VerboseLinkInfo.%
4867       }%
4868     }%
4869   \x
4870   \fi
4871 }

4872 \def\Hy@VerboseAnchor#1{%
4873   \ifHy@verbose
4874     \begingroup
4875     \Hy@safe@activestrue
4876     \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
4877   \endgroup
4878   \fi
4879 }

```

```

4880 \def\Hy@AllowHyphens{%
4881   \relax
4882   \ifhmode
4883     \penalty\@M
4884     \hskip\z@skip
4885   \fi
4886 }

4887 \DeclareRobustCommand*\href{[1][]{%
4888   \begingroup
4889   \setkeys{href}{#1}%
4890   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4891 }
4892 \def\Hy@href#{%
4893   \hyper@normalise\href@
4894 }
4895 \begingroup
4896 \catcode'\$=6 %
4897 \catcode'\#=12 %
4898 \gdef\href@\$1{\expandafter\href@split$1##\}%
4899 \gdef\href@split$1##$2##$3\\$4{%
4900   \hyper@@link{$1}{$2}{$3}{$4}%
4901   \endgroup
4902 }%
4903 \endgroup

```

Option ‘page’.

```

4904 \define@key{href}{page}{%
4905   \def\Hy@href@page{#1}%
4906 }
4907 \let\Hy@href@page\@empty
4908 \newcount\c@Hy@tempcnt
4909 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4910 \def\Hy@MakeRemoteAction{%
4911   \ifx\Hy@href@page\@empty
4912     \def\Hy@href@page{0}%
4913   \else
4914     \setcounter{Hy@tempcnt}{\Hy@href@page}%
4915     \ifnum\c@Hy@tempcnt<\@ne
4916       \Hy@Warning{%
4917         Invalid page number (\theHy@tempcnt)\MessageBreak
4918         for remote PDF file.\MessageBreak
4919         Using page 1%
4920       }%
4921       \def\Hy@href@page{0}%
4922     \else
4923       \global\advance\c@Hy@tempcnt\m@ne
4924       \edef\Hy@href@page{\theHy@tempcnt}%
4925     \fi
4926   \fi

```

If a next action is set, then also a new window should be opened. Otherwise AR reclaims that it closes the current file with discarding the next actions.

```

4927 \ifx\Hy@href@nextactionraw\@empty
4928 \else
4929   \Hy@pdfnewwindowsettrue
4930   \Hy@pdfnewwindowtrue
4931 \fi
4932 }

```

Option ‘pdfremotestartview’.

```
4933 \define@key{href}{pdfremotestartview}{%
4934   \setkeys{Hyp}{pdfremotestartview={#1}}}%
4935 }
```

Option ‘pdfnewwindow’.

```
4936 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4937 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default
```

Option ‘ismap’.

```
4938 \newif\ifHy@href@ismap
4939 \define@key{href}{ismap}[true]{%
4940   \ltx@ifundefined{Hy@href@ismap#1}{%
4941     \Hy@Error{%
4942       Invalid value (#1) for key ‘ismap’.\MessageBreak
4943       Permitted values are ‘true’ or ‘false’.\MessageBreak
4944       Ignoring ‘ismap’%
4945     }\@ehc
4946   }{%
4947     \csname Hy@href@ismap#1\endcsname
4948   }%
4949 }
```

Option ‘nextactionraw’.

```
4950 \let\Hy@href@nextactionraw\@empty
4951 \define@key{href}{nextactionraw}{%
4952   \edef\Hy@href@nextactionraw{#1}%
4953   \ifx\Hy@href@nextactionraw\@empty
4954     \else
4955       \Hy@Match\Hy@href@nextactionraw{%
4956         ^(\HyPat@ObjRef/|<<.*[/S[/].+>>|
4957         |[( ?\HyPat@ObjRef/|<<.*[/S[/].+>>)+ ?])$%
4958       }{%
4959         \Hy@Warning{Invalid value for ‘nextactionraw’:\MessageBreak
4960           \Hy@href@nextactionraw\MessageBreak
4961           The action is discarded%
4962         }%
4963       }%
4964       \ifx\Hy@href@nextactionraw\@empty
4965         \else
4966           \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4967         \fi
4968       \fi
4969   }
4970 \def\HyPat@ObjRef/{.+}
```

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

```
4971 \RequirePackage{url}
4972 \let\HyOrg@url\url
4973 \def\Hurl{\begingroup \Url}
4974 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4975 \def\nolinkurl@#1{\Hurl{#1}}
4976 \DeclareRobustCommand*\url{\hyper@normalise\url@}
4977 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4978 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4979 \providecommand\hyper@image[2]{#2}
4980 \def\hypertarget#1#2{%
4981   \ifHy@nesting
```

```

4982 \hyper@@anchor{#1}{#2}%
4983 \else
4984 \hyper@@anchor{#1}{\relax}#2%
4985 \fi
4986 }

```

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

```

4987 \DeclareRobustCommand*\hyperref{%
4988 \ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
4989 }
4990 \def\Hy@babelnormalise#1[#2]{%
4991 \begingroup
4992 \Hy@safe@activetrue
4993 \edef\Hy@tempa{%
4994 \endgroup
4995 \noexpand#1[#2]}%
4996 }%
4997 \Hy@tempa
4998 }
4999 \def\@hyperref{\hyper@normalise\@hyperref}
5000 \def\@hyperref#1#2#3{%
5001 \edef\ref@one{\ifx\#2\#2\else#2.\fi#3}%
5002 \expandafter\tryhyper@link\ref@one\{#1}%
5003 }
5004 \def\tryhyper@link#1\#2{%
5005 \hyper@@link{#2}{#1}%
5006 }

5007 \def\hyperdef{\ifnextchar[{\label@hyperdef}\@hyperdef}
5008 \def\@hyperdef#1#2#3{%, category, name, text
5009 \ifx\#1\%
5010 \def\Hy@AnchorName{#2}%
5011 \else
5012 \def\Hy@AnchorName{#1.#2}%
5013 \fi
5014 \ifHy@nesting
5015 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
5016 \else
5017 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
5018 \fi
5019 }

```

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

```

5020 \def\label@hyperref[#1]{%
5021 \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
5022 }%
5023 \def\label@@hyperref#1#2#3{%
5024 \ifx#1\relax
5025 \protect\G@refundefinedtrue
5026 \@latex@warning{%
5027 Hyper reference ‘#2’ on page \thepage \space undefined%

```

```

5028 }%
5029 \begingroup
5030   #3%
5031 \endgroup
5032 \else
5033   \hyper@@link{\expandafter\@fifthoffive#1}%
5034   {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5035 \fi
5036 }
5037 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5038                               % anchor text
5039   \@bsphack
5040   \ifx\#2\%
5041     \def\Hy@AnchorName{#3}%
5042   \else
5043     \def\Hy@AnchorName{#2.#3}%
5044   \fi
5045   \if@filesw
5046     \protected@write\@auxout{}{%
5047       \string\newlabel{#1}{\{ }\{ }\{ }\Hy@AnchorName\} }%
5048     }%
5049   \fi
5050   \@esphack
5051   \ifHy@nesting
5052     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5053   \else
5054     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5055   \fi
5056 }

```

## 17 Underlying basic hypertext macros

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

```

5057 \def\hyper@@link{\let\Hy@reserved@a\relax
5058   \ifnextchar{\hyper@link@}{\hyper@link@[link]}%
5059 }
5060 \def\hyper@link@[#1]#2#3#4{%
5061   \begingroup
5062     \protected@edef\Hy@tempa{#2}%
5063     \Hy@safe@activetrue
5064     \edef\x{#3}%
5065     \ifx\Hy@tempa\@empty
5066       \toks0{\hyper@link{#1}}%
5067     \else
5068       \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
5069     \fi
5070     \toks2{%
5071       \Hy@safe@activesfalse
5072       #4%
5073     }%
5074     \edef\Hy@tempa{\the\toks2}%
5075     \edef\x{\endgroup
5076       \ifx\Hy@tempa\@empty

```



```

5077 \noexpand\Hy@Warning{Suppressing empty link}%
5078 \else
5079 \the\toks0 {\x}{\the\toks2}%%
5080 \fi
5081 }%
5082 \x
5083 }

```

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.

```

5084 \def\hyper@readexternallink#1\|#2#3#4{%
5085 \begingroup
5086 \let\\\relax
5087 \expandafter\endgroup
5088 \expandafter\@hyper@readexternallink#1\#{2}{3}{4}%
5089 }
5090 \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.

```

5091 \@hyper@readexternallink{#2}{#3}{#4}#1::\#{1}%
5092 }

```

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

```

5093 \def\@pdftempwordfile{file}%
5094 \def\@pdftempwordrun{run}%
5095 \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:

```

5096 \ifx\|#6\|
5097 \@hyper@linkfile file:#7\#{3}{2}{7}%
5098 \else
5099 \ifx\|#4\|
5100 \@hyper@linkfile file:#7\#{3}{2}{7}%
5101 \else

```

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

```

5102 \def\@pdftempa{#4}%
5103 \ifx\@pdftempa\@pdftempwordfile
5104 \@hyper@linkfile#7\#{3}{2}{7}%
5105 \else

```

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

```
5106 \ifx\@pdftempa\@pdftempwordrun
5107 \ifHy@pdfa
5108 \Hy@Error{%
5109 PDF/A: Launch action is prohibited%
5110 }\@ehc
5111 \begingroup
5112 \leavevmode
5113 #2%
5114 \endgroup
5115 \else
5116 \@hyper@launch#7\{\#3\}{#2}%
5117 \fi
5118 \else
```

otherwise its a URL

```
5119 \hyper@linkurl{\#3\}{#7\ifx\#2\else\hyper@hash#2\fi}%
5120 \fi
5121 \fi
5122 \fi
5123 \fi
5124 }
```

By default, turn run: into file:

```
5125 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
5126 \hyper@linkurl{\#2\}{%
5127 \Hy@linkfileprefix
5128 #1%
5129 \ifx\#3\%
5130 \else
5131 \hyper@hash
5132 #3%
5133 \fi
5134 }%
5135 }
```

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

```
5136 \def\@hyper@linkfile file:#1\#2#3#4{%
5137 %file url,link string, name, original uri
5138 \filename@parse{\#1}%
5139 \ifx\filename@ext\relax
5140 \edef\filename@ext{\XR@ext}%
5141 \fi
5142 \def\use@file{\filename@area\filename@base.\filename@ext}%
5143 \Hy@IfStringEndsWith\filename@ext\XR@ext{%
5144 \hyper@linkfile{\#2\}{\use@file}{\#3}%
5145 }{%
5146 \ifx\@baseurl\@empty
5147 \hyper@linkurl{\#2\}{%
5148 #4\ifx\#3\else\hyper@hash#3\fi
5149 }%
5150 \else
5151 \hyper@linkurl{\#2\}{\use@file\ifx\#3\else\hyper@hash#3\fi}%
5152 \fi
5153 }%
5154 }
5155 \def\Hy@IfStringEndsWith#1#2{%
```

```

5156 \begingroup
5157 \edef\x{#1}%
5158 \@onelevel@sanitize\x
5159 \edef\x{.\x}%
5160 \edef\y{#2}%
5161 \@onelevel@sanitize\y
5162 \edef\y{.\y}%
5163 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5164 \endgroup
5165 \ifx\relax##2\relax
5166 \expandafter\ltx@secondoftwo
5167 \else
5168 \expandafter\ltx@firstoftwo
5169 \fi
5170 }%
5171 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5172 }

5173 \def\Hy@StringLocalhost{localhost}
5174 \@onelevel@sanitize\Hy@StringLocalhost
5175 \def\Hy@CleanupFile#1{%
5176 \edef#1{#1}%
5177 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5178 }
5179 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5180 \begingroup
5181 \toks@{\endgroup}%
5182 \def\x{#1}%
5183 \ifx\x\@empty
5184 \def\x{#2}%
5185 \ifx\x\@empty
5186 \toks@{\endgroup\def#5{/#3}}%
5187 \else
5188 \@onelevel@sanitize\x
5189 \ifx\x\Hy@StringLocalhost
5190 \toks@{\endgroup\def#5{/#3}}%
5191 \fi
5192 \fi
5193 \fi
5194 \the\toks@
5195 }

```

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.

```

5196 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5197 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5198 \ifx\#1\%
5199 #2\Hy@Warning{Ignoring empty anchor}%
5200 \else
5201 \def\anchor@spot{#2#3}%
5202 \let\put@me@back\@empty
5203 \ifx\relax#2\relax
5204 \else

```

```

5205 \ifHy@nesting
5206 \else
5207 \ifcat a\noexpand#2\relax
5208 \else
5209 \ifcat 0\noexpand#2 \relax
5210 \else
5211 % \typeout{Anchor start is not alphanumeric %
5212 % on input line\the\inputlineno%
5213 % }%
5214 \let\anchor@spot\@empty
5215 \def\put@me@back{#2#3}%
5216 \fi
5217 \fi
5218 \fi
5219 \fi
5220 \ifHy@activeanchor
5221 \anchor@spot
5222 \else
5223 \hyper@anchor{#1}%
5224 \fi
5225 \expandafter\put@me@back
5226 \fi
5227 \let\anchor@spot\@empty
5228 }
5229 \let\anchor@spot\ltx@empty

```

## 18 Option ‘destlabel’

```

5230 \ifHy@destlabel

```

```

\hyper@newdestlabel

```

```

5231 \def\hyper@newdestlabel#1#2{%
5232 \begingroup
5233 \Hy@safe@activetrue
5234 \edef\x{\endgroup
5235 \noexpand\@newl@bel{HyDL}{#1}{#2}%
5236 }%
5237 \x
5238 }%

```

```

\hyper@destlabel@hook

```

```

5239 \providecommand*\hyper@destlabel@hook{}%

```

```

\Hy@DestRename

```

```

5240 \newcommand*\Hy@DestRename}[2]{%
5241 \ltx@ifundefined{HyDL!#1}{%
5242 \begingroup
5243 \Hy@safe@activetrue
5244 \edef\dest@name{#1}%
5245 \edef\label@name{#2}%
5246 \hyper@destlabel@hook
5247 \Hy@IsNotEmpty{dest@name}{%
5248 \Hy@IsNotEmpty{label@name}{%
5249 \global\expandafter
5250 \let\csname HyDL!#1\endcsname\ltx@empty
5251 \if@files
5252 \protected@write\@auxout{}{%

```

```

5253         \string\hyper@newdestlabel
5254         {#1}%
5255         {\label@name}%
5256     }%
5257     \fi
5258 }%
5259 }%
5260 \endgroup
5261 }{}%
5262 }%

```

#### \HyperDestRename

```

5263 \newcommand*{\HyperDestRename}[2]{%
5264     \AtBeginDocument{%
5265         \Hy@DestRename{#1}{#2}%
5266     }%
5267 }%
5268 \AtBeginDocument{%
5269     \let\HyperDestRename\Hy@DestRename
5270 }%

```

#### \Hy@IsNotEmpty

```

5271 \def\Hy@IsNotEmpty#1{%
5272     \ltx@ifundefined{#1}\ltx@gobble{%
5273         \expandafter\ifx\csname#1\endcsname\ltx@empty
5274         \expandafter\ltx@gobble
5275     \else
5276         \expandafter\ltx@firstofone
5277     \fi
5278 }%
5279 }%

5280 \ltx@GlobalAppendToMacro\label@hook{%
5281     \HyperDestRename\@currentHref\label@name
5282 }%

```

#### \HyperDestLabelReplace

```

5283 \def\HyperDestLabelReplace#1{%
5284     \ltx@ifundefined{HyDL@#1}{%
5285         #1%
5286     }{%
5287         \csname HyDL@#1\endcsname
5288     }%
5289 }%

```

#### \HyperDestNameFilter

```

5290 \let\HyperDestNameFilter\HyperDestLabelReplace
5291 \else

```

#### \hyper@newdestlabel

```

5292 \let\hyper@newdestlabel\ltx@gobbletwo

```

#### \HyperDestLabelReplace

```

5293 \let\HyperDestLabelReplace\ltx@firstofone

```

#### \HyperDestRename

@gobbletwo

5294 \fi

5295 \Hy@DisableOption{destlabel}

Provide a dummy default definition of `\hyper@newdestlabel` inside the .aux files.

5296 \AddLineBeginAux{%

5297 \string\providecommand\string\hyper@newdestlabel[2]{}%

5298 }

## 19 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.

5299 \let\htmladdimg\hyperimage

5300 \def\htmladdnormallink#1#2{\href{#2}{#1}}

5301 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}

5302 \def\htmlref#1#2{% anchor text, label

5303 \label@hyperref[{#2}]{#1}%

5304 }

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.

5305 \def\@@latextohtmlX{%

5306 \let\hhyperref\hyperref

5307 \def\hyperref##1##2##3##4{% anchor text for HTML

5308 % text to print before label in print

5309 % label

5310 % post-label text in print

5311 ##2\ref{##4}##3%

5312 }%

5313 }

## 20 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.

### 20.1 Field flags

The field flags are organized in a bit set.

5314 \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  
 5315 \def\HyField@NewFlag#1#2{%  
 5316 \lowercase{\HyField@NewOption{#2}}%  
 5317 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%  
 5318 }

\HyField@NewFlagOnly  
 5319 \def\HyField@NewFlagOnly#1#2{%  
 5320 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%  
 5321 }

\HyField@NewOption #1: option name  
 5322 \def\HyField@NewOption#1{%  
 5323 \expandafter\newif\csname ifFld@#1\endcsname  
 5324 \define@key{Field}{#1}[true]{%  
 5325 \lowercase{\Field@boolkey{##1}}{#1}%  
 5326 }%  
 5327 }

\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  
 5328 \def\HyField@NewBitsetFlag#1#2#3#4{%  
 5329 \begingroup  
 5330 \count@=#4\relax  
 5331 \advance\count@\m@ne  
 5332 \def\x##1{%  
 5333 \endgroup  
 5334 \expandafter\def\csname HyField@#3@#1\endcsname{##1}%  
 5335 \expandafter\ifx\csname HyField@#3@##1\endcsname\relax  
 5336 \expandafter\edef\csname HyField@#3@##1\endcsname{%  
 5337 (\number#4) #2%  
 5338 }%  
 5339 \else  
 5340 \expandafter\edef\csname HyField@#3@##1\endcsname{%  
 5341 \csname HyField@#3@##1\endcsname  
 5342 /#2%  
 5343 }%  
 5344 \fi  
 5345 }%  
 5346 \expandafter\x\expandafter{\the\count@}%  
 5347 }

\HyField@UseFlag The bit set is HyField@#1  
 5348 \def\HyField@UseFlag#1#2{%  
 5349 \lowercase{\HyField@@UseFlag{#2}}{#1}%  
 5350 }

\HyField@@UseFlag

```
5351 \def\HyField@@UseFlag#1#2{%
5352   \bitsetSetValue{HyField@#2}{%
5353     \csname HyField@#2@#1\endcsname
5354   }{%
5355     \csname ifFld@#1\endcsname 1\else 0\fi
5356   }%
5357 }
```

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

```
5358 \def\HyField@SetFlag#1#2{%
5359   \lowercase{\HyField@@SetFlag{#2}}{#1}%
5360 }
```

\HyField@@SetFlag

```
5361 \def\HyField@@SetFlag#1#2{%
5362   \bitsetSetValue{HyField@#2}{%
5363     \csname HyField@#2@#1\endcsname
5364   }{1}%
5365 }
```

\HyField@PrintFlags

```
5366 \def\HyField@PrintFlags#1#2{%
5367   \ifHy@verbose
5368     \begingroup
5369     \let\Hy@temp\@empty
5370     \let\MessageBreak\relax
5371     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5372     \bitsetGetSetBitList{HyField@#1}\do{%
5373       \edef\Hy@temp{%
5374         \Hy@temp
5375         \csname HyField@#1@\x\endcsname\MessageBreak
5376       }%
5377     }%
5378   \edef\x{\endgroup
5379     \noexpand\Hy@Info{%
5380       Field flags: %
5381       \expandafter\ifx\@car#1\@nil S\else/\fi
5382       #1 %
5383       \bitsetGetDec{HyField@#1} %
5384       (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5385       \Hy@temp
5386       for #2%
5387     }%
5388   }\x
5389 \fi
5390 }
```

### 20.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```
5391 \HyField@NewFlag{Ff}{ReadOnly}{1}
5392 \HyField@NewFlag{Ff}{Required}{2}
5393 \HyField@NewFlag{Ff}{NoExport}{3}
```

“Table 8.75 Field flags specific to button fields”

```
5394 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
```



```

5395 \HyField@NewFlag{Ff}{Radio}{16}
5396 \HyField@NewFlag{Ff}{Pushbutton}{17}
5397 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5398 \HyField@NewFlag{Ff}{Multiline}{13}
5399 \HyField@NewFlag{Ff}{Password}{14}
5400 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5401 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5402 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5403 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5404 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5405 \HyField@NewFlag{Ff}{Combo}{18}
5406 \HyField@NewFlag{Ff}{Edit}{19}
5407 \HyField@NewFlag{Ff}{Sort}{20}
5408 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5409 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5410 \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.

```

5411 \newif\ifFld@popdown
5412 \define@key{Field}{popdown}[true]{%
5413   \lowercase{\Field@boolkey{#1}}{popdown}%
5414 }

```

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.

```

5415 \HyField@NewFlag{F}{Invisible}{1}
5416 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5417 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5418 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5419 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5420 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5421 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5422 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5423 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5424 \ifHy@pdfa
5425   \def\HyField@PDFAFldWarning#1#2{%
5426     \Hy@Warning{%
5427       PDF/A: Annotation flag ‘#1’ must\MessageBreak
5428       be set to ‘#2’%
5429     }%
5430   }%
5431   \Fld@invisiblefalse
5432   \def\Fld@invisibletrue{%
5433     \HyField@PDFAFldWarning{invisible}{false}%
5434   }%
5435   \Fld@hiddenfalse
5436   \def\Fld@hiddentrue{%
5437     \HyField@PDFAFldWarning{hidden}{false}%
5438   }%

```

```

5439 \Fld@printtrue
5440 \def\Fld@printfalse{%
5441   \HyField@PDFAFIagWarning{print}{true}%
5442 }%
5443 \Fld@nozoomtrue
5444 \def\Fld@nozoomfalse{%
5445   \HyField@PDFAFIagWarning{nozoom}{true}%
5446 }%
5447 \Fld@norotatetrue
5448 \def\Fld@norotatefalse{%
5449   \HyField@PDFAFIagWarning{norotate}{true}%
5450 }%
5451 \Fld@noviewfalse
5452 \def\Fld@noviewtrue{%
5453   \HyField@PDFAFIagWarning{noview}{false}%
5454 }%
5455 \fi

```

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

```

5456 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5457 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5458 \HyField@NewFlag{Submit}{GetMethod}{4}
5459 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5460 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5461 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5462 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5463 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5464 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5465 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5466 \HyField@NewFlag{Submit}{ExclFKey}{12}
5467 \HyField@NewFlag{Submit}{EmbedForm}{14}

5468 \define@key{Field}{export}{%
5469   \lowercase{\def\Hy@temp{#1}}%
5470   \@ifundefined{Fld@export@\Hy@temp}{%
5471     \@onelevel@sanitize\Hy@temp
5472     \Hy@Error{%
5473       Unknown export format '\Hy@temp'.\MessageBreak
5474       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5475     }}\ehc
5476 }{%
5477   \let\Fld@export\Hy@temp
5478 }%
5479 }

5480 \def\Fld@export{fdf}
5481 \@namedef{Fld@export@fdf}{0}%
5482 \@namedef{Fld@export@html}{1}%
5483 \@namedef{Fld@export@xfdf}{2}%
5484 \@namedef{Fld@export@pdf}{3}%

```

### 20.1.2 Set submit flags

\HyField@FlagsSubmit

```

5485 \def\HyField@FlagsSubmit{%
5486   \bitsetReset{HyField@Submit}%
5487   \ifcase\@nameuse{Fld@export@\Fld@export} %
5488   % FDF

```

```

5489 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5490 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5491 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5492 \HyField@UseFlag{Submit}{IncludeAnnotations}%
5493 \HyField@UseFlag{Submit}{CanonicalFormat}%
5494 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5495 \HyField@UseFlag{Submit}{ExclFKey}%
5496 \HyField@UseFlag{Submit}{EmbedForm}%
5497 \or % HTML
5498 \HyField@SetFlag{Submit}{ExportFormat}%
5499 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5500 \HyField@UseFlag{Submit}{GetMethod}%
5501 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5502 \HyField@UseFlag{Submit}{CanonicalFormat}%
5503 \or % XFDF
5504 \HyField@SetFlag{Submit}{XFDF}%
5505 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5506 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5507 \HyField@UseFlag{Submit}{CanonicalFormat}%
5508 \or % PDF
5509 \HyField@SetFlag{Submit}{SubmitPDF}%
5510 \HyField@UseFlag{Submit}{GetMethod}%
5511 \fi
5512 \HyField@PrintFlags{Submit}{submit button field}%
5513 \bitsetIsEmpty{HyField@Submit}{%
5514 \let\Fld@submitflags\ltx@empty
5515 }{%
5516 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5517 }%
5518 }

```

### 20.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5519 \def\HyField@FlagsAnnot#1{%
5520 \bitsetReset{HyField@F}%
5521 \HyField@UseFlag{F}{Invisible}%
5522 \HyField@UseFlag{F}{Hidden}%
5523 \HyField@UseFlag{F}{Print}%
5524 \HyField@UseFlag{F}{NoZoom}%
5525 \HyField@UseFlag{F}{NoRotate}%
5526 \HyField@UseFlag{F}{NoView}%
5527 \HyField@UseFlag{F}{Locked}%
5528 \HyField@UseFlag{F}{ToggleNoView}%
5529 \HyField@UseFlag{F}{LockedContents}%
5530 \HyField@PrintFlags{F}{#1}%
5531 \bitsetIsEmpty{HyField@F}{%
5532 \let\Fld@annotflags\ltx@empty
5533 }{%
5534 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5535 }%
5536 }

```

### 20.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5537 \def\HyField@FlagsPushButton{%

```

```

5538 \HyField@FlagsAnnot{push button field}%
5539 \bitsetReset{HyField@Ff}%
5540 \HyField@UseFlag{Ff}{ReadOnly}%
5541 \HyField@UseFlag{Ff}{Required}%
5542 \HyField@UseFlag{Ff}{NoExport}%
5543 \HyField@SetFlag{Ff}{Pushbutton}%
5544 \HyField@PrintFlags{Ff}{push button field}%
5545 \bitsetIsEmpty{HyField@Ff}{%
5546   \let\Fld@flags\ltx@empty
5547 }{%
5548   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5549 }%
5550 }

```

### 20.1.5 Check box field

\HyField@FlagsCheckBox

```

5551 \def\HyField@FlagsCheckBox{%
5552   \HyField@FlagsAnnot{check box field}%
5553   \bitsetReset{HyField@Ff}%
5554   \HyField@UseFlag{Ff}{ReadOnly}%
5555   \HyField@UseFlag{Ff}{Required}%
5556   \HyField@UseFlag{Ff}{NoExport}%
5557   \HyField@PrintFlags{Ff}{check box field}%
5558   \bitsetIsEmpty{HyField@Ff}{%
5559     \let\Fld@flags\ltx@empty
5560   }{%
5561     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5562   }%
5563 }

```

### 20.1.6 Radio button field

\HyField@FlagsRadioButton

```

5564 \def\HyField@FlagsRadioButton{%
5565   \HyField@FlagsAnnot{radio button field}%
5566   \bitsetReset{HyField@Ff}%
5567   \HyField@UseFlag{Ff}{ReadOnly}%
5568   \HyField@UseFlag{Ff}{Required}%
5569   \HyField@UseFlag{Ff}{NoExport}%
5570   \HyField@UseFlag{Ff}{NoToggleToOff}%
5571   \HyField@SetFlag{Ff}{Radio}%
5572   \HyField@UseFlag{Ff}{RadiosInUnison}%
5573   \HyField@PrintFlags{Ff}{radio button field}%
5574   \bitsetIsEmpty{HyField@Ff}{%
5575     \let\Fld@flags\ltx@empty
5576   }{%
5577     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5578   }%
5579 }

```

### 20.1.7 Text fields

\HyField@FlagsText

```

5580 \def\HyField@FlagsText{%
5581   \HyField@FlagsAnnot{text field}%
5582   \bitsetReset{HyField@Ff}%

```

```

5583 \HyField@UseFlag{Ff}{ReadOnly}%
5584 \HyField@UseFlag{Ff}{Required}%
5585 \HyField@UseFlag{Ff}{NoExport}%
5586 \HyField@UseFlag{Ff}{Multiline}%
5587 \HyField@UseFlag{Ff}{Password}%
5588 \HyField@UseFlag{Ff}{FileSelect}%
5589 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5590 \HyField@UseFlag{Ff}{DoNotScroll}%
5591 \ifFld@comb
5592 \ifcase0\ifFld@multiline
5593 \else\ifFld@password
5594 \else\ifFld@fileselect
5595 \else 1\fi\fi\fi\relax
5596 \Hy@Error{%
5597 Field option 'comb' cannot used together with\MessageBreak
5598 'multiline', 'password', or 'fileselect'%
5599 }\@ehc
5600 \else
5601 \HyField@UseFlag{Ff}{Comb}%
5602 \fi
5603 \fi
5604 \HyField@UseFlag{Ff}{RichText}%
5605 \HyField@PrintFlags{Ff}{text field}%
5606 \bitsetIsEmpty{HyField@Ff}{%
5607 \let\Fld@flags\ltx@empty
5608 }{%
5609 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5610 }%
5611 }

```

### 20.1.8 Choice fields

\HyField@FlagsChoice

```

5612 \def\HyField@FlagsChoice{%
5613 \HyField@FlagsAnnot{choice field}%
5614 \bitsetReset{HyField@Ff}%
5615 \HyField@UseFlag{Ff}{ReadOnly}%
5616 \HyField@UseFlag{Ff}{Required}%
5617 \HyField@UseFlag{Ff}{NoExport}%
5618 \HyField@UseFlag{Ff}{Combo}%
5619 \ifFld@combo
5620 \HyField@UseFlag{Ff}{Edit}%
5621 \fi
5622 \HyField@UseFlag{Ff}{Sort}%
5623 \HyField@UseFlag{Ff}{MultiSelect}%
5624 \ifFld@combo
5625 \ifFld@edit
5626 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5627 \fi
5628 \fi
5629 \HyField@UseFlag{Ff}{CommitOnSelChange}%
5630 \HyField@PrintFlags{Ff}{choice field}%
5631 \bitsetIsEmpty{HyField@Ff}{%
5632 \let\Fld@flags\ltx@empty
5633 }{%
5634 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5635 }%

```

5636 }

## 20.2 Choice field

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

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

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

```
5637 \def\HyField@PDFChoices#1{%
5638   \begingroup
5639   \global\let\Fld@choices\ltx@empty
5640   \let\HyTmp@optlist\ltx@empty
5641   \let\HyTmp@optitem\relax
5642   \count@=0 %
5643   \kv@parse{#1}{%
5644     \Hy@pdfstringdef\kv@key\kv@key
5645     \ifx\kv@value\relax
5646       \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5647         \xdef\Fld@choices{\Fld@choices(\kv@key)(\kv@key)}%
5648       \else
5649         \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5650       \fi
5651     \else
5652       \Hy@pdfstringdef\kv@value\kv@value
5653       \xdef\Fld@choices{\Fld@choices(\kv@value)(\kv@key)}%
5654     \fi
5655   \edef\HyTmp@optlist{%
5656     \HyTmp@optlist
5657     \HyTmp@optitem{\the\count@}{\kv@key}0%
5658   }%
5659   \advance\count@ by 1 %
5660   \@gobbletwo
5661 }%
5662 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5663 \ifFld@multiselect
5664   \HyField@@PDFChoices{DV}\Fld@default
5665   \HyField@@PDFChoices{V}\Fld@value
5666 \else
5667   \ifx\Fld@default\relax
5668   \else
5669     \pdfstringdef\Hy@gtemp\Fld@default
5670     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5671   \fi
5672   \ifx\Fld@value\relax
5673   \else
5674     \pdfstringdef\Hy@gtemp\Fld@value
5675     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5676   \fi
5677 \fi
5678 \endgroup
5679 }
```

`\HyField@@PDFChoices`

```
5680 \def\HyField@@PDFChoices#1#2{%
5681   \ifx#2\relax
5682   \else
5683     \count@=0 %
```

```

5684 \def\HyTmp@optitem##1##2##3{%
5685 \def\HyTmp@key{##2}%
5686 \ifx\HyTmp@key\Hy@gtemp
5687 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5688 \HyTmp@optlist
5689 \HyTmp@optitem{##1}{##2}1%
5690 }%
5691 \let\HyTmp@found=Y%
5692 \else
5693 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5694 \HyTmp@optlist
5695 \HyTmp@optitem{##1}{##2}##3%
5696 }%
5697 \fi
5698 }%
5699 \expandafter\comma@parse\expandafter{#2}{%
5700 \pdfstringdef\Hy@gtemp\comma@entry
5701 \let\HyTmp@found=N %
5702 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5703 \HyTmp@optlist
5704 \ifx\HyTmp@found Y%
5705 \advance\count@ by 1 %
5706 \else
5707 \@onelevel@sanitize\comma@entry
5708 \PackageWarning{hyperref}{%
5709 \string\ChoiceBox: Ignoring value '\comma@entry',%
5710 \MessageBreak
5711 it cannot be found in the choices%
5712 }%
5713 \fi
5714 \@gobble
5715 }%
5716 \def\HyTmp@optitem##1##2##3{%
5717 \ifnum##3=1 %
5718 (##2)%
5719 \fi
5720 }%
5721 \ifcase\count@
5722 \or
5723 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5724 \else
5725 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5726 \ifx#1V%
5727 \def\HyTmp@optitem##1##2##3{%
5728 \ifnum##3=1 %
5729 \@firstofone{ ##1}%
5730 \fi
5731 }%
5732 \edef\HyTmp@optlist{\HyTmp@optlist}%
5733 \xdef\Fld@choices{%
5734 \Fld@choices
5735 /I[\expandafter\@firstofone\HyTmp@optlist]%
5736 }%
5737 \fi
5738 \fi
5739 \fi
5740 }

```

## 20.3 Forms

\HyField@SetKeys

```

5741 \def\HyField@SetKeys{%
5742   \kvsetkeys{Field}%
5743 }

5744 \newif\ifFld@checked
5745 \newif\ifFld@disabled
5746 \Fld@checkedfalse
5747 \Fld@disabledfalse
5748 \newcount\Fld@menulength
5749 \newdimen\Fld@Width
5750 \newdimen\Fld@charsize
5751 \Fld@charsize=10\p@
5752 \def\Fld@maxlen{0}
5753 \def\Fld@align{0}
5754 \def\Fld@color{0 0 0 rg}
5755 \def\Fld@bcolor{1 1 1}
5756 \def\Fld@bordercolor{1 0 0}
5757 \def\Fld@bordersep{1\p@}
5758 \def\Fld@borderwidth{1}
5759 \def\Fld@borderstyle{S}
5760 \def\Fld@cbsymbol{4}
5761 \def\Fld@radiosymbol{H}
5762 \def\Fld@rotation{0}
5763 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
5764 \def\endForm{\@endForm}
5765 \newif\ifForm@html
5766 \Form@htmlfalse
5767 \def\Form@boolkey#1#2{%
5768   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5769 }
5770 \define@key{Form}{action}{%
5771   \hyper@normalise\Hy@DefFormAction{#1}%
5772 }
5773 \def\Hy@DefFormAction{\def\Form@action}
5774 \def\enc@html{html}
5775 \define@key{Form}{encoding}{%
5776   \def\Hy@tempa{#1}%
5777   \ifx\Hy@tempa\enc@html
5778     \Form@htmltrue
5779     \def\Fld@export{html}%
5780   \else
5781     \Hy@Warning{%
5782       Form 'encoding' key with \MessageBreak
5783       unknown value '#1'%
5784     }%
5785     \Form@htmlfalse
5786   \fi
5787 }
5788 \define@key{Form}{method}{%
5789   \lowercase{\def\Hy@temp{#1}}%
5790   \@ifundefined{Form@method@\Hy@temp}{%
5791     \@onelevel@sanitize\Hy@temp
5792     \Hy@Error{%
5793       Unknown method '\Hy@temp'.\MessageBreak
5794       Known values are 'post' and 'get'%

```



```

5795   }\@ehc
5796   }{%
5797   \let\Form@method\Hy@temp
5798   \ifcase\@nameuse{Form@method@\Hy@temp} %
5799   \Fld@getmethodfalse
5800   \else
5801   \Fld@getmethodtrue
5802   \fi
5803   }%
5804 }
5805 \def\Form@method{
5806 \@namedef{Form@method@post}{0}
5807 \@namedef{Form@method@get}{1}

5808 \newif\ifHyField@NeedAppearances
5809 \def\HyField@NeedAppearancesfalse{%
5810 \global\let\ifHyField@NeedAppearances\iffalse
5811 }
5812 \def\HyField@NeedAppearancetrue{%
5813 \global\let\ifHyField@NeedAppearances\iftrue
5814 }
5815 \HyField@NeedAppearancetrue
5816 \define@key{Form}{NeedAppearances}[true]{%
5817 \edef\Hy@tempa{#1}%
5818 \ifx\Hy@tempa\Hy@true
5819 \HyField@NeedAppearancetrue
5820 \else
5821 \ifx\Hy@tempa\Hy@false
5822 \HyField@NeedAppearancesfalse
5823 \else
5824 \Hy@Error{%
5825 Unexpected value '\Hy@tempa'\MessageBreak
5826 of option 'NeedAppearances' instead of\MessageBreak
5827 'true' or 'false'%
5828 }\@ehc
5829 \fi
5830 \fi
5831 }
5832 \def\Field@boolkey#1#2{%
5833 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5834 }
5835 \ifHy@texht
5836 \newtoks\Field@toks
5837 \Field@toks={ }%
5838 \def\Field@addtoks#1#2{%
5839 \edef\@processme{\Field@toks{the\Field@toks\space #1="#2"}}}%
5840 \@processme
5841 }%
5842 \else
5843 \def\Hy@WarnHTMLFieldOption#1{%
5844 \Hy@Warning{%
5845 HTML field option '#1'\MessageBreak
5846 is ignored%
5847 }%
5848 }%
5849 \fi
5850 \def\Fld@checkequals#1=#2=#3\\{%
5851 \def\@currDisplay{#1}%

```

```

5852 \ifx\|#2\%
5853 \def\@currValue{#1}%
5854 \else
5855 \def\@currValue{#2}%
5856 \fi
5857 }
5858 \define@key{Field}{loc}{%
5859 \def\Fld@loc{#1}%
5860 }
5861 \define@key{Field}{checked}[true]{%
5862 \lowercase{\Field@boolkey{#1}}{checked}%
5863 }
5864 \define@key{Field}{disabled}[true]{%
5865 \lowercase{\Field@boolkey{#1}}{disabled}%
5866 }
5867 \ifHy@texht
5868 \define@key{Field}{accesskey}{%
5869 \Field@addtoks{accesskey}{#1}%
5870 }%
5871 \define@key{Field}{tabkey}{%
5872 \Field@addtoks{tabkey}{#1}%
5873 }%
5874 \else
5875 \define@key{Field}{accesskey}{%
5876 \Hy@WarnHTMLFieldOption{accesskey}%
5877 }%
5878 \define@key{Field}{tabkey}{%
5879 \Hy@WarnHTMLFieldOption{tabkey}%
5880 }%
5881 \fi
5882 \define@key{Field}{name}{%
5883 \def\Fld@name{#1}%
5884 }
5885 \let\Fld@altname\relax
5886 \define@key{Field}{altname}{%
5887 \def\Fld@altname{#1}%
5888 }
5889 \let\Fld@mappingname\relax
5890 \define@key{Field}{mappingname}{%
5891 \def\Fld@mappingname{#1}%
5892 }
5893 \define@key{Field}{width}{%
5894 \def\Fld@width{#1}%
5895 \Field@Width#1\setbox0=\hbox{m}%
5896 }
5897 \define@key{Field}{maxlen}{%
5898 \def\Fld@maxlen{#1}%
5899 }
5900 \define@key{Field}{menulength}{%
5901 \Fld@menulength=#1\relax
5902 }
5903 \define@key{Field}{height}{%
5904 \def\Fld@height{#1}%
5905 }
5906 \define@key{Field}{charsize}{%
5907 \setlength{\Fld@charsize}{#1}%
5908 }

```

```

5909 \define@key{Field}{borderwidth}{%
5910   \Hy@defaultbp\Fld@borderwidth{#1}%
5911 }
5912 \def\Hy@defaultbp#1#2{%
5913   \begingroup
5914   \afterassignment\Hy@defaultbpAux
5915   \dimen@=#2bp\relax{#1}{#2}%
5916 }
5917 \begingroup\expandafter\expandafter\expandafter\endgroup
5918 \expandafter\ifx\csname dimexpr\endcsname\relax
5919   \def\Hy@defaultbpAux#1\relax#2#3{%
5920     \ifx!#1!%
5921       \endgroup
5922       \def#2{#3}%
5923     \else
5924       \dimen@=.99626\dimen@
5925       \edef\x{\endgroup
5926         \def\noexpand#2{%
5927           \strip@pt\dimen@
5928         }%
5929       }\x
5930       \fi
5931     }%
5932   \else
5933     \def\Hy@defaultbpAux#1\relax#2#3{%
5934       \ifx!#1!%
5935         \endgroup
5936         \def#2{#3}%
5937       \else
5938         \edef\x{\endgroup
5939           \def\noexpand#2{%
5940             \strip@pt\dimexpr\dimen@*800/803\relax
5941           }%
5942         }\x
5943         \fi
5944       }%
5945     \fi
5946 \define@key{Field}{borderstyle}{%
5947   \let\Hy@temp\Fld@borderstyle
5948   \def\Fld@borderstyle{#1}%
5949   \Hy@Match\Fld@borderstyle{%
5950     ~[SDBIU]$%
5951   }{ }{%
5952     \Hy@Warning{%
5953       Invalid value '@pdfborderstyle'\MessageBreak
5954       for option 'pdfborderstyle'. Valid values:\MessageBreak
5955       \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
5956       \space\space I (Inset), U (Underline)\MessageBreak
5957       Option setting is ignored%
5958     }%
5959     \let\Fld@borderstyle\Hy@temp
5960   }%
5961 }
5962 \define@key{Field}{bordersep}{%
5963   \def\Fld@bordersep{#1}%
5964 }
5965 \define@key{Field}{default}{%

```

```

5966 \def\Fld@default{#1}%
5967 }
5968 \define@key{Field}{align}{%
5969 \def\Fld@align{#1}%
5970 }
5971 \define@key{Field}{value}{%
5972 \def\Fld@value{#1}%
5973 }
5974 \define@key{Field}{checkboxsymbol}{%
5975 \Fld@DingDef\Fld@cbsymbol{#1}%
5976 }
5977 \define@key{Field}{radiosymbol}{%
5978 \Fld@DingDef\Fld@radiosymbol{#1}%
5979 }
5980 \def\Fld@DingDef#1#2{%
5981 \let\Fld@temp\ltx@empty
5982 \Fld@@DingDef#2\ding{ }\@nil
5983 \let#1\Fld@temp
5984 }
5985 \def\Fld@@DingDef#1\ding#2#3\@nil{%
5986 \expandafter\def\expandafter\Fld@temp\expandafter{%
5987 \Fld@temp
5988 #1%
5989 }%
5990 \ifx\#3\%
5991 \expandafter\@gobble
5992 \else
5993 \begingroup
5994 \lccode'0=#2\relax
5995 \lowercase{\endgroup
5996 \expandafter\def\expandafter\Fld@temp\expandafter{%
5997 \Fld@temp
5998 0%
5999 }%
6000 }%
6001 \expandafter\@firstofone
6002 \fi
6003 {%
6004 \Fld@@DingDef#3\@nil
6005 }%
6006 }

6007 \define@key{Field}{rotation}{%
6008 \def\Fld@rotation{#1}%
6009 }

6010 \define@key{Field}{backgroundcolor}{%
6011 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6012 }
6013 \define@key{Field}{bordercolor}{%
6014 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6015 }
6016 \define@key{Field}{color}{%
6017 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6018 }

6019 \let\Fld@onclick@code\ltx@empty
6020 \let\Fld@format@code\ltx@empty
6021 \let\Fld@validate@code\ltx@empty

```

```

6022 \let\Fld@calculate@code\ltx@empty
6023 \let\Fld@keystroke@code\ltx@empty
6024 \let\Fld@onfocus@code\ltx@empty
6025 \let\Fld@onblur@code\ltx@empty
6026 \let\Fld@onmousedown@code\ltx@empty
6027 \let\Fld@onmouseup@code\ltx@empty
6028 \let\Fld@onenter@code\ltx@empty
6029 \let\Fld@onexit@code\ltx@empty
6030 \def\Hy@temp#1{%
6031   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
6032 }
6033 \def\Hy@@temp#1#2{%
6034   \ifHy@pdfa
6035     \define@key{Field}{#2}{%
6036       \Hy@Error{%
6037         PDF/A: Additional action '#2' is prohibited%
6038       }\@ehc
6039     }%
6040   \else
6041     \define@key{Field}{#2}{%
6042       \def#1{##1}%
6043     }%
6044   \fi
6045 }
6046 \Hy@temp{keystroke}
6047 \Hy@temp{format}
6048 \Hy@temp{validate}
6049 \Hy@temp{calculate}
6050 \Hy@temp{onfocus}
6051 \Hy@temp{onblur}
6052 \Hy@temp{onenter}
6053 \Hy@temp{onexit}
6054 \ifHy@texht
6055   \def\Hy@temp#1{%
6056     \define@key{Field}{#1}{%
6057       \Field@addtoks{#1}{##1}%
6058     }%
6059   }%
6060 \else
6061   \def\Hy@temp#1{%
6062     \define@key{Field}{#1}{%
6063       \Hy@WarnHTMLFieldOption{#1}%
6064     }%
6065   }%
6066 \fi
6067 \Hy@temp{ondblclick}
6068 \Hy@temp{onmousedown}
6069 \Hy@temp{onmouseup}
6070 \Hy@temp{onmouseover}
6071 \Hy@temp{onmousemove}
6072 \Hy@temp{onmouseout}
6073 \Hy@temp{onkeydown}
6074 \Hy@temp{onkeyup}
6075 \Hy@temp{onselect}
6076 \Hy@temp{onchange}
6077 \Hy@temp{onkeypress}
6078 \ifHy@texht

```

```

6079 \define@key{Field}{onclick}{%
6080 \Field@addtoks{onclick}{#1}%
6081 }%
6082 \else
6083 \ifHy@pdfa
6084 \define@key{Field}{onclick}{%
6085 \Hy@Error{%
6086 PDF/A: Action 'onclick' is prohibited%
6087 }\@ehc
6088 }%
6089 \else
6090 \define@key{Field}{onclick}{%
6091 \def\Fld@onclick@code{#1}%
6092 }%
6093 \fi
6094 \fi

6095 \DeclareRobustCommand\TextField{%
6096 \@ifnextchar[{\@TextField}{\@TextField[]}%
6097 }
6098 \DeclareRobustCommand\ChoiceMenu{%
6099 \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6100 }
6101 \DeclareRobustCommand\CheckBox{%
6102 \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6103 }
6104 \DeclareRobustCommand\PushButton{%
6105 \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6106 }
6107 \DeclareRobustCommand\Gauge{%
6108 \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6109 }
6110 \DeclareRobustCommand\Submit{%
6111 \@ifnextchar[{\@Submit}{\@Submit[]}%
6112 }
6113 \DeclareRobustCommand\Reset{%
6114 \@ifnextchar[{\@Reset}{\@Reset[]}%
6115 }
6116 \def\LayoutTextField#1#2{% label, field
6117 #1 #2%
6118 }
6119 \def\LayoutChoiceField#1#2{% label, field
6120 #1 #2%
6121 }
6122 \def\LayoutCheckField#1#2{% label, field
6123 #1 #2%
6124 }
6125 \def\LayoutPushButtonField#1{% button
6126 #1%
6127 }
6128 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6129 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6130 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6131 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6132 \def\MakeButtonField#1{%
6133 \sbox0{%
6134 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6135 }%

```

```

6136 \@tempdima\ht0 %
6137 \advance\@tempdima by \Fld@borderwidth bp %
6138 \advance\@tempdima by \Fld@borderwidth bp %
6139 \ht0\@tempdima
6140 \@tempdima\dp0 %
6141 \advance\@tempdima by \Fld@borderwidth bp %
6142 \advance\@tempdima by \Fld@borderwidth bp %
6143 \dp0\@tempdima
6144 \box0\relax
6145 }
6146 \def\DefaultHeightofSubmit{14pt}
6147 \def\DefaultWidthofSubmit{2cm}
6148 \def\DefaultHeightofReset{14pt}
6149 \def\DefaultWidthofReset{2cm}
6150 \def\DefaultHeightofCheckBox{\baselineskip}
6151 \def\DefaultWidthofCheckBox{\baselineskip}
6152 \def\DefaultHeightofChoiceMenu{\baselineskip}
6153 \def\DefaultWidthofChoiceMenu{\baselineskip}
6154 \def\DefaultHeightofText{\baselineskip}
6155 \def\DefaultHeightofTextMultiline{4\baselineskip}
6156 \def\DefaultWidthofText{3cm}
6157 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6158 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6159 \def\DefaultOptionsofPushButton{print}
6160 \def\DefaultOptionsofCheckBox{print}
6161 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

6162 \def\DefaultOptionsofListBox{print}
6163 \def\DefaultOptionsofComboBox{print,edit,sort}
6164 \def\DefaultOptionsofPopdownBox{print}
6165 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 21 Setup

```

6166 \ifHy@hyperfigures
6167 \Hy@Info{Hyper figures ON}%
6168 \else
6169 \Hy@Info{Hyper figures OFF}%
6170 \fi
6171 \ifHy@nesting
6172 \Hy@Info{Link nesting ON}%
6173 \else
6174 \Hy@Info{Link nesting OFF}%
6175 \fi
6176 \ifHy@hyperindex
6177 \Hy@Info{Hyper index ON}%
6178 \else
6179 \Hy@Info{Hyper index OFF}%
6180 \fi
6181 \ifHy@backref
6182 \Hy@Info{backreferencing ON}%
6183 \else
6184 \Hy@Info{backreferencing OFF}%
6185 \fi
6186 \ifHy@colorlinks
6187 \Hy@Info{Link coloring ON}%

```

```

6188 \else
6189 \Hy@Info{Link coloring OFF}%
6190 \fi
6191 \ifHy@ocgcolorlinks
6192 \Hy@Info{Link coloring with OCG ON}%
6193 \else
6194 \Hy@Info{Link coloring with OCG OFF}%
6195 \fi
6196 \ifHy@pdfa
6197 \Hy@Info{PDF/A mode ON}%
6198 \else
6199 \Hy@Info{PDF/A mode OFF}%
6200 \fi

```

## 22 Low-level utility macros

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

```

6201 \edef\hyper@hash{\string#}
6202 \edef\hyper@tilde{\string~}
6203 \edef\hyper@quote{\string"}

```

Support \label before \begin{document}.

```

6204 \def\@currentHref{Doc-Start}
6205 \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.

```

6206 \Hy@AtBeginDocument{%
6207 \Hy@pdfstringtrue
6208 \PDF@SetupDoc
6209 \let\PDF@SetupDoc\@empty
6210 \Hy@DisableOption{pdfpagescrop}%
6211 \Hy@DisableOption{pdfpagemode}%
6212 \Hy@DisableOption{pdfnonfullscreenpagemode}%
6213 \Hy@DisableOption{pdfdirection}%
6214 \Hy@DisableOption{pdfviewarea}%
6215 \Hy@DisableOption{pdfviewclip}%
6216 \Hy@DisableOption{pdfprintarea}%
6217 \Hy@DisableOption{pdfprintclip}%
6218 \Hy@DisableOption{pdfprintscaling}%
6219 \Hy@DisableOption{pdfduplex}%
6220 \Hy@DisableOption{pdfpicktraybypdfsize}%
6221 \Hy@DisableOption{pdfprintpagerange}%
6222 \Hy@DisableOption{pdfnumcopies}%
6223 \Hy@DisableOption{pdfstartview}%
6224 \Hy@DisableOption{pdfstartpage}%
6225 \Hy@DisableOption{pdftoolbar}%
6226 \Hy@DisableOption{pdfmenubar}%
6227 \Hy@DisableOption{pdfwindowui}%
6228 \Hy@DisableOption{pdfitwindow}%
6229 \Hy@DisableOption{pdfcenterwindow}%
6230 \Hy@DisableOption{pdfdisplaydoctitle}%
6231 \Hy@DisableOption{pdfpagelayout}%
6232 \Hy@DisableOption{pdflang}%
6233 \Hy@DisableOption{baseurl}%
6234 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
6235 \Hy@pdfstringfalse

```



```

6236 }
      Ignore star from referencing macros:
6237 \LetLtxMacro\NoHy@OrgRef\ref
6238 \DeclareRobustCommand*{\ref}{%
6239   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6240 }
6241 \LetLtxMacro\NoHy@OrgPageRef\pageref
6242 \DeclareRobustCommand*{\pageref}{%
6243   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6244 }

```

## 23 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.

```

6245 \def\NoHyper{%
6246   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6247   \def\hyper@anchor##1##2{##2\Hy@xspace@end}%
6248   \global\let\hyper@livelink\hyper@link
6249   \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6250   \let\hyper@anchor\ltx@gobble
6251   \let\hyper@anchorstart\ltx@gobble
6252   \def\hyper@anchorend{\Hy@xspace@end}%
6253   \let\hyper@linkstart\ltx@gobbletwo
6254   \def\hyper@linkend{\Hy@xspace@end}%
6255   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6256   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6257   \let\Hy@backout\@gobble
6258 }
6259 \def\stop@hyper{%
6260   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6261   \let\Hy@backout\@gobble
6262   \let\hyper@anchor\ltx@gobble
6263   \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6264   \let\hyper@anchor\ltx@gobble
6265   \let\hyper@anchorstart\ltx@gobble
6266   \def\hyper@anchorend{\Hy@xspace@end}%
6267   \let\hyper@linkstart\ltx@gobbletwo
6268   \def\hyper@linkend{\Hy@xspace@end}%
6269   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6270   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6271 }
6272 \def\endNoHyper{%
6273   \global\let\hyper@link\hyper@livelink
6274 }
6275 \</package>

```

## 24 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 com-

mands, 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:

```
6276 \nohyperref
6277 \RequirePackage{letltxmacro}[2008/06/13]
6278 \let\hyper@@anchor\@gobble
6279 \def\hyper@link#1#2#3{#3}%
6280 \let\hyper@anchorstart\@gobble
6281 \let\hyper@anchorend\@empty
6282 \let\hyper@linkstart\@gobbletwo
6283 \let\hyper@linkend\@empty
6284 \def\hyper@linkurl#1#2{#1}%
6285 \def\hyper@linkfile#1#2#3{#1}%
6286 \def\hyper@link@{#1}#2#3{#1}%
6287 \let\PDF@SetupDoc\@empty
6288 \let\PDF@FinishDoc\@empty
6289 \def\nohyperpage#1{#1}
```

Some top-level commands:

```
6290 \def\Acrobatmenu#1#2{\leavevmode#2}
6291 \let\pdfstringdefDisableCommands\@gobbletwo
6292 \let\texpdfstring\@firstoftwo
6293 \let\pdfbookmark\@undefined
6294 \newcommand\pdfbookmark[3]{}
6295 \let\phantomsection\@empty
6296 \let\hypersetup\@gobble
6297 \let\hyperbaseurl\@gobble
6298 \newcommand*{\href}[3]{}
6299 \let\hyperdef\@gobbletwo
6300 \let\hyperlink\@gobble
6301 \let\hypertarget\@gobble
6302 \def\hyperref{%
6303   \ifnextchar\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6304 }
6305 \long\def\@gobbleopt[#1]{}
6306 \let\hyperpage\@empty
```

Ignore star from referencing macros:

```
6307 \LetLtxMacro\NoHy@OrgRef\ref
6308 \DeclareRobustCommand*{\ref}{%
6309   \ifstar\NoHy@OrgRef\NoHy@OrgRef
6310 }
6311 \LetLtxMacro\NoHy@OrgPageRef\pageref
6312 \DeclareRobustCommand*{\pageref}{%
6313   \ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6314 }
6315 \nohyperref
```

## 25 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}`

```
6316 \package
6317 \Hy@AtBeginDocument{%
```

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

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

```

6318 \if@filesw
6319 \ifHy@typexml
6320 \immediate\closeout\@mainaux
6321 \immediate\openout\@mainaux\jobname.aux\relax
6322 \immediate\write\@auxout{<relaxxml>\relax}%
6323 \fi
6324 \immediate\write\@auxout{%
6325 \string\providecommand\string\HyperFirstAtBeginDocument{%
6326 \string\AtBeginDocument}^^J%
6327 \string\HyperFirstAtBeginDocument{%
6328 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6329 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6330 \string\gdef\string\contentsline%
6331 \string#1\string#2\string#3\string#4{%
6332 \string\oldcontentsline%
6333 {\string#1}{\string#2}{\string#3}}^^J%
6334 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6335 \string\gdef\string\newlabel\string#1\string#2{%
6336 \string\newlabelxx{\string#1}\string#2}^^J%
6337 \string\gdef\string\newlabelxx%
6338 \string#1\string#2\string#3\string#4\string#5\string#6{%
6339 \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.

```

6340 \string\AtEndDocument{%
6341 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6342 \string\let\string\contentsline\string\oldcontentsline^^J%
6343 \string\let\string\newlabel\string\oldnewlabel^^J%
6344 \string\fi%
6345 }^^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.

```

6346 \string\fi%
6347 }^^J%
6348 \string\global\string\let\string\hyper@last\relax^^J%
6349 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6350 }%
6351 \fi
6352 \let\HyperFirstAtBeginDocument\ltx@firstofone

```

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.

```

6353 \ifx\hyper@last\@undefined
6354 \def\@starttoc#1{%
6355 \begingroup
6356 \makeatletter
6357 \IfFileExists{\jobname.#1}{%
6358 \Hy@WarningNoLine{%
6359 old #1 file detected, not used; run LaTeX again%
6360 }%
6361 }{}%

```

```

6362 \if@filesw
6363 \expandafter\newwrite\csname tf@#1\endcsname
6364 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
6365 \fi
6366 \@nobreakfalse
6367 \endgroup
6368 }%
6369 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
6370 \fi
6371 }

```

## 26 Title strings

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

```

6372 \ifHy@pdfusetitle
6373 \let\HyOrg@title\title
6374 \let\HyOrg@author\author
6375 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6376 \def\Hy@scanopttitle[#1]{%
6377 \gdef\Hy@title{#1}%
6378 \HyOrg@title{#1}%
6379 }%
6380 \def\Hy@scantitle#1{%
6381 \gdef\Hy@title{#1}%
6382 \HyOrg@title{#1}%
6383 }%
6384 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6385 \def\Hy@scanoptauthor[#1]{%
6386 \gdef\Hy@author{#1}%
6387 \HyOrg@author{#1}%
6388 }%
6389 \def\Hy@scanauthor#1{%
6390 \gdef\Hy@author{#1}%
6391 \HyOrg@author{#1}%
6392 }%

```

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

```

6393 \begingroup
6394 \def\process@me#1\@nil#2{%
6395 \expandafter\let\expandafter\x\csname @#2\endcsname
6396 \edef\y{\expandafter\strip@prefix\meaning\x}%
6397 \def\c##1##2\@nil{%
6398 \ifx\\##1\\%
6399 \else
6400 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6401 \expandafter{\x}%
6402 \fi
6403 }%
6404 \expandafter\c\y\relax#1\@nil
6405 }%
6406 \expandafter\process@me\string\@latex@\@nil{title}%
6407 \expandafter\process@me\string\@latex@\@nil{author}%
6408 \endgroup

```

```

6409 \fi
6410 \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.

```

6411 \def\Hy@UseMaketitleString#1{%
6412   \ltx@ifundefined{Hy@#1}{-}{%
6413     \begingroup
6414       \let\Hy@saved@hook\pdfstringdefPreHook
6415       \pdfstringdefDisableCommands{%
6416         \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
6417         \let\newline\\%
6418       }%
6419       \expandafter\ifx\csname @pdf#1\endcsname\@empty
6420         \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6421           \csname Hy@#1\endcsname\@empty
6422         }%
6423       \fi
6424       \global\let\pdfstringdefPreHook\Hy@saved@hook
6425     \endgroup
6426   }%
6427 }
6428 \def\Hy@newline@title#1{ #1}
6429 \def\Hy@newline@author#1{, #1}
6430 \def\Hy@UseMaketitleInfos{%
6431   \Hy@UseMaketitleString{title}%
6432   \Hy@UseMaketitleString{author}%
6433 }

```

## 27 Page numbers

This stuff is done by Heiko Oberdiek.

## 28 Every page

```

6434 \RequirePackage{atbegshi}[2007/09/09]
6435 \let\Hy@EveryPageHook\ltx@empty
6436 \let\Hy@EveryPageBoxHook\ltx@empty
6437 \let\Hy@FirstPageHook\ltx@empty
6438 \AtBeginShipout{%
6439   \Hy@EveryPageHook
6440   \ifx\Hy@EveryPageBoxHook\ltx@empty
6441     \else
6442       \setbox\AtBeginShipoutBox=\vbox{%
6443         \offinterlineskip
6444         \Hy@EveryPageBoxHook
6445         \box\AtBeginShipoutBox
6446       }%

```

```

6447 \fi
6448 }
6449 \ltx@iffileloaded{hpdfTeX.def}{%
6450 \AtBeginShipout{%
6451 \Hy@FirstPageHook
6452 \global\let\Hy@FirstPageHook\ltx@empty
6453 }%
6454 }{%
6455 \AtBeginShipoutFirst{%
6456 \Hy@FirstPageHook
6457 }%
6458 }
6459 \g@addto@macro\Hy@FirstPageHook{%
6460 \PDF@FinishDoc
6461 \global\let\PDF@FinishDoc\ltx@empty
6462 }

```

## 28.1 PDF /PageLabels

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

```

6463 \ifHy@pdfpagelabels
6464 \begingroup\expandafter\expandafter\expandafter\endgroup
6465 \expandafter\ifx\csname thepage\endcsname\relax
6466 \Hy@pdfpagelabelsfalse
6467 \Hy@WarningNoLine{%
6468 Option 'pdfpagelabels' is turned off\MessageBreak
6469 because \string\thepage\space is undefined%
6470 }%
6471 \csname fi\endcsname
6472 \csname iffalse\expandafter\endcsname
6473 \fi

```

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

```

6474 \def\thispdfpagelabel#1{%
6475 \gdef\HyPL@thisLabel{#1}%
6476 }%
6477 \global\let\HyPL@thisLabel\relax

```

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

```

6478 \let\HyPL@Labels\ltx@empty

```

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

```

6479 \newcount\Hy@abspage
6480 \Hy@abspage=0 %

```

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

```

6481 \def\HyPL@LastType{init}%
6482 \def\HyPL@LastNumber{0}%
6483 \let\HyPL@LastPrefix\ltx@empty

```

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

```

6484 \def\HyPL@arabic{D}%
6485 \def\HyPL@Roman{R}%
6486 \def\HyPL@roman{r}%
6487 \def\HyPL@Alph{A}%
6488 \def\HyPL@alph{a}%

```

```

6489 \let\HyPL@SlidesSetPage\ltx@empty
6490 \ltx@ifclassloaded{slides}{%
6491   \def\HyPL@SlidesSetPage{%
6492     \advance\c@page\ltx@one
6493     \ifnum\value{page}>\ltx@one
6494       \protected@edef\HyPL@SlidesOptionalPage{%
6495         \Hy@SlidesFormatOptionalPage{thepage}%
6496       }%
6497     \else
6498       \let\HyPL@SlidesOptionalPage\ltx@empty
6499     \fi
6500     \advance\c@page-\ltx@one
6501     \def\HyPL@page{%
6502       \csname the\Hy@SlidesPage\endcsname
6503       \HyPL@SlidesOptionalPage
6504     }%
6505   }%
6506 }{}%

```

`\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.

```

6507 \def\HyPL@EveryPage{%
6508   \begingroup
6509   \ifx\HyPL@thisLabel\relax
6510     \let\HyPL@page\thepage
6511     \HyPL@SlidesSetPage
6512   \else
6513     \let\HyPL@page\HyPL@thisLabel
6514     \global\let\HyPL@thisLabel\relax
6515   \fi
6516   \let\HyPL@Type\relax
6517   \ifnum\c@page>0 %
6518     \ifx\HyPL@SlidesSetPage\ltx@empty
6519       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6520     \fi
6521   \fi
6522   \let\Hy@temp Y%
6523   \ifx\HyPL@Type\HyPL@LastType
6524     \else
6525       \let\Hy@temp N%
6526     \fi
6527   \ifx\HyPL@Type\relax
6528     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6529   \else
6530     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6531   \fi
6532   \ifx\HyPL@Prefix\HyPL@LastPrefix
6533     \else
6534       \let\Hy@temp N%
6535     \fi
6536   \if Y\Hy@temp
6537     \advance\c@page by -1 %
6538     \ifnum\HyPL@LastNumber=\the\c@page\relax
6539     \else
6540       \let\Hy@temp N%
6541     \fi
6542     \Hy@StepCount\c@page

```

```

6543 \fi
6544 \if N\Hy@temp
6545 \ifx\HyPL@Type\relax
6546 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6547 \else
6548 \HyPL@StorePageLabel{%
6549 \ifx\HyPL@Prefix\@empty
6550 \else
6551 /P(\HyPL@Prefix)%
6552 \fi
6553 /S/\csname HyPL\HyPL@Type\endcsname
6554 \ifnum\the\c@page=1 %
6555 \else
6556 \space/St \the\c@page
6557 \fi
6558 }%
6559 \fi
6560 \fi
6561 \xdef\HyPL@LastNumber{\the\c@page}%
6562 \global\let\HyPL@LastType\HyPL@Type
6563 \global\let\HyPL@LastPrefix\HyPL@Prefix
6564 \endgroup
6565 \Hy@GlobalStepCount\Hy@abspage
6566 }%

```

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

```

6567 \def\HyPL@CheckThePage#1\@nil{%
6568 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6569 }%

```

`\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`.

```

6570 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6571 \def\Hy@tempa{#4}%
6572 \def\Hy@tempb{\csname\endcsname\c@page}%
6573 \ifx\Hy@tempa\Hy@tempb
6574 \expandafter\ifx\csname HyPL#3\endcsname\relax
6575 \else
6576 \def\HyPL@Type{#3}%
6577 \def\HyPL@Prefix{#2}%
6578 \fi
6579 \else
6580 \begingroup
6581 \let\Hy@next\endgroup
6582 \let\HyPL@found\@undefined
6583 \def\arabic{\HyPL@Format{arabic}}%
6584 \def\Roman{\HyPL@Format{Roman}}%
6585 \def\roman{\HyPL@Format{roman}}%
6586 \def\Alph{\HyPL@Format{Alph}}%
6587 \def\alph{\HyPL@Format{alph}}%
6588 \protected@edef\Hy@temp{#1}%
6589 \ifx\HyPL@found\relax
6590 \toks@{\expandafter\Hy@temp}%
6591 \edef\Hy@next{\endgroup

```



```

6592         \noexpand\HyPL@@@CheckThePage\the\toks@
6593         \noexpand\HyPL@found\relax\noexpand\@nil
6594     }%
6595     \fi
6596     \Hy@next
6597     \fi
6598 }%

```

**\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**.

```

6599 \def\HyPL@Format#1#2{%
6600     \ifx\HyPL@found\@undefined
6601         \expandafter\ifx\csname c@#2\endcsname\c@page
6602             \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6603         \else
6604             \expandafter\noexpand\csname#1\endcsname{#2}%
6605         \fi
6606     \else
6607         \expandafter\noexpand\csname#1\endcsname{#2}%
6608     \fi
6609 }%

```

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

```

6610 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6611     \def\Hy@tempa{#3}%
6612     \def\Hy@tempb{\HyPL@found\relax}%
6613     \ifx\Hy@tempa\Hy@tempb
6614         \def\HyPL@Type{#2}%
6615         \def\HyPL@Prefix{#1}%
6616     \fi
6617 }%

```

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

```

6618 \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**.

```

6619 \def\HyPL@Useless{0<</S/D>>}%
6620 \@onelevel@sanitize\HyPL@Useless

```

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

```

6621 \def\HyPL@SetPageLabels{%
6622     \@onelevel@sanitize\HyPL@Labels
6623     \ifx\HyPL@Labels\@empty
6624     \else
6625         \ifx\HyPL@Labels\HyPL@Useless
6626         \else
6627             \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6628         \fi
6629     \fi
6630 }%

```

```

6631 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6632 \fi

```

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

```

6633 \Hy@DisableOption{pdfpagelabels}
6634 \</package>

```

### 28.1.1 pdfTeX and VTeX

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

`\Hy@PutCatalog`

```

6635 \< *pdftex>
6636 \pdf@ifdraftmode{%
6637 \let\Hy@PutCatalog\ltx@gobble
6638 }{%
6639 \let\Hy@PutCatalog\pdfcatalog
6640 }
6641 \< /pdftex>

```

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.

```

6642 \< *vtex>
6643 \providecommand*\XR@ext}{pdf}
6644 \edef\Hy@VTeXversion{%
6645 \ifx\VTeXversion\@undefined
6646 \z@
6647 \else
6648 \ifx\VTeXversion\relax
6649 \z@
6650 \else
6651 \VTeXversion
6652 \fi
6653 \fi
6654 }
6655 \begingroup
6656 \ifnum\Hy@VTeXversion<660 %
6657 \gdef\Hy@PutCatalog#1{%
6658 \Hy@WarningNoLine{%
6659 VTeX 6.59g or above required for pdfpagelabels%
6660 }%
6661 }%
6662 \else
6663 \gdef\Hy@PutCatalog#1{%
6664 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6665 }%
6666 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6667 \ifx\#2\%
6668 \else
6669 \immediate\special{!pdfpagelabels #2}%
6670 \fi
6671 }%
6672 \fi

```

```

6673 \endgroup
6674 \</vtx>

6675 \<*pdftex | vtx>

```

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

```

6676 \ifHy@pdfpagelabels
6677   \def\HyPL@StorePageLabel#1{%
6678     \toks@{\expandafter{\HyPL@Labels}}%
6679     \xdef\HyPL@Labels{%
6680       \the\toks@
6681       \the\Hy@abspage<<#1>>%
6682     }%
6683   }%

```

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

```

6684 \RequirePackage{atveryend}[2009/12/07]%
6685 \AtVeryEndDocument{%
6686   \HyPL@SetPageLabels
6687 }%

6688 \fi
6689 \</pdftex | vtx>

```

### 28.1.2 xetex

```

6690 \<*xetex>
6691 \HyPsd@LoadUnicode
6692 \Hy@unicodetrue
6693 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6694 \else
6695   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6696 \fi
6697 \HyPsd@LoadStringEnc
6698 \define@key{Hyp}{unicode}[true]{%
6699   \Hy@boolkey{unicode}{#1}%
6700   \ifHy@unicode
6701   \else
6702     \Hy@Warning{%
6703       XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6704       option setting 'unicode=false'%
6705     }%
6706   \Hy@unicodetrue
6707 \fi
6708 }
6709 \define@key{Hyp}{pdfencoding}{%
6710   \edef\HyPsd@temp{#1}%
6711   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6712     \let\HyPsd@pdfencoding\HyPsd@temp
6713   \else
6714     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6715       \let\HyPsd@pdfencoding\HyPsd@temp
6716     \else
6717       \Hy@Warning{%
6718         XeTeX driver only supports\MessageBreak
6719         'pdfencoding=unicode|auto'. Ignoring option\MessageBreak

```

```

6720     setting 'pdfencoding=\HyPsd@temp'%
6721   }%
6722   \fi
6723 \fi
6724 }
6725 \let\HyXeTeX@CheckUnicode\relax
6726 \</xetex>

```

### 28.1.3 pdfmarkbase, dvipdfm, xetex

```

6727 \<*pdfmarkbase>
6728 \begingroup
6729   \@ifundefined{headerps@out}{-}{%
6730     \toks@\expandafter{\Hy@FirstPageHook}%
6731     \xdef\Hy@FirstPageHook{%
6732       \noexpand\headerps@out{%
6733         systemdict /pdfmark known%
6734         {%
6735           userdict /?pdfmark systemdict /exec get put%
6736         }{%
6737           userdict /?pdfmark systemdict /pop get put %
6738           userdict /pdfmark systemdict /cleartomark get put%
6739         }%
6740         ifelse%
6741       }%
6742     \the\toks@
6743   }%
6744 }%
6745 \endgroup
6746 \</pdfmarkbase>

```

\Hy@PutCatalog

```

6747 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
6748 \<*pdfmarkbase>
6749 \def\Hy@PutCatalog#1{%
6750   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
6751 }
6752 \</pdfmarkbase>

6753 \<*pdfmarkbase | dvipdfm | xetex>
6754 \ifHy@pdfpagelabels

```

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

```

6755 \def\HyPL@StorePageLabel#1{%
6756   \if@filesw
6757     \begingroup
6758       \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6759       \immediate\write\@mainaux{%
6760         \string\HyPL@Entry{\Hy@tempa}%
6761       }%
6762     \endgroup
6763   \fi
6764 }%

```

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.

```

6765 \Hy@AtBeginDocument{%

```

```

6766 \if@filesw
6767 \immediate\write\@mainaux{%
6768 \string\providecommand\string*\string\HyPL@Entry[1]{}%
6769 }%
6770 \fi
6771 \ifx\HyPL@Labels\@empty
6772 \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6773 \else
6774 \HyPL@SetPageLabels
6775 \fi
6776 \let\HyPL@Entry\@gobble
6777 }%

```

\HyPL@Entry

```

6778 \def\HyPL@Entry#1{%
6779 \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6780 \HyPL@Labels
6781 #1%
6782 }%
6783 }%

6784 \fi
6785 </pdfmarkbase | dvipdfm | xetex>
6786 <*package>

6787 \ifx\MaybeStopEarly\relax
6788 \else
6789 \Hy@stoppedearlytrue
6790 \expandafter\MaybeStopEarly
6791 \fi
6792 \Hy@stoppedearlyfalse

```

## 29 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 it’s 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

```

6793 \def\Hy@CounterExists#1{%
6794 \begingroup\expandafter\expandafter\expandafter\endgroup
6795 \expandafter\ifx\csname c@#1\endcsname\relax

```

```

6796 \expandafter\@gobble
6797 \else
6798 \begingroup\expandafter\expandafter\expandafter\endgroup
6799 \expandafter\ifx\csname the#1\endcsname\relax
6800 \expandafter\expandafter\expandafter\@gobble
6801 \else
6802 \expandafter\expandafter\expandafter\@firstofone
6803 \fi
6804 \fi
6805 }
6806 \Hy@CounterExists{section}{%
6807 \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6808 }
6809 \Hy@CounterExists{part}{%
6810 \providecommand\theHpart{\arabic{part}}}%
6811 }
6812 \ltx@ifundefined{thechapter}{%
6813 \providecommand\theHsection {\arabic{section}}}%
6814 \providecommand\theHfigure {\arabic{figure}}}%
6815 \providecommand\theHtable {\arabic{table}}}%
6816 }{%
6817 \providecommand\theHchapter {\arabic{chapter}}}%
6818 \providecommand\theHfigure {\theHchapter.\arabic{figure}}}%
6819 \providecommand\theHtable {\theHchapter.\arabic{table}}}%
6820 \providecommand\theHsection {\theHchapter.\arabic{section}}}%
6821 }
6822 \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
6823 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6824 \providecommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
6825 \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6826 \providecommand\theHtheorem {\theHsection.\arabic{theorem}}
6827 \providecommand\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.

```

6828 \let\H@item\item
6829 \newcounter{Item}
6830 \def\theHItem{\arabic{Item}}
6831 \def\item{%
6832 \@hyper@itemfalse
6833 \if@nmbbrlist\@hyper@itemtrue\fi
6834 \H@item
6835 }
6836 \providecommand\theHenumi {\theHItem}
6837 \providecommand\theHenumii {\theHItem}
6838 \providecommand\theHenumiii {\theHItem}
6839 \providecommand\theHenumiv {\theHItem}
6840 \providecommand\theHHfootnote {\arabic{Hfootnote}}
6841 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6842 \@ifundefined{theHHmpfootnote}{%
6843 \let\theHHmpfootnote\theHHfootnote
6844 }{}

```

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.

```
6845 \let\H@refstepcounter\refstepcounter
6846 \edef\name@of@eq{equation}%
6847 \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.

```
6848 \newif\if@hyper@item
6849 \newif\if@skiphyperref
6850 \@hyper@itemfalse
6851 \@skiphyperreffalse
6852 \def\refstepcounter#1{%
6853   \ifHy@pdfstring
6854   \else
6855     \H@refstepcounter{#1}%
6856     \edef\This@name{#1}%
6857     \ifx\This@name\name@of@slide
6858     \else
6859       \if@skiphyperref
6860       \else
6861         \if@hyper@item
6862         \stepcounter{Item}%
6863         \hyper@refstepcounter{Item}%
6864         \@hyper@itemfalse
6865       \else
6866         \hyper@refstepcounter{#1}%
6867       \fi
6868     \fi
6869   \fi
6870 \fi
6871 }
6872 \let\Hy@saved@refstepcounter\refstepcounter
```

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

```
6873 \@ifpackageloaded{amsmath}{-}{\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

```
6874 \def\hyper@refstepcounter#1{%
6875   \edef\This@name{#1}%
6876   \ifx\This@name\name@of@eq
6877   \@ifundefined{theHequation}{%
6878     \make@stripped@name{\theequation}%
6879     \let\theHequation\newname
6880   }{}%
6881   \fi
6882   \HyCnt@ProvideTheHCounter{#1}%
6883   \hyper@makecurrent{#1}%
6884   \ifmeasuring@
6885   \else
6886     \Hy@raisedlink{%
6887       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6888     }%
6889   \fi
6890 }
```

`\Hy@ProvideTheHCounter` `\theH<counter>` is not set for counters that are defined before ‘hyperref’ is loaded. In `\cl@@ckpt`, the clear counter list of the artificial counter `@ckpt`, L<sup>A</sup>T<sub>E</sub>X remembers the defined counters (needed for `\include`). We check the clear counter lists, whether our counter is present. If we found it, then we add the parent counter value to `\theH<counter>`. The `\@elt` list is used in sanitized form for the comparison, because the list might contain other stuff than `\@elts`. Also it simplifies the implementation, because L<sup>A</sup>T<sub>E</sub>X’, substring search `\in@` can be used.

```

6891 \def\HyCnt@ProvideTheHCounter#1{%
6892   \@ifundefined{theH#1}{%
6893     \expandafter\def\csname theH#1\endcsname{%
6894       \def\Hy@temp{\@elt{#1}}%
6895       \ltx@onelevel@sanitize\Hy@temp
6896       \edef\@elt{%
6897         \noexpand\HyCnt@LookForParentCounter
6898         \expandafter\noexpand\csname theH#1\endcsname
6899       }%
6900       \cl@@ckpt
6901       \expandafter
6902       \ltx@LocalAppendToMacro\csname theH#1\expandafter\endcsname
6903       \expandafter{%
6904         \expandafter\@arabic\csname c@#1\endcsname
6905       }%
6906     }%
6907 }

```

`\Hy@LookForParentCounter`

```

6908 \def\HyCnt@LookForParentCounter#1#2{%
6909   \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
6910   \ltx@ifundefined{cl@#2}{%
6911     }{%
6912       \ltx@onelevel@sanitize\Hy@temp@A
6913       \edef\Hy@temp@A{%
6914         \noexpand\in@{\Hy@temp}{\Hy@temp@A}%
6915       }\Hy@temp@A
6916       \fin@
6917       \expandafter\ltx@LocalAppendToMacro\expandafter#1%
6918       \expandafter{%
6919         \expandafter\@arabic\csname c@#2\endcsname.%
6920       }%
6921       \fi
6922     }%
6923 }

```

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`.

```

6924 \begingroup\expandafter\expandafter\expandafter\endgroup
6925 \expandafter\ifx\csname chapter\endcsname\relax
6926   \def\Hy@chapterstring{section}%
6927 \else
6928   \def\Hy@chapterstring{chapter}%
6929 \fi
6930 \def\Hy@appendixstring{appendix}

```



```

6931 \def\Hy@chapapp{\Hy@chapterstring}
6932 \ltx@ifundefined{appendix}{%
6933 }{%
6934   \let\HyOrg@appendix\appendix
6935   \def\Hy@AlphNoErr#1{%
6936     \ifnum\value{#1}>26 %
6937       Alph\number\value{#1}%
6938     \else
6939       \ifnum\value{#1}<1 %
6940         Alph\number\value{#1}%
6941       \else
6942         \Alph{#1}%
6943       \fi
6944     \fi
6945   }%
6946   \def\appendix{%
6947     \ltx@ifundefined{chapter}{%
6948       \gdef\theHsection{\Hy@AlphNoErr{section}}}%
6949     }{%
6950       \gdef\theHchapter{\Hy@AlphNoErr{chapter}}}%
6951     }%
6952     \xdef\Hy@chapapp{\Hy@appendixstring}%
6953     \HyOrg@appendix
6954   }%
6955 }

```

\Hy@Test@alph

```

6956 \def\Hy@Test@alph#1{%
6957   \ifcase#1\or
6958     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6959     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
6960     u\or v\or w\or x\or y\or z%
6961   \else
6962     \@ctrerr
6963   \fi
6964 }

```

\Hy@Test@Alph

```

6965 \def\Hy@Test@Alph#1{%
6966   \ifcase#1\or
6967     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6968     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6969     U\or V\or W\or X\or Y\or Z%
6970   \else
6971     \@ctrerr
6972   \fi
6973 }

```

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

```

6974 \def\hyper@makecurrent#1{%
6975   \begingroup
6976   \edef\Hy@param{#1}%
6977   \ifx\Hy@param\Hy@chapterstring
6978     \let\Hy@param\Hy@chapapp
6979   \fi
6980   \ifHy@hypertextnames

```

```

6981 \let\@number\@firstofone
6982 \def\@fnsymbol##1{fnsymbol\number##1}%
6983 \def\@arabic##1{\number##1}%
6984 \ifx\@alph\Hy@Test@alph
6985 \else
6986 \def\@alph{alph\number}%
6987 \fi
6988 \ifx\@Alph\Hy@Test@Alph
6989 \else
6990 \def\@Alph{Alph\number}%
6991 \fi
6992 \ifHy@naturalnames
6993 \let\textlatin\@firstofone
6994 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
6995 \else
6996 \xdef\HyperGlobalCurrentHref{%
6997 \csname
6998 the%
6999 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7000 #1%
7001 \endcsname
7002 }%
7003 \fi
7004 \xdef\HyperGlobalCurrentHref{%
7005 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7006 }%
7007 \else
7008 \Hy@GlobalStepCount\Hy@linkcounter
7009 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7010 \fi
7011 \endgroup
7012 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7013 \ifHy@localanchorname
7014 \let\@currentHref\HyperLocalCurrentHref
7015 \else
7016 \global\let\@currentHref\HyperGlobalCurrentHref
7017 \fi
7018 }

```

\Hy@MakeCurrentHref

```

7019 \def\Hy@MakeCurrentHref#1{%
7020 \edef\HyperLocalCurrentHref{#1}%
7021 \@onelevel@sanitize\HyperLocalCurrentHref
7022 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
7023 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7024 \ifHy@localanchorname
7025 \let\@currentHref\HyperLocalCurrentHref
7026 \else
7027 \global\let\@currentHref\HyperGlobalCurrentHref
7028 \fi
7029 }

```

\Hy@MakeCurrentHrefAuto

```

7030 \def\Hy@MakeCurrentHrefAuto#1{%
7031 \Hy@GlobalStepCount\Hy@linkcounter
7032 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
7033 }

```

```

\@currentHlabel \@currentHlabel is only defined for compatibility with package ‘hypdvips’.
7034 \def\@currentHlabel{\@currentHref}

7035 \@ifpackageloaded{fancyvrb}{%
7036   \@ifpackagelater{fancyvrb}{1998/05/20}{}%
7037   \def\FV@StepLineNo{%
7038     \FV@SetLineNo
7039     \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
7040     \FV@StepLineNo
7041   }%
7042 }%
7043 }{}

```

## 30 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. 39). The link will not work if option pageanchor is set to false.

```

\lastpage@putlabel

7044 \Hy@AtBeginDocument{%
7045   \@ifclassloaded{revtex4}{%
7046     \@namedef{ver@lastpage.sty}{1994/06/25}%
7047   }{}%
7048   \@ifpackageloaded{lastpage}{%
7049     \ifHy@pageanchor
7050     \else
7051       \Hy@WarningNoLine{%
7052         The \string\pageref{LastPage} link doesn't work\MessageBreak
7053         with disabled option ‘pageanchor’%
7054       }%
7055     \fi
7056     \def\lastpage@putlabel{%
7057       \addtocounter{page}{-1}%
7058       \if@filesw
7059         \begingroup
7060         \let\@number\@firstofone
7061         \ifHy@pageanchor
7062           \ifHy@hypertexnames
7063             \ifHy@plainpages
7064               \def\Hy@temp{\arabic{page}}%
7065             \else
7066               \Hy@unicodedefalse
7067               \pdfstringdef\Hy@temp{\thepage}%
7068             \fi
7069           \else
7070             \def\Hy@temp{\the\Hy@pagecounter}%
7071           \fi
7072         \fi
7073         \immediate\write\@auxout{%
7074           \string\newlabel
7075           {LastPage}{\the\Hy@temp}%

```

```

7076         \ifHy@pageanchor page.\Hy@temp\fi}{}}%
7077     }%
7078     \endgroup
7079     \fi
7080     \addtocounter{page}{1}%
7081 }%
7082 \@ifclassloaded{revtex4}{%
7083     \begingroup
7084     \toks@{\expandafter{\lastpage@putlabel}}%
7085     \edef\x{\endgroup
7086         \def\noexpand\lastpage@putlabel{%
7087             \noexpand\stepcounter{page}%
7088             \the\toks@
7089             \noexpand\addtocounter{page}\noexpand\m@ne
7090         }%
7091     }%
7092     \x
7093 }{}%
7094 }{}%
7095 }
7096 \</package>
7097 \< *check>
7098 \checkpackage{lastpage}[1994/06/25]
7099 \checkcommand\def\lastpage@putlabel{%
7100     \addtocounter{page}{-1}%
7101     \immediate\write\@auxout{%
7102         \string\newlabel{LastPage}{{}{\thepage}}}%
7103     }%
7104     \addtocounter{page}{1}%
7105 }
7106 \</check>
7107 \< *package>

```

## 31 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.

```

7108 \def\hypergetref#1{\getrefbykeydefault{#1}{}}{??}}
7109 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

## 32 Package titlesec and titletoc support

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

Package titlesec support:

```

7110 \@ifpackageloaded{titlesec}{%
7111     \def\ttl@Hy@steplink#1{%
7112         \Hy@MakeCurrentHrefAuto{#1*}%
7113         \edef\ttl@Hy@saveanchor{%
7114             \noexpand\Hy@raisedlink{%
7115                 \noexpand\hyper@anchorstart{\@currentHref}%
7116                 \noexpand\hyper@anchorend
7117                 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7118                 \noexpand\ttl@Hy@PatchSaveWrite
7119             }%

```

```

7120 }%
7121 }%
7122 \def\ttl@Hy@PatchSaveWrite{%
7123   \begingroup
7124   \toks@{\expandafter{\ttl@savewrite}}%
7125   \edef\x{\endgroup
7126     \def\noexpand\ttl@savewrite{%
7127       \let\noexpand\@currentHref
7128       \noexpand\ttl@Hy@SavedCurrentHref
7129       \the\toks@
7130     }%
7131   }%
7132   \x
7133 }%
7134 \def\ttl@Hy@refstepcounter#1{%
7135   \let\ttl@b\Hy@raisedlink
7136   \def\Hy@raisedlink##1{%
7137     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7138   }%
7139   \refstepcounter{#1}%
7140   \let\Hy@raisedlink\ttl@b
7141 }%
7142 }{}

Package titletoc support:
7143 \@ifpackageloaded{titletoc}{%
7144   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
7145 }{}

```

### 33 Package varioref support

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

```

7146 \def\Hy@varioref@undefined{???}{??}{-}{-}{-}
7147 \@ifpackageloaded{varioref}{%
7148   \def\vref@pagenum#1#2{%
7149     \@ifundefined{r@#2}{%
7150       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7151     }{}%
7152     \edef#1{\getpagerefnumber{#2}}%
7153   }%
7154 }{}

```

Package varioref redefines `\refstepcounter`, thus it needs fixing, if the package is loaded *after* `hyperref`.

```

7155 \def\Hy@varioref@refstepcounter#1{%
7156   \stepcounter{#1}%
7157   \protected@edef\@currentlabel{%
7158     \csname p@#1\endcsname\expandafter\endcsname\csname the#1\endcsname
7159   }%
7160 }
7161 \AtBeginDocument{%
7162   \ifx\refstepcounter\Hy@varioref@refstepcounter
7163     \let\H@refstepcounter\refstepcounter
7164     \let\refstepcounter\Hy@saved@refstepcounter
7165   \fi
7166 }

```

## 34 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

```

7167 \ifpackageloaded{longtable}{%
7168   \begingroup
7169   \def\y{\LT@array}%
7170   \@ifundefined{scr@LT@array}{%
7171     \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}{%
7172     }\def\y{\scr@LT@array}}%
7173   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7174     \expandafter\endgroup
7175     \expandafter\def\y[##1]##2{%
7176       \H@refstepcounter{#1}%
7177       \hyper@makecurrent{table}%
7178       \let\Hy@LT@currentHref\@currentHref
7179       #2\@sharp###4%
7180     }%
7181   }%
7182   \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

7183 \begingroup
7184 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7185   \endgroup
7186   \def\LT@start{%
7187     #1%
7188     \ifvoid\LT@foot#2\fi
7189     \let\@currentHref\Hy@LT@currentHref
7190     \Hy@raisedlink{%
7191       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7192     }%
7193     #3%
7194   }%
7195 }%
7196 \expandafter\x\LT@start\@nil
7197 }%

```

## 35 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 42). 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.

```

7198 \let\new@refstepcounter\refstepcounter
7199 \let\H@equation\equation
7200 \let\H@endequation\endequation
7201 \@ifpackageloaded{amsmath}{%
7202   \long\def\Hy@temp{%
7203     \incr@eqnum
7204     \mathdisplay@push

```

```

7205 \st@rredfalse \global\@eqnswtrue
7206 \mathdisplay{equation}%
7207 }%
7208 \ifx\Hy@temp\equation
7209 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
7210 \csname iftrue\endcsname
7211 \else
7212 \long\def\equation{%
7213 \mathdisplay@push
7214 \st@rredfalse \global\@eqnswtrue
7215 \mathdisplay{equation}%
7216 \incr@eqnum
7217 }%
7218 \fi
7219 \fi
7220 }{%
7221 \def\equation{%
7222 \let\refstepcounter\H@refstepcounter
7223 \H@equation
7224 \@ifundefined{theHequation}{%
7225 \make@stripped@name{\theequation}%
7226 \let\theHequation\newname
7227 }{}%
7228 \hyper@makecurrent{equation}%

```

`\mathopen` is needed in case the equation starts with an unary minus, for example.

```

7229 \mathopen{%
7230 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
7231 }%
7232 \let\refstepcounter\new@refstepcounter
7233 }%
7234 \def\endequation{%
7235 \ifx\Hy@raisedlink\ltx@empty
7236 \hyper@anchorend
7237 \else
7238 \mathclose{\Hy@raisedlink{\hyper@anchorend}}}%
7239 \fi
7240 \H@endequation
7241 }%
7242 }

```

My goodness, why can't L<sup>A</sup>T<sub>E</sub>X be consistent? Why is `\eqnarray` set up differently from other objects?

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

```

7243 \newif\if@eqnstar
7244 \@eqnstarfalse
7245 \let\H@eqnarray\eqnarray
7246 \let\H@endeqnarray\endeqnarray
7247 \def\eqnarray{%
7248 \let\Hy@reserved@a\relax
7249 \def\@currentHref{}%
7250 \H@eqnarray
7251 \if@eqnstar
7252 \else
7253 \ifx\\\@currentHref\\%
7254 \else

```

```

7255 \ifundefined{theHequation}{%
7256 \make@stripped@name{\theequation}%
7257 \let\theHequation\newname
7258 }{}%
7259 \hyper@makecurrent{equation}%
7260 \mathopen{%
7261 \Hy@raisedlink{%
7262 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7263 }%
7264 }%
7265 \fi
7266 \fi
7267 }
7268 \def\endeqnarray{%
7269 \H@endeqnarray
7270 }

```

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.

```

7271 \namedef{eqnarray*}{%
7272 \def\@eqnocr{\nonumber\@seqnocr}\@eqnstartrue\eqnarray
7273 }
7274 \namedef{endeqnarray*}{%
7275 \nonumber\endeqnarray\@eqnstarfalse
7276 }

```

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

```

7277 \ltx@ifundefined{subeqnarray}{}{%
7278 \let\H@subeqnarray\subeqnarray
7279 \let\H@endsubeqnarray\endsubeqnarray
7280 \def\subeqnarray{%
7281 \let\Hy@reserved@a\relax
7282 \H@subeqnarray
7283 \@ifundefined{theHequation}{%
7284 \make@stripped@name{\theequation}%
7285 \let\theHequation\newname
7286 }{}%
7287 \hyper@makecurrent{equation}%
7288 \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
7289 }%
7290 \def\endsubeqnarray{%
7291 \H@endsubeqnarray
7292 }%
7293 \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7294 }

```

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

```

7295 \def\make@stripped@name#1{%
7296 \begingroup
7297 \escapechar\m@ne
7298 \global\let\newname\@empty
7299 \protected@edef\Hy@tempa{#1}%
7300 \edef\@tempb{%
7301 \noexpand\@tfor\noexpand\Hy@tempa:=%
7302 \expandafter\strip@prefix\meaning\Hy@tempa

```



```

7303 }%
7304 \@tempb\do{%
7305   \if{\Hy@tempa\else
7306     \if{\Hy@tempa\else
7307       \xdef\newname{\newname\Hy@tempa}%
7308     \fi
7309   \fi
7310 }%
7311 \endgroup
7312 }

```

Support for amsmath's subequations:

```

7313 \begingroup\expandafter\expandafter\expandafter\endgroup
7314 \expandafter\ifx\csname subequations\endcsname\relax
7315 \else
7316   \let\HyOrg@subequations\subequations
7317   \def\subequations{%
7318     \stepcounter{equation}%
7319     \protected@edef\theHparentequation{%
7320       \ifundefined{theHequation}\theequation\theHequation
7321     }%
7322     \addtocounter{equation}{-1}%
7323     \HyOrg@subequations
7324     \def\theHequation{\theHparentequation\alph{equation}}%
7325     \ignorespaces
7326   }%
7327 \fi

```

Support for package amsthm (Daniel Müllner):

```

7328 \@ifpackageloaded{amsthm}{%

```

Class amsbook uses a different definition of \@thm, where two lines are added (thanks to Dan Luecking for his analysis):

```

\let\thm@indent\indent % indent
\thm@headfont{\scshape}% heading font small caps

7329 \def\Hy@temp#1#2#3{%
7330   \ifhmode\unskip\unskip\par\fi
7331   \normalfont
7332   \trivlist
7333   \let\thmheadnl\relax
7334   \let\thm@swap\@gobble
7335   \let\thm@indent\indent % indent
7336   \thm@headfont{\scshape}% heading font small caps
7337   \thm@notefont{\fontseries\mddefault\upshape}%
7338   \thm@headpunct{.}% add period after heading
7339   \thm@headsep 5\p@ plus\p@ minus\p@\relax
7340   \thm@space@setup
7341   #1% style overrides
7342   \@topsep \thm@preskip % used by thm head
7343   \@topsepadd \thm@postskip % used by \@endparenv
7344   \def\@tempa{#2}\ifx\@empty\@tempa
7345     \def\@tempa{\@oparg{\@begintheorem{#3}{}}{}}%
7346   \else
7347     \refstepcounter{#2}%
7348     \def\@tempa{%
7349       \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}}%
7350     }%
7351   \fi

```

```

7352 \@tempa
7353 }%
7354 \ifx\Hy@temp\@thm
7355 \def\@thm#1#2#3{%
7356 \ifhmode
7357 \unskip\unskip\par
7358 \fi
7359 \normalfont
7360 \trivlist
7361 \let\thmheadnl\relax
7362 \let\thm@swap\@gobble
7363 \let\thm@indent\indent % indent
7364 \thm@headfont{\scshape}% heading font small caps
7365 \thm@notefont{\fontseries\mddefault\upshape}%
7366 \thm@headpunct{.}% add period after heading
7367 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7368 \thm@space@setup
7369 #1% style overrides
7370 \@topsep \thm@preskip % used by thm head
7371 \@topsepadd \thm@postskip % used by \@endparenv
7372 \def\dth@counter{#2}%
7373 \ifx\@empty\dth@counter
7374 \def\@tempa{%
7375 \@oparg{\@begintheorem{#3}{}}{}%
7376 }%
7377 \else
7378 \H@refstepcounter{#2}%
7379 \hyper@makecurrent{#2}%
7380 \let\Hy@dth@currentHref\@currentHref
7381 \def\@tempa{%
7382 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7383 }%
7384 \fi
7385 \@tempa
7386 }%
7387 \else
7388 \def\@thm#1#2#3{%
7389 \ifhmode
7390 \unskip\unskip\par
7391 \fi
7392 \normalfont
7393 \trivlist
7394 \let\thmheadnl\relax
7395 \let\thm@swap\@gobble
7396 \thm@notefont{\fontseries\mddefault\upshape}%
7397 \thm@headpunct{.}% add period after heading
7398 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7399 \thm@space@setup
7400 #1% style overrides
7401 \@topsep \thm@preskip % used by thm head
7402 \@topsepadd \thm@postskip % used by \@endparenv
7403 \def\dth@counter{#2}%
7404 \ifx\@empty\dth@counter
7405 \def\@tempa{%
7406 \@oparg{\@begintheorem{#3}{}}{}%
7407 }%
7408 \else

```

```

7409 \H@refstepcounter{#2}%
7410 \hyper@makecurrent{#2}%
7411 \let\Hy@dth@currentHref\@currentHref
7412 \def\@tempa{%
7413 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7414 }%
7415 \fi
7416 \@tempa
7417 }%
7418 \fi
7419 \dth@everypar={%
7420 \@minipagefalse
7421 \global\@newlistfalse
7422 \@noparitemfalse
7423 \if@inlabel
7424 \global\@inlabelfalse
7425 \begingroup
7426 \setbox\z@\lastbox
7427 \ifvoid\z@
7428 \kern-\itemindent
7429 \fi
7430 \endgroup
7431 \ifx\@empty\dth@counter
7432 \else
7433 \Hy@raisedlink{%
7434 \hyper@anchorstart{%
7435 \ltx@ifundefined{Hy@dth@currentHref}%
7436 \@currentHref\Hy@dth@currentHref
7437 }\hyper@anchorend
7438 }%
7439 \fi
7440 \unhbox\@labels
7441 \fi
7442 \if@nobreak
7443 \@nobreakfalse \clubpenalty\@M
7444 \else
7445 \clubpenalty\@clubpenalty \everypar{}%
7446 \fi
7447 }%
7448 }{}

```

## 36 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.

```

7449 \ifHy@hyperfootnotes
7450 \newcounter{Hfootnote}%
7451 \let\H@@footnotetext\@footnotetext
7452 \let\H@@footnotemark\@footnotemark
7453 \def\@xfootnotenext[#1]{%
7454 \begingroup
7455 \csname c@\@mpfn\endcsname #1\relax
7456 \unrestored@protected@xdef\@thefnmark{\thempfn}%

```

```

7457 \endgroup
7458 \ifx\@footnotetext\@mpfootnotetext
7459 \expandafter\H@@mpfootnotetext
7460 \else
7461 \expandafter\H@@footnotetext
7462 \fi
7463 }%
7464 \def\@xfootnotemark[#1]{%
7465 \begingroup
7466 \c@footnote #1\relax
7467 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7468 \endgroup
7469 \H@@footnotemark
7470 }%
7471 \let\H@@mpfootnotetext\@mpfootnotetext
7472 \long\def\@mpfootnotetext#1{%
7473 \H@@mpfootnotetext{%
7474 \ifHy@nesting
7475 \expandafter\ltx@firstoftwo
7476 \else
7477 \expandafter\ltx@secondoftwo
7478 \fi
7479 {%
7480 \expandafter\hyper@@anchor\expandafter{%
7481 \Hy@footnote@currentHref
7482 }{#1}%
7483 }{%
7484 \Hy@raisedlink{%
7485 \expandafter\hyper@@anchor\expandafter{%
7486 \Hy@footnote@currentHref
7487 }{\relax}%
7488 }#1%
7489 }%
7490 }%
7491 }%
7492 \long\def\@footnotetext#1{%
7493 \H@@footnotetext{%
7494 \ifHy@nesting
7495 \expandafter\ltx@firstoftwo
7496 \else
7497 \expandafter\ltx@secondoftwo
7498 \fi
7499 {%
7500 \expandafter\hyper@@anchor\expandafter{%
7501 \Hy@footnote@currentHref
7502 }{#1}%
7503 }{%
7504 \Hy@raisedlink{%
7505 \expandafter\hyper@@anchor\expandafter{%
7506 \Hy@footnote@currentHref
7507 }{\relax}%
7508 }%
7509 \let\@currentHref\Hy@footnote@currentHref
7510 \let\@currentlabelname\@empty
7511 #1%
7512 }%
7513 }%

```

```
7514 }%
```

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.

```
7515 \def\@footnotemark{%
7516   \leavevmode
7517   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
7518   \stepcounter{Hfootnote}%
7519   \global\let\Hy@saved@currentHref\@currentHref
7520   \hyper@makecurrent{Hfootnote}%
7521   \global\let\Hy@footnote@currentHref\@currentHref
7522   \global\let\@currentHref\Hy@saved@currentHref
7523   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7524   \@makefnmark
7525   \hyper@linkend
7526   \ifhmode\spacefactor\x@sf\fi
7527   \relax
7528 }%
```

Tabularx causes footnote problems, disable the linking if that is loaded. Since v6.82i footnotes are only disabled inside the environment ‘`tabularx`’.

```
7529 \@ifpackageloaded{tabularx}{%
7530   \let\HyOrg@TX@endtabularx\TX@endtabularx
7531   \def\Hy@tabularx@hook{%
7532     \let\@footnotetext\H@@footnotetext
7533     \let\@footnotemark\H@@footnotemark
7534     \let\@mpfootnotetext\H@@mpfootnotetext
7535   }%
7536   \begingroup
7537     \toks@\expandafter{\TX@endtabularx}%
7538     \xdef\Hy@gtemp{%
7539       \noexpand\Hy@tabularx@hook
7540       \the\toks@
7541     }%
7542   \endgroup
7543   \let\TX@endtabularx\Hy@gtemp
7544 }{ }%
```

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

```
7545 \@ifpackageloaded{longtable}{%
7546   \CheckCommand*{\LT@p@ftntext}[1]{%
7547     \edef\@tempa{%
7548       \the\LT@p@ftn
7549       \noexpand\footnotetext[\the\c@footnote]%
7550     }%
7551     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7552   }%
7553   \long\def\LT@p@ftntext#1{%
7554     \edef\@tempa{%
7555       \the\LT@p@ftn
7556     }%
7557     \begingroup
7558       \noexpand\c@footnote=\the\c@footnote\relax
```

```

7558     \noexpand\protected@xdef\noexpand\@thefnmark{%
7559     \noexpand\thempfn
7560     }%
7561     \noexpand\Hy@LT@footnotetext{%
7562     \Hy@footnote@currentHref
7563     }%
7564     }%
7565     \global\LT@p@ftn\expandafter{%
7566     \@tempa{#1}%
7567     \endgroup
7568     }%
7569     }%
7570     \long\def\Hy@LT@footnotetext#1#2{%
7571     \H@@@footnotetext{%
7572     \ifHy@nesting
7573     \hyper@@@anchor{#1}{#2}%
7574     \else
7575     \Hy@raisedlink{%
7576     \hyper@@@anchor{#1}{\relax}%
7577     }%
7578     \def\@currentHref{#1}%
7579     \let\@currentlabelname\@empty
7580     #2%
7581     \fi
7582     }%
7583     }%
7584     }{}%

```

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

```

7585     \ifpackageloaded{fancyvrb}{%
7586     \def\V@@@footnotetext{%
7587     \insert\footins\bgroup
7588     \csname reset@font\endcsname
7589     \footnotesize
7590     \interlinepenalty\interfootnotelinepenalty
7591     \splittopskip\footnotesep
7592     \splitmaxdepth\dp\strutbox
7593     \floatingpenalty \@MM
7594     \hsize\columnwidth
7595     \@parboxrestore
7596     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7597     \@makefntext{}%
7598     \rule{\z@}{\footnotesep}%
7599     \bgroup
7600     \aftergroup\V@@@footnotetext
7601     \Hy@raisedlink{%
7602     \expandafter\hyper@@@anchor\expandafter{%
7603     \Hy@footnote@currentHref
7604     }{\relax}%
7605     }%
7606     \let\@currentHref\Hy@footnote@currentHref
7607     \let\@currentlabelname\@empty
7608     \ignorespaces
7609     }%
7610     }{}%

```

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

```

7611 \def\Hy@temp#1{%
7612   \begingroup
7613   \unrestored@protected@xdef\@thefnmark{\ref{#1}}}%
7614   \endgroup
7615   \@footnotemark
7616 }%
7617 \ifx\Hy@temp\footref
7618   \def\footref#1{%
7619     \begingroup
7620     \unrestored@protected@xdef\@thefnmark{\ref{#1}}}%
7621     \endgroup
7622     \H@@@footnotemark
7623   }%
7624 \fi

```

But the special footnotes in `\maketitle` are much too hard to deal with properly. Let them revert to plain behaviour. The koma classes add an optional argument.

```

7625 \let\HyOrg@maketitle\maketitle
7626 \def\maketitle{%
7627   \let\Hy@saved@footnotemark\@footnotemark
7628   \let\Hy@saved@footnotetext\@footnotetext
7629   \let\@footnotemark\H@@@footnotemark
7630   \let\@footnotetext\H@@@footnotetext
7631   \@ifnextchar[\Hy@maketitle@optarg{% ]
7632     \HyOrg@maketitle
7633     \Hy@maketitle@end
7634   }%
7635 }%
7636 \def\Hy@maketitle@optarg[#1]{%
7637   \HyOrg@maketitle[{#1}]%
7638   \Hy@maketitle@end
7639 }%
7640 \def\Hy@maketitle@end{%
7641   \ifx\@footnotemark\H@@@footnotemark
7642     \let\@footnotemark\Hy@saved@footnotemark
7643   \fi
7644   \ifx\@footnotetext\H@@@footnotetext
7645     \let\@footnotetext\Hy@saved@footnotetext
7646   \fi
7647 }%

```

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

```

7648 \def\realfootnote{%
7649   \@ifnextchar[\@xfootnote{%
7650     \stepcounter{\@mpfn}%
7651     \protected@xdef\@thefnmark{\thempfn}%
7652     \H@@@footnotemark\H@@@footnotetext
7653   }%
7654 }%
7655 \fi
7656 \Hy@DisableOption{hyperfootnotes}
7657 \</package>
7658 \< *check>
7659 \checklatex
7660 \checkcommand\def\@xfootnotenext[#1]{%

```

```

7661 \begingroup
7662 \csname c@\@mpfn\endcsname #1\relax
7663 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7664 \endgroup
7665 \@footnotetext
7666 }
7667 \checkcommand\def\@xfootnotemark[#1]{%
7668 \begingroup
7669 \c@footnote #1\relax
7670 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7671 \endgroup
7672 \@footnotemark
7673 }
7674 \checkcommand\def\@footnotemark{%
7675 \leavevmode
7676 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7677 \@makefnmark
7678 \ifhmode\spacefactor\@x@sf\fi
7679 \relax
7680 }
7681 </check>
7682 <*package>

```

## 37 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.

```

7683 \def\caption{%
7684 \ifx\@capytype\@undefined
7685 \latex@error{\noexpand\caption outside float}\@ehd
7686 \expandafter\@gobble
7687 \else
7688 \H@refstepcounter\@capytype
7689 \let\Hy@tempa\@caption
7690 \@ifundefined{float@caption}{%
7691 }{%
7692 \expandafter\ifx\csname @float@c@\@capytype\endcsname
7693 \float@caption
7694 \let\Hy@tempa\Hy@float@caption
7695 \fi
7696 }%
7697 \expandafter\@firstofone
7698 \fi
7699 {\@dblarg{\Hy@tempa\@capytype}}%
7700 }
7701 \long\def\@caption#1[#2]#3{%
7702 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7703 \csname iftrue\endcsname
7704 \global\let\@currentHref\hc@currentHref
7705 \else
7706 \hyper@makecurrent{\@capytype}%
7707 \fi
7708 \@ifundefined{NR@getttitle}{%
7709 \def\@currentlabelname{#2}%
7710 }{%
7711 \NR@getttitle{#2}%

```



```

7712 }%
7713 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7714 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7715 }%
7716 \begingroup
7717 \parboxrestore
7718 \if@minipage
7719 \setminipage
7720 \fi
7721 \normalsize
7722 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7723 \csname iftrue\endcsname
7724 \global\@capstartfalse
7725 \makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7726 \else
7727 \makecaption{\csname fnum@#1\endcsname}{%
7728 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7729 \ifHy@nesting
7730 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7731 \else
7732 \Hy@raisedlink{%
7733 \expandafter\hyper@@anchor\expandafter{%
7734 \@currentHref
7735 }{\relax}%
7736 }%
7737 #3%
7738 \fi
7739 }%
7740 \fi
7741 \par
7742 \endgroup
7743 }

```

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.

`\HyNew@float@makebox` is introduced as feature request of Axel Sommerfeldt to make the life easier for his package ‘caption’.

```

7744 \let\Hy@float@caption\@caption
7745 \newcommand{\HyNew@float@makebox}[1]{%
7746 \HyOrg@float@makebox{%
7747 #1\relax
7748 \ifx\Hy@float@currentHref\@undefined
7749 \else
7750 \expandafter\hyper@@anchor\expandafter{%
7751 \Hy@float@currentHref
7752 }{\relax}%
7753 \global\let\Hy@float@currentHref\@undefined
7754 \fi
7755 }%
7756 }%
7757 \ifpackageloaded{float}{%
7758 \def\Hy@float@caption{%
7759 \ifx\Hy@float@currentHref\@undefined
7760 \hyper@makecurrent{\@cuptype}%
7761 \global\let\Hy@float@currentHref\@currentHref

```

```

7762 \else
7763 \let\@currentHref\Hy@float@currentHref
7764 \fi
7765 \float@caption
7766 }%
7767 \let\HyOrg@float@makebox\float@makebox
7768 \let\float@makebox\HyNew@float@makebox
7769 }{}

7770 \</package>
7771 \< *check>
7772 \checklatex[1999/06/01 - 2000/06/01]
7773 \checkcommand\def\caption{%
7774 \ifx\@capttype\@undefined
7775 \< @latex@error{\noexpand\caption outside float}\@ehd
7776 \expandafter\@gobble
7777 \else
7778 \refstepcounter\@capttype
7779 \expandafter\@firstofone
7780 \fi
7781 {\@dblarg{\@caption\@capttype}}}%
7782 }
7783 \checkcommand\long\def\@caption#1[#2]#3{%
7784 \par
7785 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7786 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7787 }%
7788 \begingroup
7789 \< @parboxrestore
7790 \if@minipage
7791 \< @setminipage
7792 \fi
7793 \normalsize
7794 \< @makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7795 \endgroup
7796 }
7797 \< /check>
7798 \< *package>

```

## 38 Bibliographic references

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

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

```

7799 \def\hyper@natlinkstart#1{%
7800 \Hy@backout{#1}%
7801 \hyper@linkstart{cite}{cite.#1}%
7802 \def\hyper@nat@current{#1}%
7803 }
7804 \def\hyper@natlinkend{%
7805 \hyper@linkend

```

```

7806 }
7807 \def\hyper@natlinkbreak#1#2{%
7808   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7809 }
7810 \def\hyper@natanchorstart#1{%
7811   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7812 }
7813 \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.

```

7814 \ltx@ifundefined{NAT@parse}{%
7815   \providecommand*\@extra@binfo{}%
7816   \providecommand*\@extra@b@citeb{}%
7817   \def\bibcite#1#2{%
7818     \@newl@bel{b}{#1\@extra@binfo}{%
7819       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7820     }%
7821   }%
7822   \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.”.

```

7823 \let\Hy@bibcite\bibcite
7824 \begingroup
7825   \@ifundefined{bbl@cite@choice}{}{%
7826     \g@addto@macro\bbl@cite@choice{%
7827       \let\bibcite\Hy@bibcite
7828     }%
7829   }%
7830 \endgroup

```

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

```

7831 \providecommand*\@BIBLABEL{\@biblabel}%
7832 \def\@bibitem[#1]#2{%
7833   \@skiphyperreftrue
7834   \H@item[%
7835     \ifx\Hy@raisedlink\@empty
7836       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7837       \@BIBLABEL{#1}%
7838       \hyper@anchorend
7839     \else
7840       \Hy@raisedlink{%
7841         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7842       }%
7843     \@BIBLABEL{#1}%
7844     \fi
7845     \hfill
7846   ]%
7847   \@skiphyperreffalse
7848   \if@filesw
7849     \begingroup
7850       \let\protect\noexpand
7851       \immediate\write\@auxout{%
7852         \string\bibcite{#2}{#1}%
7853       }%

```

```

7854 \endgroup
7855 \fi
7856 \ignorespaces
7857 }%

```

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

```

7858 \def\@bibitem#1{%
7859 \@skiphyperreftrue\H@item\@skiphyperreffalse
7860 \Hy@raisedlink{%
7861 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7862 }%
7863 \if@filesw
7864 \begingroup
7865 \let\protect\noexpand
7866 \immediate\write\@auxout{%
7867 \string\bibcite{#1}{\the\value{\@listctr}}}%
7868 }%
7869 \endgroup
7870 \fi
7871 \ignorespaces
7872 }%
7873 }{}

7874 \</package>
7875 \< *check>
7876 \checklatex
7877 \checkcommand\def\@lbibitem[#1]#2{%
7878 \item[\@biblabel{#1}\hfill]%
7879 \if@filesw
7880 {%
7881 \let\protect\noexpand
7882 \immediate\write\@auxout{%
7883 \string\bibcite{#2}{#1}%
7884 }%
7885 }%
7886 \fi
7887 \ignorespaces
7888 }
7889 \checkcommand\def\@bibitem#1{%
7890 \item
7891 \if@filesw
7892 \immediate\write\@auxout{%
7893 \string\bibcite{#1}{\the\value{\@listctr}}}%
7894 }%
7895 \fi
7896 \ignorespaces
7897 }
7898 \</check>
7899 \< *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.

```

7900 \ifclassloaded{revtex}{%
7901 \Hy@Info{*** compatibility with revtex **** }%
7902 \def\revtex@checking#1#2{%
7903 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname

```

```

7904 \expandafter\def\csname b@#1\endcsname{#2}%
7905 \SetMaxRnhefLabel{#1}%
7906 \expandafter\let\csname b@#1\endcsname\T@temp
7907 }%

```

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

```

7908 \ifundefined{@CITE}{\def\CITE{\@cite}}}%
7909 \providecommand*\@extra@b@citeb{}%
7910 \def\CITEX[#1]#2{%
7911 \let\@citea\@empty
7912 \leavevmode
7913 \unskip
7914 $~{%
7915 \scriptstyle
7916 \@CITE{%
7917 \@for\@citeb:=#2\do{%
7918 \@citea
7919 \def\@citea{,\penalty\@m\ }%
7920 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7921 \if@filesw
7922 \immediate\write\@auxout{\string\citation{\@citeb}}%
7923 \fi
7924 \ifundefined{b@\@citeb\extra@b@citeb}{%
7925 \mbox{\reset@font\bfseries ?}%
7926 \G@refundefinedtrue
7927 \@latex@warning{%
7928 Citation '\@citeb' on page \thepage \space undefined%
7929 }%
7930 }{%
7931 {\csname b@\@citeb\@extra@b@citeb\endcsname}%
7932 }%
7933 }%
7934 }{#1}%
7935 }$%
7936 }%

```

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.

```

7937 \def\citex[#1]#2{%
7938 \let\@citea\@empty
7939 \@cite{%
7940 \@for\@citeb:=#2\do{%
7941 \@citea
7942 \def\@citea{,\penalty\@m\ }%
7943 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7944 \if@filesw
7945 \immediate\write\@auxout{\string\citation{\@citeb}}%
7946 \fi
7947 \ifundefined{b@\@citeb\@extra@b@citeb}{%
7948 \mbox{\reset@font\bfseries ?}%
7949 \G@refundefinedtrue
7950 \@latex@warning{%
7951 Citation '\@citeb' on page \thepage \space undefined%
7952 }%
7953 }{%
7954 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
7955 }%

```

```

7956 }%
7957 }{#1}%
7958 }%
7959 }{}

```

## 38.1 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.

```

7960 \@ifpackageloaded{harvard}{%
7961   \Hy@AtBeginDocument{%
7962     \Hy@Info{*** compatibility with harvard **** }%
7963     \Hy@raiselinksfalse
7964     \def\harvardcite#1#2#3#4{%
7965       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{}{cite.#1}{#2}}%
7966       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{}{cite.#1}{#3}}%
7967       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{}{cite.#1}{#4}}%
7968       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7969     }%
7970     \def\HAR@citetoaux#1{%
7971       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7972       \ifHy@backref
7973         \ifx\@empty\@currentlabel
7974           \else
7975             \@bsphack
7976             \if@filesw
7977               \protected@write\@auxout{}{%
7978                 \string\writefile{brf}{%
7979                   \string\backcite{#1}{%
7980                     {thepage}{\@currentlabel}{\@currentHref}%
7981                   }%
7982                 }%
7983               }%
7984             \fi
7985             \@esphack
7986           \fi
7987         \fi
7988       }%
7989       \def\harvarditem{%
7990         \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
7991       }%
7992       \def\@harvarditem[#1]#2#3#4#5\par{%
7993         \item[]%
7994         \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7995         \if@filesw
7996           \begingroup
7997             \def\protect##1{\string ##1\space}%
7998             \ifthenelse{\equal{#1}{\null}}{%
7999               {\def\next{{#4}{#2}{#3}}}%
8000             {\def\next{{#4}{#2}{#1}{#3}}}%
8001             \immediate\write\@auxout{\string\harvardcite\codeof\next}%

```

```

8002 \endgroup
8003 \fi
8004 \protect\hspace*{-\labelwidth}%
8005 \protect\hspace*{-\labelsep}%
8006 \ignorespaces
8007 #5%
8008 \ifHy@backref
8009 \newblock
8010 \backref{\csname br@#4\endcsname}%
8011 \fi
8012 \par
8013 }%

```

\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:

```

8014 \long\def\HAR@checkcitations#1#2#3#4{%
8015 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
8016 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
8017 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
8018 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
8019 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
8020 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
8021 \else
8022 \@tempswatrue
8023 \fi
8024 \else
8025 \@tempswatrue
8026 \fi
8027 \else
8028 \@tempswatrue
8029 \fi
8030 }%
8031 }%

8032 }{}

```

## 38.2 Package chicago

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

```

8033 \@ifpackageloaded{chicago}{%

```

\citeN

```

8034 \def\citeN{%
8035 \def\@citesep{-1000}%
8036 \def\@cite##1##2{##1}%
8037 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
8038 \@citedata@opt
8039 }%

```

\shortciteN

```

8040 \def\shortciteN{%
8041 \def\@citesep{-1000}%
8042 \def\@cite##1##2{##1}%
8043 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
8044 \@citedata@opt
8045 }%

```

\@citedata@opt

```
8046 \def\@citedata@opt{%
8047   \let\@cite@opt\@empty
8048   \@ifnextchar [{%
8049     \@tempswatrue
8050     \@citedatax@opt
8051   }{%
8052     \@tempswafalse
8053     \@citedatax[]%
8054   }%
8055 }%
```

\@citedatax@opt

```
8056 \def\@citedatax@opt[#1]{%
8057   \def\@cite@opt{, #1}%
8058   \@citedatax[{#1}]%
8059 }%

8060 {}%
```

## 39 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.

```
8061 \ltx@ifclassloaded{slides}{%
8062   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
8063   \def\Hy@PageAnchorSlidesPlain{%
8064     \advance\c@page\ltx@one
8065     \edef\Hy@TempPageAnchor{%
8066       \noexpand\hyper@%
8067       \the\c@slide.\the\c@overlay.\the\c@note%
8068       \ifnum\c@page=\ltx@one
8069         \else
8070         .\the\c@page
8071       \fi
8072     }%
8073   }%
8074   \advance\c@page-\ltx@one
8075 }%
8076 \def\Hy@PageAnchorSlide{%
8077   \advance\c@page\ltx@one
8078   \ifnum\c@page>\ltx@one
8079     \ltx@ifundefined{theHpage}{%
8080       \protected@edef\Hy@TheSlideOptionalPage{%
8081         \Hy@SlidesFormatOptionalPage{theHpage}%
8082       }%
8083     }{%
8084       \protected@edef\Hy@TheSlideOptionalPage{%
8085         \Hy@SlidesFormatOptionalPage{theHpage}%
8086       }%
8087     }%
8088   \else
```



```

8089 \def\Hy@TheSlideOptionalPage{}%
8090 \fi
8091 \advance\c@page-\ltx@one
8092 \pdfstringdef\@the@H@page{%
8093 \csname
8094 the%
8095 \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
8096 \Hy@SlidesPage
8097 \endcsname
8098 \Hy@TheSlideOptionalPage
8099 }%
8100 \ltx@gobblethree
8101 }%
8102 \def\Hy@SlidesPage{slide}%
8103 \g@addto@macro\slide{%
8104 \def\Hy@SlidesPage{slide}%
8105 }%
8106 \g@addto@macro\overlay{%
8107 \def\Hy@SlidesPage{overlay}%
8108 }%
8109 \g@addto@macro\note{%
8110 \def\Hy@SlidesPage{note}%
8111 }%
8112 }{%
8113 \def\Hy@PageAnchorSlidesPlain{}%
8114 \def\Hy@PageAnchorSlide{}%
8115 }
8116 \def\Hy@EveryPageAnchor{%
8117 \Hy@DistillerDestFix
8118 \ifHy@pageanchor
8119 \ifHy@hypertexnames
8120 \ifHy@plainpages
8121 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
8122 \Hy@PageAnchorSlidesPlain
8123 \else
8124 \begingroup
8125 \let\@number\@firstofone
8126 \Hy@unicodefalse
8127 \Hy@PageAnchorSlide
8128 \pdfstringdef\@the@H@page{\thepage}%
8129 \endgroup
8130 \EdefUnescapeString\@the@H@page{\@the@H@page}%
8131 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
8132 \fi
8133 \else
8134 \Hy@GlobalStepCount\Hy@pagecounter
8135 \def\Hy@TempPageAnchor{%
8136 \hyper@@anchor{page.\the\Hy@pagecounter}%
8137 }%
8138 \fi
8139 \vbox to 0pt{%
8140 \kern\voffset
8141 \kern\topmargin
8142 \kern-1bp\relax
8143 \hbox to 0pt{%
8144 \kern\hoffset
8145 \kern\ifodd\value{page}%

```

```

8146         \oddsidemargin
8147         \else
8148         \evensidemargin
8149     \fi
8150     \kern-1bp\relax
8151     \Hy@TempPageAnchor\relax
8152     \hss
8153 }%
8154 \vss
8155 }%
8156 \fi
8157 }
8158 \g@addto@macro\Hy@EveryPageBoxHook{%
8159   \Hy@EveryPageAnchor
8160 }

```

## 40 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.

```

8161 \def\addcontentsline#1#2#3{% toc extension, type, tag
8162   \begingroup
8163   \let\label\@gobble
8164   \ifx\@currentHref\@empty
8165     \Hy@Warning{%
8166       No destination for bookmark of \string\addcontentsline,%
8167       \MessageBreak destination is added%
8168     }%
8169     \phantomsection
8170   \fi
8171   \expandafter\ifx\csname toplevel@#2\endcsname\relax
8172     \begingroup
8173     \def\Hy@tempa{#1}%
8174     \ifx\Hy@tempa\Hy@bookmarkstype
8175       \Hy@WarningNoLine{%
8176         bookmark level for unknown #2 defaults to 0%
8177       }%
8178     \else
8179       \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8180     \fi
8181   \endgroup
8182   \expandafter\gdef\csname toplevel@#2\endcsname{0}%
8183   \fi
8184   \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
8185   \Hy@writebookmark{\csname the#2\endcsname}%
8186     {#3}%
8187     {\@currentHref}%
8188     {\Hy@toplevel}%
8189     {#1}%
8190   \ifHy@verbose
8191     \begingroup
8192     \def\Hy@tempa{#3}%
8193     \@onelevel@sanitize\Hy@tempa
8194     \let\temp@online\on@line
8195     \let\on@line\@empty

```

```

8196 \Hy@Info{%
8197 bookmark\temp@online:\MessageBreak
8198 thecounter {\csname the#2\endcsname}\MessageBreak
8199 text {\Hy@tempa}\MessageBreak
8200 reference {\@currentHref}\MessageBreak
8201 toplevel {\Hy@toclevel}\MessageBreak
8202 type {#1}%
8203 }%
8204 \endgroup
8205 \fi
8206 \addtocontents{#1}{%
8207 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
8208 }%
8209 \endgroup
8210 }
8211 \def\contentsline#1#2#3#4{%
8212 \ifx\#4\%
8213 \csname l@#1\endcsname{#2}{#3}%
8214 \else
8215 \ifcase\Hy@linktoc % none
8216 \csname l@#1\endcsname{#2}{#3}%
8217 \or % section
8218 \csname l@#1\endcsname{%
8219 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
8220 }{#3}%
8221 \or % page
8222 \csname l@#1\endcsname{{#2}}{%
8223 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
8224 }%
8225 \else % all
8226 \csname l@#1\endcsname{%
8227 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
8228 }{%
8229 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
8230 }%
8231 \fi
8232 \fi
8233 }
8234 \</package>
8235 \< *check>
8236 \checklatex
8237 \checkcommand\def\addcontentsline#1#2#3{%
8238 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
8239 }
8240 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8241 \</check>
8242 \< *package>

```

## 41 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.

```

8243 \let\H@definecounter\@definecounter
8244 \def\@definecounter#1{%
8245 \H@definecounter{#1}%
8246 \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%

```

```
8247 }
```

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.

```
8248 \let\H@newctr\@newctr
8249 \def\@newctr#1[#2]{%
8250   \H@newctr#1[#2]}%
8251 \expandafter\gdef\csname theH#1\endcsname{%
8252   \csname the\@ifundefined{theH#2}{H}#2\endcsname.\arabic{#1}%
8253 }%
8254 }
```

## 42 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.

```
8255 \@ifpackageloaded{amsmath}{%
8256   \def\Hy@make@anchor{%
8257     \Hy@MakeCurrentHrefAuto{AMS}%
8258     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8259   }%
8260   \def\Hy@make@df@tag@@#1{%
8261     \gdef\df@tag{%
8262       \maketag@@@{\Hy@make@anchor#1}%
8263       \def\@currentlabel{#1}%
8264     }%
8265   }%
8266   \def\Hy@make@df@tag@@@#1{%
8267     \gdef\df@tag{%
8268       \tagform@{\Hy@make@anchor#1}%
8269       \toks@{\xp{p@equation{#1}}}%
8270       \edef\@currentlabel{\the\toks@}%
8271     }%
8272   }%
8273   \let\HyOrg@make@df@tag@@\make@df@tag@@
8274   \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
8275   \let\make@df@tag@@\Hy@make@df@tag@@
8276   \let\make@df@tag@@@ \Hy@make@df@tag@@@
8277 }{}
```

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

```
8278 \@ifpackagewith{hyperref}{pdftex}{%
8279   \let\H@seteqlabel\@seteqlabel
8280   \def\@seteqlabel#1{%
8281     \H@seteqlabel{#1}%
8282     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
8283     \Hy@raisedlink{%
8284       \hyper@anchorstart{\@currentHref}\hyper@anchorend
8285     }%
8286   }%
8287 }
```

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}}}
```

## 42.1 \@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.

```
8288 \let\HyOrg@addtoreset\@addtoreset
8289 \def\@addtoreset#1#2{%
8290   \HyOrg@addtoreset{#1}{#2}%
8291   \expandafter\xdef\csname theH#1\endcsname{%
8292     \expandafter\noexpand
8293       \csname the\@ifundefined{theH#2}{H#2}\endcsname
8294     .\noexpand\the\noexpand\value{#1}%
8295   }%
8296 }
```

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

```
8297 \</package>
8298 \*check>
8299 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8300 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8301   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8302     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8303       \@addtoreset{#2}{#3}%
8304       \@xp\xdef\csname the#2\endcsname{%
8305         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8306       }%
8307     }%
8308   }%
8309 }%
8310 \</check>
8311 \*package>
8312 \@ifpackageloaded{amsmath}{%
8313   \@ifpackagelater{amsmath}[1999/12/14]{%
8314     \renewcommand*\numberwithin[3][\arabic]{%
8315       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8316         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8317           \HyOrg@addtoreset{#2}{#3}%
8318           \@xp\xdef\csname the#2\endcsname{%
8319             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8320           }%
8321           \@xp\xdef\csname theH#2\endcsname{%
8322             \@xp\@nx
8323               \csname the\@ifundefined{theH#3}{H#3}\endcsname
8324             .\@nx#1{#2}%
8325           }%
8326         }%
8327       }%
8328     }%
8329   }%
8330 }
```

```

8326     }%
8327     }%
8328     }%
8329   }{%
8330     \Hy@WarningNoLine{%
8331       \string\numberwithin\space of package ‘amsmath’ %
8332       only fixed\MessageBreak
8333       for version 2000/06/06 v2.12 or newer%
8334     }%
8335   }%
8336 }{}

```

## 43 Included figures

Simply intercept the low level graphics package macro.

```

8337 \ifHy@hyperfigures
8338 \let\Hy@Gin@setfile\Gin@setfile
8339 \def\Gin@setfile#1#2#3{%
8340   \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8341 }%
8342 \fi
8343 \Hy@DisableOption{hyperfigures}

```

## 44 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.

```

8344 \ifHy@hyperindex
8345 \def\HyInd@ParenLeft{({}%
8346 \def\HyInd@ParenRight{)}}%
8347 \def\hyperindexformat#1#2{%
8348   \let\HyOrg@hyperpage\hyperpage
8349   \let\hyperpage\@firstofone
8350   #1{\HyOrg@hyperpage{#2}}%
8351   \let\hyperpage\HyOrg@hyperpage
8352 }%
8353 \Hy@nextfalse
8354 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8355 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8356 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8357 \begingroup
8358   \lccode‘\|=\expandafter‘\HyInd@EncapChar\relax
8359   \lccode‘\/=‘\\\relax
8360 \lowercase{\endgroup
8361 \ifHy@next
8362   \let\HyInd@org@wrindex\@wrindex
8363   \def\@wrindex#1#2{\HyInd@@wrindex{#1}{#2}||}%

```

```

8364 \def\HyInd@@wrindex#1#2|#3|#4\\{%
8365 \ifx\\#3\\%
8366 \HyInd@org@wrindex{#1}{#2|hyperpage}%
8367 \else
8368 \HyInd@@@wrindex{#1}{#2}#3\\%
8369 \fi
8370 }%
8371 \def\HyInd@@@wrindex#1#2#3#4\\{%
8372 \def\Hy@temp@A{#3}%
8373 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8374 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8375 \relax
8376 \HyInd@org@wrindex{#1}{%
8377 #2|hyperindexformat{/#3#4}%
8378 }%
8379 \else
8380 \ifx\\#4\\%
8381 \ifx\Hy@temp@A\HyInd@ParenRight
8382 \HyInd@org@wrindex{#1}{#2|#3}%
8383 \else
8384 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8385 \fi
8386 \else
8387 \HyInd@org@wrindex{#1}{%
8388 #2|#3hyperindexformat{/#4}%
8389 }%
8390 \fi
8391 \fi
8392 }%
8393 \else
8394 \def\@wrindex#1{\@wrindex#1||\}%
8395 \def\@wrindex#1|#2|#3\\{%
8396 \if@filesw
8397 \ifx\\#2\\%
8398 \protected@write\@indexfile{}{%
8399 \string\indexentry{#1|hyperpage}{\thepage}%
8400 }%
8401 \else
8402 \HyInd@@@wrindex{#1}#2\\%
8403 \fi
8404 \fi
8405 \endgroup
8406 \@esphack
8407 }%
8408 \def\HyInd@@@wrindex#1#2#3\\{%
8409 \def\Hy@temp@A{#2}%
8410 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8411 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8412 \relax
8413 \protected@write\@indexfile{}{%
8414 \string\indexentry{%
8415 #1|hyperindexformat{/#2#3}%
8416 }{\thepage}%
8417 }%
8418 \else
8419 \ifx\\#3\\%
8420 \ifx\Hy@temp@A\HyInd@ParenRight

```

```

8421         \protected@write\@indexfile{}\{%
8422         \string\indexentry{#1|#2}{\thepage}%
8423         }%
8424     \else
8425         \protected@write\@indexfile{}\{%
8426         \string\indexentry{#1|#2hyperpage}{\thepage}%
8427         }%
8428     \fi
8429 \else
8430     \protected@write\@indexfile{}\{%
8431     \string\indexentry{%
8432     #1|#2hyperindexformat{/#3}%
8433     }{\thepage}%
8434     }%
8435     \fi
8436 \fi
8437 }%
8438 \fi
8439 }%
8440 \fi
8441 \Hy@DisableOption{hyperindex}
8442 \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.

```

8443 \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.

```

8444 \def\hyperpage#1{%
8445   \HyInd@hyperpage#1\nohyperpage{}\@nil
8446 }
8447 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8448   \HyInd@@hyperpage{#1}%
8449   #2%
8450   \def\Hy@temp{#3}%
8451   \ifx\Hy@temp\@empty
8452   \else
8453     \ltx@ReturnAfterFi{%
8454       \HyInd@hyperpage#3\@nil
8455     }%
8456   \fi
8457 }
8458 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8459 \def\@hyperpage#1--#2--#3\{%
8460   \ifx\#2\%
8461     \@commahyperpage{#1}%
8462   \else
8463     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8464   \fi
8465 }
8466 \def\@commahyperpage#1{\@commahyperpage#1, \}
8467 \def\@commahyperpage#1, #2,#3\{%
8468   \ifx\#2\%
8469     \HyInd@pagelink{#1}%
8470   \else
8471     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%

```



```

8472 \fi
8473 }

```

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

```

8474 \def\HyInd@pagelink#1{%
8475   \begingroup
8476   \toks@={}%
8477   \HyInd@removespaces#1 \@nil
8478   \endgroup
8479 }
8480 \def\HyInd@removespaces#1 #2\@nil{%
8481   \toks@=\expandafter{\the\toks@#1}%
8482   \ifx\#2\%
8483     \edef\x{\the\toks@}%
8484     \ifx\x\@empty
8485       \else
8486         \hyperlink{page.\the\toks@}{\the\toks@}%
8487       \fi
8488     \else
8489       \ltx@ReturnAfterFi{%
8490         \HyInd@removespaces#2\@nil
8491       }%
8492     \fi
8493 }

```

## 45 Compatibility with foiltex

```

8494 \@ifclassloaded{foils}{%
8495   \providecommand*\ext@table{lot}%
8496   \providecommand*\ext@figure{lof}%
8497 }{}

```

## 46 Compatibility with seminar slide package

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

```

8498 \@ifclassloaded{seminar}{%
8499   \Hy@seminarslidestrue
8500   \providecommand\theHslide{\arabic{slide}}%
8501 }{%
8502   \Hy@seminarslidesfalse
8503 }
8504 \@ifpackageloaded{slidesec}{%
8505   \providecommand\theHslidesection {\arabic{slidesection}}%
8506   \providecommand\theHslidesubsection{%
8507     \theHslidesection.\arabic{slidesubsection}}%
8508   }%
8509   \def\slide@heading[#1]#2{%
8510     \H@refstepcounter{slidesection}%
8511     \@addtoreset{slidesubsection}{slidesection}%
8512     \addtocontents{los}{%
8513       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
8514       {\@SCTR}{slideheading.\theslidesection}}%
8515     }%
8516   \def\Hy@tempa{#2}%

```

```

8517 \ifx\Hy@tempa\@empty
8518 \else
8519 {%
8520 \edef\@currentlabel{%
8521 \csname p@slidesection\endcsname\theslidesection
8522 }%
8523 \makeslideheading{#2}%
8524 }%
8525 \fi
8526 \gdef\theslideheading{#1}%
8527 \gdef\theslidesubheading{}%
8528 \ifHy@bookmarksnumbered
8529 \def\Hy@slidetitle{\theslidesection\space #1}%
8530 \else
8531 \def\Hy@slidetitle{#1}%
8532 \fi
8533 \ifHy@hypertextnames
8534 \ifHy@naturalnames
8535 \hyper@@anchor{slideheading.\theslidesection}{\relax}%
8536 \Hy@writebookmark
8537 {\theslidesection}%
8538 {\Hy@slidetitle}%
8539 {slideheading.\theslidesection}%
8540 {1}%
8541 {toc}%
8542 \else
8543 \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8544 \Hy@writebookmark
8545 {\theslidesection}%
8546 {\Hy@slidetitle}%
8547 {slideheading.\theHslidesection}%
8548 {1}%
8549 {toc}%
8550 \fi
8551 \else
8552 \Hy@GlobalStepCount\Hy@linkcounter
8553 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8554 \Hy@writebookmark
8555 {\theslidesection}%
8556 {\Hy@slidetitle}%
8557 {slideheading.\the\Hy@linkcounter}%
8558 {1}%
8559 {toc}%
8560 \fi
8561 }%
8562 \def\slide@subheading[#1]#2{%
8563 \H@refstepcounter{slidesubsection}%
8564 \addtocontents{los}{%
8565 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8566 {\@SCTR}{slideheading.\theslidesubsection}%
8567 }%
8568 \def\Hy@tempa{#2}%
8569 \ifx\Hy@tempa\@empty
8570 \else
8571 {%
8572 \edef\@currentlabel{%
8573 \csname p@slidesubsection\endcsname\theslidesubsection

```

```

8574     }%
8575     \makeslidesubheading{#2}%
8576     }%
8577 \fi
8578 \gdef\theslidesubheading{#1}%
8579 \ifHy@bookmarksnumbered
8580     \def\Hy@slidetitle{\theslidesubsection\space #1}%
8581 \else
8582     \def\Hy@slidetitle{#1}%
8583 \fi
8584 \ifHy@hypertextnames
8585     \ifHy@naturalnames
8586         \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8587         \Hy@writebookmark
8588             {\theslidesubsection}%
8589             {\Hy@slidetitle}%
8590             {slideheading.\theslidesubsection}%
8591             {2}%
8592             {toc}%
8593     \else
8594         \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8595         \Hy@writebookmark
8596             {\theslidesubsection}%
8597             {\Hy@slidetitle}%
8598             {slideheading.\theHslidesubsection}%
8599             {2}%
8600             {toc}%
8601     \fi
8602 \else
8603     \Hy@GlobalStepCount\Hy@linkcounter
8604     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8605     \Hy@writebookmark
8606         {\theslidesubsection}%
8607         {\Hy@slidetitle}%
8608         {slideheading.\the\Hy@linkcounter}%
8609         {1}%
8610         {toc}%
8611 \fi
8612 }%
8613 \providecommand*\listslidenamename{List of Slides}%
8614 \def\listofslides{%
8615     \section*{%
8616         \listslidenamename
8617         \@mkboth{%
8618             \expandafter\MakeUppercase\listslidenamename
8619         }{%
8620             \expandafter\MakeUppercase\listslidenamename
8621         }%
8622     }%
8623     \def\l@slide##1##2##3##4{%
8624         \slide@undottedcline{%
8625             \slidenumberline{##3}{\hyperlink{##4}{##2}}%
8626         }{%
8627         }%
8628     \let\l@subslide\l@slide
8629     \@startlos
8630 }%

```

```

8631 \def\slide@contents{%
8632   \def\l@slide##1##2##3##4{%
8633     \slide@cline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8634   }%
8635   \let\l@subslide\@gobblefour
8636   \@startlos
8637 }%
8638 \def\Slide@contents{%
8639   \def\l@slide##1##2##3##4{%
8640     \ifcase\lslide@flag
8641       \message{##1 ** \the\c@slidesection}%
8642       \ifnum##1>\c@slidesection
8643         \def\lslide@flag{1}%
8644         {%
8645           \large
8646           \slide@cline{%
8647             \slidenumberline{$\Rightarrow\bullet$}%
8648             {\hyperlink{##4}{##2}}%
8649           }{##3}%
8650         }%
8651       \else
8652         {%
8653           \large
8654           \slide@cline{%
8655             \slidenumberline{$\surd\;\bullet$}%
8656             {\hyperlink{##4}{##2}}%
8657           }{##3}%
8658         }%
8659       \fi
8660     \or
8661     \def\lslide@flag{2}%
8662     {%
8663       \large
8664       \slide@cline{%
8665         \slidenumberline{$\bullet$}%
8666         {\hyperlink{##4}{##2}}%
8667       }{##3}%
8668     }%
8669     \or
8670     {%
8671       \large
8672       \slide@cline{%
8673         \slidenumberline{$\bullet$}%
8674         {\hyperlink{##4}{##2}}%
8675       }{##3}%
8676     }%
8677     \fi
8678   }%
8679   \def\l@subslide##1##2##3##4{%
8680     \ifnum\lslide@flag=1 %
8681       \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
8682     \fi
8683   }%
8684   \def\lslide@flag{0}%
8685   \@startlos
8686 }%
8687 }{}

```

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.)

```

8688 \ifHy@texht
8689   \expandafter\endinput
8690 \fi
8691 \let\real@setref\@setref
8692 \def\@setref#1#2#3{% csname, extract group, refname
8693   \ifx#1\relax
8694     \protect\G@refundefinedtrue
8695     \nfss@text{\reset@font\bfseries ??}%
8696     \@latex@warning{%
8697       Reference ‘#3’ on page \thepage \space undefined%
8698     }%
8699   \else
8700     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8701   \fi
8702 }
```

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

```

8703 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8704   \begingroup
8705   \toks0={\hyper@link{#5}{#4}}%
8706   \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8707   \edef\x{\endgroup
8708     \the\toks0 {\the\toks1 }%
8709   }%
8710   \x
8711 }
8712 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8713   \ifx#1\relax
8714     \protect\G@refundefinedtrue
8715     \nfss@text{\reset@font\bfseries ??}%
8716     \@latex@warning{%
8717       Reference ‘#3’ on page \thepage \space undefined%
8718     }%
8719   \else
8720     \protect\hyper@link
8721     {\expandafter\@fifthoffive#1}%
8722     {page.\expandafter\@secondoffive#1}%
8723     {\expandafter\@secondoffive#1}%
8724   \fi
8725 }

8726 \</package>
8727 <*check>
8728 \checklatex
8729 \checkcommand\def\@setref#1#2#3{%
8730   \ifx#1\relax
8731     \protect\G@refundefinedtrue
8732     \nfss@text{\reset@font\bfseries ??}%
8733     \@latex@warning{%
8734       Reference ‘#3’ on page \thepage\space undefined%
8735     }%
8736   \else
8737     \expandafter#2#1\null
8738   \fi
```

```

8739 }
8740 </check>
8741 <*package>

```

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

```

8742 \def\HyRef@StarSetRef#1{%
8743   \begingroup
8744   \Hy@safe@activestrue
8745   \edef\x{#1}%
8746   \@onelevel@sanitize\x
8747   \edef\x{\endgroup
8748     \noexpand\HyRef@@StarSetRef
8749     \expandafter\noexpand\csname r@\x\endcsname{\x}%
8750   }%
8751   \x
8752 }
8753 \def\HyRef@@StarSetRef#1#2#3{%
8754   \ifx#1\@undefined
8755     \let#1\relax
8756   \fi
8757   \real@setref#1#3{#2}%
8758 }
8759 \def\@refstar#1{%
8760   \HyRef@StarSetRef{#1}\@firstoffive
8761 }
8762 \def\@pagerefstar#1{%
8763   \HyRef@StarSetRef{#1}\@secondoffive
8764 }
8765 \def\@namerefstar#1{%
8766   \HyRef@StarSetRef{#1}\@thirdoffive
8767 }
8768 \Hy@AtBeginDocument{%
8769   \@ifpackageloaded{varioref}{%
8770     \def\@Refstar#1{%
8771       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8772     }%
8773     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8774       \MakeUppercase#1%
8775     }%
8776     \DeclareRobustCommand*\@Ref*{%
8777       \@ifstar\@Refstar\HyRef@Ref
8778     }%
8779     \def\HyRef@Ref#1{%
8780       \hyperref[{#1}]{\@Ref*{#1}}%
8781     }%
8782     \def\Vr@f#1{%
8783       \leavevmode\unskip\vref@space
8784       \hyperref[{#1}]%
8785       \@Ref*{#1}%
8786       \let\vref@space\nobreakspace
8787       \@vpageref[\unskip]{#1}%
8788     }%
8789   }%
8790   \def\vr@f#1{%
8791     \leavevmode\unskip\vref@space
8792     \begingroup
8793     \let\T@pageref\@pagerefstar

```

```

8794     \hyperref[#1]{%
8795     \ref*{#1}%
8796     \vpageref[unskip]{#1}%
8797     }%
8798   \endgroup
8799   }%
8800 }{}%
8801 }
8802 \DeclareRobustCommand*\autopageref{%
8803   \@ifstar{%
8804     \HyRef@autopagerefname\pageref*%
8805   }\HyRef@autopageref
8806 }
8807 \def\HyRef@autopageref#1{%
8808   \hyperref[#1]{\HyRef@autopagerefname\pageref*{#1}}%
8809 }
8810 \def\HyRef@autopagerefname{%
8811   \ltx@ifundefined{pageautorefname}{%
8812     \ltx@ifundefined{pagename}{%
8813       \Hy@Warning{No autoref name for 'page'}%
8814     }{%
8815       \pagename\nobreakspace
8816     }%
8817   }{%
8818     \pageautorefname\nobreakspace
8819   }%
8820 }

```

\leavevmode is added to make package wrapfigure happy, if \autoref starts a paragraph.

```

8821 \DeclareRobustCommand*\autoref{%
8822   \leavevmode
8823   \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@@link}%
8824 }
8825 \def\HyRef@autoref#1#2{%
8826   \begingroup
8827     \Hy@safe@activetrue
8828     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8829   \endgroup
8830 }
8831 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8832   \HyRef@ShowKeysRef{#2}%
8833   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8834     \edef\HyRef@thisref{%
8835       \expandafter\@fourthoffive#1\@empty\@empty\@empty
8836     }%
8837     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8838     \Hy@safe@activesfalse
8839     #3{%
8840       \expandafter\@fifthoffive#1\@empty\@empty\@empty
8841     }{%
8842       \expandafter\@fourthoffive#1\@empty\@empty\@empty
8843     }{%
8844       \HyRef@currentHtag
8845       \expandafter\@firstoffive#1\@empty\@empty\@empty
8846       \null
8847     }%
8848   \else

```

```

8849 \protect\G@refundefinedtrue
8850 \nfss@text{\reset@font\bfseries ??}%
8851 \@latex@warning{%
8852   Reference '#2' on page \thepage\space undefined%
8853 }%
8854 \fi
8855 }
8856 \def\HyRef@testreftype#1.#2\{\%
8857 \ltx@ifundefined{#1autorefname}\{%
8858 \ltx@ifundefined{#1name}\{%
8859 \HyRef@StripStar#1\*\@nil{#1}%
8860 \ltx@ifundefined{\HyRef@name autorefname}\{%
8861 \ltx@ifundefined{\HyRef@name name}\{%
8862 \def\HyRef@currentHtag{}%
8863 \Hy@Warning{No autoref name for '#1'}%
8864 }%
8865 \edef\HyRef@currentHtag{%
8866 \expandafter\noexpand\csname\HyRef@name name\endcsname
8867 \noexpand~%
8868 }%
8869 }%
8870 }%
8871 \edef\HyRef@currentHtag{%
8872 \expandafter\noexpand
8873 \csname\HyRef@name autorefname\endcsname
8874 \noexpand~%
8875 }%
8876 }%
8877 }%
8878 \edef\HyRef@currentHtag{%
8879 \expandafter\noexpand\csname#1name\endcsname
8880 \noexpand~%
8881 }%
8882 }%
8883 }%
8884 \edef\HyRef@currentHtag{%
8885 \expandafter\noexpand\csname#1autorefname\endcsname
8886 \noexpand~%
8887 }%
8888 }%
8889 }
8890 \def\HyRef@StripStar#1*\@nil#3{%
8891 \def\HyRef@name{#2}%
8892 \ifx\HyRef@name\HyRef@CaseStar
8893 \def\HyRef@name{#1}%
8894 \else
8895 \def\HyRef@name{#3}%
8896 \fi
8897 }
8898 \def\HyRef@CaseStar{*\\}
8899 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8900 \let\HyRef@ShowKeysRef\@gobble
8901 \def\HyRef@ShowKeysInit{%
8902 \begingroup\expandafter\expandafter\expandafter\endgroup

```



```

8903 \expandafter\ifx\csname SK@@label\endcsname\relax
8904 \else
8905 \ifx\SK@ref\@empty
8906 \else
8907 \def\HyRef@ShowKeysRef{%
8908 \SK@\SK@@ref
8909 }%
8910 \fi
8911 \fi
8912 }
8913 \@ifpackageloaded{showkeys}{%
8914 \HyRef@ShowKeysInit
8915 }{%
8916 \Hy@AtBeginDocument{%
8917 \@ifpackageloaded{showkeys}{%
8918 \HyRef@ShowKeysInit
8919 }{}%
8920 }%
8921 }

```

Defaults for the names that `\autoref` uses.

```

8922 \providecommand*\AMSautorefname{\equationautorefname}
8923 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8924 \providecommand*\Itemautorefname{\itemautorefname}
8925 \providecommand*\itemautorefname{item}
8926 \providecommand*\equationautorefname{Equation}
8927 \providecommand*\footnoteautorefname{footnote}
8928 \providecommand*\itemautorefname{item}
8929 \providecommand*\figureautorefname{Figure}
8930 \providecommand*\tableautorefname{Table}
8931 \providecommand*\partautorefname{Part}
8932 \providecommand*\appendixautorefname{Appendix}
8933 \providecommand*\chapterautorefname{chapter}
8934 \providecommand*\sectionautorefname{section}
8935 \providecommand*\subsectionautorefname{subsection}
8936 \providecommand*\subsubsectionautorefname{subsubsection}
8937 \providecommand*\paragraphautorefname{paragraph}
8938 \providecommand*\subparagraphautorefname{subparagraph}
8939 \providecommand*\FancyVerbLineautorefname{line}
8940 \providecommand*\theoremautorefname{Theorem}
8941 \providecommand*\pageautorefname{page}
8942 \endpackage

```

## 47 Configuration files

### 47.1 PS/PDF strings

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

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

```

8943 \<*pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
8944 \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

8945 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8946 \begingroup
8947 \catcode'\|=0 %
8948 \@makeother\|%
8949 |@firstofone{|endgroup
8950 |def|Hy@pstringdef#1#2{%
8951 |begingroup
8952 |edef~{|string~}%
8953 |xdef|Hy@gtemp{#2}%
8954 |endgroup
8955 |let#1|Hy@gtemp
8956 |@onelevel@sanitize#1%
8957 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
8958 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8959 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8960 }%
8961 |def|Hy@ExchangeBackslash#1\#2|@nil{%
8962 #1%
8963 |ifx|\#2|\%%
8964 |else
8965 \\\%
8966 |ltx@ReturnAfterFi{%
8967 |Hy@ExchangeBackslash#2|@nil
8968 }%
8969 |fi
8970 }%
8971 }%
8972 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8973 #1%
8974 \ifx\#2\%%
8975 \else
8976 \@backslashchar(%
8977 \ltx@ReturnAfterFi{%
8978 \Hy@ExchangeLeftParenthesis#2\@nil
8979 }%
8980 \fi
8981 }%
8982 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8983 #1%
8984 \ifx\#2\%%
8985 \else
8986 \@backslashchar)%
8987 \ltx@ReturnAfterFi{%
8988 \Hy@ExchangeRightParenthesis#2\@nil
8989 }%
8990 \fi
8991 }%
8992 \else
8993 \def\Hy@pstringdef#1#2{%
8994 \begingroup
8995 \edef~{\string~}%
8996 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8997 \endgroup
8998 \let#1\Hy@gtemp
8999 }%
9000 \fi
9001 </pdfTeX> dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 47.2 pdftex

```

9002 ⟨*pdftex⟩
9003 \providecommand*{\XR@ext}{pdf}
9004 \Hy@setbreaklinks{true}
9005 \def\HyPat@ObjRef{%
9006   [0-9]*[1-9][0-9]* 0 R%
9007 }

```

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

Set PDF version if requested by option pdfversion.

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

```

9008 \let\Hy@pdfminorversion\relax
9009 \begingroup\expandafter\expandafter\expandafter\endgroup
9010 \expandafter\ifx\csname pdfminorversion\endcsname\relax
9011   \begingroup\expandafter\expandafter\expandafter\endgroup
9012   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
9013     \else
9014       \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
9015     \fi
9016   \else
9017     \def\Hy@pdfminorversion{\pdfminorversion}%
9018   \fi
9019   \@ifundefined{Hy@pdfminorversion}{%
9020     \PackageInfo{hyperref}{%
9021       PDF version is not set, because pdfTeX is too old (<1.10a)%
9022     }%
9023   }{%
9024     \ifHy@ocgcolorlinks
9025       \ifnum\Hy@pdfminorversion<5 %
9026         \kvsetkeys{Hyp}{pdfversion=1.5}%
9027       \fi
9028     \fi
9029     \ifHy@setpdfversion
9030       \ifnum\Hy@pdfversion<5 %
9031         \ltx@ifundefined{pdfobjcompresslevel}{%
9032           }{%
9033             \ifHy@verbose
9034               \Hy@InfoNoLine{%
9035                 PDF object streams are disabled, because they are%
9036                 \MessageBreak
9037                 not supported in requested PDF version %
9038                 1.\Hy@pdfversion
9039               }%
9040             \fi
9041             \pdfobjcompresslevel=\ltx@zero
9042           }%
9043         \fi
9044         \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
9045       \else
9046         \let\Hy@temp\ltx@empty
9047         \def\Hy@temp@A#1#2{%
9048           \ifnum#1>\ltx@zero
9049             \edef\Hy@temp{%

```

```

9050      \Hy@temp
9051      \space\space
9052      \the#1\space #2%
9053      \ifnum#1=\ltx@one\else s\fi
9054      \MessageBreak
9055  }%
9056  \fi
9057 }%
9058 \Hy@temp@A\pdflastobj{PDF object}%
9059 \Hy@temp@A\pdflastxform{form XObject}%
9060 \Hy@temp@A\pdflastximage{image XObject}%
9061 \Hy@temp@A\pdflastannot{annotation}%
9062 \ltx@ifundefined{pdflastlink}{%
9063   {%
9064     \Hy@temp@A\pdflastlink{link}%
9065   }%
9066 \ifx\Hy@temp\ltx@empty
9067   \Hy@pdfminorversion=\Hy@pdfversion\relax
9068 \else
9069   \let\Hy@temp@A\ltx@empty
9070   \ifnum\Hy@pdfversion=4 %
9071     \ifFileExists{pdf14.sty}{%
9072       \def\Hy@temp@A{%
9073         \MessageBreak
9074         Or \string\RequirePackage{pdf14} can be used%
9075         \MessageBreak
9076         before \string\documentclass\space as shortcut%
9077       }%
9078     }{}%
9079   \fi
9080   \Hy@WarningNoLine{%
9081     The PDF version number could not be set,\MessageBreak
9082     because some PDF objects are already written:%
9083     \MessageBreak
9084     \Hy@temp
9085     The version should be set as early as possible:%
9086     \MessageBreak
9087     \space\space
9088     \expandafter\string\Hy@pdfminorversion=\Hy@pdfversion
9089     \string\relax
9090     \ifnum\Hy@pdfversion<5 %
9091       \ltx@ifundefined{pdfobjcompresslevel}{%
9092         {%
9093           \MessageBreak
9094           \space\space
9095           \string\pdfobjcompresslevel=0\string\relax
9096         }%
9097       \fi
9098       \Hy@temp@A
9099     }%
9100   \fi
9101 \fi
9102 \PackageInfo{hyperref}{%
9103   \expandafter\string\Hy@pdfminorversion
9104   :=\number\Hy@pdfversion\space
9105 }%
9106 \fi

```

```

9107 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
9108 }
9109 \Hy@DisableOption{pdfversion}%

9110 \ifHy@ocgcolorlinks
9111 \pdf@ifdraftmode{}{%
9112 \immediate\pdfobj{%
9113 <<%
9114 /Type/OCG%
9115 /Name(View)%
9116 /Usage<<%
9117 /Print<<%
9118 /PrintState/OFF%
9119 >>%
9120 /View<<%
9121 /ViewState/ON%
9122 >>%
9123 >>%
9124 >>%
9125 }%
9126 \edef\OBJ@OCG@view{\the\pdfastobj\space 0 R}%
9127 \immediate\pdfobj{%
9128 <<%
9129 /Type/OCG%
9130 /Name(Print)%
9131 /Usage<<%
9132 /Print<<%
9133 /PrintState/ON%
9134 >>%
9135 /View<<%
9136 /ViewState/OFF%
9137 >>%
9138 >>%
9139 >>%
9140 }%
9141 \edef\OBJ@OCG@print{\the\pdfastobj\space 0 R}%
9142 \immediate\pdfobj{%
9143 [%
9144 \OBJ@OCG@view\space\OBJ@OCG@print
9145 ]%
9146 }%
9147 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
9148 \pdfcatalog{%
9149 /OCProperties<<%
9150 /OCGs \OBJ@OCGs
9151 /D<<%
9152 /OFF[\OBJ@OCG@print]%
9153 /AS[%
9154 <<%
9155 /Event/View%
9156 /OCGs \OBJ@OCGs
9157 /Category[/View]%
9158 >>%
9159 <<%
9160 /Event/Print%
9161 /OCGs \OBJ@OCGs
9162 /Category[/Print]%
9163 >>%

```

```

9164      <<%
9165      /Event/Export%
9166      /OCGs \OBJ@OCGs
9167      /Category[/Print]%
9168      >>%
9169      ]%
9170      >>%
9171      >>%
9172      }%
9173      \begingroup
9174      \edef\x{\endgroup
9175      \pdfpageresources{%
9176      /Properties<<%
9177      /OCView \OBJ@OCG@view
9178      /OCPrint \OBJ@OCG@print
9179      >>%
9180      }%
9181      }%
9182      \x
9183      }%
9184      \Hy@AtBeginDocument{%
9185      \def\Hy@colorlink#1{%
9186      \begingroup
9187      \ifHy@ocgcolorlinks
9188      \def\Hy@ocgcolor{#1}%
9189      \setbox0=\hbox\bgroup\color@begingroup
9190      \else
9191      \HyColor@UseColor#1%
9192      \fi
9193      }%
9194      \def\Hy@endcolorlink{%
9195      \ifHy@ocgcolorlinks
9196      \color@endgroup\egroup
9197      \mbox{%
9198      \pdfliteral page{/OC/OCPrint BDC}%
9199      \rlap{\copy0}%
9200      \pdfliteral page{EMC/OC/OCView BDC}%
9201      \begingroup
9202      \expandafter\HyColor@UseColor\Hy@ocgcolor
9203      \box0 %
9204      \endgroup
9205      \pdfliteral page{EMC}%
9206      }%
9207      \fi
9208      \endgroup
9209      }%
9210      }%
9211      \else
9212      \Hy@DisableOption{ocgcolorlinks}%
9213      \fi

```

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

```

9214 \def\setpdfinkmargin#1{\pdfinkmargin#1}
9215 \ifx\pdfstartlink\@undefined% less than version 14
9216 \let\pdfstartlink\pdfannotlink
9217 \let\pdfinkmargin\@tempdima
9218 \let\pdfxform\pdfform
9219 \let\pdflastxform\pdfastform

```

```

9220 \let\pdfrefxform\pdfrefform
9221 \else
9222 \pdfinkmargin1pt %
9223 \fi

```

First set up the default linking

```

9224 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

9225 \Hy@WrapperDef\new@pdfink#1{%
9226 \ifhmode
9227 \@savsf\spacefactor
9228 \fi
9229 \Hy@SaveLastskip
9230 \Hy@VerboseAnchor{#1}%
9231 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9232 \Hy@DestName\Hy@pstringDest\@pdfview
9233 \Hy@RestoreLastskip
9234 \ifhmode
9235 \spacefactor\@savsf
9236 \fi
9237 }
9238 \let\pdf@endanchor\@empty

```

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

```

9239 \def\Hy@DestName#1#2{%
9240 \pdfdest name{#1}#2\relax
9241 }

```

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.

```

9242 \providecommand*\@pdfborder{0 0 1}
9243 \providecommand*\@pdfborderstyle{}
9244 \def\Hy@undefinedname{UNDEFINED}
9245 \def\find@pdfink#1#2{%
9246 \leavevmode
9247 \protected@edef\Hy@testname{#2}%
9248 \ifx\Hy@testname\@empty
9249 \Hy@Warning{%
9250 Empty destination name,\MessageBreak
9251 using '\Hy@undefinedname'%
9252 }%
9253 \let\Hy@testname\Hy@undefinedname
9254 \else
9255 \Hy@pstringdef\Hy@testname{%
9256 \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
9257 }%
9258 \fi
9259 \Hy@StartlinkName{%
9260 \ifHy@pdfa /F 4\fi
9261 \Hy@setpdfborder
9262 \ifx\@pdfhighlight\@empty
9263 \else
9264 /H\@pdfhighlight
9265 \fi

```

```

9266 \ifx\CurrentBorderColor\relax
9267 \else
9268 /C[\CurrentBorderColor]%
9269 \fi
9270 }\Hy@testname
9271 \expandafter\Hy@colorlink\csname @#1color\endcsname
9272 }
9273 \def\Hy@StartlinkName#1#2{%
9274 \pdfstartlink attr{#1}goto name{#2}\relax
9275 }
9276 \def\close@pdfink{%
9277 \Hy@endcolorlink
9278 \Hy@VerboseLinkStop
9279 \pdfendlink
9280 }
9281 \def\hyper@anchor#1{%
9282 \new@pdfink{#1}\anchor@spot\pdf@endanchor
9283 }
9284 \def\hyper@anchorstart#1{%
9285 \new@pdfink{#1}%
9286 \Hy@activeanchortrue
9287 }
9288 \def\hyper@anchorend{%
9289 \pdf@endanchor
9290 \Hy@activeanchorfalse
9291 }
9292 \def\hyper@linkstart#1#2{%
9293 \Hy@VerboseLinkStart{#1}{#2}%
9294 \ltx@ifundefined{@#1bordercolor}{%
9295 \let\CurrentBorderColor\relax
9296 }{%
9297 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9298 }%
9299 \find@pdfink{#1}{#2}%
9300 }
9301 \def\hyper@linkend{\close@pdfink}
9302 \def\hyper@link#1#2#3{%
9303 \Hy@VerboseLinkStart{#1}{#2}%
9304 \ltx@ifundefined{@#1bordercolor}{%
9305 \let\CurrentBorderColor\relax
9306 }{%
9307 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9308 }%
9309 \find@pdfink{#1}{#2}#3\Hy@xspace@end
9310 \close@pdfink
9311 }
9312 \let\CurrentBorderColor\@linkbordercolor
9313 \def\hyper@linkurl#1#2{%
9314 \begingroup
9315 \Hy@pstringdef\Hy@pstringURI{#2}%
9316 \hyper@chars
9317 \leavevmode
9318 \pdfstartlink
9319 attr{%
9320 \Hy@setpdfborder
9321 \ifx\@pdfhighlight\@empty
9322 \else

```



```

9323      /H\@pdfhighlight
9324      \fi
9325      \ifx\@urlbordercolor\relax
9326      \else
9327      /C[\@urlbordercolor]%
9328      \fi
9329      }%
9330      user{%
9331      /Subtype/Link%
9332      \ifHy@pdfa /F 4\fi
9333      /A<<%
9334      /Type/Action%
9335      /S/URI%
9336      /URI(\Hy@pstringURI)%
9337      \ifHy@href@ismap
9338      /IsMap true%
9339      \fi
9340      \Hy@href@nextactionraw
9341      >>%
9342      }%
9343      \relax
9344      \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9345      \close@pdflink
9346      \endgroup
9347      }
9348      \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9349      \begingroup
9350      \def\Hy@pstringF{#2}%
9351      \Hy@CleanupFile\Hy@pstringF
9352      \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9353      \Hy@pstringdef\Hy@pstringD{#3}%
9354      \Hy@MakeRemoteAction
9355      \leavevmode
9356      \pdfstartlink
9357      attr{%
9358      \Hy@setpdfborder
9359      \ifx\@pdfhighlight\@empty
9360      \else
9361      /H\@pdfhighlight
9362      \fi
9363      \ifx\@filebordercolor\relax
9364      \else
9365      /C[\@filebordercolor]%
9366      \fi
9367      }%
9368      user {%
9369      /Subtype/Link%
9370      \ifHy@pdfa /F 4\fi
9371      /A<<%
9372      /F(\Hy@pstringF)%
9373      /S/GoToR%
9374      \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}

9375      \ifx\|#3\|
9376      /D[\Hy@href@page\@pdfremotestartview]%
9377      \else
9378      /D(\Hy@pstringD)%
9379      \fi
9380      \Hy@href@nextactionraw
9381      >>%
9382      }%
9383      \relax
9384      \Hy@colorlink\@filecolor#1\Hy@xspace@end
9385      \close@pdflink
9386      \endgroup
9387 }
9388 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
9389 \begingroup
9390 \Hy@pstringdef\Hy@pstringF{#1}%
9391 \Hy@pstringdef\Hy@pstringP{#3}%
9392 \leavevmode
9393 \pdfstartlink
9394 attr{%
9395 \Hy@setpdfborder
9396 \ifx\@pdfhighlight\@empty
9397 \else
9398 /H\@pdfhighlight
9399 \fi
9400 \ifx\@runbordercolor\relax
9401 \else
9402 /C[\@runbordercolor]%
9403 \fi
9404 }%
9405 user {%
9406 /Subtype/Link%
9407 \ifHy@pdfa /F 4\fi
9408 /A<<%
9409 /F(\Hy@pstringF)%
9410 /S/Launch%
9411 \Hy@SetNewWindow
9412 \ifx\|#3\|
9413 \else
9414 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9415 \fi
9416 \Hy@href@nextactionraw
9417 >>%
9418 }%
9419 \relax
9420 \Hy@colorlink\@runcolor#2\Hy@xspace@end
9421 \close@pdflink
9422 \endgroup
9423 }

```

\@pdfproducer

```

9424 \ifx\@pdfproducer\relax
9425 \begingroup\expandafter\expandafter\expandafter\endgroup
9426 \expandafter\ifx\csname luatexversion\endcsname\relax
9427 \def\@pdfproducer{pdfTeX}%
9428 \ifx\eTeXversion\@undefined
9429 \else
9430 \ifx\eTeXversion\relax
9431 \else
9432 \ifnum\eTeXversion>0 %
9433 \def\@pdfproducer{pdfTeX}%
9434 \fi
9435 \fi
9436 \fi
9437 \ifx\pdfTeXversion\@undefined
9438 \else
9439 \ifnum\pdfTeXversion<100 %
9440 \edef\@pdfproducer{%
9441 \@pdfproducer
9442 \the\pdfTeXversion.\pdfTeXrevision
9443 }%
9444 \else
9445 \ifnum\pdfTeXversion<130 %
9446 \edef\@pdfproducer{%
9447 \@pdfproducer-%
9448 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9449 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9450 \pdfTeXrevision
9451 }%
9452 \else
9453 \ifnum\pdfTeXversion<140 %
9454 \else
9455 \def\@pdfproducer{pdfTeX}%
9456 \fi
9457 \edef\@pdfproducer{%
9458 \@pdfproducer-%
9459 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9460 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9461 \pdfTeXrevision
9462 }%
9463 \fi
9464 \fi
9465 \fi
9466 \else
9467 \begingroup
9468 \count@=\luatexversion
9469 \divide\count@ by 100 %
9470 \edef\x{\the\count@}%
9471 \count@=-\x\relax
9472 \multiply\count@ by 100 %
9473 \advance\count@ by \luatexversion
9474 \edef\x{\endgroup
9475 \def\noexpand\@pdfproducer{%
9476 LuaTeX-\x.\the\count@.\luatexrevision
9477 }%
9478 }%
9479 \x
9480 \fi

```

```

9481 \fi

\PDF@SetupDox
9482 \def\PDF@SetupDoc{%
9483   \ifx\@pdfpagescrop\@empty
9484   \else
9485     \edef\process@me{%
9486       \pdfpagesattr={%
9487         /CropBox[\@pdfpagescrop]%
9488         \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
9489         \else
9490           ^^J\the\pdfpagesattr
9491         \fi
9492       }%
9493     }%
9494     \process@me
9495   \fi
9496   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9497   \pdfcatalog{%
9498     /PageMode/\@pdfpagemode
9499     \ifx\@baseurl\@empty
9500     \else
9501       /URI<</Base(\Hy@pstringB)>>%
9502     \fi
9503   }%
9504   \ifx\@pdfstartpage\@empty
9505   \else
9506     \ifx\@pdfstartview\@empty
9507     \else
9508       openaction goto page\@pdfstartpage{\@pdfstartview}%
9509     \fi
9510   \fi
9511   \edef\Hy@temp{%
9512     \ifHy@pdftoolbar\else /HideToolbar true\fi
9513     \ifHy@pdfmenubar\else /HideMenubar true\fi
9514     \ifHy@pdfwindowui\else /HideWindowUI true\fi
9515     \ifHy@pdffitwindow /FitWindow true\fi
9516     \ifHy@pdfcenterwindow /CenterWindow true\fi
9517     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9518     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9519     \Hy@UseNameKey{Direction}\@pdfdirection
9520     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9521     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9522     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9523     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9524     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9525     \Hy@UseNameKey{Duplex}\@pdfduplex
9526     \ifx\@pdfpicktraybypdfsize\@empty
9527     \else
9528       /PickTrayByPDFSize \@pdfpicktraybypdfsize
9529     \fi
9530     \ifx\@pdfprintpagerange\@empty
9531     \else
9532       /PrintPageRange[\@pdfprintpagerange]%
9533     \fi
9534     \ifx\@pdfnumcopies\@empty
9535     \else
9536       /NumCopies \@pdfnumcopies

```

```

9537   \fi
9538 }%
9539 \pdfcatalog{%
9540   \ifx\Hy@temp\@empty
9541   \else
9542     /ViewerPreferences<<\Hy@temp>>%
9543   \fi
9544   \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9545   \ifx\@pdflang\@empty
9546   \else
9547     /Lang(\@pdflang)%
9548   \fi
9549 }%
9550 }

```

\PDF@FinishDoc

```

9551 \def\PDF@FinishDoc{%
9552   \pdf@ifdraftmode{ }{%
9553     \Hy@UseMaketitleInfos
9554     \HyInfo@GenerateAddons
9555     \pdfinfo{%
9556       /Author(\@pdfauthor)%
9557       /Title(\@pdftitle)%
9558       /Subject(\@pdfsubject)%
9559       /Creator(\@pdfcreator)%
9560       \ifx\@pdfcreationdate\@empty
9561       \else
9562         /CreationDate(\@pdfcreationdate)%
9563       \fi
9564       \ifx\@pdfmoddate\@empty
9565       \else
9566         /ModDate(\@pdfmoddate)%
9567       \fi
9568       \ifx\@pdfproducer\relax
9569       \else
9570         /Producer(\@pdfproducer)%
9571       \fi
9572       /Keywords(\@pdfkeywords)%
9573       \ifx\@pdftrapped\@empty
9574       \else
9575         /Trapped/\@pdftrapped
9576       \fi
9577       \HyInfo@Addons
9578     }%
9579   }%
9580   \Hy@DisableOption{pdfauthor}%
9581   \Hy@DisableOption{pdftitle}%
9582   \Hy@DisableOption{pdfsubject}%
9583   \Hy@DisableOption{pdfcreator}%
9584   \Hy@DisableOption{pdfcreationdate}%
9585   \Hy@DisableOption{pdfmoddate}%
9586   \Hy@DisableOption{pdfproducer}%
9587   \Hy@DisableOption{pdfkeywords}%
9588   \Hy@DisableOption{pdftrapped}%
9589   \Hy@DisableOption{pdfinfo}%
9590 }

```

\hyper@pagetransition \@pdfpagetransition is initialized with \relax. So it indicates, if option pdfpage-

transition is used. First previous /Trans entries are removed. If a new /Trans key exists, it is appended to \pdfpageattr.

```

9591 \def\hyper@pagetransition{%
9592   \ifx\@pdfpagetransition\relax
9593   \else
9594     \expandafter\Hy@RemoveTransPageAttr
9595     \the\pdfpageattr^^J/Trans{}>>\END
9596     \ifx\@pdfpagetransition\@empty
9597     \else
9598       \edef\@processme{%
9599         \global\pdfpageattr{%
9600           \the\pdfpageattr
9601             ^^J/Trans << /S /\@pdfpagetransition\space >>%
9602         }%
9603       }%
9604       \@processme
9605     \fi
9606   \fi
9607 }
```

**\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.

```

9608 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9609   \ifx\#2\%
9610     \global\pdfpageattr{#1}%
9611   \else
9612     \Hy@RemoveTransPageAttr#1#4\END
9613   \fi
9614 }
```

**\hyper@pageduration** \@pdfpageduration is initialized with \relax. So it indicates, if option pdfpage-duration is used. First previous /Dur entries are removed. If a new /Dur key exists, it is appended to \pdfpageattr.

```

9615 \def\hyper@pageduration{%
9616   \ifx\@pdfpageduration\relax
9617   \else
9618     \expandafter
9619     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9620     \ifx\@pdfpageduration\@empty
9621     \else
9622       \edef\@processme{%
9623         \global\pdfpageattr{%
9624           \the\pdfpageattr
9625             ^^J/Dur \@pdfpageduration\space
9626         }%
9627       }%
9628       \@processme
9629     \fi
9630   \fi
9631 }
```

**\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.

```

9632 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9633   \ifx\#2\%
9634     \global\pdfpageattr{#1}%
9635   \else
9636     \Hy@RemoveDurPageAttr#1#4\END
9637   \fi
9638 }

```

`\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).

```

9639 \def\hyper@pagehidden{%
9640   \ifHy@useHidKey
9641     \expandafter
9642     \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9643   \ifHy@pdfpagehidden
9644     \edef\@processme{%
9645       \global\pdfpageattr{%
9646         \the\pdfpageattr
9647         ^^J/Hid true % SPACE
9648       }%
9649     }%
9650     \@processme
9651   \fi
9652 \fi
9653 }

```

`\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.

```

9654 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9655   \ifx\#2\%
9656     \global\pdfpageattr{#1}%
9657   \else
9658     \Hy@RemoveHidPageAttr#1#4\END
9659   \fi
9660 }

```

```

9661 \pdf@ifdraftmode{}{%
9662   \g@addto@macro\Hy@EveryPageHook{%
9663     \hyper@pagetransition
9664     \hyper@pageduration
9665     \hyper@pagehidden
9666   }%
9667 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

9668 \pdfTeX
9669 \ifx\pdfTeX\xetex
9670   \Hy@AtBeginDocument{%
9671     \ifHy@setpagesize
9672       \expandafter\@firstofone
9673     \else

```

```

9674 \expandafter\@gobble
9675 \fi
9676 {%
9677 \ifclassloaded{seminar}{%
9678 (*pdftex)
9679 \setlength{\pdfhorigin}{1truein}%
9680 \setlength{\pdfvorigin}{1truein}%
9681 \}
9682 \ifportrait
9683 \ifdim\paperwidth=\z@
9684 \else
9685 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9686 \fi
9687 \ifdim\paperheight=\z@
9688 \else
9689 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9690 \fi
9691 \else
9692 \ifdim\paperheight=\z@
9693 \else
9694 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9695 \fi
9696 \ifdim\paperwidth=\z@
9697 \else
9698 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9699 \fi
9700 \fi
9701 }{%
9702 \ltx@ifundefined{stockwidth}{%
9703 \ifdim\paperwidth>\z@
9704 \setlength{\pdfpagewidth}{\paperwidth}%
9705 \fi
9706 \ifdim\paperheight>\z@
9707 \setlength{\pdfpageheight}{\paperheight}%
9708 \fi
9709 }{%
9710 \ifdim\stockwidth>\z@
9711 \setlength{\pdfpagewidth}{\stockwidth}%
9712 \fi
9713 \ifdim\stockheight>\z@
9714 \setlength{\pdfpageheight}{\stockheight}%
9715 \fi
9716 }%
9717 }%
9718 }%
9719 \Hy@DisableOption{setpagesize}%
9720 }
9721 \}

```



```

9731     \else
9732       /H\@pdfhighlight
9733     \fi
9734     \ifx\@menubordercolor\relax
9735     \else
9736       /C[\@menubordercolor]%
9737     \fi
9738   }%
9739   user{%
9740     /Subtype/Link%
9741     \ifHy@pdfa /F 4\fi
9742     /A<<%
9743     /S/Named%
9744     /N/\Hy@temp@menu
9745     \Hy@href@nextactionraw
9746     >>%
9747   }%
9748   \relax
9749   \Hy@colorlink\@menucolor#2%
9750   \close@pdflink
9751 }%
9752 }

```

#### 47.2.1 Fix for problem with different nesting levels

`\AtBeginShipoutFirst` adds an additional box layer around the first output page. This disturbs pdf<sub>T</sub>E<sub>X</sub>'s low level link commands `\pdfstartlink` and `\pdfendlink`, if a link is broken across the first and second output page.

The problem could be fixed by replacing `\AtBeginShipoutFirst`, because the box layer is not necessary for pdf<sub>T</sub>E<sub>X</sub>—no `\specials` need to be inserted. However it's easier to add an additional box level for the pages after the first one. Also `\AtBeginShipoutFirst` could be invoked independently from `hyperref`.

Since version 2011/10/05 v1.16 of package 'atbegshi' `\AtBeginShipoutFirst` does not add a additional box layer.

```

9753 \def\Hy@FixNotFirstPage{%
9754   \gdef\Hy@FixNotFirstPage{%
9755     \setbox\AtBeginShipoutBox=\hbox{%
9756       \copy\AtBeginShipoutBox
9757     }%
9758   }%
9759 }
9760 \ltx@ifpackagelater{atbegshi}{2011/10/05}{%
9761 }{%
9762   \AtBeginShipout{\Hy@FixNotFirstPage}%
9763 }
9764 \</pdfTeX>

```

### 47.3 hypertex

The Hyper<sub>T</sub>E<sub>X</sub> specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of `\special` commands:

**href:** `html:<a href = "href_string">`

**name:** `html:<a name = "name_string">`

**end:** `html:</a>`

**image:** `html:<img src = "href_string">`

**base\_name:** `html:<base href = "href_string">`

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base\_name* command is 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.

```
9765 \*hypertext
9766 \providecommand*\XR@ext{}\dvi
9767 \let\PDF@FinishDoc\ltx@empty
9768 \def\PDF@SetupDoc{%
9769   \ifx\@baseurl\@empty
9770   \else
9771     \special{html:<base href="\@baseurl">}%
9772   \fi
9773 }
9774 \Hy@WrapperDef\hyper@anchor#1{%
9775   \Hy@SaveLastskip
9776   \Hy@VerboseAnchor{#1}%
9777   \begingroup
9778     \let\protect=\string
9779     \hyper@chars
9780     \special{html:<a name=%
9781       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9782   \endgroup
9783   \Hy@activeanchortrue
9784   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9785   \special{html:</a>}%
9786   \Hy@activeanchorfalse
9787   \Hy@RestoreLastskip
9788 }
9789 \Hy@WrapperDef\hyper@anchorstart#1{%
9790   \Hy@SaveLastskip
9791   \Hy@VerboseAnchor{#1}%
9792   \begingroup
9793     \hyper@chars
9794     \special{html:<a name=%
9795       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9796   \endgroup
```

```

9797 \Hy@activeanchortrue
9798 }
9799 \def\hyper@anchorend{%
9800 \special{html:</a>}}%
9801 \Hy@activeanchorfalse
9802 \Hy@RestoreLastskip
9803 }
9804 \def\@urltype{url}
9805 \def\hyper@linkstart#1#2{%
9806 \Hy@VerboseLinkStart{#1}{#2}%
9807 \expandafter\Hy@colorlink\csname @#1color\endcsname
9808 \def\Hy@tempa{#1}%
9809 \ifx\Hy@tempa\@urltype
9810 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9811 \else
9812 \begingroup
9813 \hyper@chars
9814 \special{html:<a href=%
9815 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}}%
9816 \endgroup
9817 \fi
9818 }
9819 \def\hyper@linkend{%
9820 \special{html:</a>}}%
9821 \Hy@endcolorlink
9822 }
9823 \def\hyper@linkfile#1#2#3{%
9824 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9825 }
9826 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link `\special`, we need to get its height; ask me why L<sup>A</sup>T<sub>E</sub>X constructs make this totally foul up, and make us revert to basic T<sub>E</sub>X. I do not know.

```

9827 \leavevmode
9828 \ifHy@raiselinks
9829 \Hy@SaveSpaceFactor
9830 \Hy@SaveSavedSpaceFactor
9831 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9832 \Hy@RestoreSavedSpaceFactor
9833 \@linkdim\dp\@tempboxa
9834 \lower\@linkdim\hbox{%
9835 \hyper@chars
9836 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9837 }%
9838 \Hy@colorlink\@urlcolor
9839 \Hy@RestoreSpaceFactor
9840 #1%
9841 \Hy@SaveSpaceFactor
9842 \@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).

```

9843 \advance\@linkdim by -6.5\p@
9844 \raise\@linkdim\hbox{\special{html:</a>}}}%
9845 \Hy@endcolorlink
9846 \Hy@RestoreSpaceFactor

```

```

9847 \else
9848 \begingroup
9849 \hyper@chars
9850 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9851 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9852 \special{html:</a>}%
9853 \Hy@endcolorlink
9854 \endgroup
9855 \fi
9856 }

```

Very poor implementation of `\hyper@link` without considering #1.

```

9857 \def\hyper@link#1#2#3{%
9858 \Hy@VerboseLinkStart{#1}{#2}%
9859 \hyper@linkurl{#3}{\# \Hy@HyperDestNameFilter{#2}}%
9860 }

9861 \def\hyper@image#1#2{%
9862 \begingroup
9863 \hyper@chars
9864 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9865 \endgroup
9866 }
9867 </hypertex>
9868 <*dviwindo>

```

## 47.4 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`,  $\text{\LaTeX}$  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.

```

9869 \providecommand*\XR@ext}{dvi}
9870 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9871 \Hy@WrapperDef\hyper@anchor#1{%
9872 \Hy@SaveLastskip
9873 \Hy@VerboseAnchor{#1}%
9874 \begingroup
9875 \let\protect=\string
9876 \special{mark: #1}%
9877 \endgroup
9878 \Hy@activeanchortrue
9879 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9880 \Hy@activeanchorfalse
9881 \Hy@RestoreLastskip
9882 }
9883 \Hy@WrapperDef\hyper@anchorstart#1{%
9884 \Hy@SaveLastskip
9885 \Hy@VerboseAnchor{#1}%
9886 \special{mark: #1}%

```

```

9887 \Hy@activeanchortrue
9888 }
9889 \def\hyper@anchorend{%
9890 \Hy@activeanchorfalse
9891 \Hy@RestoreLastskip
9892 }
9893 \def\hyper@linkstart#1#2{%
9894 \Hy@VerboseLinkStart{#1}{#2}%
9895 \expandafter\Hy@colorlink\csname @#1color\endcsname
9896 \special{button: %
9897 10000000 %
9898 \number\baselineskip\space
9899 #2%
9900 }%
9901 }
9902 \def\hyper@linkend{%
9903 \Hy@endcolorlink
9904 }
9905 \def\hyper@link#1#2#3{%
9906 \Hy@VerboseLinkStart{#1}{#2}%
9907 \leavevmode
9908 \ifHy@raiselinks
9909 \Hy@SaveSpaceFactor
9910 \Hy@SaveSavedSpaceFactor
9911 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9912 \Hy@RestoreSavedSpaceFactor
9913 \@linkdim\dp\@tempboxa
9914 \lower\@linkdim\hbox{%
9915 \special{button: %
9916 \number\wd\@tempboxa\space
9917 \number\ht\@tempboxa\space
9918 #2%
9919 }%
9920 \expandafter\Hy@colorlink\csname @#1color\endcsname
9921 \Hy@RestoreSpaceFactor
9922 #3\Hy@xspace@end
9923 \Hy@SaveSpaceFactor
9924 \Hy@endcolorlink
9925 }%
9926 \@linkdim\ht\@tempboxa
9927 \advance\@linkdim by -6.5\p@
9928 \raise\@linkdim\hbox{}%
9929 \Hy@RestoreSpaceFactor
9930 \else
9931 \special{button: %
9932 \number\wd\@tempboxa\space
9933 \number\ht\@tempboxa\space
9934 #2%
9935 }%
9936 \expandafter\Hy@colorlink\csname @#1color\endcsname
9937 #3\Hy@xspace@end
9938 \Hy@endcolorlink
9939 \fi
9940 }
9941 \def\hyper@linkurl#1#2{%
9942 \begingroup
9943 \hyper@chars

```

```

9944 \leavevmode
9945 \ifHy@raiselinks
9946 \Hy@SaveSpaceFactor
9947 \Hy@SaveSavedSpaceFactor
9948 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9949 \Hy@RestoreSavedSpaceFactor
9950 \@linkdim\dp\@tempboxa
9951 \lower\@linkdim\hbox{%
9952 \special{button: %
9953 \number\wd\@tempboxa\space
9954 \number\ht\@tempboxa\space
9955 launch: \wwwbrowser\space
9956 #2%
9957 }%
9958 \Hy@colorlink\@urlcolor
9959 \Hy@RestoreSpaceFactor
9960 #1\Hy@xspace@end
9961 \Hy@SaveSpaceFactor
9962 \Hy@endcolorlink
9963 }%
9964 \@linkdim\ht\@tempboxa
9965 \advance\@linkdim by -6.5\p@
9966 \raise\@linkdim\hbox{}}%
9967 \Hy@RestoreSpaceFactor
9968 \else
9969 \special{button: %
9970 \number\wd\@tempboxa\space
9971 \number\ht\@tempboxa\space
9972 launch: \wwwbrowser\space
9973 #2%
9974 }%
9975 \Hy@colorlink\@urlcolor
9976 #1\Hy@xspace@end
9977 \Hy@endcolorlink
9978 \fi
9979 \endgroup
9980 }
9981 \def\hyper@linkfile#1#2#3{%
9982 \begingroup
9983 \hyper@chars
9984 \leavevmode
9985 \ifHy@raiselinks
9986 \Hy@SaveSpaceFactor
9987 \Hy@SaveSavedSpaceFactor
9988 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9989 \Hy@RestoreSavedSpaceFactor
9990 \@linkdim\dp\@tempboxa
9991 \lower\@linkdim\hbox{%
9992 \special{button: %
9993 \number\wd\@tempboxa\space
9994 \number\ht\@tempboxa\space
9995 #3,%
9996 file: #2%
9997 }%
9998 \Hy@colorlink\@filecolor
9999 \Hy@RestoreSpaceFactor
10000 #1\Hy@xspace@end

```

```

10001      \Hy@SaveSpaceFactor
10002      \Hy@endcolorlink
10003    }%
10004      \@linkdim\ht\@tempboxa
10005      \advance\@linkdim by -6.5\p@
10006      \raise\@linkdim\hbox{}%
10007      \Hy@RestoreSpaceFactor
10008    \else
10009      \special{button: %
10010        \number\wd\@tempboxa\space
10011        \number\ht\@tempboxa\space
10012        #3,%
10013        file: #2%
10014      }%
10015      \Hy@colorlink\@filecolor
10016      #1\Hy@xspace@end
10017      \Hy@endcolorlink
10018    \fi
10019  \endgroup
10020 }
10021 \ifx\@pdfproducer\relax
10022 \def\@pdfproducer{dviwindo + Distiller}%
10023 \fi
10024 \HyInfo@AddonUnsupportedtrue
10025 \def\PDF@FinishDoc{%
10026   \Hy@UseMaketitleInfos
10027   \HyInfo@TrappedUnsupported
10028   \special{PDF: Keywords \@pdfkeywords}%
10029   \special{PDF: Title \@pdftitle}%
10030   \special{PDF: Creator \@pdfcreator}%
10031   \ifx\@pdfcreationdate\@empty
10032   \else
10033     \special{PDF: CreationDate \@pdfcreationdate}%
10034   \fi
10035   \ifx\@pdfmoddate\@empty
10036   \else
10037     \special{PDF: ModDate \@pdfmoddate}%
10038   \fi
10039   \special{PDF: Author \@pdfauthor}%
10040   \ifx\@pdfproducer\relax
10041   \else
10042     \special{PDF: Producer \@pdfproducer}%
10043   \fi
10044   \special{PDF: Subject \@pdfsubject}%
10045   \Hy@DisableOption{pdfauthor}%
10046   \Hy@DisableOption{pdftitle}%
10047   \Hy@DisableOption{pdfsubject}%
10048   \Hy@DisableOption{pdfcreator}%
10049   \Hy@DisableOption{pdfcreationdate}%
10050   \Hy@DisableOption{pdfmoddate}%
10051   \Hy@DisableOption{pdfproducer}%
10052   \Hy@DisableOption{pdfkeywords}%
10053   \Hy@DisableOption{pdftrapped}%
10054   \Hy@DisableOption{pdfinfo}%
10055 }
10056 \def\PDF@SetupDoc{%
10057   \ifx\@baseurl\@empty

```

```

10058 \else
10059 \special{PDF: Base \@baseurl}%
10060 \fi
10061 \ifx\@pdfpagescrop\@empty\else
10062 \special{PDF: BBox \@pdfpagescrop}%
10063 \fi
10064 \def\Hy@temp{}%
10065 \ifx\@pdfstartpage\@empty
10066 \else
10067 \ifx\@pdfstartview\@empty
10068 \else
10069 \edef\Hy@temp{%
10070 ,Page=\@pdfstartpage
10071 ,View=\@pdfstartview
10072 }%
10073 \fi
10074 \fi
10075 \edef\Hy@temp{%
10076 \noexpand\pdfmark{%
10077 pdfmark=/DOCVIEW,%
10078 PageMode=/\@pdfpagemode
10079 \Hy@temp
10080 }%
10081 }%
10082 \Hy@temp
10083 \ifx\@pdfpagescrop\@empty
10084 \else
10085 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10086 \fi
10087 \edef\Hy@temp{%
10088 \ifHy@pdftoolbar\else /HideToolbar true\fi
10089 \ifHy@pdfmenubar\else /HideMenubar true\fi
10090 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10091 \ifHy@pdfwindow /FitWindow true\fi
10092 \ifHy@pdfcenterwindow /CenterWindow true\fi
10093 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10094 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10095 \Hy@UseNameKey{Direction}\@pdfdirection
10096 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10097 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10098 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10099 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10100 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10101 \Hy@UseNameKey{Duplex}\@pdfduplex
10102 \ifx\@pdfpicktraybypdfsize\@empty
10103 \else
10104 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10105 \fi
10106 \ifx\@pdfprintpagerange\@empty
10107 \else
10108 /PrintPageRange[\@pdfprintpagerange]%
10109 \fi
10110 \ifx\@pdfnumcopies\@empty
10111 \else
10112 /NumCopies \@pdfnumcopies
10113 \fi
10114 }%

```



```

10115 \pdfmark{pdfmark=/PUT,%
10116   Raw={%
10117     \string{Catalog\string}<<%
10118     \ifx\Hy@temp\@empty
10119       \else
10120         /ViewerPreferences<<\Hy@temp>>%
10121       \fi
10122       \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10123       \ifx\@pdflang\@empty
10124       \else
10125         /Lang(\@pdflang)%
10126       \fi
10127     >>%
10128   }%
10129 }%
10130 }
10131 </dviwindo>
10132 <*dvipdfm | xetex>

```

## 47.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

10133 \providecommand*{\XR@ext}{pdf}
10134 \Hy@setbreaklinks{true}
10135 \def\HyPat@ObjRef{%
10136   @[\ ]+%
10137 }
10138 \newsavebox{\pdfm@box}
10139 \def\@pdfm@mark#1{\special{pdf:#1}}
10140 \Hy@WrapperDef\@pdfm@dest#1{%
10141   \Hy@SaveLastskip
10142   \Hy@VerboseAnchor{#1}%
10143   \begingroup
10144     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10145     \def\x{XYZ}%
10146     \ifx\x\@pdfview
10147       \def\x{XYZ @xpos @ypos null}%
10148     \else
10149       \def\x{FitH}%
10150       \ifx\x\@pdfview
10151         \def\x{FitH @ypos}%
10152       \else
10153         \def\x{FitBH}%
10154         \ifx\x\@pdfview
10155           \def\x{FitBH @ypos}%
10156         \else
10157           \def\x{FitV}%
10158           \ifx\x\@pdfview
10159             \def\x{FitV @xpos}%
10160           \else
10161             \def\x{FitBV}%
10162             \ifx\x\@pdfview
10163               \def\x{FitBV @xpos}%
10164             \else
10165               \def\x{Fit}%
10166             \ifx\x\@pdfview
10167               \let\x\@pdfview

```

```

10168         \else
10169             \def\x{FitB}%
10170             \ifx\x\@pdfview
10171                 \let\x\@pdfview
10172             \else
10173                 \def\x{FitR}%
10174                 \ifx\x\@pdfview
10175                     \Hy@Warning{'pdfview=FitR' is not supported}%
10176                     \def\x{XYZ @xpos @ypos null}%
10177                 \else
10178                     \@onelevel@sanitize\@pdfview
10179                     \Hy@Warning{%
10180                         Unknown value '\@pdfview' for pdfview%
10181                     }%
10182                     \def\x{XYZ @xpos @ypos null}%
10183                 \fi
10184             \fi
10185         \fi
10186     \fi
10187 \fi
10188 \fi
10189 \fi
10190 \fi
10191 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
10192 \endgroup
10193 \Hy@RestoreLastskip
10194 }
10195 \providecommand*\@pdfview{XYZ}
10196 \providecommand*\@pdfborder{0 0 1}
10197 \providecommand*\@pdfborderstyle{}
10198 \def\hyper@anchor#1{%
10199     \@pdfm@dest{#1}%
10200 }
10201 \def\hyper@anchorstart#1{%
10202     \Hy@activeanchortrue
10203     \@pdfm@dest{#1}%
10204 }
10205 \def\hyper@anchorend{%
10206     \Hy@activeanchorfalse
10207 }
10208 \newcounter{Hy@AnnotLevel}
10209 \ifHy@ocgcolorlinks
10210     \def\OBJ@OCG@view{@OCG@view}%
10211     \@pdfm@mark{%
10212         obj \OBJ@OCG@view <<%
10213         /Type/OCG%
10214         /Name(View)%
10215         /Usage<<%
10216         /Print<<%
10217         /PrintState/OFF%
10218         >>%
10219         /View<<%
10220         /ViewState/ON%
10221         >>%
10222         >>%
10223         >>%
10224     }%

```

```

10225 \@pdfm@mark{close \OBJ@OCG@view}%
10226 \def\OBJ@OCG@print{@OCG@print}%
10227 \@pdfm@mark{%
10228   obj \OBJ@OCG@print <<%
10229     /Type/OCG%
10230     /Name(Print)%
10231     /Usage<<%
10232     /Print<<%
10233     /PrintState/ON%
10234     >>%
10235     /View<<%
10236     /ViewState/OFF%
10237     >>%
10238     >>%
10239     >>%
10240   }%
10241 \@pdfm@mark{close \OBJ@OCG@print}%
10242 \def\OBJ@OCGs{@OCGs}%
10243 \@pdfm@mark{%
10244   obj \OBJ@OCGs [%
10245     \OBJ@OCG@view\space\OBJ@OCG@print
10246   ]%
10247 }%
10248 \@pdfm@mark{close \OBJ@OCGs}%
10249 \@pdfm@mark{%
10250   put @catalog <<%
10251     /OCProperties<<%
10252     /OCGs \OBJ@OCGs
10253     /D<<%
10254     /OFF[\OBJ@OCG@print]%
10255     /AS[%
10256       <<%
10257         /Event/View%
10258         /OCGs \OBJ@OCGs
10259         /Category[/View]%
10260       >>%
10261       <<%
10262         /Event/Print%
10263         /OCGs \OBJ@OCGs
10264         /Category[/Print]%
10265       >>%
10266       <<%
10267         /Event/Export%
10268         /OCGs \OBJ@OCGs
10269         /Category[/Print]%
10270       >>%
10271     ]%
10272     >>%
10273     >>%
10274     >>%
10275   }%
10276 \AtBeginShipout{%
10277   \setbox\AtBeginShipoutBox=\hbox{%
10278     \copy\AtBeginShipoutBox
10279   \@pdfm@mark{%
10280     put @resources <<%
10281     /Properties<<%

```

```

10282         /OCView \OBJ@OCG@view
10283         /OCPrint \OBJ@OCG@print
10284     >>%
10285     >>%
10286     }%
10287     }%
10288 }%
10289 \Hy@AtBeginDocument{%
10290     \def\Hy@colorlink#1{%
10291         \begingroup
10292         \ifHy@ocgcolorlinks
10293             \def\Hy@ocgcolor{#1}%
10294             \setbox0=\hbox\bgroup\color@begingroup
10295         \else
10296             \HyColor@UseColor#1%
10297         \fi
10298     }%
10299     \def\Hy@endcolorlink{%
10300         \ifHy@ocgcolorlinks
10301             \color@endgroup\egroup
10302         \mbox{%
10303             \@pdfm@mark{content /OC/OCPrint BDC}%
10304             \rlap{\copy0}%
10305             \@pdfm@mark{content EMC/OC/OCView BDC}%
10306         \begingroup
10307             \expandafter\HyColor@UseColor\Hy@ocgcolor
10308             \box0 %
10309         \endgroup
10310         \@pdfm@mark{content EMC}%
10311     }%
10312     \fi
10313     \endgroup
10314 }%
10315 }%
10316 \else
10317     \Hy@DisableOption{ocgcolorlinks}%
10318 \fi
10319 \def\Hy@BeginAnnot#1{%
10320     \stepcounter{Hy@AnnotLevel}%
10321     \ifnum\value{Hy@AnnotLevel}=\@ne
10322         #1%
10323     \fi
10324 }
10325 \def\Hy@endAnnot{%
10326     \ifnum\value{Hy@AnnotLevel}=\@ne
10327         \Hy@endcolorlink
10328         \@pdfm@mark{eann}%
10329     \fi
10330     \addtocounter{Hy@AnnotLevel}\m@ne
10331 }
10332 \def\Hy@undefinedname{UNDEFINED}
10333 \def\hyper@linkstart#1#2{%
10334     \Hy@VerboseLinkStart{#1}{#2}%
10335     \leavevmode
10336     \Hy@BeginAnnot{%
10337         \protected@edef\Hy@testname{#2}%
10338         \ifx\Hy@testname\@empty

```

```

10339 \Hy@Warning{%
10340   Empty destination name,\MessageBreak
10341   using '\Hy@undefinedname'%
10342 }%
10343 \let\Hy@testname\Hy@undefinedname
10344 \else
10345 \Hy@pstringdef\Hy@testname{%
10346 \expandafter\HyperDestNameFilter\expandafter{%
10347 \Hy@testname
10348 }%
10349 }%
10350 \fi
10351 \@pdfm@mark{%
10352   bann<<%
10353   /Type/Annot%
10354   /Subtype/Link%
10355   \ifHy@pdfa /F 4\fi
10356   \Hy@setpdfborder
10357   \expandafter\ifx\csname @#1bordercolor\endcsname\relax
10358   \else
10359     /C[\csname @#1bordercolor\endcsname]%
10360   \fi
10361   /A<<%
10362   /S/GoTo%
10363   /D(\Hy@testname)%
10364   \Hy@href@nextactionraw
10365   >>%
10366   >>%
10367   }%
10368   \expandafter\Hy@colorlink\csname @#1color\endcsname
10369 }%
10370 }
10371 \def\hyper@linkend{\Hy@EndAnnot}%
10372 \def\hyper@link#1#2#3{%
10373 \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
10374 }
10375 \def\hyper@linkfile#1#2#3{%
10376 \leavevmode
10377 \Hy@BeginAnnot{%
10378 \def\Hy@pstringF{#2}%
10379 \Hy@CleanupFile\Hy@pstringF
10380 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10381 \Hy@pstringdef\Hy@pstringD{#3}%
10382 \Hy@MakeRemoteAction
10383 \@pdfm@mark{%
10384   bann<<%
10385   /Type/Annot%
10386   /Subtype/Link%
10387   \ifHy@pdfa /F 4\fi
10388   \Hy@setpdfborder
10389   \ifx\@filebordercolor\relax
10390   \else
10391     /C[\@filebordercolor]%
10392   \fi
10393   /A<<%
10394   /S/GoToR%
10395   /F(\Hy@pstringF)%

```

```

10396      /D%
10397      \ifx\\#3\\%
10398      [\Hy@href@page\@pdfremotestartview]%
10399      \else
10400      (\Hy@pstringD)%
10401      \fi
10402      \Hy@SetNewWindow
10403      \Hy@href@nextactionraw
10404      >>%
10405      >>%
10406      }%
10407      \Hy@colorlink\@filecolor
10408      }%
10409      #1\Hy@xspace@end
10410      \Hy@EndAnnot
10411  }
10412  \def\@hyper@launch run:#1\\#2#3{% filename, anchor text linkname
10413  \leavevmode
10414  \Hy@BeginAnnot{%
10415  \Hy@pstringdef\Hy@pstringF{#1}%
10416  \Hy@pstringdef\Hy@pstringP{#3}%
10417  \@pdfm@mark{%
10418  bann<<%
10419  /Type/Annot%
10420  /Subtype/Link%
10421  \ifHy@pdfa /F 4\fi
10422  \Hy@setpdfborder
10423  \ifx\@runbordercolor\relax
10424  \else
10425  /C[\@runbordercolor]%
10426  \fi
10427  /A<<%
10428  /F(\Hy@pstringF)%
10429  /S/Launch%
10430  \Hy@SetNewWindow
10431  \ifx\\#3\\%
10432  \else
10433  /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10434  \fi
10435  \Hy@href@nextactionraw
10436  >>%
10437  >>%
10438  }%
10439  \Hy@colorlink\@runcolor
10440  }%
10441  #2\Hy@xspace@end
10442  \Hy@EndAnnot
10443  }
10444  \def\hyper@linkurl#1#2{%
10445  \leavevmode
10446  \Hy@BeginAnnot{%
10447  \Hy@pstringdef\Hy@pstringURI{#2}%
10448  \@pdfm@mark{%
10449  bann<<%
10450  /Type/Annot%
10451  /Subtype/Link%
10452  \ifHy@pdfa /F 4\fi

```

```

10453 \Hy@setpdfborder
10454 \ifx\@urlbordercolor\relax
10455 \else
10456 /C[\@urlbordercolor]%
10457 \fi
10458 /A<<%
10459 /S/URI%
10460 /URI(\Hy@pstringURI)%
10461 \ifHy@href@ismap
10462 /IsMap true%
10463 \fi
10464 \Hy@href@nextactionraw
10465 >>%
10466 >>%
10467 }%
10468 \Hy@colorlink\@urlcolor
10469 }%
10470 #1\Hy@xspace@end
10471 \Hy@EndAnnot
10472 }
10473 \def\Acrobatmenu#1#2{%
10474 \Hy@Acrobatmenu{#1}{#2}{%
10475 \Hy@BeginAnnot{%
10476 \EdefEscapeName\Hy@temp@menu{#1}%
10477 \@pdfm@mark{%
10478 bann<<%
10479 /Type/Annot%
10480 /Subtype/Link%
10481 \ifHy@pdfa /F 4\fi
10482 \Hy@setpdfborder
10483 \ifx\@menubordercolor\relax
10484 \else
10485 /C[\@menubordercolor]%
10486 \fi
10487 /A<<%
10488 /S/Named%
10489 /N/\Hy@temp@menu
10490 \Hy@href@nextactionraw
10491 >>%
10492 >>%
10493 }%
10494 \Hy@colorlink\@menucolor
10495 }%
10496 #2\Hy@xspace@end
10497 \Hy@EndAnnot
10498 }%
10499 }
10500 \ifx\@pdfproducer\relax
10501 \def\@pdfproducer{dvipdfm}%

```

Detect XeTeX. However, but xdvipdfmx will overwrite it in the final PDF file.

```

10502 \begingroup\expandafter\expandafter\expandafter\endgroup
10503 \expandafter\ifx\csname XeTeXversion\endcsname\relax
10504 \else
10505 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10506 \fi
10507 \fi
10508 \def\PDF@FinishDoc{%

```

```

10509 \Hy@UseMaketitleInfos
10510 \HyInfo@GenerateAddons
10511 \@pdfm@mark{%
10512   docinfo<<%
10513     /Title(\@pdftitle)%
10514     /Subject(\@pdfsubject)%
10515     /Creator(\@pdfcreator)%
10516     \ifx\@pdfcreationdate\@empty
10517     \else
10518       /CreationDate(\@pdfcreationdate)%
10519     \fi
10520     \ifx\@pdfmoddate\@empty
10521     \else
10522       /ModDate(\@pdfmoddate)%
10523     \fi
10524     /Author(\@pdfauthor)%
10525     \ifx\@pdfproducer\relax
10526     \else
10527       /Producer(\@pdfproducer)%
10528     \fi
10529     /Keywords(\@pdfkeywords)%
10530     \ifx\@pdftrapped\@empty
10531     \else
10532       /Trapped/\@pdftrapped
10533     \fi
10534     \HyInfo@Addons
10535   >>%
10536 }%
10537 \Hy@DisableOption{pdfauthor}%
10538 \Hy@DisableOption{pdftitle}%
10539 \Hy@DisableOption{pdfsubject}%
10540 \Hy@DisableOption{pdfcreator}%
10541 \Hy@DisableOption{pdfcreationdate}%
10542 \Hy@DisableOption{pdfmoddate}%
10543 \Hy@DisableOption{pdfproducer}%
10544 \Hy@DisableOption{pdfkeywords}%
10545 \Hy@DisableOption{pdftrapped}%
10546 \Hy@DisableOption{pdfinfo}%
10547 }

10548 \def\PDF@SetupDoc{%
10549   \edef\Hy@temp{%
10550     \ifHy@pdftoolbar\else /HideToolbar true\fi
10551     \ifHy@pdfmenubar\else /HideMenubar true\fi
10552     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10553     \ifHy@pdffitwindow /FitWindow true\fi
10554     \ifHy@pdfcenterwindow /CenterWindow true\fi
10555     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10556     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10557     \Hy@UseNameKey{Direction}\@pdfdirection
10558     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10559     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10560     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10561     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10562     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10563     \Hy@UseNameKey{Duplex}\@pdfduplex
10564     \ifx\@pdfpicktraybypdfsize\@empty
10565     \else

```



```

10566 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10567 \fi
10568 \ifx\@pdfprintpagerange\@empty
10569 \else
10570 /PrintPageRange[\@pdfprintpagerange]%
10571 \fi
10572 \ifx\@pdfnumcopies\@empty
10573 \else
10574 /NumCopies \@pdfnumcopies
10575 \fi
10576 }%
10577 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10578 \@pdfm@mark{%
10579 docview<<%
10580 \ifx\@pdfstartpage\@empty
10581 \else
10582 \ifx\@pdfstartview\@empty
10583 \else
10584 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10585 \fi
10586 \fi
10587 \ifx\@baseurl\@empty
10588 \else
10589 /URI<</Base(\Hy@pstringB)>>%
10590 \fi
10591 /PageMode/\@pdfpagemode
10592 \ifx\Hy@temp\@empty
10593 \else
10594 /ViewerPreferences<<\Hy@temp>>%
10595 \fi
10596 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10597 \ifx\@pdflang\@empty
10598 \else
10599 /Lang(\@pdflang)%
10600 \fi
10601 >>%
10602 }%
10603 \ifx\@pdfpagescrop\@empty
10604 \else
10605 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10606 \fi
10607 }
10608 </dvipdfm | xetex>
10609 <*dvipdfm | xetex>

```

\hyper@pagetransition

```

10610 \def\hyper@pagetransition{%
10611 \ifx\@pdfpagetransition\relax
10612 \else
10613 \ifx\@pdfpagetransition\@empty
10614 \else
10615 \special{pdf:put @thispage %
10616 <</Trans<</S/\@pdfpagetransition>>>>%
10617 }%
10618 \fi
10619 \fi
10620 }

```

\hyper@pageduration

```

10621 \def\hyper@pageduration{%
10622   \ifx\@pdfpageduration\relax
10623   \else
10624     \ifx\@pdfpageduration\@empty
10625     \else
10626       \special{pdf:put @thispage %
10627         <</Dur \@pdfpageduration>>%
10628       }%
10629   \fi
10630 \fi
10631 }

```

\hyper@pagehidden

```

10632 \def\hyper@pagehidden{%
10633   \ifHy@useHidKey
10634     \special{pdf:put @thispage %
10635       <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10636     }%
10637   \fi
10638 }

10639 \g@addto@macro\Hy@EveryPageBoxHook{%
10640   \hyper@pagetransition
10641   \hyper@pageduration
10642   \hyper@pagehidden
10643 }

10644 </dvipdfm | xetex>

```

XeTeX uses pdfTeX's method \pdfpagewidth and \pdfpageheight for setting the paper size.

```

10645 < *dvipdfm>
10646 \AtBeginShipoutFirst{%
10647   \ifHy@setpagesize
10648     \begingroup
10649     \@ifundefined{stockwidth}{%
10650       \ifdim\paperwidth>\z@
10651       \ifdim\paperheight>\z@
10652         \special{papersize=\the\paperwidth,\the\paperheight}%
10653       \fi
10654     \fi
10655   }{%
10656     \ifdim\stockwidth>\z@
10657     \ifdim\stockheight>\z@
10658       \special{papersize=\the\stockwidth,\the\stockheight}%
10659     \fi
10660   \fi
10661 }%
10662 \endgroup
10663 \fi
10664 \Hy@DisableOption{setpagesize}%
10665 }
10666 </dvipdfm>

```

## 47.6 VTeX typesetting system

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

```
10667 <*vtexhtml>
10668 \providecommand*\XR@ext}{htm}
10669 \RequirePackage{vtexhtml}
10670 \newif\if@Localurl
10671 \let\PDF@FinishDoc\ltx@empty
10672 \def\PDF@SetupDoc{%
10673   \ifx\@baseurl\@empty
10674   \else
10675     \special{!direct <base href="\@baseurl">}%
10676   \fi
10677 }
10678 \def\@urltype{url}
10679 \def\hyper@link#1#2#3{%
10680   \Hy@VerboseLinkStart{#1}{#2}%
10681   \leavevmode
10682   \special{!direct <a href=%
10683     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10684   #3\Hy@xspace@end
10685   \special{!direct </a>}%
10686 }
10687 \def\hyper@linkurl#1#2{%
10688   \begingroup
10689     \hyper@chars
10690     \leavevmode
10691     \MathBSuppress=1\relax
10692     \special{!direct <a href=%
10693       \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10694     #1\Hy@xspace@end
10695     \MathBSuppress=0\relax
10696     \special{!direct </a>}%
10697   \endgroup
10698 }
10699 \def\hyper@linkfile#1#2#3{%
10700   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\###3\fi}%
10701 }
10702 \def\hyper@linkstart#1#2{%
10703   \Hy@VerboseLinkStart{#1}{#2}%
10704   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10705     \@Localurltrue
10706     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10707   \else
10708     \@Localurlfalse
10709     \begingroup
10710       \hyper@chars
10711       \special{!aref \HyperDestNameFilter{#2}}%
10712     \endgroup
10713   \fi
10714 }
10715 \def\hyper@linkend{%
10716   \if@Localurl
10717     \special{!endaref}%
10718   \else
10719     \special{!direct </a>}%
```

```

10720 \fi
10721 }
10722 \Hy@WrapperDef\hyper@anchorstart#1{%
10723 \Hy@SaveLastskip
10724 \Hy@VerboseAnchor{#1}%
10725 \begingroup
10726 \hyper@chars
10727 \special{!aname #1}%
10728 \special{!direct <a name=%
10729 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
10730 \endgroup
10731 \Hy@activeanchortrue
10732 }
10733 \def\hyper@anchorend{%
10734 \special{!direct </a>}}%
10735 \Hy@activeanchorfalse
10736 \Hy@RestoreLastskip
10737 }
10738 \Hy@WrapperDef\hyper@anchor#1{%
10739 \Hy@SaveLastskip
10740 \Hy@VerboseAnchor{#1}%
10741 \begingroup
10742 \let\protect=\string
10743 \hyper@chars
10744 \leavevmode
10745 \special{!aname #1}%
10746 \special{!direct <a name=%
10747 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
10748 \endgroup
10749 \Hy@activeanchortrue
10750 \bgroup\anchor@spot\egroup
10751 \special{!direct </a>}}%
10752 \Hy@activeanchorfalse
10753 \Hy@RestoreLastskip
10754 }
10755 \def\@Form[#1]{%
10756 \Hy@Message{Sorry, TeXpider does not yet support FORMs}}%
10757 }
10758 \let\@endForm\ltx@empty
10759 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10760 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}}%
10761 }
10762 \def\@TextField[#1]#2{% parameters, label
10763 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}}%
10764 }
10765 \def\@CheckBox[#1]#2{% parameters, label
10766 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}}%
10767 }
10768 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10769 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}}%
10770 }
10771 \def\@PushButton[#1]#2{% parameters, label
10772 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}}%
10773 }
10774 \def\@Reset[#1]#2{%
10775 \Hy@Message{Sorry, TeXpider does not yet support FORMs}}%
10776 }

```

```

10777 \def\@Submit[#1]#2{%
10778   \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10779 }
10780 </vtexhtml>
10781 <*vtex>

```

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

```

10782 \ifx\mediaheight\@undefined
10783 \else
10784   \ifx\mediaheight\relax
10785   \else
10786     \ifHy@setpagesize
10787       \providecommand*\VTeXInitMediaSize{%
10788         \ltx@ifundefined{stockwidth}{%
10789           \ifdim\paperheight>0pt %
10790             \setlength\mediaheight\paperheight
10791           \fi
10792           \ifdim\paperheight>0pt %
10793             \setlength\mediawidth\paperwidth
10794           \fi
10795         }{%
10796           \ifdim\stockheight>0pt %
10797             \setlength\mediaheight\stockheight
10798           \fi
10799           \ifdim\stockwidth>0pt %
10800             \setlength\mediawidth\stockwidth
10801           \fi
10802         }%
10803       }%
10804     \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10805   \fi
10806   \Hy@DisableOption{setpagesize}%
10807 \fi
10808 \fi

```

Older versions of VTeX require `xyz` in lower case.

```

10809 \providecommand*\@pdfview{xyz}
10810 \providecommand*\@pdfborder{0 0 1}
10811 \providecommand*\@pdfborderstyle{}
10812 \let\CurrentBorderColor\@linkbordercolor
10813 \Hy@WrapperDef\hyper@anchor#1{%
10814   \Hy@SaveLastskip
10815   \Hy@VerboseAnchor{#1}%
10816   \begingroup
10817     \let\protect=\string
10818     \hyper@chars
10819     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10820   \endgroup
10821   \Hy@activeanchortrue
10822   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10823   \Hy@activeanchorfalse
10824   \Hy@RestoreLastskip
10825 }
10826 \Hy@WrapperDef\hyper@anchorstart#1{%
10827   \Hy@SaveLastskip
10828   \Hy@VerboseAnchor{#1}%

```

```

10829 \begingroup
10830 \hyper@chars
10831 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10832 \endgroup
10833 \Hy@activeanchortrue
10834 }
10835 \def\hyper@anchorend{%
10836 \Hy@activeanchorfalse
10837 \Hy@RestoreLastskip
10838 }
10839 \def\@urltype{url}
10840 \def\Hy@undefinedname{UNDEFINED}
10841 \def\hyper@linkstart#1#2{%
10842 \Hy@VerboseLinkStart{#1}{#2}%
10843 \Hy@pstringdef\Hy@pstringURI{#2}%
10844 \expandafter\Hy@colorlink\csname @#1color\endcsname
10845 \ltx@ifundefined{@#1bordercolor}{%
10846 \let\CurrentBorderColor\relax
10847 }{%
10848 \edef\CurrentBorderColor{%
10849 \csname @#1bordercolor\endcsname
10850 }%
10851 }%
10852 \def\Hy@tempa{#1}%
10853 \ifx\Hy@tempa\@urltype
10854 \special{!%
10855 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10856 \ifHy@href@ismap
10857 /IsMap true%
10858 \fi
10859 \Hy@href@nextactionraw
10860 >;%
10861 a=<%
10862 \ifHy@pdfa /F 4\fi
10863 \Hy@setpdfborder
10864 \ifx\CurrentBorderColor\relax
10865 \else
10866 /C [\CurrentBorderColor]%
10867 \fi
10868 >%
10869 }%
10870 \else
10871 \protected@edef\Hy@testname{#2}%
10872 \ifx\Hy@testname\@empty
10873 \Hy@Warning{%
10874 Empty destination name,\MessageBreak
10875 using '\Hy@undefinedname'%
10876 }%
10877 \let\Hy@testname\Hy@undefinedname
10878 \fi
10879 \special{!%
10880 aref \expandafter\HyperDestNameFilter
10881 \expandafter{\Hy@testname};%
10882 a=<%
10883 \ifHy@pdfa /F 4\fi
10884 \Hy@setpdfborder
10885 \ifx\CurrentBorderColor\relax

```

```

10886     \else
10887     /C [\CurrentBorderColor]%
10888     \fi
10889     >%
10890     }%
10891     \fi
10892 }
10893 \def\hyper@linkend{%
10894 \special{!endaref}%
10895 \Hy@endcolorlink
10896 }
10897 \def\hyper@linkfile#1#2#3{%
10898 \leavevmode
10899 \def\Hy@pstringF{#2}%
10900 \Hy@CleanupFile\Hy@pstringF
10901 \special{!%
10902   aref <%
10903   \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
10904   f=\Hy@pstringF>#3;%
10905   a=<%
10906     \ifHy@pdfa /F 4\fi
10907     \Hy@setpdfborder
10908     \ifx\@filebordercolor\relax
10909     \else
10910     /C [\@filebordercolor]%
10911     \fi
10912     >%
10913     }%
10914     \Hy@colorlink\@filecolor
10915     #1\Hy@xspace@end
10916     \Hy@endcolorlink
10917     \special{!endaref}%
10918 }
10919 \def\hyper@linkurl#1#2{%
10920 \begingroup
10921 \Hy@pstringdef\Hy@pstringURI{#2}%
10922 \hyper@chars
10923 \leavevmode
10924 \special{!%
10925   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10926   \ifHy@href@ismap
10927   /IsMap true%
10928   \fi
10929   \Hy@href@nextactionraw
10930   >;%
10931   a=<%
10932     \ifHy@pdfa /F 4\fi
10933     \Hy@setpdfborder
10934     \ifx\@urlbordercolor\relax
10935     \else
10936     /C [\@urlbordercolor]%
10937     \fi
10938     >%
10939     }%
10940     \Hy@colorlink\@urlcolor
10941     #1\Hy@xspace@end
10942     \Hy@endcolorlink

```

```

10943 \special{!endaref}%
10944 \endgroup
10945 }
10946 \def\hyper@link#1#2#3{%
10947 \Hy@VerboseLinkStart{#1}{#2}%
10948 \ltx@ifundefined{#1bordercolor}{%
10949 \let\CurrentBorderColor\relax
10950 }{%
10951 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10952 }%
10953 \leavevmode
10954 \protected@edef\Hy@testname{#2}%
10955 \ifx\Hy@testname\@empty
10956 \Hy@Warning{%
10957 Empty destination name,\MessageBreak
10958 using '\Hy@undefinedname'%
10959 }%
10960 \let\Hy@testname\Hy@undefinedname
10961 \fi
10962 \special{!%
10963 aref \expandafter\HyperDestNameFilter
10964 \expandafter{\Hy@testname};%
10965 a=<%
10966 \ifHy@pdfa /F 4\fi
10967 \Hy@setpdfborder
10968 \ifx\CurrentBorderColor\relax
10969 \else
10970 /C [\CurrentBorderColor]%
10971 \fi
10972 >%
10973 }%
10974 \expandafter
10975 \Hy@colorlink\csname @#1color\endcsname
10976 #3\Hy@xspace@end
10977 \Hy@endcolorlink
10978 \special{!endaref}%
10979 }
10980 \def\hyper@image#1#2{%
10981 \hyper@linkurl{#2}{#1}%
10982 }
10983 \def\@hyper@launch run:#1\#2#3{%
10984 \Hy@pstringdef\Hy@pstringF{#1}%
10985 \Hy@pstringdef\Hy@pstringP{#3}%
10986 \leavevmode
10987 \special{!aref %
10988 <u=%
10989 /Type/Action%
10990 /S/Launch%
10991 /F(\Hy@pstringF)%
10992 \Hy@SetNewWindow
10993 \ifx\#3\%
10994 \else
10995 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10996 \fi
10997 \Hy@href@nextactionraw
10998 >,%
10999 a=<%

```



```

11000 \ifHy@pdfa /F 4\fi
11001 \Hy@setpdfborder
11002 \ifx\@runbordercolor\relax
11003 \else
11004 /C[\@runbordercolor]%
11005 \fi
11006 >%
11007 }%
11008 \Hy@colorlink\@runcolor
11009 #2\Hy@xspace@end
11010 \Hy@endcolorlink
11011 \special{!endaref}%
11012 }
11013 \def\Acrobatmenu#1#2{%
11014 \EdefEscapeName\Hy@temp@menu{#1}%
11015 \Hy@Acrobatmenu{#1}{#2}{%
11016 \special{!%
11017 aref <u=/S /Named /N /\Hy@temp@menu>;%
11018 a=<%
11019 \ifHy@pdfa /F 4\fi
11020 \Hy@setpdfborder
11021 \ifx\@menubordercolor\relax
11022 \else
11023 /C[\@menubordercolor]%
11024 \fi
11025 >%
11026 }%
11027 \Hy@colorlink\@menucolor
11028 #2\Hy@xspace@end
11029 \Hy@endcolorlink
11030 \special{!endaref}%
11031 }%
11032 }

```

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

The code below makes sense for V<sub>T</sub>E<sub>X</sub> 7.02 or later.

Please never use \@ifundefined{V<sub>T</sub>E<sub>X</sub>version}{..}{..} *globally*.

```

11033 \ifnum\Hy@VTeXversion<702 %
11034 \else
11035 \def\hyper@pagetransition{%
11036 \ifx\@pdfpagetransition\relax
11037 \else
11038 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

11039 \else
11040 \hvtex@parse@trans\@pdfpagetransition
11041 \fi
11042 \fi
11043 }%

```

I have to write an “honest” parser to convert raw PDF code into V<sub>T</sub>E<sub>X</sub> \special. (AVK)

Syntax of V<sub>T</sub>E<sub>X</sub> \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:

```

11044 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
11045 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
11046 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
11047 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
11048 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
11049 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
11050 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

11051 \def\hvtex@par@dimension{/Dm}%
11052 \def\hvtex@par@direction{/Di}%
11053 \def\hvtex@par@duration{/D}%
11054 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

11055 \def\hvtex@gettoken{%
11056   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
11057 }%

```

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

```

11058 \def\hvtex@gettoken@#1 #2\@nil{%
11059   \edef\hvtex@token{#1}%
11060   \edef\hvtex@buffer{#2}%
11061 }%
11062 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

11063 \let\hvtex@trans@code\@empty
11064 \let\hvtex@param@dimension\@empty
11065 \let\hvtex@param@direction\@empty
11066 \let\hvtex@param@duration\@empty
11067 \let\hvtex@param@motion\@empty
11068 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

11069 \hvtex@gettoken
11070 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

11071 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

11072   \else
11073     \hvtex@gettoken
11074   \fi
11075 \fi
11076 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```
11077 \hvtex@trans@params
11078 }%
```

Reentrant macro to parse optional parameters.

```
11079 \def\hvtex@trans@params{%
11080 \ifx\hvtex@buffer\@empty
11081 \else
11082 \hvtex@gettoken
11083 \let\hvtex@trans@par\hvtex@token
11084 \ifx\hvtex@buffer\@empty
11085 \else
11086 \hvtex@gettoken
11087 \ifx\hvtex@trans@par\hvtex@par@duration
```

/D is the effect duration in seconds. V<sub>TEX</sub> special takes it in milliseconds.

```
11088 \let\hvtex@param@duration\hvtex@token
11089 \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
11090 \expandafter\edef\expandafter\hvtex@param@motion
11091 \expandafter{\expandafter\@gobble\hvtex@token}%
11092 \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
11093 \expandafter\edef\expandafter\hvtex@param@dimension
11094 \expandafter{\expandafter\@gobble\hvtex@token}%
11095 \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).

```
11096 \let\hvtex@param@direction\hvtex@token
11097 \fi\fi\fi
11098 \fi
11099 \fi
11100 \ifx\hvtex@buffer\@empty
11101 \let\next\hvtex@produce@trans
11102 \else
11103 \let\next\hvtex@trans@params
11104 \fi
11105 \next
11106 }%
```

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

```
11107 \def\hvtex@produce@trans{%
11108 \let\vtex@trans@special\@empty
11109 \if S\hvtex@trans@code
11110 \edef\vtex@trans@special{\hvtex@trans@code
11111 \hvtex@param@dimension\hvtex@param@motion}%
11112 \else\if B\hvtex@trans@code
11113 \edef\vtex@trans@special{%
11114 \hvtex@trans@code\hvtex@param@dimension
11115 }%
11116 \else\if X\hvtex@trans@code
11117 \edef\vtex@trans@special{%
11118 \hvtex@trans@code\hvtex@param@motion
11119 }%
11120 \else\if W\hvtex@trans@code
```

```

11121 \edef\vtex@trans@special{%
11122   \hvtex@trans@code\hvtex@param@direction
11123 }%
11124 \else\if D\hvtex@trans@code
11125   \let\vtex@trans@special\hvtex@trans@code
11126 \else\if R\hvtex@trans@code
11127   \let\vtex@trans@special\hvtex@trans@code
11128 \else\if G\hvtex@trans@code
11129   \edef\vtex@trans@special{%
11130     \hvtex@trans@code\hvtex@param@direction
11131   }%
11132 \fi\fi\fi\fi\fi\fi
11133 \ifx\vtex@trans@special\@empty
11134   \else
11135     \ifx\hvtex@param@duration\@empty
11136     \else
11137       \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

11138   \multiply\dimen@\@m
11139   \edef\vtex@trans@special{%
11140     \vtex@trans@special,\strip@pt\dimen@
11141   }%
11142 \fi

```

And all the mess is just for this.

```

11143   \special{!trans \vtex@trans@special}%
11144 \fi
11145 }%
11146 \def\hyper@pageduration{%
11147   \ifx\@pdfpageduration\relax
11148   \else
11149     \ifx\@pdfpageduration\@empty
11150       \special{!duration-}%
11151     \else
11152       \special{!duration \@pdfpageduration}%
11153     \fi
11154   \fi
11155 }%
11156 \def\hyper@pagehidden{%
11157   \ifHy@useHidKey
11158     \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
11159   \fi
11160 }%
11161 \g@addto@macro\Hy@EveryPageBoxHook{%
11162   \hyper@pagetransition
11163   \hyper@pageduration
11164   \hyper@pagehidden
11165 }%
11166 \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
11167 \ifx\@pdfproducer\relax
11168 \def\@pdfproducer{VTeX}%
11169 \ifnum\Hy@VTeXversion>\z@
11170 \count@\VTeXversion
11171 \divide\count@ 100 %
11172 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
11173 \multiply\count@ -100 %
11174 \advance\count@\VTeXversion
11175 \edef\@pdfproducer{%
11176 \@pdfproducer
11177 .\ifnum\count@<10 0\fi\the\count@
11178 \ifx\VTeXOS\@undefined\else
11179 \ifnum\VTeXOS>0 %
11180 \ifnum\VTeXOS<6 %
11181 \space(%
11182 \ifcase\VTeXOS
11183 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
11184 \fi
11185 )%
11186 \fi
11187 \fi
11188 \fi
11189 ,\space
11190 \ifnum\OpMode=\@one PDF\else PS\fi
11191 \space backend%
11192 \ifx\gexmode\@undefined\else
11193 \ifnum\gexmode>\z@\space with GeX\fi
11194 \fi
11195 }%
11196 \fi
11197 \fi

```

Current `!pdfinfo` key syntax:

Key	Field	Type
<b>a</b>	<b>Author</b>	String
<b>b</b>	<b>CropBox</b>	String
<b>c</b>	<b>Creator</b>	String
<b>k</b>	<b>Keywords</b>	String
<b>l</b>	<b>PageLayout</b>	PS
<b>p</b>	<b>PageMode</b>	PS
<b>r</b>	<b>Producer</b>	String
<b>s</b>	<b>Subject</b>	String
<b>t</b>	<b>Title</b>	String
<b>u</b>	<b>URI</b>	PS
<b>v</b>	<b>ViewPreferences</b>	PS

Note: PS objects that are dicts are in `<<...>>` (yuck; no choice).

```

11198 \def\PDF@SetupDoc{%
11199 \ifx\@pdfpagescrop\@empty
11200 \else
11201 \special{!pdfinfo b=<\@pdfpagescrop>}%
11202 \fi

```

```

11203 \ifx\@pdfstartpage\@empty
11204 \else
11205 \ifx\@pdfstartview\@empty
11206 \else
11207 \special{!onopen Page\@pdfstartpage}%
11208 \fi
11209 \fi
11210 \special{!pdfinfo p=</\@pdfpagemode>}%
11211 \ifx\@baseurl\@empty
11212 \else
11213 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
11214 \fi
11215 \special{!pdfinfo v=<<<%
11216 \ifHy@pdftoolbar\else /HideToolbar true\fi
11217 \ifHy@pdfmenubar\else /HideMenubar true\fi
11218 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11219 \ifHy@pdfwindow /FitWindow true\fi
11220 \ifHy@pdfcenterwindow /CenterWindow true\fi
11221 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11222 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11223 \Hy@UseNameKey{Direction}\@pdfdirection
11224 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11225 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11226 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11227 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11228 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11229 \Hy@UseNameKey{Duplex}\@pdfduplex
11230 \ifx\@pdfpicktraybypdfsize\@empty
11231 \else
11232 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11233 \fi
11234 \ifx\@pdfprintpagerange\@empty
11235 \else
11236 /PrintPageRange[\@pdfprintpagerange]%
11237 \fi
11238 \ifx\@pdfnumcopies\@empty
11239 \else
11240 /NumCopies \@pdfnumcopies
11241 \fi
11242 >>>}%
11243 \ifx\@pdfpagelayout\@empty
11244 \else
11245 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
11246 \fi
11247 }%
11248 \HyInfo@AddonUnsupportedtrue
11249 \define@key{Hyp}{pdfcreationdate}{%
11250 \Hy@Warning{%
11251 VTeX does not support pdfcreationdate.\MessageBreak
11252 Therefore its setting is ignored%
11253 }%
11254 }
11255 \define@key{Hyp}{pdfmoddate}{%
11256 \Hy@Warning{%
11257 VTeX does not support pdfmoddate.\MessageBreak
11258 Therefore its setting is ignored%
11259 }%

```

```

11260 }
11261 \def\PDF@FinishDoc{%
11262   \Hy@UseMaketitleInfos
11263   \HyInfo@TrappedUnsupported
11264   \special{!pdfinfo a=<\pdfauthor>}%
11265   \special{!pdfinfo t=<\pdftitle>}%
11266   \special{!pdfinfo s=<\pdfsubject>}%
11267   \special{!pdfinfo c=<\pdfcreator>}%
11268   \ifx\pdfproducer\relax
11269   \else
11270     \special{!pdfinfo r=<\pdfproducer>}%
11271   \fi
11272   \special{!pdfinfo k=<\pdfkeywords>}%
11273   \Hy@DisableOption{pdfauthor}%
11274   \Hy@DisableOption{pdftitle}%
11275   \Hy@DisableOption{pdfsubject}%
11276   \Hy@DisableOption{pdfcreator}%
11277   \Hy@DisableOption{pdfcreationdate}%
11278   \Hy@DisableOption{pdfmoddate}%
11279   \Hy@DisableOption{pdfproducer}%
11280   \Hy@DisableOption{pdfkeywords}%
11281   \Hy@DisableOption{pdftrapped}%
11282   \Hy@DisableOption{pdfinfo}%
11283 }
11284 \</vtx>

```

## 47.7 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.

```

11285 \dviwindo\def\literalps@out#1{\special{ps:#1}}%
11286 \package\providecommand*\Hy@DistillerDestFix{}
11287 \*pdfmark | dviwindo
11288 \def\Hy@DistillerDestFix{%
11289   \begingroup
11290   \let\x\literalps@out

```

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

```

11291   \ifnum \@ifundefined{OpMode}{0}{%
11292     \@ifundefined{gexmode}{0}{%
11293       \ifnum\gexmode>0 \OpMode\else 0\fi
11294     }>1 %
11295   \def\x##1{%
11296     \immediate\special{!##1}%
11297   }%
11298   \fi
11299   \x{%
11300     /product where{%
11301       pop %

```

```

11302     product(Distiller)search{%
11303     pop pop pop %
11304     version(.)search{%
11305     exch pop exch pop%
11306     (3011)eq{%
11307     gsave %
11308     newpath 0 0 moveto closepath clip%
11309     /Courier findfont 10 scalefont setfont %
11310     72 72 moveto(.)show %
11311     grestore%
11312     }if%
11313     }{pop}ifelse%
11314     }{pop}ifelse%
11315     }if%
11316     }%
11317 \endgroup
11318 }
11319 </pdfmark | dviwindo>

```

## 47.8 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

```

```

11320 (*pdfmark)
11321 \Hy@breaklinks@unsupported
11322 \def\HyPat@ObjRef{%
11323   \[~{}]+\}%
11324 }
11325 \Hy@WrapperDef\hyper@anchor#1{%
11326   \Hy@SaveLastskip
11327   \Hy@VerboseAnchor{#1}%
11328   \begingroup
11329     \pdfmark[\anchor@spot]{%
11330       pdfmark=/DEST,%
11331       linktype=anchor,%
11332       View=/\@pdfview \@pdfviewparams,%
11333       DestAnchor={#1}%
11334     }%
11335   \endgroup
11336   \Hy@RestoreLastskip
11337 }
11338 \ltx@ifundefined{hyper@anchorstart}{\endinput}{}
11339 \Hy@WrapperDef\hyper@anchorstart#1{%
11340   \Hy@SaveLastskip
11341   \Hy@VerboseAnchor{#1}%
11342   \literalps@out{H.S}%

```



```

11343 \Hy@AllowHyphens
11344 \xdef\hyper@currentanchor{#1}%
11345 \Hy@activeanchortrue
11346 }
11347 \def\hyper@anchorend{%
11348 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11349 \pdfmark{%
11350 pdfmark=/DEST,%
11351 linktype=anchor,%
11352 View=/\@pdfview \@pdfviewparams,%
11353 DestAnchor=\hyper@currentanchor,%
11354 }%
11355 \Hy@activeanchorfalse
11356 \Hy@RestoreLastskip
11357 }
11358 \def\hyper@linkstart#1#2{%
11359 \Hy@VerboseLinkStart{#1}{#2}%
11360 \ifHy@breaklinks
11361 \else
11362 \leavevmode
11363 \ifmmode
11364 \def\Hy@LinkMath{$}%
11365 \else
11366 \let\Hy@LinkMath\ltx@empty
11367 \fi
11368 \Hy@SaveSpaceFactor
11369 \hbox\bgroup
11370 \Hy@RestoreSpaceFactor
11371 \Hy@LinkMath
11372 \fi
11373 \expandafter\Hy@colorlink\csname @#1color\endcsname
11374 \literalps@out{H.S}%
11375 \Hy@AllowHyphens
11376 \xdef\hyper@currentanchor{#2}%
11377 \gdef\hyper@currentlinktype{#1}%
11378 }
11379 \def\hyper@linkend{%
11380 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
11381 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
11382 \let\Hy@tempcolor\relax
11383 }{%
11384 \edef\Hy@tempcolor{%
11385 \csname @\hyper@currentlinktype bordercolor\endcsname
11386 }%
11387 }%
11388 \pdfmark{%
11389 pdfmark=/ANN,%
11390 linktype=link,%
11391 Subtype=/Link,%
11392 PDFAFlags=4,%
11393 Dest=\hyper@currentanchor,%
11394 AcroHighlight=\@pdfhighlight,%
11395 Border=\@pdfborder,%
11396 BorderStyle=\@pdfborderstyle,%
11397 Color=\Hy@tempcolor,%
11398 Raw=H.B%
11399 }%

```

```

11400 \Hy@endcolorlink
11401 \ifHy@breaklinks
11402 \else
11403   \Hy@LinkMath
11404   \Hy@SaveSpaceFactor
11405   \egroup
11406   \Hy@RestoreSpaceFactor
11407 \fi
11408 }

```

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.

```

11409 \begingroup
11410 \catcode'P=12 %
11411 \catcode'T=12 %
11412 \lowercase{\endgroup
11413 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11414 }
11415 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

11416 \def\hyper@pagetransition{%
11417   \ifx\@pdfpagetransition\relax
11418   \else
11419     \ifx\@pdfpagetransition\@empty
11420       % 1. Does an old entry have to be deleted?
11421       % 2. If 1=yes, how to delete?
11422     \else
11423       \pdfmark{%
11424         pdfmark=/PUT,%
11425         Raw={%
11426           \string{ThisPage\string}%
11427           <</Trans << /S /\@pdfpagetransition\space >> >>%
11428         }%
11429       }%
11430     \fi
11431   \fi
11432 }

```

`\hyper@pageduration`

```

11433 \def\hyper@pageduration{%
11434   \ifx\@pdfpageduration\relax
11435   \else
11436     \ifx\@pdfpageduration\@empty
11437       % 1. Does an old entry have to be deleted?
11438       % 2. If 1=yes, how to delete?
11439     \else
11440       \pdfmark{%
11441         pdfmark=/PUT,%
11442         Raw={%
11443           \string{ThisPage\string}%
11444           <</Dur \@pdfpageduration>>>%
11445         }%
11446       }%
11447     \fi
11448   \fi
11449 }

```

\hyper@pagehidden

```
11450 \def\hyper@pagehidden{%
11451   \ifHy@useHidKey
11452     \pdfmark{%
11453       pdfmark=/PUT,%
11454       Raw={%
11455         \string{ThisPage\string}%
11456         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11457       }%
11458     }%
11459   \fi
11460 }

11461 \g@addto@macro\Hy@EveryPageBoxHook{%
11462   \hyper@pagetransition
11463   \hyper@pageduration
11464   \hyper@pagehidden
11465 }

11466 \def\hyper@image#1#2{%
11467   \hyper@linkurl{#2}{#1}%
11468 }

11469 \def\Hy@undefinedname{UNDEFINED}
11470 \def\hyper@link#1#2#3{%
11471   \Hy@VerboseLinkStart{#1}{#2}%
11472   \ltx@ifundefined{@#1bordercolor}{%
11473     \let\Hy@tempcolor\relax
11474   }{%
11475     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11476   }%
11477   \begingroup
11478   \protected@edef\Hy@testname{#2}%
11479   \ifx\Hy@testname\@empty
11480     \Hy@Warning{%
11481       Empty destination name,\MessageBreak
11482       using '\Hy@undefinedname'%
11483     }%
11484     \let\Hy@testname\Hy@undefinedname
11485   \fi
11486   \pdfmark[{#3}]{%
11487     Color=\Hy@tempcolor,%
11488     linktype={#1},%
11489     AcroHighlight=\@pdfhighlight,%
11490     Border=\@pdfborder,%
11491     BorderStyle=\@pdfborderstyle,%
11492     pdfmark=/ANN,%
11493     Subtype=/Link,%
11494     PDFAFlags=4,%
11495     Dest=\Hy@testname
11496   }%
11497   \endgroup
11498 }

11499 \newtoks\pdf@docset
11500 \def\PDF@FinishDoc{%
11501   \Hy@UseMaketitleInfos
11502   \Hy@Info@GenerateAddons
11503   \let\Hy@temp\@empty
11504   \ifx\@pdfcreationdate\@empty
```

```

11505 \else
11506   \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11507 \fi
11508 \ifx\@pdfmoddate\@empty
11509 \else
11510   \expandafter\def\expandafter\Hy@temp\expandafter{%
11511     \Hy@temp
11512     ModDate=\@pdfmoddate,%
11513   }%
11514 \fi
11515 \ifx\@pdfproducer\relax
11516 \else
11517   \expandafter\def\expandafter\Hy@temp\expandafter{%
11518     \Hy@temp
11519     Producer=\@pdfproducer,%
11520   }%
11521 \fi
11522 \expandafter
11523 \pdfmark\expandafter{%
11524   \Hy@temp
11525   pdfmark=/DOCINFO,%
11526   Title=\@pdftitle,%
11527   Subject=\@pdfsubject,%
11528   Creator=\@pdfcreator,%
11529   Author=\@pdfauthor,%
11530   Keywords=\@pdfkeywords,%
11531   Trapped=\@pdftrapped
11532 }%
11533 \ifx\HyInfo@Addons\@empty
11534 \else
11535   \pdfmark{%
11536     pdfmark=/DOCINFO,%
11537     Raw={\HyInfo@Addons}%
11538   }%
11539 \fi
11540 \Hy@DisableOption{pdfauthor}%
11541 \Hy@DisableOption{pdftitle}%
11542 \Hy@DisableOption{pdfsubject}%
11543 \Hy@DisableOption{pdfcreator}%
11544 \Hy@DisableOption{pdfcreationdate}%
11545 \Hy@DisableOption{pdfmoddate}%
11546 \Hy@DisableOption{pdfproducer}%
11547 \Hy@DisableOption{pdfkeywords}%
11548 \Hy@DisableOption{pdftrapped}%
11549 \Hy@DisableOption{pdfinfo}%
11550 }
11551 \def\PDF@SetupDoc{%
11552   \def\Hy@temp{}%
11553   \ifx\@pdfstartpage\@empty
11554   \else
11555     \ifx\@pdfstartview\@empty
11556     \else
11557       \edef\Hy@temp{%
11558         ,Page=\@pdfstartpage
11559         ,View=\@pdfstartview
11560       }%
11561     \fi

```

```

11562 \fi
11563 \edef\Hy@temp{%
11564   \noexpand\pdfmark{%
11565     pdfmark=/DOCVIEW,%
11566     PageMode=/\@pdfpagemode
11567     \Hy@temp
11568   }%
11569 }%
11570 \Hy@temp
11571 \ifx\@pdfpagescrop\@empty
11572 \else
11573   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11574 \fi
11575 \edef\Hy@temp{%
11576   \ifHy@pdftoolbar\else /HideToolbar true\fi
11577   \ifHy@pdfmenubar\else /HideMenubar true\fi
11578   \ifHy@pdfwindowui\else /HideWindowUI true\fi
11579   \ifHy@pdfwindow /FitWindow true\fi
11580   \ifHy@pdfcenterwindow /CenterWindow true\fi
11581   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11582   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11583   \Hy@UseNameKey{Direction}\@pdfdirection
11584   \Hy@UseNameKey{ViewArea}\@pdfviewarea
11585   \Hy@UseNameKey{ViewClip}\@pdfviewclip
11586   \Hy@UseNameKey{PrintArea}\@pdfprintarea
11587   \Hy@UseNameKey{PrintClip}\@pdfprintclip
11588   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11589   \Hy@UseNameKey{Duplex}\@pdfduplex
11590   \ifx\@pdfpicktraybypdfsize\@empty
11591   \else
11592     /PickTrayByPDFSize \@pdfpicktraybypdfsize
11593   \fi
11594   \ifx\@pdfprintpagerange\@empty
11595   \else
11596     /PrintPageRange[\@pdfprintpagerange]%
11597   \fi
11598   \ifx\@pdfnumcopies\@empty
11599   \else
11600     /NumCopies \@pdfnumcopies
11601   \fi
11602 }%
11603 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11604 \pdfmark{%
11605   pdfmark=/PUT,%
11606   Raw={%
11607     \string{Catalog\string}<<%
11608     \ifx\Hy@temp\@empty
11609     \else
11610       /ViewerPreferences<<\Hy@temp>>%
11611     \fi
11612     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11613     \ifx\@pdflang\@empty
11614     \else
11615       /Lang(\@pdflang)%
11616     \fi
11617     \ifx\@baseurl\@empty
11618     \else

```

```

11619      /URI<</Base(\Hy@pstringB)>>%
11620      \fi
11621      >>%
11622    }%
11623  }%
11624 }
11625 </pdfmark>
11626 <*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.

```

11627 \newif\ifHy@pdfmarkerror
11628 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
11629 \def\pdfmark@[#1]#2{%
11630   \Hy@pdfmarkerrorfalse
11631   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11632   \@processme
11633   \let\pdf@type\relax
11634   \kvsetkeys{PDF}{#2}%
11635   \ifHy@pdfmarkerror
11636   \else
11637     \ifx\pdf@type\relax
11638       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11639       \ifx\\#1\\%
11640       \else
11641         \pdf@rect{#1}%
11642       \fi
11643     \else
11644       \ifx\\#1\\%
11645         \literalps@out{%
11646           [\the\pdf@toks\space\pdf@type\space pdfmark%
11647         ]}%
11648       \else
11649         \ltx@ifundefined{@\pdf@linktype color}{%
11650           \Hy@colorlink\@linkcolor
11651         }{%
11652           \expandafter\Hy@colorlink
11653             \csname @\pdf@linktype color\endcsname
11654         }%
11655         \pdf@rect{#1}%
11656         \literalps@out{%
11657           [\the\pdf@toks\space\pdf@type\space pdfmark%
11658         ]}%
11659         \Hy@endcolorlink
11660       \fi
11661     \fi
11662   \fi
11663 }

```

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

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

text twice.

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

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

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

```
11664 \newsavebox{\pdf@box}
11665 \providecommand*\Hy@setouterhbox{\sbox}
11666 \providecommand*\Hy@breaklinksunhbox{\unhbox}
11667 \def\Hy@DEST{/DEST}
11668 \def\pdf@rect#1{%
11669   \begingroup
11670   \chardef\x=1 %
11671   \def\Hy@temp{#1}%
11672   \ifx\Hy@temp\ltx@empty
11673     \chardef\x=0 %
11674   \else
11675     \def\y{\anchor@spot}%
11676     \ifx\Hy@temp\y
11677       \def\y{\relax}%
11678     \ifx\anchor@spot\y
11679       \chardef\x=0 %
11680     \fi
11681   \fi
11682 \fi
11683 \expandafter\endgroup
11684 \ifcase\x
11685   \literalps@out{H.S}%
11686   \literalps@out{H.R}%
11687 \else
11688   \leavevmode
11689   \Hy@SaveSpaceFactor
11690   \ifmmode
11691     \def\Hy@LinkMath{$}%
11692   \else
11693     \let\Hy@LinkMath\ltx@empty
11694   \fi
11695   \ifHy@breaklinks
11696     \Hy@setouterhbox\pdf@box{%
11697       \Hy@RestoreSpaceFactor
11698       \Hy@LinkMath
11699       \Hy@AllowHyphens#1\Hy@xspace@end
11700       \Hy@LinkMath
11701       \Hy@SaveSpaceFactor
11702     }%
11703   \else
11704     \sbox\pdf@box{%
11705       \Hy@RestoreSpaceFactor
11706       \Hy@LinkMath
11707       #1\Hy@xspace@end
11708       \Hy@LinkMath
11709       \Hy@SaveSpaceFactor
11710     }%
11711   \fi
11712   \dimen@ht\pdf@box
11713   \ifdim\dp\pdf@box=\z@
```

```

11714 \literalps@out{H.S}%
11715 \else
11716 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11717 \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...).

```

11718 \ifHy@breaklinks
11719 \ifhmode
11720 \Hy@breaklinksunhbox\pdf@box
11721 \else
11722 \box\pdf@box
11723 \fi
11724 \else
11725 \expandafter\box\pdf@box
11726 \fi

```

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

```

```

11727 \ifdim\dimen@=\z@
11728 \literalps@out{H.R}%
11729 \else
11730 \raise\dimen@\hbox{\literalps@out{H.R}}%
11731 \fi
11732 \Hy@RestoreSpaceFactor
11733 \fi
11734 \ifx\pdf@type\Hy@DEST
11735 \else
11736 \pdf@addtoksx{H.B}%
11737 \fi
11738 }

```

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.

```

11739 \newtoks\pdf@toks
11740 \newtoks\pdf@defaulttoks
11741 \pdf@defaulttoks={}%
11742 \def\pdf@addtoks#1#2{%
11743 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11744 \@processme
11745 }
11746 \def\pdf@addtoksx#1{%
11747 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11748 \@processme
11749 }
11750 \def\PDFdefaults#1{%
11751 \pdf@defaulttoks={#1}%
11752 }

```

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

```

11753 % what is the type of pdfmark?
11754 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11755 % what is the link type?
11756 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}

```



```

11757 \def\pdf@linktype{link}
11758 % parameter is a stream of PDF
11759 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11760 % parameter is a name
11761 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11762 % parameter is a array
11763 \define@key{PDF}{Border}{%
11764   \edef\Hy@temp{#1}%
11765   \ifx\Hy@temp\@empty
11766     \else
11767       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11768     \fi
11769 }
11770 \let\Hy@BorderArrayPatch\@empty
11771 % parameter is a dictionary
11772 \define@key{PDF}{BorderStyle}{%
11773   \edef\Hy@temp{#1}%
11774   \ifx\Hy@temp\@empty
11775     \else
11776       \pdf@addtoks{<<#1>>}{BS}%
11777     \fi
11778 }
11779 % parameter is a array
11780 \define@key{PDF}{Color}{%
11781   \ifx\relax#1\relax
11782     \else
11783       \pdf@addtoks{[#1]}{Color}% hash-ok
11784     \fi
11785 }
11786 % parameter is a string
11787 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11788 % parameter is a integer
11789 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11790 % parameter is a array
11791 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11792 % parameter is a string
11793 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11794 % parameter is a string or file
11795 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11796 % parameter is a destination
11797 \define@key{PDF}{Dest}{%
11798   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11799   \ifx\Hy@pstringDest\@empty
11800     \Hy@pdfmarkerrortrue
11801     \Hy@Warning{Destination with empty name ignored}%
11802   \else
11803     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11804   \fi
11805 }
11806 \define@key{PDF}{DestAnchor}{%
11807   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11808   \ifx\Hy@pstringDest\@empty
11809     \Hy@pdfmarkerrortrue
11810     \Hy@Warning{Destination with empty name ignored}%
11811   \else
11812     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11813   \fi

```

```

11814 }
11815 % parameter is a string
11816 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11817 % parameter is a string
11818 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11819 % parameter is a int
11820 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11821 \define@key{PDF}{PDFAFlags}{%
11822   \ifHy@pdfa
11823     \pdf@addtoks{#1}{F}%
11824   \fi
11825 }
11826 % parameter is a name
11827 \define@key{PDF}{AcroHighlight}{%
11828   \begingroup
11829     \edef\x{#1}%
11830     \expandafter\endgroup\ifx\x\@empty
11831     \else
11832       \pdf@addtoks{#1}{H}%
11833     \fi
11834 }
11835 % parameter is a string
11836 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11837 % parameter is a string
11838 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11839 % parameter is a string
11840 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11841 % parameter is a string
11842 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11843 % parameter is a Boolean
11844 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11845 % parameter is a integer or name
11846 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11847 % parameter is a name
11848 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11849 % parameter is a string
11850 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11851 % parameter is a array
11852 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11853 % parameter is a integer
11854 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11855 % parameter is a name
11856 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11857 % parameter is a string
11858 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11859 % parameter is a string
11860 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11861 % parameter is a string
11862 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11863 % parameter is an array
11864 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11865 % parameter is a string
11866 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

These are the keys used in the DOCINFO section.
11867 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11868 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11869 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}

```

```

11870 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11871 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11872 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11873 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11874 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11875 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11876 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
11877 \define@key{PDF}{Trapped}{%
11878   \edef\Hy@temp{#1}%
11879   \ifx\Hy@temp\@empty
11880   \else
11881     \pdf@addtoks{/#1}{Trapped}%
11882   \fi
11883 }
11884
11885 \pdfmarkbase)
11886 \pdfmark
11887 \def\Acrobatmenu#1#2{%
11888   \edef\EscapeName\Hy@temp@menu{#1}%
11889   \Hy@Acrobatmenu{#1}{#2}{%
11890     \pdfmark[{#2}]{%
11891       linktype=menu,%
11892       pdfmark=/ANN,%
11893       AcroHighlight=\@pdfhighlight,%
11894       Border=\@pdfborder,%
11895       BorderStyle=\@pdfborderstyle,%
11896       Color=\@menubordercolor,%
11897       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
11898       Subtype=/Link,%
11899       PDFAFlags=4%
11900     }%
11901   }%
11902 }

```

And now for some useful examples:

```

11903 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
11904 \def\PDFNextPage@[#1]#2{%
11905   \pdfmark[{#2}]{%
11906     #1,%
11907     Border=\@pdfborder,%
11908     BorderStyle=\@pdfborderstyle,%
11909     Color=.2 .1 .5,%
11910     pdfmark=/ANN,%
11911     Subtype=/Link,%
11912     PDFAFlags=4,%
11913     Page=/Next%
11914   }%
11915 }
11916 \def\PDFPreviousPage{%
11917   \@ifnextchar{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11918 }
11919 \def\PDFPreviousPage@[#1]#2{%
11920   \pdfmark[{#2}]{%
11921     #1,%
11922     Border=\@pdfborder,%
11923     BorderStyle=\@pdfborderstyle,%
11924     Color=.4 .4 .1,%
11925     pdfmark=/ANN,%

```

```

11926 Subtype=/Link,%
11927 PDFAFlags=4,%
11928 Page=/Prev%
11929 }%
11930 }
11931 \def\PDFOpen#1{%
11932 \pdfmark{#1,pdfmark=/DOCVIEW}%
11933 }

```

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

```

11934 \def\hyper@linkurl#1#2{%
11935 \begingroup
11936 \Hy@pstringdef\Hy@pstringURI{#2}%
11937 \hyper@chars
11938 \leavevmode
11939 \pdfmark[{#1}]{%
11940 pdfmark=/ANN,%
11941 linktype=url,%
11942 AcroHighlight=\@pdfhighlight,%
11943 Border=\@pdfborder,%
11944 BorderStyle=\@pdfborderstyle,%
11945 Color=\@urlbordercolor,%
11946 Action={<<%
11947 /Subtype/URI%
11948 /URI(\Hy@pstringURI)%
11949 \ifHy@href@ismap
11950 /IsMap true%
11951 \fi
11952 >>},%
11953 Subtype=/Link,%
11954 PDFAFlags=4%
11955 }%
11956 \endgroup
11957 }
11958 \def\hyper@linkfile#1#2#3{%
11959 \begingroup
11960 \def\Hy@pstringF{#2}%
11961 \Hy@CleanupFile\Hy@pstringF
11962 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11963 \Hy@pstringdef\Hy@pstringD{#3}%
11964 \Hy@MakeRemoteAction
11965 \leavevmode
11966 \pdfmark[{#1}]{%
11967 pdfmark=/ANN,%
11968 Subtype=/Link,%
11969 PDFAFlags=4,%
11970 AcroHighlight=\@pdfhighlight,%
11971 Border=\@pdfborder,%
11972 BorderStyle=\@pdfborderstyle,%
11973 linktype=file,%
11974 Color=\@filebordercolor,%
11975 Action={%
11976 <<%
11977 /S/GoToR%
11978 \Hy@SetNewWindow
11979 /F(\Hy@pstringF)%
11980 /D%
11981 \ifx\\#3\\%

```

```

11982      [\Hy@href@page\@pdfremotestartview]%
11983      \else
11984      (\Hy@pstringD)cvn%
11985      \fi
11986      \Hy@href@nextactionraw
11987      >>%
11988      }%
11989      }%
11990      \endgroup
11991  }
11992  \def\@hyper@launch run:#1\|#2#3{%
11993      \begingroup
11994      \Hy@pstringdef\Hy@pstringF{#1}%
11995      \Hy@pstringdef\Hy@pstringP{#3}%
11996      \leavevmode
11997      \pdfmark[{#2}]{%
11998          pdfmark=/ANN,%
11999          Subtype=/Link,%
12000          PDFAFlags=4,%
12001          AcroHighlight=\@pdfhighlight,%
12002          Border=\@pdfborder,%
12003          BorderStyle=\@pdfborderstyle,%
12004          linktype=run,%
12005          Color=\@runbordercolor,%
12006          Action={%
12007              <<%
12008              /S/Launch%
12009              \Hy@SetNewWindow
12010              /F(\Hy@pstringF)%
12011              \ifx\|#3\|
12012              \else
12013              /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
12014              \fi
12015              \Hy@href@nextactionraw
12016              >>%
12017              }%
12018              }%
12019          \endgroup
12020      }
12021      </pdfmark>

```

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

## 47.9 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.

```

12022 (*dvips)
12023 \providecommand*\XR@ext{}{pdf}
12024 \let\Hy@raisedlink\ltx@empty
12025 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
12026 \def\headerps@out#1{\special{! #1}}%
12027 \input{pdfmark.def}%
12028 \ifx\@pdfproducer\relax

```

```

12029 \def\@pdfproducer{dvips + Distiller}%
12030 \fi
12031 \providecommand*\@pdfborder{0 0 1}
12032 \providecommand*\@pdfborderstyle{}
12033 \providecommand*\@pdfview{XYZ}
12034 \providecommand*\@pdfviewparams{ H.V}
12035 \def\Hy@BorderArrayPatch{BorderArrayPatch}

12036 \g@addto@macro\Hy@FirstPageHook{%
12037 \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.

```

12038 /DvipsToPDF{72.27 mul Resolution div} def%
12039 /PDFToDvips{72.27 div Resolution mul} def%
12040 /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.

```

12041 /BorderArrayPatch{%
12042   [exch{%
12043     dup dup type/integertype eq exch type/realtype eq or%
12044     {BPToDvips}if%
12045   }forall]%
12046 }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.

```

12047 /HyperBorder {1 PDFToDvips} def%
12048 /H.V {pdf@hoff pdf@voff null} def%
12049 /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

```

12050 /H.S {%
12051   currentpoint %
12052   HyperBorder add /pdf@lly exch def %
12053   dup DvipsToPDF 72 add /pdf@hoff exch def %
12054   HyperBorder sub /pdf@llx exch def%
12055 } 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`

```

12056 /H.L {%
12057 2 sub dup%
12058 /HyperBasePt exch def %
12059 PDFToDvips /HyperBaseDvips exch def %
12060 currentpoint %
12061 HyperBaseDvips sub /pdf@ury exch def%
12062 /pdf@urx exch def%
12063 } def%
12064 /H.A {%
12065 H.L %
12066 % | /pdf@voff| = the distance from the top of the page to a point
12067 % | \baselineskip| above the current point in PDF coordinates
12068 currentpoint exch pop %
12069 vsize 72 sub exch DvipsToPDF %
12070 HyperBasePt sub % baseline skip
12071 sub /pdf@voff exch def%
12072 } def%
12073 /H.R {%
12074 currentpoint %
12075 HyperBorder sub /pdf@ury exch def %
12076 HyperBorder add /pdf@urx exch def %
12077 % | /pdf@voff| = the distance from the top of the page to the current point, in
12078 % PDF coordinates
12079 currentpoint exch pop vsize 72 sub %
12080 exch DvipsToPDF sub /pdf@voff exch def%
12081 } def%
12082 }%
12083 }
12084 \AtBeginShipoutFirst{%
12085 \ifHy@setpagesize
12086 \begingroup
12087 \@ifundefined{stockwidth}{%
12088 \ifdim\paperwidth>\z@
12089 \ifdim\paperheight>\z@
12090 \special{papersize=\the\paperwidth,\the\paperheight}%
12091 \fi
12092 \fi
12093 }{%
12094 \ifdim\stockwidth>\z@
12095 \ifdim\stockheight>\z@
12096 \special{papersize=\the\stockwidth,\the\stockheight}%
12097 \fi
12098 \fi
12099 }%
12100 \endgroup
12101 \fi
12102 \Hy@DisableOption{setpagesize}%
12103 }
12104 </dvips>

```

## 47.10 VTeX's vtexpdfmark driver

This part is derived from the dvips (many names reflect this).

The origin seems to be the same as TeX's origin, 1 in from the left and 1 in downwards from the top. The direction of the  $y$  axis is downwards, the opposite

of the dvips case. Units seems to be pt or bp.

```

12105 (*vtexpdfmark)
12106 \providecommand*\XR@ext}{pdf}
12107 \let\Hy@raisedlink\ltx@empty
12108 \def\literalps@out#1{\special{pS:#1}}%
12109 \def\headerps@out#1{\immediate\special{pS:#1}}%
12110 \input{pdfmark.def}%
12111 \ifx\@pdfproducer\relax
12112   \ifnum\OpMode=\@ne
12113     \def\@pdfproducer{VTeX}%
12114   \else
12115     \def\@pdfproducer{VTeX + Distiller}%
12116   \fi
12117 \fi
12118 \providecommand*\@pdfborder{0 0 1}
12119 \providecommand*\@pdfborderstyle{}
12120 \providecommand*\@pdfview{XYZ}
12121 \providecommand*\@pdfviewparams{ H.V}
12122 \g@addto@macro\Hy@FirstPageHook{%
12123   \headerps@out{%
12124     /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.

```

12125   /HyperBorder {1} def%
12126   /H.V {pdf@hoff pdf@voff null} def%
12127   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

12128   /H.S {%
12129     currentpoint %
12130     HyperBorder sub%
12131     /pdf@lly exch def %
12132     dup 72 add /pdf@hoff exch def %
12133     HyperBorder sub%
12134     /pdf@llx exch def%
12135   } def%

```

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

```

12136   /H.L {%
12137     2 sub%
12138     /HyperBasePt exch def %
12139     currentpoint %
12140     HyperBasePt add HyperBorder add%
12141     /pdf@ury exch def %
12142     HyperBorder add%
12143     /pdf@urx exch def%
12144   } def%
12145   /H.A {%
12146     H.L %
12147     currentpoint exch pop %
12148     vsize 72 sub exch %
12149     HyperBasePt add add%
12150     /pdf@voff exch def%
12151   } def%

```



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

```

12152 /H.R {%
12153   currentpoint %
12154   HyperBorder add%
12155   /pdf@ury exch def %
12156   HyperBorder add%
12157   /pdf@urx exch def %
12158   currentpoint exch pop vsize 72 sub add%
12159   /pdf@voff exch def%
12160 } def%
12161 }%
12162 }
12163 </vtxpdfmark>

```

## 47.11 Textures

```

12164 <*textures>
12165 \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.

```

12166 \begingroup
12167   \obeylines %
12168   \gdef\Hy@ps@CR{\noexpand
12169   }%
12170 \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`.

```

12171 \def\literalps@out#1{%
12172   \special{postscript 0 0 transform}%
12173   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
12174 }%
12175 %

```

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.

```

12176 \def\headerps@out#1{%
12177   \special{%
12178     prepostscript TeXdict begin\Hy@ps@CR

```

```

12179      #1\Hy@ps@CR
12180    end%
12181  }%
12182 }%
12183 %

```

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.

```

12184 \g@addto@macro\Hy@FirstPageHook{%
12185   \headerps@out{%
12186     /betterpdfmark {%
12187       systemdict begin %
12188         dup /BP eq%
12189         {cleartomark gsave nulldevice []}%
12190         {dup /EP eq%
12191          {cleartomark cleartomark grestore}%
12192          {cleartomark}%
12193          ifelse%
12194        }ifelse %
12195      end%
12196    }def\Hy@ps@CR
12197    ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
12198  }% end of \headerps@out
12199 }% end of \AtBeginShipoutFirst
12200 %
12201 \input{pdfmark.def}%
12202 %
12203 \ifx\@pdfproducer\relax
12204   \def\@pdfproducer{Textures + Distiller}%
12205 \fi
12206 \providecommand*\@pdfborder{0 0 1}
12207 \providecommand*\@pdfborderstyle{}
12208 \providecommand*\@pdfview{XYZ}
12209 \providecommand*\@pdfviewparams{ H.V}
12210 %

```

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  $\text{\TeX}$ .

```

12211 \Hy@AtBeginDocument{%
12212   \headerps@out{%

```

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

```

12213     /vsize {\Hy@pageheight} def%
12214     /DvipsToPDF {} def%
12215     /PDFToDvips {} def%
12216     /BPToDvips {} def%
12217     /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
12218     /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
12219     /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
12220     /H.S {%
12221       currentpoint %
12222       HyperBorder add /pdf@lly exch def %

```

```

12223     dup DvipsToPDF 72 add /pdf@hoff exch def %
12224     HyperBorder sub /pdf@llx exch def%
12225   } def\Hy@ps@CR
12226 /H.L {%
12227   2 sub %
12228   PDFToDvips /HyperBase exch def %
12229   currentpoint %
12230   HyperBase sub /pdf@ury exch def%
12231   /pdf@urx exch def%
12232 } def\Hy@ps@CR
12233 /H.A {%
12234   H.L %
12235   currentpoint exch pop %
12236   vsize 72 sub exch DvipsToPDF %
12237   HyperBase sub % baseline skip
12238   sub /pdf@voff exch def%
12239 } def\Hy@ps@CR
12240 /H.R {%
12241   currentpoint %
12242   HyperBorder sub /pdf@ury exch def %
12243   HyperBorder add /pdf@urx exch def %
12244   currentpoint exch pop vsize 72 sub %
12245   exch DvipsToPDF sub /pdf@voff exch def%
12246 } def\Hy@ps@CR
12247 }%
12248 }

12249 \Hy@AtBeginDocument{%
12250   \ifHy@colorlinks
12251     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
12252   \fi
12253 }

```

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.

```

12254 \expandafter\let\expandafter\keepPDF@SetupDoc
12255   \csname PDF@SetupDoc\endcsname
12256 \def\PDF@SetupDoc{%
12257   \ifx\@baseurl\@empty
12258     \else
12259     \special{html:<base href="\@baseurl">}%
12260   \fi
12261   \keepPDF@SetupDoc
12262 }

12263 \Hy@WrapperDef\hyper@anchor#1{%
12264   \Hy@SaveLastskip
12265   \Hy@VerboseAnchor{#1}%
12266   \begingroup
12267     \let\protect=\string
12268     \special{html:<a name=%
12269       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12270   \endgroup
12271   \Hy@activeanchortrue
12272   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12273   \special{html:</a>}%
12274   \Hy@activeanchorfalse
12275   \Hy@RestoreLastskip

```

```

12276 }
12277 \Hy@WrapperDef\hyper@anchorstart#1{%
12278 \Hy@SaveLastskip
12279 \Hy@VerboseAnchor{#1}%
12280 \begingroup
12281 \hyper@chars
12282 \special{html:<a name=%
12283 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12284 \endgroup
12285 \Hy@activeanchortrue
12286 }
12287 \def\hyper@anchorend{%
12288 \special{html:</a>}%
12289 \Hy@activeanchorfalse
12290 \Hy@RestoreLastskip
12291 }
12292 \def\@urltype{url}
12293 \def\hyper@linkstart#1#2{%
12294 \Hy@VerboseLinkStart{#1}{#2}%
12295 \expandafter\Hy@colorlink\csname @#1color\endcsname
12296 \def\Hy@tempa{#1}%
12297 \ifx\Hy@tempa\@urltype
12298 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12299 \else
12300 \begingroup
12301 \hyper@chars
12302 \special{%
12303 html:<a href=%
12304 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
12305 }%
12306 \endgroup
12307 \fi
12308 }
12309 \def\hyper@linkend{%
12310 \special{html:</a>}%
12311 \Hy@endcolorlink
12312 }
12313 \def\hyper@linkfile#1#2#3{%
12314 \hyper@linkurl{#1}{%
12315 \Hy@linkfileprefix#2\ifx\#3\\else\##3\fi
12316 }%
12317 }
12318 \def\hyper@linkurl#1#2{%
12319 \leavevmode
12320 \ifHy@raiselinks
12321 \Hy@SaveSpaceFactor
12322 \Hy@SaveSavedSpaceFactor
12323 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12324 \Hy@RestoreSavedSpaceFactor
12325 \@linkdim\dp\@tempboxa
12326 \lower\@linkdim\hbox{%
12327 \hyper@chars
12328 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12329 }%
12330 \Hy@colorlink\@urlcolor
12331 \Hy@RestoreSpaceFactor
12332 #1\Hy@xspace@end

```

```

12333 \Hy@SaveSpaceFactor
12334 \@linkdim\ht\@tempboxa
12335 \advance\@linkdim by -6.5\p@
12336 \raise\@linkdim\hbox{\special{html:</a>}}}%
12337 \Hy@endcolorlink
12338 \Hy@RestoreSpaceFactor
12339 \else
12340 \begingroup
12341 \hyper@chars
12342 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12343 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12344 \special{html:</a>}%
12345 \Hy@endcolorlink
12346 \endgroup
12347 \fi
12348 }

```

Very poor implementation of \hyper@link without considering #1.

```

12349 \def\hyper@link#1#2#3{%
12350 \Hy@VerboseLinkStart{#1}{#2}%
12351 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
12352 }
12353 \def\hyper@image#1#2{%
12354 \begingroup
12355 \hyper@chars
12356 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
12357 \endgroup
12358 }
12359 </textures>

```

## 47.12 dvipsone

```

12360 % \subsection{dvipsone driver}
12361 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
12362 % |\special| commands.
12363 (*dvipsone)
12364 \providecommand*\XR@ext>{pdf}
12365 \let\Hy@raisedlink\ltx@empty
12366 \providecommand*\@pdfborder{0 0 1}
12367 \providecommand*\@pdfborderstyle{}
12368 \def\literalps@out#1{\special{ps:#1}}%
12369 \def\headerps@out#1{\special{headertext=#1}}%
12370 \input{pdfmark.def}%
12371 \ifx\@pdfproducer\relax
12372 \def\@pdfproducer{dvipsone + Distiller}%
12373 \fi
12374 \HyInfo@AddonUnsupportedtrue
12375 \def\PDF@FinishDoc{%
12376 \Hy@UseMaketitleInfos
12377 \HyInfo@TrappedUnsupported
12378 \special{PDF: Keywords \@pdfkeywords}%
12379 \special{PDF: Title \@pdftitle}%
12380 \special{PDF: Creator \@pdfcreator}%
12381 \ifx\@pdfcreationdate\@empty
12382 \else
12383 \special{PDF: CreationDate \@pdfcreationdate}%
12384 \fi
12385 \ifx\@pdfmoddate\@empty

```

```

12386 \else
12387   \special{PDF: ModDate \@pdfmoddate}%
12388 \fi
12389 \special{PDF: Author \@pdfauthor}%
12390 \ifx\@pdfproducer\relax
12391 \else
12392   \special{PDF: Producer \@pdfproducer}%
12393 \fi
12394 \special{PDF: Subject \@pdfsubject}%
12395 \Hy@DisableOption{pdfauthor}%
12396 \Hy@DisableOption{pdftitle}%
12397 \Hy@DisableOption{pdfsubject}%
12398 \Hy@DisableOption{pdfcreator}%
12399 \Hy@DisableOption{pdfcreationdate}%
12400 \Hy@DisableOption{pdfmoddate}%
12401 \Hy@DisableOption{pdfproducer}%
12402 \Hy@DisableOption{pdfkeywords}%
12403 \Hy@DisableOption{pdftrapped}%
12404 \Hy@DisableOption{pdfinfo}%
12405 }
12406 \def\PDF@SetupDoc{%
12407   \def\Hy@temp{}%
12408   \ifx\@pdfstartpage\@empty
12409   \else
12410     \ifx\@pdfstartview\@empty
12411     \else
12412       \edef\Hy@temp{%
12413         ,Page=\@pdfstartpage
12414         ,View=\@pdfstartview
12415       }%
12416     \fi
12417   \fi
12418   \edef\Hy@temp{%
12419     \noexpand\pdfmark{%
12420       pdfmark=/DOCVIEW,%
12421       PageMode=/\@pdfpagemode
12422     }\Hy@temp
12423   }%
12424 }%
12425 \Hy@temp
12426 \ifx\@pdfpagescrop\@empty
12427 \else
12428   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12429 \fi
12430 \edef\Hy@temp{%
12431   \ifHy@pdftoolbar\else /HideToolbar true\fi
12432   \ifHy@pdfmenubar\else /HideMenubar true\fi
12433   \ifHy@pdfwindowui\else /HideWindowUI true\fi
12434   \ifHy@pdfwindow /FitWindow true\fi
12435   \ifHy@pdfcenterwindow /CenterWindow true\fi
12436   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12437   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12438   \Hy@UseNameKey{Direction}\@pdfdirection
12439   \Hy@UseNameKey{ViewArea}\@pdfviewarea
12440   \Hy@UseNameKey{ViewClip}\@pdfviewclip
12441   \Hy@UseNameKey{PrintArea}\@pdfprintarea
12442   \Hy@UseNameKey{PrintClip}\@pdfprintclip

```

```

12443 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12444 \Hy@UseNameKey{Duplex}\@pdfduplex
12445 \ifx\@pdfpicktraybypdfsize\@empty
12446 \else
12447 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12448 \fi
12449 \ifx\@pdfprintpagerange\@empty
12450 \else
12451 /PrintPageRange[\@pdfprintpagerange]%
12452 \fi
12453 \ifx\@pdfnumcopies\@empty
12454 \else
12455 /NumCopies \@pdfnumcopies
12456 \fi
12457 }%
12458 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12459 \pdfmark{%
12460 pdfmark=/PUT,%
12461 Raw={%
12462 \string{Catalog\string}<<%
12463 \ifx\Hy@temp\@empty
12464 \else
12465 /ViewerPreferences<<\Hy@temp>>%
12466 \fi
12467 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12468 \ifx\@pdflang\@empty
12469 \else
12470 /Lang(\@pdflang)%
12471 \fi
12472 \ifx\@baseurl\@empty
12473 \else
12474 /URI<</Base(\Hy@pstringB)>>%
12475 \fi
12476 >>%
12477 }%
12478 }%
12479 }
12480 \providecommand*\@pdfview{XYZ}
12481 \providecommand*\@pdfviewparams{ %
12482 gsave revscl currentpoint grestore %
12483 72 add exch pop null exch null%
12484 }
12485 \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  $\text{\TeX}$ .

```

12486 \g@addto@macro\Hy@FirstPageHook{%
12487 \headerps@out{%

```

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

```

12488 /DvipsToPDF { 65781 div } def%
12489 /PDFToDvips { 65781 mul } def%
12490 /BPToDvips{65781 mul}def%
12491 /HyperBorder { 1 PDFToDvips } def%
12492 /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.

```

12493 /BorderArrayPatch{%
12494   [exch{%
12495     dup dup type/integertype eq exch type/realtype eq or%
12496     {BPToDvips}if%
12497   }forall]%
12498 }def%
12499 /H.S {%
12500   currentpoint %
12501   HyperBorder add /pdf@lly exch def %
12502   dup DvipsToPDF 72 add /pdf@hoff exch def %
12503   HyperBorder sub /pdf@llx exch def%
12504 } def%
12505 /H.L {%
12506   2 sub %
12507   PDFToDvips /HyperBase exch def %
12508   currentpoint %
12509   HyperBase sub /pdf@ury exch def%
12510   /pdf@urx exch def%
12511 } def%
12512 /H.A {%
12513   H.L %
12514   currentpoint exch pop %
12515   HyperBase sub % baseline skip
12516   DvipsToPDF /pdf@voff exch def%
12517 } def%
12518 /H.R {%
12519   currentpoint %
12520   HyperBorder sub /pdf@ury exch def %
12521   HyperBorder add /pdf@urx exch def %
12522   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12523 } def%
12524 }%
12525 }
12526 </dvipsone>

```

## 47.13 TeX4ht

```

12527 (*tex4ht)
12528 \providecommand*\XR@ext>{html}
12529 \let\Hy@raisedlink\ltx@empty
12530 \@ifpackageloaded{tex4ht}{%
12531   \Hy@InfoNoLine{tex4ht is already loaded}%
12532 }{%
12533   \RequirePackage[hTeX4ht]{tex4ht}%
12534 }
12535 \hyperlinkfileprefix{}
12536 \let\PDF@FinishDoc\ltx@empty
12537 \def\PDF@SetupDoc{%
12538   \ifx\@baseurl\@empty
12539   \else
12540     \special{t4ht=<base href="\@baseurl">}%
12541   \fi
12542 }
12543 \Hy@WrapperDef\hyper@anchor#1{%
12544   \Hy@SaveLastskip

```



```

12545 \Hy@VerboseAnchor{#1}%
12546 \begingroup
12547 \let\protect=\string
12548 \special{t4ht=<a name=%
12549 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
12550 \endgroup
12551 \Hy@activeanchortrue
12552 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12553 \special{t4ht=</a>}}%
12554 \Hy@activeanchorfalse
12555 \Hy@RestoreLastskip
12556 }
12557 \Hy@WrapperDef\hyper@anchorstart#1{%
12558 \Hy@SaveLastskip
12559 \Hy@VerboseAnchor{#1}%
12560 \begingroup
12561 \hyper@chars\special{t4ht=<a name=%
12562 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
12563 \endgroup
12564 \Hy@activeanchortrue
12565 }
12566 \def\hyper@anchorend{%
12567 \special{t4ht=</a>}}%
12568 \Hy@activeanchorfalse
12569 \Hy@RestoreLastskip
12570 }
12571 \def\@urltype{url}
12572 \def\hyper@linkstart#1#2{%
12573 \Hy@VerboseLinkStart{#1}{#2}%
12574 \expandafter\Hy@colorlink\csname @#1color\endcsname
12575 \def\Hy@tempa{#1}%
12576 \ifx\Hy@tempa\@urltype
12577 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
12578 \else
12579 \begingroup
12580 \hyper@chars
12581 \special{t4ht=<a href=%
12582 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}}%
12583 \endgroup
12584 \fi
12585 }
12586 \def\hyper@linkend{%
12587 \special{t4ht=</a>}}%
12588 \Hy@endcolorlink
12589 }
12590 \def\hyper@linkfile#1#2#3{%
12591 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12592 }
12593 \def\hyper@linkurl#1#2{%
12594 \leavevmode
12595 \ifHy@raiselinks
12596 \Hy@SaveSpaceFactor
12597 \Hy@SaveSavedSpaceFactor
12598 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12599 \Hy@RestoreSavedSpaceFactor
12600 \@linkdim\dp\@tempboxa
12601 \lower\@linkdim\hbox{%

```

```

12602 \begingroup
12603 \hyper@chars
12604 \special{%
12605     t4ht=<a href=\hyper@quote#2\hyper@quote>%
12606 }%
12607 \endgroup
12608 }%
12609 \Hy@colorlink\@urlcolor
12610 \Hy@RestoreSpaceFactor
12611 #1\Hy@xspace@end
12612 \Hy@SaveSpaceFactor
12613 \Hy@endcolorlink
12614 \@linkdim\ht\@tempboxa
12615 \advance\@linkdim by -6.5\p@
12616 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12617 \Hy@RestoreSpaceFactor
12618 \else
12619 \begingroup
12620 \hyper@chars
12621 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12622 \Hy@colorlink\@urlcolor
12623 #1\Hy@xspace@end
12624 \Hy@endcolorlink
12625 \special{t4ht=</a>}}%
12626 \endgroup
12627 \fi
12628 }

```

Poor implementation of \hyper@link without considering #1.

```

12629 \def\hyper@link#1#2#3{%
12630 \Hy@VerboseLinkStart{#1}{#2}%
12631 \hyper@linkurl{#3}{\#\Hy@HyperDestNameFilter{#2}}%
12632 }
12633 \def\hyper@image#1#2{%
12634 \begingroup
12635 \hyper@chars
12636 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12637 \endgroup
12638 }
12639 \let\autoref\ref
12640 \ifx \rEFLiNK \UnDef
12641 \def\rEFLiNK #1#2{#2}%
12642 \fi
12643 \let\backref\ltx@gobble

```

Fix for tex4ht.

```

12644 \AtBeginDocument{%
12645 \expandafter
12646 \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12647 \expandafter\def\csname Make:Label\endcsname#1#2{%
12648 \ifhmode
12649 \Hy@SaveSpaceFactor
12650 \else
12651 \global\Hy@SavedSpaceFactor=1000 %
12652 \fi
12653 \Hy@OrgMakeLabel{#1}{%
12654 \Hy@RestoreSpaceFactor
12655 #2\Hy@xspace@end%
12656 \Hy@SaveSpaceFactor

```

```

12657 }%
12658 \Hy@RestoreSpaceFactor
12659 }%
12660 }
12661 </tex4ht>
12662 <*tex4htcfg>
12663 \IfFileExists{\jobname.cfg}{\endinput}{}
12664 \Preamble{html}
12665 \begin{document}%
12666 \EndPreamble
12667 \def\TeX{TeX}
12668 \def\OMEGA{Omega}
12669 \def\LaTeX{LaTeX}
12670 \def\LaTeXe{\LaTeX2e}
12671 \def\eTeX{e-TeX}
12672 \def\MF{Metafont}
12673 \def\MP{MetaPost}
12674 </tex4htcfg>

```

## 48 Driver-specific form support

### 48.1 pdfmarks

```

12675 <*pdfmark>
12676 \long\def\@Form[#1]{%
12677 \g@addto@macro\Hy@FirstPageHook{%
12678 \headerps@out{%
12679 [%
12680 /_objdef{pdfDocEncoding}%
12681 /type/dict%
12682 /OBJ pdfmark%
12683 [%
12684 {pdfDocEncoding}%
12685 <<%
12686 /Type/Encoding%
12687 /Differences[%
12688 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12689 /tilde %
12690 39/quotesingle %
12691 96/grave %
12692 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12693 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12694 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12695 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12696 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12697 164/currency %
12698 166/brokenbar %
12699 168/dieresis/copyright/ordfeminine %
12700 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12701 /twosuperior/threesuperior/acute/mu %
12702 183/periodcentered/cedilla/onesuperior/ordmasculine %
12703 188/onequarter/onehalf/threequarters %
12704 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12705 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12706 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12707 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12708 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12709 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%

```

```

12710      /cedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12711      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12712      /ocircumflex/otilde/odieresis/divide/oshlash/ugrade/uacute%
12713      /ucircumflex/udieresis/yacute/thorn/ydieresis%
12714  ]%
12715  >>%
12716 /PUT pdfmark%
12717 [%
12718   /_objdef{ZaDb}%
12719   /type/dict%
12720 /OBJ pdfmark%
12721 [%
12722   {ZaDb}%
12723   <<%
12724     /Type/Font%
12725     /Subtype/Type1%
12726     /Name/ZaDb%
12727     /BaseFont/ZapfDingbats%
12728   >>%
12729 /PUT pdfmark%
12730 [%
12731   /_objdef{Helv}%
12732   /type/dict%
12733 /OBJ pdfmark%
12734 [%
12735   {Helv}%
12736   <<%
12737     /Type/Font%
12738     /Subtype/Type1%
12739     /Name/Helv%
12740     /BaseFont/Helvetica%
12741     /Encoding{pdfDocEncoding}%
12742   >>%
12743 /PUT pdfmark%
12744 [%
12745   /_objdef{aform}%
12746   /type/dict%
12747 /OBJ pdfmark%
12748 [%
12749   /_objdef{afields}%
12750   /type/array%
12751 /OBJ pdfmark%
12752 {%
12753   [%
12754     /BBox[0 0 100 100]%
12755     /_objdef{Check}%
12756 /BP pdfmark %
12757 1 0 0 setrgbcolor%
12758 /ZapfDingbats 80 selectfont %
12759 20 20 moveto%
12760 (4)show%
12761 [/EP pdfmark%
12762 [%
12763   /BBox[0 0 100 100]%
12764   /_objdef{Cross}%
12765 /BP pdfmark %
12766 1 0 0 setrgbcolor%

```

```

12767 /ZapfDingbats 80 selectfont %
12768 20 20 moveto%
12769 (8)show%
12770 [/EP pdfmark%
12771 [%
12772 /BBox[0 0 250 100]%
12773 /_objdef{Submit}%
12774 /BP pdfmark %
12775 0.6 setgray %
12776 0 0 250 100 rectfill %
12777 1 setgray %
12778 2 2 moveto %
12779 2 98 lineto %
12780 248 98 lineto %
12781 246 96 lineto %
12782 4 96 lineto %
12783 4 4 lineto %
12784 fill %
12785 0.34 setgray %
12786 248 98 moveto %
12787 248 2 lineto %
12788 2 2 lineto %
12789 4 4 lineto %
12790 246 4 lineto %
12791 246 96 lineto %
12792 fill%
12793 /Helvetica 76 selectfont %
12794 0 setgray %
12795 8 22.5 moveto%
12796 (Submit)show%
12797 [/EP pdfmark%
12798 [%
12799 /BBox[0 0 250 100]%
12800 /_objdef{SubmitP}%
12801 /BP pdfmark %
12802 0.6 setgray %
12803 0 0 250 100 rectfill %
12804 0.34 setgray %
12805 2 2 moveto %
12806 2 98 lineto %
12807 248 98 lineto %
12808 246 96 lineto %
12809 4 96 lineto %
12810 4 4 lineto %
12811 fill %
12812 1 setgray %
12813 248 98 moveto %
12814 248 2 lineto %
12815 2 2 lineto %
12816 4 4 lineto %
12817 246 4 lineto %
12818 246 96 lineto %
12819 fill%
12820 /Helvetica 76 selectfont %
12821 0 setgray %
12822 10 20.5 moveto%
12823 (Submit)show%

```

```

12824 [/EP pdfmark%
12825 } ?pdfmark%
12826 [%
12827 {aform}%
12828 <<%
12829 /Fields{afields}%
12830 /DR<<%
12831 /Font<<%
12832 /ZaDb{ZaDb}%
12833 /Helv{Helv}%
12834 >>%
12835 >>%
12836 /DA(/Helv 10 Tf 0 g)%
12837 /CO{corder}%
12838 \ifHy@pdfa
12839 \else
12840 \ifHyField@NeedAppearances
12841 /NeedAppearances true%
12842 \fi
12843 \fi
12844 >>%
12845 /PUT pdfmark%
12846 [%
12847 {Catalog}%
12848 <<%
12849 /AcroForm{aform}%
12850 >>%
12851 /PUT pdfmark%
12852 [%
12853 /__objdef{corder}%
12854 /type/array%
12855 /OBJ pdfmark% dps
12856 }}%
12857 \kvsetkeys{Form}{#1}%
12858 }
12859 \let\@endForm\ltx@empty
12860 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12861 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12862 }
12863 \def\@TextField[#1]#2{% parameters, label
12864 \def\Fld@name{#2}%
12865 \let\Fld@default\ltx@empty
12866 \let\Fld@value\@empty
12867 \def\Fld@width{\DefaultWidthofText}%
12868 \def\Fld@height{%
12869 \ifFld@multiline
12870 \DefaultHeightofTextMultiline
12871 \else
12872 \DefaultHeightofText
12873 \fi
12874 }%
12875 \begingroup
12876 \expandafter\HyField@SetKeys\expandafter{%
12877 \DefaultOptionsofText,#1%
12878 }%
12879 \HyField@FlagsText
12880 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

12881 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12882 \LayoutTextField{#2}{%
12883   \leavevmode
12884   \Hy@escapeform\PDFForm@Text
12885   \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
12886     pdfmark=/ANN,Raw={\PDFForm@Text}%
12887   }%
12888 }%
12889 \endgroup
12890 }
12891 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12892 \def\Fld@name{#2}%
12893 \let\Fld@default\relax
12894 \let\Fld@value\relax
12895 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12896 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12897 \begingroup
12898 \Fld@menulength=0 %
12899 \@tempdima\z@
12900 \@for\@curropt:=#3\do{%
12901   \expandafter\Fld@checkequals\@curropt==\%
12902   \Hy@StepCount\Fld@menulength
12903   \settowidth{\@tempdimb}{\@currDisplay}%
12904   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12905 }%
12906 \advance\@tempdima by 15\p@
12907 \begingroup
12908 \HyField@SetKeys{#1}%
12909 \edef\x{\endgroup
12910   \noexpand\expandafter
12911   \noexpand\HyField@SetKeys
12912   \noexpand\expandafter{%
12913     \expandafter\noexpand\csname DefaultOptionsof%
12914       \ifFld@radio
12915         Radio%
12916       \else
12917         \ifFld@combo
12918           \ifFld@popdown
12919             PopdownBox%
12920           \else
12921             ComboBox%
12922           \fi
12923         \else
12924           ListBox%
12925         \fi
12926       \fi
12927     \endcsname
12928   }%
12929 }\x
12930 \HyField@SetKeys{#1}%
12931 \ifFld@hidden\def\Fld@width{1sp}\fi
12932 \ifx\Fld@value\relax
12933   \let\Fld@value\Fld@default
12934 \fi
12935 \LayoutChoiceField{#2}{%
12936   \ifFld@radio
12937     \HyField@FlagsRadioButton

```

```

12938     \@@Radio{#3}%
12939 \else
12940 \begingroup
12941   \HyField@FlagsChoice
12942   \ifdim\Fld@width<\@tempdima
12943     \ifdim\@tempdima<1cm\@tempdima1cm\fi
12944     \edef\Fld@width{\the\@tempdima}%
12945   \fi
12946   \ifFld@combo
12947   \else
12948     \@tempdima=\the\Fld@menulength\Fld@charsize
12949     \advance\@tempdima by \Fld@borderwidth bp %
12950     \advance\@tempdima by \Fld@borderwidth bp %
12951     \edef\Fld@height{\the\@tempdima}%
12952   \fi
12953   \@@ListBox{#3}%
12954 \endgroup
12955 \fi
12956 }%
12957 \endgroup
12958 }
12959 \def\@@Radio#1{%
12960   \Fld@listcount=0 %
12961   \EdefEscapeName\Fld@default{\Fld@default}%
12962   \@for\@curropt:=#1\do{%
12963     \expandafter\Fld@checkequals\@curropt==\%
12964     \EdefEscapeName\@currValue{\@currValue}%
12965     \Hy@StepCount\Fld@listcount
12966     \@currDisplay\space
12967     \Hy@escapeform\PDFForm@Radio
12968     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12969       pdfmark=/ANN,%
12970       Raw={%
12971         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12972       }%
12973     } % deliberate space between radio buttons
12974   }%
12975 }
12976 \newcount\Fld@listcount
12977 \def\@@ListBox#1{%
12978   \HyField@PDFChoices{#1}%
12979   \Hy@escapeform\PDFForm@List
12980   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12981     pdfmark=/ANN,Raw={\PDFForm@List}%
12982   }%
12983 }
12984 \def\@PushButton[#1]#2{% parameters, label
12985   \def\Fld@name{#2}%
12986   \begingroup
12987     \expandafter\HyField@SetKeys\expandafter{%
12988       \DefaultOptionsofPushButton,#1%
12989     }%
12990     \ifHy@pdfa
12991       \Hy@Error{%
12992         PDF/A: Push button with JavaScript is prohibited%
12993       }\@ehc
12994     \LayoutPushButtonField{%

```



```

12995     \leavevmode
12996     \MakeButtonField{#2}%
12997 }%
12998 \else
12999     \HyField@FlagsPushButton
13000     \ifFld@hidden\def\Fld@width{1sp}\fi
13001     \LayoutPushButtonField{%
13002         \leavevmode
13003         \Hy@escapeform\PDFForm@Push
13004         \pdfmark[\MakeButtonField{#2}]{%
13005             pdfmark=/ANN,Raw={\PDFForm@Push}%
13006         }%
13007     }%
13008 \fi
13009 \endgroup
13010 }
13011 \def\@Submit[#1]#2{%
13012     \def\Fld@width{\DefaultWidthofSubmit}%
13013     \def\Fld@height{\DefaultHeightofSubmit}%
13014     \begingroup
13015         \expandafter\HyField@SetKeys\expandafter{%
13016             \DefaultOptionsofSubmit,#1%
13017         }%
13018         \HyField@FlagsPushButton
13019         \HyField@FlagsSubmit
13020         \ifFld@hidden\def\Fld@width{1sp}\fi
13021         \Hy@escapeform\PDFForm@Submit
13022         \pdfmark[\MakeButtonField{#2}]{%
13023             pdfmark=/ANN,%
13024             Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
13025         }%
13026     \endgroup
13027 }
13028 \def\@Reset[#1]#2{%
13029     \def\Fld@width{\DefaultWidthofReset}%
13030     \def\Fld@height{\DefaultHeightofReset}%
13031     \begingroup
13032         \expandafter\HyField@SetKeys\expandafter{%
13033             \DefaultOptionsofReset,#1%
13034         }%
13035         \leavevmode
13036         \ifHy@pdfa
13037             \Hy@Error{%
13038                 PDF/A: Reset action is prohibited%
13039             }\@ehc
13040             \MakeButtonField{#2}%
13041         \else
13042             \HyField@FlagsPushButton
13043             \ifFld@hidden\def\Fld@width{1sp}\fi
13044             \Hy@escapeform\PDFForm@Reset
13045             \pdfmark[\MakeButtonField{#2}]{%
13046                 pdfmark=/ANN,Raw={\PDFForm@Reset}%
13047             }%
13048         \fi
13049     \endgroup
13050 }%
13051 \def\@CheckBox[#1]#2{% parameters, label

```

```

13052 \def\Fld@name{#2}%
13053 \def\Fld@default{0}%
13054 \begingroup
13055   \def\Fld@width{\DefaultWidthofCheckBox}%
13056   \def\Fld@height{\DefaultHeightofCheckBox}%
13057   \expandafter\HyField@SetKeys\expandafter{%
13058     \DefaultOptionsofCheckBox,#1%
13059   }%
13060   \HyField@FlagsCheckBox
13061   \ifFld@hidden\def\Fld@width{1sp}\fi
13062   \LayoutCheckField{#2}{%
13063     \leavevmode
13064     \Hy@escapeform\PDFForm@Check
13065     \pdfmark{\MakeCheckField{\Fld@width}{\Fld@height}}{%
13066       pdfmark=/ANN,Raw={\PDFForm@Check}%
13067     }%
13068   }%
13069 \endgroup
13070 }
13071 \</pdfmark>

```

## 48.2 HyperTeX

```

13072 \<hypertex>
13073 \def\@Form[#1]{%
13074   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13075 }
13076 \let\@endForm\ltx@empty
13077 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13078   \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
13079 }
13080 \def\@TextField[#1]#2{% parameters, label
13081   \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
13082 }
13083 \def\@CheckBox[#1]#2{% parameters, label
13084   \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
13085 }
13086 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13087   \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
13088 }
13089 \def\@PushButton[#1]#2{% parameters, label
13090   \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
13091 }
13092 \def\@Reset[#1]#2{%
13093   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13094 }
13095 \def\@Submit[#1]#2{%
13096   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13097 }
13098 \</hypertex>

```

## 48.3 TeX4ht

```

13099 \<tex4ht>
13100 \def\@Form[#1]{%
13101   \kvsetkeys{Form}{#1}%
13102   \HCode{<form action="\Form@action" method="\Form@method">}%
13103 }
13104 \def\@endForm{\HCode{</form>}}

```

```

13105 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13106   \Hy@Message{Sorry, TeX4ht does not support gauges}%
13107 }
13108 \def\@TextField[#1]#2{% parameters, label
13109   \let\Hy@reserved@a\@empty
13110   \def\Fld@name{#2}%
13111   \let\Fld@default\ltx@empty
13112   \bgroup
13113     \Field@toks={ }%
13114     \kvsetkeys{Field}{#1}%
13115     \HCode{<label for="\Fld@name">#2</label>}%
13116     \ifFld@password
13117       \@@PasswordField
13118     \else
13119       \@@TextField
13120     \fi
13121   \egroup
13122 }
13123 \def\@@PasswordField{%
13124   \HCode{%
13125     <input type="password" %
13126       id="\Fld@name" %
13127       name="\Fld@name" %
13128       \ifFld@hidden type="hidden" \fi
13129       value="\Fld@default" %
13130       \the\Field@toks
13131     >%
13132   }%
13133 }
13134 \def\@@TextField{%
13135   \ifFld@multiline
13136     \HCode{<textarea %
13137       \ifFld@readonly readonly \fi
13138       id="\Fld@name" %
13139       name="\Fld@name" %
13140       \ifFld@hidden type="hidden" \fi
13141       \the\Field@toks>%
13142     }%
13143     \Fld@default
13144     \HCode{</textarea>}%
13145   \else
13146     \HCode{<input type="text" %
13147       \ifFld@readonly readonly \fi
13148       id="\Fld@name" %
13149       name="\Fld@name" %
13150       \ifFld@hidden type="hidden" \fi
13151       value="\Fld@default" %
13152       \the\Field@toks>%
13153     }%
13154   \fi
13155 }
13156 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13157   \def\Fld@name{#2}%
13158   \let\Fld@default\ltx@empty
13159   \let\Hy@reserved@a\relax
13160   \begingroup
13161     \expandafter\Fld@findlength#3\\%

```

```

13162 \Field@toks={ }%
13163 \kvsetkeys{Field}{#1}%
13164 #2%
13165 \ifFld@radio
13166 \expandafter\@@Radio#3\\%
13167 \else
13168 \expandafter\@@Menu#3\\%
13169 \fi
13170 \endgroup
13171 }
13172 \def\Fld@findlength#1\\{%
13173 \Fld@menulength=0 %
13174 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
13175 }
13176 \def\@@Menu#1\\{%
13177 \HCode{<select size="\the\Fld@menulength" %
13178 name="\Fld@name" %
13179 \the\Fld@toks>%
13180 }%
13181 \@for\@curropt:=#1\do{%
13182 \expandafter\Fld@checkequals\@curropt==\\%
13183 \HCode{<option %
13184 \ifx\@curropt\Fld@default selected \fi
13185 value="\@currValue">\@currDisplay</option>%
13186 }%
13187 }%
13188 \HCode{</select>}%
13189 }
13190 \def\@@Radio#1\\{%
13191 \@for\@curropt:=#1\do{%
13192 \expandafter\Fld@checkequals\@curropt==\\%
13193 \HCode{<input type="radio" %
13194 \ifx\@curropt\Fld@default checked \fi
13195 name="\Fld@name" %
13196 value="\@currValue" %
13197 \the\Fld@toks>%
13198 }%
13199 \@currDisplay
13200 }%
13201 }
13202 \def\@PushButton[#1]#2{% parameters, label
13203 \def\Fld@name{#2}%
13204 \bgroup
13205 \Field@toks={ }%
13206 \kvsetkeys{Field}{#1}%
13207 \HCode{<input type="button" %
13208 name="\Fld@name" %
13209 value="#2" %
13210 \the\Fld@toks>%
13211 }%
13212 \HCode{</button>}%
13213 \egroup
13214 }
13215 \def\@Submit[#1]#2{%
13216 \HCode{<button type="submit">#2</button>}%
13217 }
13218 \def\@Reset[#1]#2{%

```

```

13219 \HCode{<button type="reset">#2</button>}%
13220 }
13221 \def\@CheckBox[#1]#2{% parameters, label
13222 \let\Hy@reserved@a\@empty
13223 \def\Fld@name{#2}%
13224 \def\Fld@default{0}%
13225 \bgroup
13226 \Field@toks={ }%
13227 \kvsetkeys{Field}{#1}%
13228 \HCode{<input type="checkbox" %
13229 \ifFld@checked checked \fi
13230 \ifFld@disabled disabled \fi
13231 \ifFld@readonly readonly \fi
13232 name="\Fld@name" %
13233 \ifFld@hidden type="hidden" \fi
13234 value="\Fld@default" %
13235 \the\Field@toks>%
13236 #2%
13237 }%
13238 \egroup
13239 }
13240 </tex4ht>

```

## 48.4 pdfTeX

```

13241 < *pdfTeX>
13242 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13243 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
13244 }
13245 \def\MakeFieldObject#1#2{\sbox0{#1}%
13246 \immediate\pdfxform0 %
13247 \expandafter\edef\csname #2Object\endcsname{%
13248 \the\pdfastxform\space 0 R%
13249 }%
13250 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}}%
13251 }%
13252 \let\HyField@afields\ltx@empty
13253 \begingroup\expandafter\expandafter\expandafter\endgroup
13254 \expandafter\ifx\csname pdfastlink\endcsname\relax
13255 \let\HyField@AddToFields\relax
13256 \PackageInfo{hyperref}{%
13257 You need pdfTeX 1.40.0 for setting the /Fields entry.%
13258 \MessageBreak
13259 Adobe Reader/Acrobat accepts an empty /Field array,%
13260 \MessageBreak
13261 but other PDF viewers might complain%
13262 }%
13263 \else
13264 \let\HyField@AuxAddToFields\ltx@gobble
13265 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
13266 \Hy@AtBeginDocument{%
13267 \if@files
13268 \immediate\write\@mainaux{%
13269 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
13270 }%
13271 \fi
13272 \let\HyField@AfterAuxOpen\@firstofone
13273 \def\HyField@AuxAddToFields#1{%

```

```

13274 \xdef\HyField@afields{%
13275 \ifx\HyField@afields\@empty
13276 \else
13277 \HyField@afields
13278 \space
13279 \fi
13280 #1 0 R%
13281 }%
13282 }%
13283 }%
13284 \def\HyField@AddToFields{%
13285 \expandafter\HyField@@AddToFields\expandafter{%
13286 \the\pdfastlink
13287 }%
13288 }%
13289 \def\HyField@@AddToFields#1{%
13290 \HyField@AfterAuxOpen{%
13291 \if@filesw
13292 \write\@mainaux{%
13293 \string\HyField@AuxAddToFields{#1}%
13294 }%
13295 \fi
13296 }%
13297 }%
13298 \fi
13299 \def\@Form[#1]{%
13300 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13301 \kvsetkeys{Form}{#1}%
13302 \pdf@ifdraftmode{}{%
13303 \Hy@FormObjects
13304 \ifnum\pdfTeXversion>13 %
13305 \pdfrefobj\OBJ@pdfdocencoding
13306 \pdfrefobj\OBJ@ZaDb
13307 \pdfrefobj\OBJ@Helv
13308 \fi
13309 \AtVeryEndDocument{%
13310 \immediate\pdfobj{%
13311 <<%
13312 /Fields[\HyField@afields]%
13313 /DR<<%
13314 /Font<<%
13315 /ZaDb \OBJ@ZaDb\space 0 R%
13316 /Helv \OBJ@Helv\space 0 R%
13317 >>%
13318 >>%
13319 /DA(/Helv 10 Tf 0 g)%
13320 \ifHy@pdfa
13321 \else
13322 \ifHyField@NeedAppearances
13323 /NeedAppearances true%
13324 \fi
13325 \fi
13326 >>%
13327 }%
13328 \edef\OBJ@acroform{\the\pdfastobj}%
13329 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13330 }%

```

```

13331 }%
13332 \MakeFieldObject{%

Same as \ding{123} of package pifont.
13333 \beginngroup
13334 \fontfamily{pzd}%
13335 \fontencoding{U}%
13336 \fontseries{m}%
13337 \fontshape{n}%
13338 \selectfont
13339 \char123 %
13340 \endgroup
13341 }{Ding}%
13342 \MakeFieldObject{%
13343 \fbox{\textcolor{yellow}{\textsf{Submit}}}}%
13344 }{Submit}%
13345 \MakeFieldObject{%
13346 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}}%
13347 }{SubmitP}%
13348 }
13349 \let\@endForm\ltx@empty
13350 \def\@TextField[#1]#2{% parameters, label
13351 \def\Fld@name{#2}%
13352 \let\Fld@default\ltx@empty
13353 \let\Fld@value\@empty
13354 \def\Fld@width{\DefaultWidthofText}%
13355 \def\Fld@height{%
13356 \ifFld@multiline
13357 \DefaultHeightofTextMultiline
13358 \else
13359 \DefaultHeightofText
13360 \fi
13361 }%
13362 \beginngroup
13363 \expandafter\HyField@SetKeys\expandafter{%
13364 \DefaultOptionsofText,#1%
13365 }%
13366 \PDFForm@Name
13367 \HyField@FlagsText
13368 \ifFld@hidden\def\Fld@width{1sp}\fi
13369 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13370 \LayoutTextField{#2}{%
13371 \leavevmode
13372 \Hy@escapeform\PDFForm@Text
13373 \pdfstartlink user {\PDFForm@Text}\relax
13374 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13375 \HyField@AddToFields
13376 }%
13377 \endgroup
13378 }
13379 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13380 \def\Fld@name{#2}%
13381 \let\Fld@default\relax
13382 \let\Fld@value\relax
13383 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13384 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13385 \beginngroup
13386 \Fld@menulength=0 %

```

```

13387 \@tempdima\z@
13388 \@for\@curropt:=#3\do{%
13389 \expandafter\Fld@checkequals\@curropt==\\%
13390 \Hy@StepCount\Fld@menulength
13391 \settowidth{\@tempdimb}{\@currDisplay}%
13392 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13393 }%
13394 \advance\@tempdima by 15\p@
13395 \begingroup
13396 \HyField@SetKeys{#1}%
13397 \edef\x{\endgroup
13398 \noexpand\expandafter
13399 \noexpand\HyField@SetKeys
13400 \noexpand\expandafter{%
13401 \expandafter\noexpand\csname DefaultOptionsof%
13402 \ifFld@radio
13403 Radio%
13404 \else
13405 \ifFld@combo
13406 \ifFld@popdown
13407 PopdownBox%
13408 \else
13409 ComboBox%
13410 \fi
13411 \else
13412 ListBox%
13413 \fi
13414 \fi
13415 \endcsname
13416 }%
13417 }\x
13418 \HyField@SetKeys{#1}%
13419 \PDFForm@Name
13420 \ifFld@hidden\def\Fld@width{1sp}\fi
13421 \ifx\Fld@value\relax
13422 \let\Fld@value\Fld@default
13423 \fi
13424 \LayoutChoiceField{#2}{%
13425 \ifFld@radio
13426 \HyField@FlagsRadioButton
13427 \@@Radio{#3}%
13428 \else
13429 \begingroup
13430 \HyField@FlagsChoice
13431 \ifdim\Fld@width<\@tempdima
13432 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13433 \edef\Fld@width{\the\@tempdima}%
13434 \fi
13435 \ifFld@combo
13436 \else
13437 \@tempdima=\the\Fld@menulength\Fld@charsize
13438 \advance\@tempdima by \Fld@borderwidth bp %
13439 \advance\@tempdima by \Fld@borderwidth bp %
13440 \edef\Fld@height{\the\@tempdima}%
13441 \fi
13442 \@@ListBox{#3}%
13443 \endgroup

```



```

13444 \fi
13445 }%
13446 \endgroup
13447 }
13448 \def\@@Radio#1{%
13449 \Fld@listcount=0 %
13450 \EdefEscapeName\Fld@default{\Fld@default}%
13451 \@for\@curropt:=#1\do{%
13452 \expandafter\Fld@checkequals\@curropt==\%
13453 \EdefEscapeName\@currValue{\@currValue}%
13454 \Hy@StepCount\Fld@listcount
13455 \@currDisplay\space
13456 \leavevmode
13457 \Hy@escapeform\PDFForm@Radio
13458 \pdfstartlink user {%
13459 \PDFForm@Radio
13460 /AP<<%
13461 /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.

```

13462 \/\@currValue\space \DingObject
13463 >>%
13464 >>%
13465 }%
13466 \relax
13467 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13468 \ifnum\Fld@listcount=1 %
13469 \HyField@AddToFields
13470 \fi
13471 \space % deliberate space between radio buttons
13472 }%
13473 }
13474 \newcount\Fld@listcount
13475 \def\@@Listbox#1{%
13476 \HyField@PDFChoices{#1}%
13477 \leavevmode
13478 \Hy@escapeform\PDFForm@List
13479 \pdfstartlink user {\PDFForm@List}\relax
13480 \MakeChoiceField{\Fld@width}{\Fld@height}%
13481 \pdfendlink
13482 \HyField@AddToFields
13483 }
13484 \def\@PushButton[#1]#2{% parameters, label
13485 \def\Fld@name{#2}%
13486 \beginngroup
13487 \expandafter\HyField@SetKeys\expandafter{%
13488 \DefaultOptionsofPushButton,#1%
13489 }%
13490 \PDFForm@Name
13491 \ifHy@pdfa
13492 \Hy@Error{%
13493 PDF/A: Push button with JavaScript is prohibited%
13494 }\@ehc
13495 \LayoutPushButtonField{%
13496 \leavevmode
13497 \MakeButtonField{#2}%

```

```

13498 }%
13499 \else
13500 \HyField@FlagsPushButton
13501 \ifFld@hidden\def\Fld@width{1sp}\fi
13502 \LayoutPushButtonField{%
13503 \leavevmode
13504 \Hy@escapeform\PDFForm@Push
13505 \pdfstartlink user {\PDFForm@Push}\relax
13506 \MakeButtonField{#2}%
13507 \pdfendlink
13508 \HyField@AddToFields
13509 }%
13510 \fi
13511 \endgroup
13512 }
13513 \def\@Submit[#1]#2{%
13514 \def\Fld@width{\DefaultWidthofSubmit}%
13515 \def\Fld@height{\DefaultHeightofSubmit}%
13516 \begingroup
13517 \expandafter\HyField@SetKeys\expandafter{%
13518 \DefaultOptionsofSubmit,#1%
13519 }%
13520 \HyField@FlagsPushButton
13521 \HyField@FlagsSubmit
13522 \ifFld@hidden\def\Fld@width{1sp}\fi
13523 \leavevmode
13524 \Hy@escapeform\PDFForm@Submit
13525 \pdfstartlink user {%
13526 \PDFForm@Submit
13527 /AP<</N \SubmitObject/D \SubmitPObject>>%
13528 }%
13529 \relax
13530 \MakeButtonField{#2}%
13531 \pdfendlink
13532 \HyField@AddToFields
13533 \endgroup
13534 }
13535 \def\@Reset[#1]#2{%
13536 \def\Fld@width{\DefaultWidthofReset}%
13537 \def\Fld@height{\DefaultHeightofReset}%
13538 \begingroup
13539 \expandafter\HyField@SetKeys\expandafter{%
13540 \DefaultOptionsofReset,#1%
13541 }%
13542 \leavevmode
13543 \ifHy@pdfa
13544 \Hy@Error{%
13545 PDF/A: Reset action is prohibited%
13546 } \@ehc
13547 \MakeButtonField{#2}%
13548 \else
13549 \HyField@FlagsPushButton
13550 \ifFld@hidden\def\Fld@width{1sp}\fi
13551 \Hy@escapeform\PDFForm@Reset
13552 \pdfstartlink user {\PDFForm@Reset}\relax
13553 \MakeButtonField{#2}%
13554 \pdfendlink

```

```

13555 \HyField@AddToFields
13556 \fi
13557 \endgroup
13558 }
13559 \def\@CheckBox[#1]#2{% parameters, label
13560 \def\Fld@name{#2}%
13561 \def\Fld@default{0}%
13562 \begingroup
13563 \def\Fld@width{\DefaultWidthofCheckBox}%
13564 \def\Fld@height{\DefaultHeightofCheckBox}%
13565 \expandafter\HyField@SetKeys\expandafter{%
13566 \DefaultOptionsofCheckBox,#1%
13567 }%
13568 \PDFForm@Name
13569 \HyField@FlagsCheckBox
13570 \ifFld@hidden\def\Fld@width{1sp}\fi
13571 \LayoutCheckField{#2}{%
13572 \leavevmode
13573 \Hy@escapeform\PDFForm@Check
13574 \pdfstartlink user {\PDFForm@Check}\relax
13575 \MakeCheckField{\Fld@width}{\Fld@height}%
13576 \pdfendlink
13577 \HyField@AddToFields
13578 }%
13579 \endgroup
13580 }
13581 \def\Hy@FormObjects{%
13582 \pdfobj {%
13583 <<%
13584 /Type/Encoding%
13585 /Differences%
13586 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13587 /ring/tilde %
13588 39/quotesingle %
13589 96/grave %
13590 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13591 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13592 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13593 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13594 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13595 164/currency %
13596 166/brokenbar %
13597 168/dieresis/copyright/ordfeminine %
13598 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13599 /twosuperior/threesuperior/acute/mu %
13600 183/periodcentered/cedilla/onesuperior/ordmasculine %
13601 188/onequarter/onehalf/threequarters %
13602 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13603 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13604 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13605 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13606 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13607 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13608 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13609 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13610 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13611 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%

```

```

13612    ]%
13613    >>%
13614  }%
13615  \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
13616  \pdfobj{%
13617    <<%
13618    /Type/Font%
13619    /Subtype/Type1%
13620    /Name/ZaDb%
13621    /BaseFont/ZapfDingbats%
13622    >>%
13623  }%
13624  \xdef\OBJ@ZaDb{\the\pdflastobj}%
13625  \pdfobj{%
13626    <<%
13627    /Type/Font%
13628    /Subtype/Type1%
13629    /Name/Helv%
13630    /BaseFont/Helvetica%
13631    /Encoding \OBJ@pdfdocencoding\space 0 R%
13632    >>%
13633  }%
13634  \xdef\OBJ@Helv{\the\pdflastobj}%
13635  \global\let\Hy@FormObjects\relax
13636  }
13637  \</pdfTeX>

```

## 48.5 dvipdfm, xetex

D. P. Story adapted the pdf<sub>T</sub>E<sub>X</sub> forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
13638 \<*dvipdfm | xetex>
```

\@Gauge

```

13639 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13640   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13641 }

```

\@Form

```

13642 \def\@Form[#1]{%
13643   \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13644   \kvsetkeys{Form}{#1}%
13645   \Hy@FormObjects
13646   \@pdfm@mark{obj @afields []}%
13647   \@pdfm@mark{obj @corder []}%
13648   \@pdfm@mark{%
13649     obj @aform <<%
13650     /Fields @afields%
13651     /DR<<%
13652     /Font<<%
13653     /ZaDb @OBJZaDb%
13654     /Helv @OBJHelv%
13655     >>%
13656     >>%
13657     /DA(/Helv 10 Tf 0 g)%
13658     /CO @corder%
13659     \ifHy@pdfa
13660     \else

```

```

13661     \ifHyField@NeedAppearances
13662     /NeedAppearances true%
13663     \fi
13664     \fi
13665     >>%
13666   }%
13667   \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13668 }

\@endForm

13669 \let\@endForm\ltx@empty

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
13670 \def\dvipdfm@setdim{%
13671   height \the\ht\pdfm@box\space
13672   width \the\wd\pdfm@box\space
13673   depth \the\dp\pdfm@box\space
13674 }

\HyField@AnnotCount

13675 \newcount\HyField@AnnotCount
13676 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount

13677 \def\HyField@AdvanceAnnotCount{%
13678   \global\advance\HyField@AnnotCount\@ne
13679 }

\HyField@TheAnnotCount

13680 \def\HyField@TheAnnotCount{%
13681   \the\HyField@AnnotCount
13682 }

\@TextField

13683 \def\@TextField[#1]#2{% parameters, label
13684   \def\Fld@name{#2}%
13685   \let\Fld@default\ltx@empty
13686   \let\Fld@value\@empty
13687   \def\Fld@width{\DefaultWidthofText}%
13688   \def\Fld@height{%
13689     \ifFld@multiline
13690       \DefaultHeightofTextMultiline
13691     \else
13692       \DefaultHeightofText
13693     \fi
13694   }%
13695   \begingroup
13696     \expandafter\HyField@SetKeys\expandafter{%
13697       \DefaultOptionsofText,#1%
13698     }%
13699     \PDFForm@Name
13700     \HyField@FlagsText
13701     \ifFld@hidden\def\Fld@width{1sp}\fi
13702     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13703     \setbox\pdfm@box=\hbox{%
13704       \MakeTextField{\Fld@width}{\Fld@height}%
13705     }%

```

```

13706 \HyField@AdvanceAnnotCount
13707 \LayoutTextField{#2}{%
13708 \leavevmode
13709 \Hy@escapeform\PDFForm@Text
13710 \@pdfm@mark{%
13711 ann @text\HyField@TheAnnotCount\space
13712 \dvipdfm@setdim << \PDFForm@Text >>%
13713 }%
13714 }%
13715 \unhbox\pdfm@box
13716 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
13717 % record in @afields array
13718 \endgroup
13719 }

```

\@ChoiceMenu

```

13720 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13721 \def\Fld@name{#2}%
13722 \let\Fld@default\relax
13723 \let\Fld@value\relax
13724 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13725 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13726 \begingroup
13727 \Fld@menulength=0 %
13728 \@tempdima\z@
13729 \@for\@curropt:=#3\do{%
13730 \expandafter\Fld@checkequals\@curropt==\\%
13731 \Hy@StepCount\Fld@menulength
13732 \settowidth{\@tempdimb}{\@currDisplay}%
13733 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13734 }%
13735 \advance\@tempdima by 15\p@
13736 \begingroup
13737 \HyField@SetKeys{#1}%
13738 \edef\x{\endgroup
13739 \noexpand\expandafter
13740 \noexpand\HyField@SetKeys
13741 \noexpand\expandafter{%
13742 \expandafter\noexpand\curname DefaultOptionsof%
13743 \ifFld@radio
13744 Radio%
13745 \else
13746 \ifFld@combo
13747 \ifFld@popdown
13748 PopdownBox%
13749 \else
13750 ComboBox%
13751 \fi
13752 \else
13753 ListBox%
13754 \fi
13755 \fi
13756 \endcurname
13757 }%
13758 }\x
13759 \HyField@SetKeys{#1}%
13760 \PDFForm@Name
13761 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

13762 \ifx\Fld@value\relax
13763 \let\Fld@value\Fld@default
13764 \fi
13765 \LayoutChoiceField{#2}{%
13766 \ifFld@radio
13767 \HyField@FlagsRadioButton
13768 \@@Radio{#3}%
13769 \else
13770 \begingroup
13771 \HyField@FlagsChoice
13772 \ifdim\Fld@width<\@tempdima
13773 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13774 \edef\Fld@width{\the\@tempdima}%
13775 \fi
13776 \ifFld@combo
13777 \else
13778 \@tempdima=\the\Fld@menulength\Fld@charsize
13779 \advance\@tempdima by \Fld@borderwidth bp %
13780 \advance\@tempdima by \Fld@borderwidth bp %
13781 \edef\Fld@height{\the\@tempdima}%
13782 \fi
13783 \@@ListBox{#3}%
13784 \endgroup
13785 \fi
13786 }%
13787 \endgroup
13788 }

\@@Radio
13789 \def\@@Radio#1{%
13790 \Fld@listcount=0 %
13791 \EdefEscapeName\Fld@default{\Fld@default}%
13792 \setbox\pdfm@box=\hbox{%
13793 \MakeRadioField{\Fld@width}{\Fld@height}%
13794 }%
13795 \@for\@curropt:=#1\do{%
13796 \expandafter\Fld@checkequals\@curropt==\%
13797 \EdefEscapeName\@currValue{\@currValue}%
13798 \Hy@StepCount\Fld@listcount
13799 \@currDisplay\space
13800 \leavevmode
13801 \Hy@escapeform\PDFForm@Radio
13802 \ifnum\Fld@listcount=1 %
13803 \HyField@AdvanceAnnotCount
13804 \fi
13805 \@pdfm@mark{%
13806 ann %
13807 \ifnum\Fld@listcount=1 %
13808 @radio\HyField@TheAnnotCount%
13809 \space
13810 \fi
13811 \dvipdfm@setdim
13812 <<%
13813 \PDFForm@Radio
13814 /AP<</N<</\@currValue /null>>>>%
13815 >>%
13816 }%
13817 \unhcopy\pdfm@box\space% deliberate space between radio buttons

```

```

13818 \ifnum\Fld@listcount=1 %
13819 \@pdfm@mark{%
13820 put @afields @radio\HyField@TheAnnotCount
13821 }%
13822 \fi
13823 }%
13824 }

\Fld@listcount

13825 \newcount\Fld@listcount

@@@Listbox

13826 \def\@@Listbox#1{%
13827 \HyField@PDFChoices{#1}%
13828 \setbox\pdfm@box=\hbox{%
13829 \MakeChoiceField{\Fld@width}{\Fld@height}%
13830 }%
13831 \leavevmode
13832 \Hy@escapeform\PDFForm@List
13833 \HyField@AdvanceAnnotCount
13834 \@pdfm@mark{%
13835 ann @list\HyField@TheAnnotCount\space
13836 \dvipdfm@setdim
13837 <<\PDFForm@List>>%
13838 }%
13839 \unhbox\pdfm@box
13840 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
13841 }

\@PushButton

13842 \def\@PushButton[#1]#2{% parameters, label
13843 \def\Fld@name{#2}%
13844 \begingroup
13845 \expandafter\HyField@SetKeys\expandafter{%
13846 \DefaultOptionsofPushButton,#1%
13847 }%
13848 \PDFForm@Name
13849 \ifHy@pdfa
13850 \Hy@Error{%
13851 PDF/A: Push button with JavaScript is prohibited%
13852 }\@ehc
13853 \LayoutPushButtonField{%
13854 \leavevmode
13855 \MakeButtonField{#2}%
13856 }%
13857 \else
13858 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13859 \HyField@FlagsPushButton
13860 \ifFld@hidden\def\Fld@width{1sp}\fi
13861 \HyField@AdvanceAnnotCount
13862 \LayoutPushButtonField{%
13863 \leavevmode
13864 \Hy@escapeform\PDFForm@Push
13865 \@pdfm@mark{%
13866 ann @push\HyField@TheAnnotCount\space
13867 \dvipdfm@setdim
13868 <<\PDFForm@Push>>%

```



```

13869     }%
13870 }%
13871 \unhbox\pdfm@box
13872 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
13873 \fi
13874 \endgroup
13875 }

\@Submit
13876 \def\@Submit[#1]#2{%
13877 \def\Fld@width{\DefaultWidthofSubmit}%
13878 \def\Fld@height{\DefaultHeightofSubmit}%
13879 \begingroup
13880 \expandafter\HyField@SetKeys\expandafter{%
13881 \DefaultOptionsofSubmit,#1%
13882 }%
13883 \HyField@FlagsPushButton
13884 \HyField@FlagsSubmit
13885 \ifFld@hidden\def\Fld@width{1sp}\fi
13886 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13887 \leavevmode
13888 \Hy@escapeform\PDFForm@Submit
13889 \HyField@AdvanceAnnotCount
13890 \@pdfm@mark{%
13891 ann @submit\HyField@TheAnnotCount\space
13892 \dvi pdfm@setdim
13893 <<\PDFForm@Submit>>%
13894 }%
13895 \unhbox\pdfm@box%
13896 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
13897 \endgroup
13898 }

\@Reset
13899 \def\@Reset[#1]#2{%
13900 \def\Fld@width{\DefaultWidthofReset}%
13901 \def\Fld@height{\DefaultHeightofReset}%
13902 \begingroup
13903 \expandafter\HyField@SetKeys\expandafter{%
13904 \DefaultOptionsofReset,#1%
13905 }%
13906 \leavevmode
13907 \ifHy@pdfa
13908 \Hy@Error{%
13909 PDF/A: Reset action is prohibited%
13910 }\@ehc
13911 \MakeButtonField{#2}%
13912 \else
13913 \HyField@FlagsPushButton
13914 \ifFld@hidden\def\Fld@width{1sp}\fi
13915 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13916 \Hy@escapeform\PDFForm@Reset
13917 \HyField@AdvanceAnnotCount
13918 \@pdfm@mark{%
13919 ann @reset\HyField@TheAnnotCount\space
13920 \dvi pdfm@setdim
13921 <<\PDFForm@Reset>>%

```

```

13922 }%
13923 \unhbox\pdfm@box
13924 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
13925 \fi
13926 \endgroup
13927 }

```

#### \@CheckBox

```

13928 \def\@CheckBox[#1]#2{% parameters, label
13929 \def\Fld@name{#2}%
13930 \def\Fld@default{0}%
13931 \begingroup
13932 \def\Fld@width{\DefaultWidthofCheckBox}%
13933 \def\Fld@height{\DefaultHeightofCheckBox}%
13934 \expandafter\HyField@SetKeys\expandafter{%
13935 \DefaultOptionsofCheckBox,#1%
13936 }%
13937 \PDFForm@Name
13938 \HyField@FlagsCheckBox
13939 \ifFld@hidden\def\Fld@width{1sp}\fi
13940 \setbox\pdfm@box=\hbox{%
13941 \MakeCheckField{\Fld@width}{\Fld@height}%
13942 }%
13943 \HyField@AdvanceAnnotCount
13944 \LayoutCheckField{#2}{%
13945 \leavevmode
13946 \Hy@escapeform\PDFForm@Check
13947 \@pdfm@mark{%
13948 ann @check\HyField@TheAnnotCount\space
13949 \dvi pdfm@setdim
13950 <<\PDFForm@Check>>%
13951 }%
13952 \unhbox\pdfm@box
13953 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
13954 }%
13955 \endgroup
13956 }

13957 \def\Hy@FormObjects{%
13958 \@pdfm@mark{obj @OBJpdfdocencoding%
13959 <<%
13960 /Type/Encoding%
13961 /Differences[%
13962 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13963 39/quotesingle %
13964 96/grave %
13965 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13966 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13967 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13968 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13969 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13970 164/currency %
13971 166/brokenbar %
13972 168/dieresis/copyright/ordfeminine %
13973 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13974 /twosuperior/threesuperior/acute/mu %
13975 183/periodcentered/cedilla/onesuperior/ordmasculine %
13976 188/onequarter/onehalf/threequarters %

```

```

13977 192/Agave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13978 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13979 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13980 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13981 /Udieresis/Yacute/Thorn/germandbls/agave/aacute/acircumflex%
13982 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13983 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13984 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
13985 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13986 /thorn/ydieresis%
13987 }%
13988 >>%
13989 }%
13990 \@pdfm@mark{obj @OBJZaDb%
13991 <<%
13992 /Type/Font%
13993 /Subtype/Type1%
13994 /Name/ZaDb%
13995 /BaseFont/ZapfDingbats%
13996 >>%
13997 }%
13998 \@pdfm@mark{obj @OBJHelv%
13999 <<%
14000 /Type/Font%
14001 /Subtype/Type1%
14002 /Name/Helv%
14003 /BaseFont/Helvetica%
14004 /Encoding @OBJpdfdocencoding%
14005 >>%
14006 }%
14007 \global\let\Hy@FormObjects\relax
14008 }
14009 </dvipdfm|xetex>

```

## 48.6 Common forms part

```

14010 (*pdfform)

\Hy@escapestring

14011 \begingroup\expandafter\expandafter\expandafter\endgroup
14012 \expandafter\ifx\csname pdfescapestring\endcsname\relax
14013 \let\Hy@escapestring\@firstofone
14014 \def\Hy@escapeform#1{%
14015 \ifHy@pdfescapeform
14016 \def\Hy@escapestring##1{%
14017 \noexpand\Hy@escapestring{\noexpand##1}%
14018 }%
14019 \edef\Hy@temp{#1}%
14020 \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
14021 \def\Hy@escapestring##1{%
14022 \@ifundefined{Hy@esc@\string##1}{%
14023 ##1%
14024 \ThisShouldNotHappen
14025 }{%
14026 \csname Hy@esc@\string##1\endcsname
14027 }%
14028 }%
14029 \else

```

```

14030 \let\Hy@escapestring\@firstofone
14031 \fi
14032 }%
14033 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
14034 \ifx\|#3\|%
14035 \else
14036 \expandafter
14037 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
14038 \ltx@ReturnAfterFi{%
14039 \Hy@@escapeform#3\@nil
14040 }%
14041 \fi
14042 }%
14043 \else
14044 \def\Hy@escapeform#1{%
14045 \ifHy@pdfescapeform
14046 \let\Hy@escapestring\pdfescapestring
14047 \else
14048 \let\Hy@escapestring\@firstofone
14049 \fi
14050 }%
14051 \Hy@escapeform{}%
14052 \fi

```

#### \PDFForm@Name

```

14053 \def\PDFForm@Name{%
14054 \PDFForm@@Name\Fld@name
14055 \ifx\Fld@altname\relax
14056 \else
14057 \PDFForm@@Name\Fld@altname
14058 \fi
14059 \ifx\Fld@mappingname\relax
14060 \else
14061 \PDFForm@@Name\Fld@mappingname
14062 \fi
14063 }

```

#### \PDFForm@@Name

```

14064 \def\PDFForm@@Name#1{%
14065 \begingroup
14066 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
14067 \ifHy@unicode
14068 \Hy@unicodetrue
14069 \fi
14070 \fi
14071 \HyPsd@XeTeXBigCharstrue
14072 \pdfstringdef\Hy@gtemp#1%
14073 \endgroup
14074 \let#1\Hy@gtemp
14075 }

```

#### \Fld@additionalactions

```

14076 \def\Fld@@additionalactions{%
K input (keystroke) format
14077 \ifx\Fld@keystroke@code\@empty
14078 \else
14079 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%

```

```

14080  \fi
F display format
14081  \ifx\Fld@format@code\@empty
14082  \else
14083    /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
14084  \fi
V validation
14085  \ifx\Fld@validate@code\@empty
14086  \else
14087    /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
14088  \fi
C calculation
14089  \ifx\Fld@calculate@code\@empty
14090  \else
14091    /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
14092  \fi
Fo receiving the input focus
14093  \ifx\Fld@onfocus@code\@empty
14094  \else
14095    /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
14096  \fi
Bl loosing the input focus (blurred)
14097  \ifx\Fld@onblur@code\@empty
14098  \else
14099    /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
14100  \fi
D pressing the mouse button (down)
14101  \ifx\Fld@onmousedown@code\@empty
14102  \else
14103    /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
14104  \fi
U releasing the mouse button (up)
14105  \ifx\Fld@onmouseup@code\@empty
14106  \else
14107    /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
14108  \fi
E cursor enters the annotation's active area.
14109  \ifx\Fld@onenter@code\@empty
14110  \else
14111    /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
14112  \fi
X cursor exits the annotation's active area.
14113  \ifx\Fld@onexit@code\@empty
14114  \else
14115    /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
14116  \fi
14117 }
14118 \def\Fld@additionalactions{%
14119   \if-\Fld@@@additionalactions-%
14120   \else
14121     \ifHy@pdfa
14122     \else

```

```

14123      /AA<<\Fld@@additionalactions>>%
14124      \fi
14125      \fi
14126  }

```

\Fld@annotnames

```

14127 \def\Fld@annotnames{%
14128   /T(\Fld@name)%
14129   \ifx\Fld@altname\relax
14130   \else
14131     /TU(\Fld@altname)%
14132   \fi
14133   \ifx\Fld@mappingname\relax
14134   \else
14135     /TM(\Fld@mappingname)%
14136   \fi
14137 }

```

\PDFForm@Check

```

14138 \def\PDFForm@Check{%
14139   /Subtype/Widget%
14140   \Fld@annotflags
14141   \Fld@annotnames
14142   /FT/Btn%
14143   \Fld@flags
14144   /Q \Fld@align
14145   /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
14146   /MK<<%
14147     \ifnum\Fld@rotation=\z@
14148     \else
14149       /R \Fld@rotation
14150     \fi
14151     \ifx\Fld@bordercolor\relax
14152     \else
14153       /BC[\Fld@bordercolor]%
14154     \fi
14155     \ifx\Fld@bcolor\relax
14156     \else
14157       /BG[\Fld@bcolor]%
14158     \fi
14159     /CA(\Hy@escapestring{\Fld@cbsymbol})%
14160   >>%
14161   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14162     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14163   /H/P%
14164   \ifFld@checked /V/Yes\else /V/Off\fi
14165   \Fld@additionalactions
14166 }

```

\PDFForm@Push

```

14167 \ifHy@pdfa
14168 \else
14169   \def\PDFForm@Push{%
14170     /Subtype/Widget%
14171     \Fld@annotflags
14172     \Fld@annotnames
14173     /FT/Btn%

```

```

14174 \Fld@flags
14175 /H/P%
14176 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14177 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14178 \ifx\Fld@bordercolor\relax\else 1\fi
14179 \space
14180 \else
14181 /MK<<%
14182 \ifnum\Fld@rotation=\z@
14183 \else
14184 /R \Fld@rotation
14185 \fi
14186 \ifx\Fld@bordercolor\relax
14187 \else
14188 /BC[\Fld@bordercolor]%
14189 \fi
14190 >>%
14191 \fi
14192 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
14193 \Fld@additionalactions
14194 }%
14195 \fi

```

#### \PDFForm@List

```

14196 \def\PDFForm@List{%
14197 /Subtype/Widget%
14198 \Fld@annotflags
14199 \Fld@annotnames
14200 /FT/Ch%
14201 \Fld@flags
14202 /Q \Fld@align
14203 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14204 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14205 \ifx\Fld@bordercolor\relax\else 1\fi
14206 \ifx\Fld@bcolor\relax \else 1\fi
14207 \space
14208 \else
14209 /MK<<%
14210 \ifnum\Fld@rotation=\z@
14211 \else
14212 /R \Fld@rotation
14213 \fi
14214 \ifx\Fld@bordercolor\relax
14215 \else
14216 /BC[\Fld@bordercolor]%
14217 \fi
14218 \ifx\Fld@bcolor\relax
14219 \else
14220 /BG[\Fld@bcolor]%
14221 \fi
14222 >>%
14223 \fi
14224 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14225 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14226 \Fld@choices
14227 \Fld@additionalactions
14228 }

```

## \PDFForm@Radio

```
14229 \def\PDFForm@Radio{%
14230 /Subtype/Widget%
14231 \Fld@annotflags
14232 \Fld@annotnames
14233 /FT/Btn%
14234 \Fld@flags
14235 /H/P%
14236 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14237 /MK<<%
14238 \ifnum\Fld@rotation=\z@
14239 \else
14240 /R \Fld@rotation
14241 \fi
14242 \ifx\Fld@bordercolor\relax
14243 \else
14244 /BC[\Fld@bordercolor]%
14245 \fi
14246 \ifx\Fld@bcolor\relax
14247 \else
14248 /BG[\Fld@bcolor]%
14249 \fi
14250 /CA(\Fld@radiosymbol)%
14251 >>%
14252 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14253 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14254 \ifx\@currValue\Fld@default
14255 /V/\Fld@default
14256 /DV/\Fld@default
14257 \else
14258 /V/Off%
14259 /DV/Off%
14260 \fi
14261 \Fld@additionalactions
14262 }
```

## \PDFForm@Text

```
14263 \def\PDFForm@Text{%
14264 /Subtype/Widget%
14265 \Fld@annotflags
14266 \Fld@annotnames
14267 /FT/Tx%
14268 \Fld@flags
14269 /Q \Fld@align
14270 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14271 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14272 \ifx\Fld@bordercolor\relax\else 1\fi
14273 \ifx\Fld@bcolor\relax \else 1\fi
14274 \space
14275 \else
14276 /MK<<%
14277 \ifnum\Fld@rotation=\z@
14278 \else
14279 /R \Fld@rotation
14280 \fi
14281 \ifx\Fld@bordercolor\relax
14282 \else
```



```

14283      /BC[\Fld@bordercolor]%
14284      \fi
14285      \ifx\Fld@bcolor\relax
14286      \else
14287      /BG[\Fld@bcolor]%
14288      \fi
14289      >>%
14290      \fi
14291      /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14292      \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14293      /DV(\Hy@escapestring{\Fld@default})%
14294      /V(\Hy@escapestring{\Fld@value})%
14295      \Fld@additionalactions
14296      \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14297      }

```

\PDFForm@Submit

```

14298 \def\PDFForm@Submit{%
14299   /Subtype/Widget%
14300   \Fld@annotflags
14301   \Fld@annotnames
14302   /FT/Btn%
14303   \Fld@flags
14304   /H/P%
14305   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14306   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14307       \ifx\Fld@bordercolor\relax\else 1\fi
14308       \space
14309   \else
14310       /MK<<%
14311       \ifnum\Fld@rotation=\z@
14312       \else
14313       /R \Fld@rotation
14314       \fi
14315       \ifx\Fld@bordercolor\relax
14316       \else
14317       /BC[\Fld@bordercolor]%
14318       \fi
14319       >>%
14320   \fi
14321   /A<<%
14322   /S/SubmitForm%
14323   /F<<%
14324   /FS/URL%
14325   /F(\Hy@escapestring{\Form@action})%
14326   >>%
14327   \Fld@submitflags
14328   >>%
14329   \Fld@additionalactions
14330 }

```

\PDFForm@Reset

```

14331 \ifHy@pdfa
14332 \else
14333 \def\PDFForm@Reset{%
14334   /Subtype/Widget%
14335   \Fld@annotflags

```

```

14336 \Fld@annotnames
14337 /FT/Btn%
14338 \Fld@flags
14339 /H/P%
14340 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14341 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14342 \ifx\Fld@bordercolor\relax\else 1\fi
14343 \space
14344 \else
14345 /MK<<%
14346 \ifnum\Fld@rotation=\z@
14347 \else
14348 /R \Fld@rotation
14349 \fi
14350 \ifx\Fld@bordercolor\relax
14351 \else
14352 /BC[\Fld@bordercolor]%
14353 \fi
14354 % /CA (Clear)
14355 % /AC (Done)
14356 >>%
14357 \fi
14358 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14359 /A<</S/ResetForm>>%
14360 \Fld@additionalactions
14361 }%
14362 \fi

14363 </pdfform>
14364 <*package>

```

## 49 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `reperesty`); it needed the `reperesty` 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`

```

14365 \def\phantomsection{%
14366 \Hy@MakeCurrentHrefAuto{section*}%
14367 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14368 }
14369 </package>

```

### 49.1 Bookmarks

```
14370 <*outlines>
```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the

EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.

When using the right-to-left typesetting based on  $\varepsilon$ -TeX, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of  $\varepsilon$ -TeX's implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document). The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

To work around this problem, the `bookmark@seq@number` counter is used to write the bookmark's sequential number into a comment in the `\@outlinefile`, which could be used to post-process it to achieve the proper ordering of `\BOOKMARK` commands in that file.

```

14371 \def\Hy@writebookmark#1#2#3#4#5{%
14372   % section number, text, label, level, file
14373   \ifx\WriteBookmarks\relax%
14374   \else
14375     \ifnum#4>\Hy@bookmarksdepth\relax
14376     \else
14377       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
14378     \fi
14379   \fi
14380 }
14381 \def\Hy@currentbookmarklevel{0}
14382 \def\Hy@numberline#1{#1 }
14383 \def\@@writetorep#1#2#3#4#5{%
14384   \begingroup
14385   \edef\Hy@tempa{#5}%
14386   \ifx\Hy@tempa\Hy@bookmarkstype
14387     \edef\Hy@level{#4}%
14388     \ifx\Hy@levelcheck Y%
14389       \@tempcnta\Hy@level\relax
14390       \advance\@tempcnta by -1 %
14391       \ifnum\Hy@currentbookmarklevel<\@tempcnta
14392         \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14393       \advance\@tempcnta by 1 %
14394       \Hy@Warning{%
14395         Difference (\the\@tempcnta) between bookmark levels is %
14396         greater \MessageBreak than one, level fixed%
14397       }%
14398       \@tempcnta\Hy@currentbookmarklevel
14399       \advance\@tempcnta by 1 %
14400       \edef\Hy@level{\the\@tempcnta}%
14401     \fi
14402   \else
14403     \global\let\Hy@levelcheck Y%
14404   \fi
14405   \global\let\Hy@currentbookmarklevel\Hy@level
14406   \@tempcnta\Hy@level\relax
14407   \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14408   \advance\@tempcnta by -1 %
14409   \edef\Hy@tempa{#3}%
14410   \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14411   \ifx\Hy@tempa\Hy@tempb
14412     \Hy@Warning{%
14413       The anchor of a bookmark and its parent's must not%
14414       \MessageBreak be the same. Added a new anchor%

```

```

14415     }%
14416     \phantomsection
14417   \fi
14418   \ifHy@bookmarksnumbered
14419     \let\numberline\Hy@numberline
14420     \let\booknumberline\Hy@numberline
14421     \let\partnumberline\Hy@numberline
14422     \let\chapternumberline\Hy@numberline
14423   \else
14424     \let\numberline\@gobble
14425     \let\booknumberline\@gobble
14426     \let\partnumberline\@gobble
14427     \let\chapternumberline\@gobble
14428   \fi
14429   \HyPsd@XeTeXBigCharstrue
14430   \pdfstringdef\Hy@tempa{#2}%
14431   \HyPsd@SanitizeForOutFile\Hy@tempa
14432   \if@filesw
14433     \stepcounter{bookmark@seq@number}%
14434     \@ifundefined{@outlinefile}{%
14435     }{%
14436       \protected@write\@outlinefile{}{%
14437         \protect\BOOKMARK
14438           [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14439           {\Hy@tempa}{\Hy@tempb}%
14440           \@percentchar\space\thebookmark@seq@number
14441       }%
14442     }%
14443   \fi
14444 \fi
14445 \endgroup
14446 }
14447 \newcounter{bookmark@seq@number}

14448 \begingroup
14449   \lccode'('= '{%
14450   \lccode')='}%
14451   \lccode'1=\z@
14452   \lccode'2=\z@
14453   \lccode'3=\z@
14454   \lccode'5=\z@
14455   \lccode'7=\z@
14456   \lccode'\#=\z@
14457   \lccode'\='=\z@
14458   \lccode'\{=\z@
14459   \lccode'\}=\z@
14460 \lowercase{%
14461   \endgroup
14462   \def\HyPsd@SanitizeForOutFile#1{%
14463     \@onelevel@sanitize\Hy@tempa
14464     \escapechar'\%
14465     \edef\Hy@tempa{%
14466       \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14467     }%
14468     \edef\Hy@tempa{%
14469       \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14470     }%
14471   }%

```

```

14472 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14473   #1%
14474   \ifx\#2\%
14475     \expandafter\ltx@gobble
14476   \else
14477     \expandafter\ltx@firstofone
14478   \fi
14479   {%
14480     \string\173%
14481     \HyPsd@SanitizeOut@BraceLeft#2\@nil
14482   }%
14483 }%
14484 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14485   #1%
14486   \ifx\#2\%
14487     \expandafter\ltx@gobble
14488   \else
14489     \expandafter\ltx@firstofone
14490   \fi
14491   {%
14492     \string\175%
14493     \HyPsd@SanitizeOut@BraceRight#2\@nil
14494   }%
14495 }%
14496 }

```

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

```

14497 \newcommand{\currentpdfbookmark}{%
14498   \pdfbookmark[\Hy@currentbookmarklevel]%
14499 }
14500 \newcommand{\subpdfbookmark}{%
14501   \@tempcnta\Hy@currentbookmarklevel
14502   \Hy@StepCount\@tempcnta
14503   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14504 }
14505 \newcommand{\belowpdfbookmark}[2]{%
14506   \@tempcnta\Hy@currentbookmarklevel
14507   \Hy@StepCount\@tempcnta
14508   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14509   \advance\@tempcnta by -1 %
14510   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14511 }

```

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.

```

14512 \renewcommand\pdfbookmark[3][0]{%
14513   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
14514   \hyper@anchorstart{#3.#1}\hyper@anchorend
14515 }
14516 \def\BOOKMARK{%
14517   \@ifnextchar{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14518 }
14519 \def\@BOOKMARK[#1]{%
14520   \@ifnextchar{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
14521 }

```

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

#### 49.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

14522 \RequirePackage{rerunfilecheck}[2009/12/10]
14523 \def\Hy@OutlineRerunCheck{%
14524   \RerunFileCheck{\jobname.out}{%
14525     \immediate\closeout\@outlinefile
14526   }{%
14527     Rerun to get outlines right\MessageBreak
14528     or use package 'bookmark'%
14529   }%
14530 }
```

#### 49.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou ([denis.girou@idris.fr](mailto:denis.girou@idris.fr)), then by Taco Hoekwater ([taco.hoekwater@wkap.nl](mailto:taco.hoekwater@wkap.nl)). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping `\` and the like.

```

14531 (*vtex)
14532 \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.

```

14533 \begingroup
14534   \catcode'\=12 %
14535   \ifnum\Hy@VTeXversion<650 %
14536     \catcode'\=12 %
14537     \gdef\hv@pdf@char#1#2#3{%
14538       \char
14539       \ifcase'#1#2#3 %
14540         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14541         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14542         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14543         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14544         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14545         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14546         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14547         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14548         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14549         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14550         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14551         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14552         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14553         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14554         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14555         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14556         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14557         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14558         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14559         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14560         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14561         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
```

```

14562 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14563 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14564 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14565 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14566 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14567 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14568 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
14569 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14570 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14571 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14572 \fi
14573 }%
14574 \else
14575 \gdef\hv@pdf@char{\char'}%
14576 \fi
14577 \endgroup

```

\@@BOOKMARK

```

14578 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14579 \expandafter\edef\csname @count@#3\endcsname{%
14580 \the\@serial@counter
14581 }%
14582 \edef\@mycount{\the\@serial@counter}%
14583 \Hy@StepCount\@serial@counter
14584 \edef\@parcount{%
14585 \expandafter\ifx\csname @count@#5\endcsname\relax
14586 0%
14587 \else
14588 \csname @count@#5\endcsname
14589 \fi
14590 }%
14591 \immediate\special{%
14592 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14593 s=\ifx#2-c\else o\fi,t=#4%
14594 }%
14595 }%

```

\ReadBookmarks

```

14596 \def\ReadBookmarks{%
14597 \begingroup
14598 \def\0{\hv@pdf@char 0}%
14599 \def\1{\hv@pdf@char 1}%
14600 \def\2{\hv@pdf@char 2}%
14601 \def\3{\hv@pdf@char 3}%
14602 \def\({}%
14603 \def\)}%
14604 \def\do##1{%
14605 \ifnum\catcode'##1=\active
14606 \@makeother##1%
14607 \else
14608 \ifnum\catcode'##1=6 %
14609 \@makeother##1%
14610 \fi
14611 \fi
14612 }%
14613 \dospecials
14614 \Hy@safe@activestrue

```

```

14615 \InputIfFileExists{\jobname.out}{\relax}{\relax}%
14616 \endgroup
14617 \ifx\WriteBookmarks\relax
14618 \else
14619 \if@files
14620 \newwrite\@outlinefile
14621 \Hy@OutlineRerunCheck
14622 \immediate\openout\@outlinefile=\jobname.out\relax
14623 \ifHy@typexml
14624 \immediate\write\@outlinefile{<relaxxml>\relax}%
14625 \fi
14626 \fi
14627 \fi
14628 }

14629 </vtex>
14630 <*\vtex>
14631 \def\ReadBookmarks{%
14632 \pdf@ifdraftmode{\relax}{\relax}%
14633 \begingroup
14634 \def\do##1{%
14635 \ifnum\catcode'##1=\active
14636 \@makeother##1%
14637 \else
14638 \ifnum\catcode'##1=6 %
14639 \@makeother##1%
14640 \fi
14641 \fi
14642 }%
14643 \dospecials
14644 \Hy@safe@activestrue
14645 \escapechar=\%
14646 \def\@BOOKMARK[##1][##2]##3##4##5{%
14647 \calc@bm@number{##5}%
14648 }%
14649 \InputIfFileExists{\jobname.out}{\relax}{\relax}%
14650 \ifx\WriteBookmarks\relax
14651 \global\let\WriteBookmarks\relax
14652 \fi
14653 \def\@BOOKMARK[##1][##2]##3##4##5{%
14654 \def\Hy@temp{##4}%
14655 <*\pdfTeX>
14656 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14657 \Hy@OutlineName{\Hy@pstringName{##2}\check@bm@number{##3}}%
14658 }%
14659 \expandafter\strip@prefix\meaning\Hy@temp
14660 }%
14661 </pdfTeX>
14662 <*\pdfmark>
14663 \pdfmark{%
14664 pdfmark=/OUT,%
14665 Count={##2\check@bm@number{##3}},%
14666 Dest={##3},%
14667 Title=\expandafter\strip@prefix\meaning\Hy@temp
14668 }%
14669 </pdfmark>
14670 <*\pdfmark | xetex>

```



```

14672 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14673 \@pdfm@mark{%
14674   outline \ifHy@DvipdfmxOutlineOpen
14675     [%
14676     \ifnum##21>\z@
14677     \else
14678     -%
14679     \fi
14680     ] %
14681     \fi
14682     ##1<<%
14683     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14684     /A<<%
14685     /S/GoTo%
14686     /D(\Hy@pstringName)%
14687     >>%
14688     >>%
14689     }%
14690 </dvipdfm | xetex>
14691 }%
14692 \begingroup
14693 \def\WriteBookmarks{0}%
14694 \InputIfFileExists{jobname.out}{-}{-}%
14695 \endgroup
14696 %{\escapechar\m@ne\InputIfFileExists{jobname.out}{-}{-}}%
14697 \endgroup
14698 }%
14699 \ifx\WriteBookmarks\relax
14700 \else
14701 \if@filesw
14702 \newwrite\@outlinefile
14703 \Hy@OutlineRerunCheck
14704 \immediate\openout\@outlinefile=jobname.out\relax
14705 \ifHy@typexml
14706 \immediate\write\@outlinefile{<relaxxml>\relax}%
14707 \fi
14708 \fi
14709 \fi
14710 }
14711 <*pdfTeX>
14712 \def\Hy@OutlineName#1#2#3#4{%
14713 \pdfoutline goto name{#2}count#3{#4}%
14714 }
14715 </pdfTeX>
14716 \def\check@bm@number#1{%
14717 \expandafter\ifx\csname B_#1\endcsname\relax
14718 0%
14719 \else
14720 \csname B_#1\endcsname
14721 \fi
14722 }
14723 \def\calc@bm@number#1{%
14724 \@tempcnta=\check@bm@number{#1}\relax
14725 \advance\@tempcnta by 1 %
14726 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14727 }
14728 </!vTeX>

```

```

14729 \ifHy@implicit
14730 \else
14731   \expandafter\endinput
14732 \fi

14733 </outlines>
14734 <*outlines | hypertex>

14735 \newlength\Hy@SectionHShift
14736 \def\Hy@SectionAnchorHref#1{%
14737   \ifx\protect\@typeset@protect
14738     \Hy@@@SectionAnchor{#1}%
14739   \fi
14740 }
14741 \DeclareRobustCommand*{\Hy@@@SectionAnchor}[1]{%
14742   \leavevmode
14743   \hbox to 0pt{%
14744     \kern-\Hy@SectionHShift
14745     \Hy@raisedlink{%
14746       \hyper@anchorstart{#1}\hyper@anchorend
14747     }%
14748     \hss
14749   }%
14750 }
14751 \let\H@old@ssect\@ssect
14752 \def\@ssect#1#2#3#4#5{%
14753   \Hy@MakeCurrentHrefAuto{section*}%
14754   \setlength{\Hy@SectionHShift}{#1}%
14755   \begingroup
14756     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14757     \toks\tw@\expandafter{%
14758       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14759       #5%
14760     }%
14761   \edef\x{\endgroup
14762     \the\toks@{\the\toks\tw@}}%
14763   }\x
14764 }
14765 \let\H@old@schapter\@schapter
14766 \def\@schapter#1{%
14767   \begingroup
14768     \let\@mkboth\@gobbletwo
14769     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14770     \Hy@raisedlink{%
14771       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14772     }%
14773   \endgroup
14774   \H@old@schapter{#1}%
14775 }

```

If there is no chapter number (`\frontmatter` or `\backmatter`) then the counting by `\refstepcounter{chapter}` is not executed, so there will be no destination for `\ddcontentsline`. So `\@chapter` is overloaded to avoid this:

```

14776 \ltx@ifundefined{@chapter}{}{%
14777   \let\Hy@org@chapter\@chapter
14778   \def\@chapter{%
14779     \def\Hy@next{%
14780       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14781       \Hy@raisedlink{%

```

```

14782     \hyper@anchorstart{\@currentHref}\hyper@anchorend
14783   }%
14784 }%
14785 \ifnum\c@secnumdepth>\m@ne
14786   \ltx@ifundefined{if@mainmatter}%
14787   \iftrue{\csname if@mainmatter\endcsname}%
14788   \let\Hy@next\relax
14789 \fi
14790 \fi
14791 \Hy@next
14792 \Hy@org@chapter
14793 }%
14794 }

14795 \let\H@old@part\@part
14796 \begingroup\expandafter\expandafter\expandafter\endgroup
14797 \expandafter\ifx\csname chapter\endcsname\relax
14798   \let\Hy@secnum@part\z@
14799 \else
14800   \let\Hy@secnum@part\m@ne
14801 \fi
14802 \def\@part{%
14803   \ifnum\Hy@secnum@part>\c@secnumdepth
14804     \phantomsection
14805   \fi
14806   \H@old@part
14807 }

14808 \let\H@old@spart\@spart
14809 \def\@spart#1{%
14810   \Hy@MakeCurrentHrefAuto{part*}%
14811   \Hy@raisedlink{%
14812     \hyper@anchorstart{\@currentHref}\hyper@anchorend
14813   }%
14814   \H@old@spart{#1}%
14815 }

14816 \let\H@old@sect\@sect
14817 \def\@sect#1#2#3#4#5#6[#7]#8{%
14818   \ifnum #2>\c@secnumdepth
14819     \expandafter\@firstoftwo
14820   \else
14821     \expandafter\@secondoftwo
14822   \fi
14823   {%
14824     \Hy@MakeCurrentHrefAuto{section*}%
14825     \setlength{\Hy@SectionHShift}{#3}%
14826     \begingroup
14827       \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]}%
14828       \toks\tw@\expandafter{%
14829         \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14830         #8%
14831       }%
14832       \edef\x{\endgroup
14833         \the\toks@\the\toks\tw@}%
14834       }\x
14835   }{%
14836     \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]{#8}%
14837   }%
14838 }

```

```

14839 </outlines | hypertex>
14840 <*outlines>

14841 \expandafter\def\csname Parent-4\endcsname{}
14842 \expandafter\def\csname Parent-3\endcsname{}
14843 \expandafter\def\csname Parent-2\endcsname{}
14844 \expandafter\def\csname Parent-1\endcsname{}
14845 \expandafter\def\csname Parent0\endcsname{}
14846 \expandafter\def\csname Parent1\endcsname{}
14847 \expandafter\def\csname Parent2\endcsname{}
14848 \expandafter\def\csname Parent3\endcsname{}
14849 \expandafter\def\csname Parent4\endcsname{}

14850 </outlines>

```

## 50 Compatibility with koma-script classes

```

14851 <*outlines | hypertex>

```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias Isenberg (Tobias.Isenberg@gmx.de). With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

14852 \def\Hy@tempa{%
14853   \def\@addchap{##1}##2{%
14854     \typeout{##2}%
14855     \if@twoside
14856       \@mkboth{##1}{}%
14857     \else
14858       \@mkboth{}{##1}%
14859     \fi
14860     \addtocontents{lof}{\protect\addvspace{10\p@}}%
14861     \addtocontents{lot}{\protect\addvspace{10\p@}}%
14862     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14863     \Hy@raisedlink{%
14864       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14865     }%
14866     \if@twocolumn
14867       \@topnewpage[\@makeschapterhead{##2}]%
14868     \else
14869       \@makeschapterhead{##2}%
14870       \@afterheading
14871     \fi
14872     \addcontentsline{toc}{chapter}{##1}%
14873   }%
14874 }
14875 \@ifclassloaded{scrbook}{%
14876   \@ifclasslater{scrbook}{2001/01/01}{%
14877     \let\Hy@tempa\@empty
14878   }{%
14879 }%
14880 \@ifclassloaded{scrreprt}{%
14881   \@ifclasslater{scrreprt}{2001/01/01}{%
14882     \let\Hy@tempa\@empty
14883   }{%
14884 }%
14885   \let\Hy@tempa\@empty
14886 }%

```

```

14887 }%
14888 \Hy@tempa
14889 </outlines | hypertext>

```

## 51 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 51.1 PD1 encoding

```

14890 <*pd1enc>
14891 \DeclareFontEncoding{PD1}{-}{-}

Accents
14892 \DeclareTextAccent{'}{PD1}{\textasciigrave}
14893 \DeclareTextAccent{'~}{PD1}{\textacute}
14894 \DeclareTextAccent{^}{PD1}{\textasciicircum}
14895 \DeclareTextAccent{~}{PD1}{\texttilde}
14896 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
14897 \DeclareTextAccent{r}{PD1}{\textring}
14898 \DeclareTextAccent{v}{PD1}{\textasciicaron}
14899 \DeclareTextAccent{.}{PD1}{\textdotaccent}
14900 \DeclareTextAccent{c}{PD1}{\textcedilla}
14901 \DeclareTextAccent{=}{PD1}{\textasciimacron}
14902 \DeclareTextAccent{b}{PD1}{\textmacronbelow}
14903 \DeclareTextAccent{d}{PD1}{\textdotbelow}
14904 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
14905 \DeclareTextCompositeCommand{'~}{PD1}{\@empty}{\textacute}
14906 \DeclareTextCompositeCommand{^}{PD1}{\@empty}{\textasciicircum}
14907 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
14908 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
14909 \DeclareTextCompositeCommand{r}{PD1}{\@empty}{\textring}
14910 \DeclareTextCompositeCommand{v}{PD1}{\@empty}{\textasciicaron}
14911 \DeclareTextCompositeCommand{.}{PD1}{\@empty}{\textdotaccent}
14912 \DeclareTextCompositeCommand{c}{PD1}{\@empty}{\textcedilla}
14913 \DeclareTextCompositeCommand{=}{PD1}{\@empty}{\textasciimacron}
14914 \DeclareTextCompositeCommand{b}{PD1}{\@empty}{\textmacronbelow}
14915 \DeclareTextCompositeCommand{d}{PD1}{\@empty}{\textdotbelow}
14916 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textasciigrave}
14917 \DeclareTextCompositeCommand{'~}{PD1}{\ }{\textacute}
14918 \DeclareTextCompositeCommand{^}{PD1}{\ }{\textasciicircum}
14919 \DeclareTextCompositeCommand{~}{PD1}{\ }{\texttilde}
14920 \DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}
14921 \DeclareTextCompositeCommand{r}{PD1}{\ }{\textring}
14922 \DeclareTextCompositeCommand{v}{PD1}{\ }{\textasciicaron}
14923 \DeclareTextCompositeCommand{.}{PD1}{\ }{\textdotaccent}
14924 \DeclareTextCompositeCommand{c}{PD1}{\ }{\textcedilla}
14925 \DeclareTextCompositeCommand{=}{PD1}{\ }{\textasciimacron}
14926 \DeclareTextCompositeCommand{b}{PD1}{\ }{\textmacronbelow}
14927 \DeclareTextCompositeCommand{d}{PD1}{\ }{\textdotbelow}
14928 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}{#1}}
14929 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}{#1}}
14930 \DeclareTextCommand{\newtie}{PD1}[1]{%
14931   \TextSymbolUnavailable{\newtie{#1}}{#1}%
14932 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```
14933 % U+0009 (CHARACTER TABULATION)
14934 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14935 % U+000A (LINE FEED)
14936 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14937 % U+000D (CARRIAGE RETURN)
14938 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

Accent glyph names
14939 % U+02D8 BREVE; breve
14940 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14941 % U+02C7 CARON; caron
14942 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14943 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14944 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
14945 % U+02D9 DOT ABOVE; dotaccent
14946 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
14947 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
14948 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
14949 % U+02DB OGONEK; ogonek
14950 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
14951 % U+02DA RING ABOVE; ring
14952 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
14953 % U+02DC SMALL TILDE; ilde, *tilde
14954 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

\040: U+0020 SPACE; *space, spacehackarabic
\041: U+0021 EXCLAMATION MARK; exclam
14955 % U+0022 QUOTATION MARK; quotedbl
14956 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
14957 % U+0023 NUMBER SIGN; numbersign
14958 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
14959 % U+0024 DOLLAR SIGN; dollar
14960 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
14961 % U+0025 PERCENT SIGN; percent
14962 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
14963 % U+0026 AMPERSAND; ampersand
14964 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

\047: U+0027 APOSTROPHE; quotesingle

14965 % U+0028 LEFT PARENTHESIS; parenleft
14966 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028
14967 % U+0029 RIGHT PARENTHESIS; parenright
14968 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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
14969 % U+002E FULL STOP; period
14970 \DeclareTextCommand{\textdotbelow}{PD1}{.}% \056 U+002E

\057: U+002F SOLIDUS; slash
\060: U+0030 DIGIT ZERO; zero
...
\071: U+0039 DIGIT NINE; nine
```

\072: U+003A COLON; colon  
 \073: U+003B SEMICOLON; semicolon  
 14971 % U+003C LESS-THAN SIGN; less  
 14972 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 14973 % U+003E GREATER-THAN SIGN; greater  
 14974 \DeclareTextCommand{\textgreater}{PD1}{>}% \076 U+003E  
 \077: U+003F QUESTION MARK; question  
 \100: U+0040 COMMERCIAL AT; at  
 \101: U+0041 LATIN CAPITAL LETTER A; A  
 ...  
 \132: U+005A LATIN CAPITAL LETTER Z; Z  
 \133: U+005B LEFT SQUARE BRACKET; bracketleft  
 14975 % U+005C REVERSE SOLIDUS; backslash  
 14976 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 14977 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"  
 14978 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 14979 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 14980 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 14981 % U+005F LOW LINE; underscore  
 14982 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 14983 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 14984 % U+0060 GRAVE ACCENT; grave  
 14985 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 14986 % U+0069 LATIN SMALL LETTER I; i  
 14987 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 14988 % U+007B LEFT CURLY BRACKET; braceleft  
 14989 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 14990 % U+007C VERTICAL LINE; \*bar, verticalbar  
 14991 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 14992 % U+007D RIGHT CURLY BRACKET; braceright  
 14993 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 14994 % U+007E TILDE; asciitilde  
 14995 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 14996 % U+2022 BULLET; bullet  
 14997 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 14998 % U+2020 DAGGER; dagger  
 14999 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 15000 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
 15001 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 15002 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}  
 15003 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 15004 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 15005 % U+2014 EM DASH; emdash  
 15006 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 15007 % U+2013 EN DASH; endash

15008 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
15009 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
15010 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
15011 % U+2044 FRACTION SLASH; fraction  
15012 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
15013 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
inglleft  
15014 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039  
15015 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guils-  
inglright  
15016 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A  
15017 % U+2212 MINUS SIGN; minus  
15018 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
15019 % U+2030 PER MILLE SIGN; perthousand  
15020 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
15021 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
15022 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
15023 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
15024 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
15025 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
15026 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
15027 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
15028 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
15029 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
15030 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
15031 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
15032 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
15033 % U+2122 TRADE MARK SIGN; trademark  
15034 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
15035 % U+FB01 LATIN SMALL LIGATURE FI; fi  
15036 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
15037 % U+FB02 LATIN SMALL LIGATURE FL; fl  
15038 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
15039 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
15040 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
15041 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
15042 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
15043 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
15044 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
15045 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
15046 \DeclareTextCompositeCommand{\"}{PD1}{Y}{\230}% U+0178  
15047 \DeclareTextCommand{\IJ}{PD1}{\230}  
15048 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
15049 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
15050 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
15051 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
15052 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
15053 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
15054 % U+0153 LATIN SMALL LIGATURE OE; oe  
15055 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
15056 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
15057 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
15058 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
15059 \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.  
15060 % U+20AC EURO SIGN; \*Euro, euro



15061 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
15062 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
15063 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
15064 % U+00A2 CENT SIGN; cent  
15065 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
15066 % U+00A3 POUND SIGN; sterling  
15067 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
15068 % U+00A4 CURRENCY SIGN; currency  
15069 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
15070 % U+00A5 YEN SIGN; yen  
15071 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
15072 % U+00A6 BROKEN BAR; brokenbar  
15073 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
15074 % U+00A7 SECTION SIGN; section  
15075 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
15076 % U+00A8 DIAERESIS; dieresis  
15077 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
15078 % U+00A9 COPYRIGHT SIGN; copyright  
15079 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
15080 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
15081 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
15082 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
15083 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
15084 % U+00AC NOT SIGN; logicalnot  
15085 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
15086 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
  
No glyph \255 in PDFDocEncoding.  
15087 % U+00AE REGISTERED SIGN; registered  
15088 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
15089 % U+00AF MACRON; \*macron, overscore  
15090 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
15091 % U+00B0 DEGREE SIGN; degree  
15092 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
15093 % U+00B1 PLUS-MINUS SIGN; plusminus  
15094 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
15095 % U+00B2 SUPERSCRIFT TWO; twosuperior  
15096 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%\* U+00B2  
15097 % U+00B3 SUPERSCRIFT THREE; threesuperior  
15098 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%\* U+00B3  
15099 % U+00B4 ACUTE ACCENT; acute  
15100 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
15101 % U+00B5 MICRO SIGN; mu, mu1  
15102 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
15103 % U+00B6 PILCROW SIGN; paragraph  
15104 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
15105 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
15106 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
15107 % U+00B8 CEDILLA; cedilla  
15108 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
15109 % U+00B9 SUPERSCRIFT ONE; onesuperior  
15110 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%\* U+00B9  
15111 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
15112 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
15113 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
15114 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB

15115 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
15116 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
15117 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
15118 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
15119 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
15120 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
15121 % U+00BF INVERTED QUESTION MARK; questiondown  
15122 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
15123 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15124 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
15125 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15126 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
15127 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15128 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
15129 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15130 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
15131 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15132 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
15133 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15134 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
15135 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15136 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
15137 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15138 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
15139 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15140 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
15141 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15142 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
15143 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15144 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
15145 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15146 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
15147 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15148 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
15149 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15150 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
15151 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15152 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
15153 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15154 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
15155 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
15156 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
15157 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
15158 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15159 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
15160 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15161 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
15162 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15163 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
15164 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15165 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
15166 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15167 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
15168 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15169 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
15170 % U+00D7 MULTIPLICATION SIGN; multiply  
15171 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7

15172 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15173 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
15174 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15175 \DeclareTextCompositeCommand{\'}{PD1}{U}{\331}% U+00D9  
15176 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15177 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
15178 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15179 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
15180 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15181 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
15182 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15183 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
15184 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15185 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
15186 \DeclareTextCommand{\textThorn}{PD1}{\336}%\* U+00DE  
15187 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15188 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
15189 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15190 \DeclareTextCompositeCommand{\'}{PD1}{a}{\340}% U+00E0  
15191 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15192 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
15193 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15194 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
15195 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15196 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
15197 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15198 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
15199 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15200 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
15201 % U+00E6 LATIN SMALL LETTER AE; ae  
15202 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
15203 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15204 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
15205 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15206 \DeclareTextCompositeCommand{\'}{PD1}{e}{\350}% U+00E8  
15207 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15208 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
15209 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15210 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
15211 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15212 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
15213 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15214 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
15215 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
15216 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15217 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15218 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15219 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15220 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15221 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15222 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15223 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15224 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15225 % U+00F0 LATIN SMALL LETTER ETH; eth  
15226 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
15227 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
15228 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1

```

15229 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
15230 \DeclareTextCompositeCommand{\'}{PD1}{o}{\362}% U+00F2
15231 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
15232 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
15233 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
15234 \DeclareTextCompositeCommand{\'}{PD1}{o}{\364}% U+00F4
15235 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
15236 \DeclareTextCompositeCommand{\'}{PD1}{o}{\365}% U+00F5
15237 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
15238 \DeclareTextCompositeCommand{\'}{PD1}{o}{\366}% U+00F6
15239 % U+00F7 DIVISION SIGN; divide
15240 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
15241 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
15242 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
15243 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
15244 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371}% U+00F9
15245 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
15246 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
15247 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
15248 \DeclareTextCompositeCommand{\'}{PD1}{u}{\373}% U+00FB
15249 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
15250 \DeclareTextCompositeCommand{\'}{PD1}{u}{\374}% U+00FC
15251 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
15252 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
15253 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)
15254 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
15255 \DeclareTextCommand{\textthorn}{PD1}{\376}%* U+00FE
15256 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15257 \DeclareTextCompositeCommand{\'}{PD1}{y}{\377}% U+00FF
15258 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

```

Glyphs that consist of several characters.

```

15259 \DeclareTextCommand{\SS}{PD1}{SS}
15260 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

15261 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
15262 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
15263 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
15264 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
15265 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
15266 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
15267 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
15268 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

15269 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
15270 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
15271 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
15272 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
15273 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
15274 \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).

```

15275 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15276 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
15277 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15278 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute

```

```

15279 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
15280 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
15281 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15282 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15283 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
15284 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15285 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
15286 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
15287 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
15288 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
15289 \end{pd1enc}

```

## 51.2 PU encoding

```

15290 \newcommand{*puenc}
15291 \DeclareFontEncoding{PU}{}{}

```

### 51.2.1 NFSS2 accents

```

15292 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15293 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
15294 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15295 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15296 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15297 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
15298 % U+0303 COMBINING TILDE; tildecmb, *tildecomb
15299 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15300 % U+0304 COMBINING MACRON; macroncmb
15301 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15302 % U+0306 COMBINING BREVE; brevecmb
15303 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
15304 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
15305 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
15306 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
15307 % U+0308 COMBINING DIAERESIS; dieresiscmb
15308 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
15309 % U+030A COMBINING RING ABOVE; ringcmb
15310 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
15311 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
15312 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
15313 % U+030C COMBINING CARON; caroncmb
15314 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
15315 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
15316 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
15317 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
15318 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
15319 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311
15320 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
15321 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
15322 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-
    laut (tipa)
15323 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324
15324 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)
15325 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325
15326 % U+0327 COMBINING CEDILLA; cedillacmb
15327 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
15328 % U+0328 COMBINING OGONEK; ogonekcmb
15329 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
15330 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;

```

```

15331 % \textsubcircum (tipa)
15332 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D
15333 % U+032E COMBINING BREVE BELOW; brevebelowcmb
15334 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E
15335 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)
15336 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330
15337 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
15338 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
15339 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
      blecmb
15340 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
15341 % U+20DD COMBINING ENCLOSING CIRCLE
15342 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

```

Double accents.

```

15343 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}
15344 \DeclareTextCommand{\textgravemacron}{PU}[1]{#1\83\000\83\004}

```

`\@empty` is an artefact of the NFSS2 machinery, it gets inserted for empty arguments and spaces.

```

15345 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}
15346 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
15347 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}
15348 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
15349 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
15350 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
15351 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
15352 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
15353 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
15354 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
15355 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
15356 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
15357 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
15358 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
15359 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{{ \83\021}}
15360 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{{ \83\044}}
15361 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}
15362 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircum-
      low}
15363 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{{ \83\056}}
15364 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildelow}
15365 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
15366 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
15367 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
15368 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
15369 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
15370 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{{ \83\001\83\004}}
15371 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{{ \83\000\83\004}}
15372 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
15373 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
15374 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}
15375 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
15376 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
15377 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
15378 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
15379 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
15380 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
15381 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}

```

```

15382 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
15383 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
15384 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
15385 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
15386 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\83\021}}
15387 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\83\044}}
15388 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textcirc{low}}
15389 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcirc{low}}
15390 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\83\056}}
15391 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildelow}
15392 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
15393 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
15394 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
15395 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
15396 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}
15397 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\83\001\83\004}}
15398 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\83\000\83\004}}

```

Accents for capitals (see encoding TS1)

```

15399 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
15400 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
15401 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
15402 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
15403 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
15404 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
15405 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
15406 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
15407 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
15408 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
15409 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
15410 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
15411 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1}}
15412 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
15413 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

### 51.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

15414 % U+0009 (CHARACTER TABULATION)
15415 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
15416 % U+000A (LINE FEED)
15417 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
15418 % U+000D (CARRIAGE RETURN)
15419 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D
\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam
15420 % U+0022 QUOTATION MARK; quotedbl
15421 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
15422 % U+0023 NUMBER SIGN; numbersign
15423 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
15424 % U+0024 DOLLAR SIGN; dollar
15425 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
15426 %* \textdollar -> \mathdollar
15427 % U+0025 PERCENT SIGN; percent
15428 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
15429 % U+0026 AMPERSAND; ampersand
15430 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
15431 %* \textampersand -> \binampersand (stmaryrd)

```

```

15432 %* \textampersand -> \with (cml)
15433 % U+0027 APOSTROPHE; quotesingle
15434 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
15435 % U+0028 LEFT PARENTHESIS; parenleft
15436 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
15437 % U+0029 RIGHT PARENTHESIS; parenright
15438 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
15439 % U+002A ASTERISK; asterisk
15440 \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
15441 % U+003C LESS-THAN SIGN; less
15442 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
\80\075: U+003D EQUALS SIGN; equal
15443 % U+003E GREATER-THAN SIGN; greater
15444 \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
15445 % U+005C REVERSE SOLIDUS; backslash
15446 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
\80\135: U+005D RIGHT SQUARE BRACKET; bracketright
15447 % U+005E CIRCUMFLEX ACCENT; asciicircum
15448 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
15449 % U+005F LOW LINE; underscore
15450 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
15451 %* \textunderscore -> \mathunderscore (LaTeX)
15452 % U+0060 GRAVE ACCENT; grave
15453 \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
15454 % U+0069 LATIN SMALL LETTER I; i
15455 \DeclareTextCompositeCommand{\.}{PU}{i}% \80\151 U+0069
15456 \DeclareTextCompositeCommand{\.}{PU}{i}% \80\151 U+0069
\80\152: U+006A LATIN SMALL LETTER J; j
...
\80\172: U+007A LATIN SMALL LETTER Z; z
15457 % U+007B LEFT CURLY BRACKET; braceleft
15458 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
15459 % U+007C VERTICAL LINE; *bar, verticalbar

```



15460 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 15461 %\* \textbar -> \textvbarline (tipa)  
 15462 % U+007D RIGHT CURLY BRACKET; braceright  
 15463 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 15464 % U+007E TILDE; asciitilde  
 15465 \DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E

### 51.2.3 Latin-1 Supplement: U+0080 to U+00FF

\80\240: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace  
 15466 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 15467 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 15468 % U+00A2 CENT SIGN; cent  
 15469 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 15470 % U+00A3 POUND SIGN; sterling  
 15471 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 15472 %\* \textsterling -> \mathsterling (LaTeX)  
 15473 %\* \textsterling -> \pounds (LaTeX)  
 15474 % U+00A4 CURRENCY SIGN; currency  
 15475 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 15476 % U+00A5 YEN SIGN; yen  
 15477 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 15478 % U+00A6 BROKEN BAR; brokenbar  
 15479 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 15480 %\* \textbrokenbar -> \brokenvert (wasysym)  
 15481 % U+00A7 SECTION SIGN; section  
 15482 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 15483 %\* \textsection -> \mathsection (LaTeX)  
 15484 %\* \textsection -> \S (LaTeX)  
 15485 % U+00A8 DIAERESIS; diaeresis  
 15486 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
 15487 % U+00A9 COPYRIGHT SIGN; copyright  
 15488 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%\* U+00A9  
 15489 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 15490 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
 15491 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 15492 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
 15493 % U+00AC NOT SIGN; logicalnot  
 15494 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
 15495 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
 \80\255: U+00AD SOFT HYPHEN; sftthyphen, softthyphen  
 15496 % U+00AE REGISTERED SIGN; registered  
 15497 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
 15498 % U+00AF MACRON; \*macron, overscore  
 15499 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
 15500 % U+00B0 DEGREE SIGN; degree  
 15501 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
 15502 % U+00B1 PLUS-MINUS SIGN; plusminus  
 15503 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
 15504 % U+00B2 SUPERSCRIPT TWO; twosuperior  
 15505 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%\* U+00B2  
 15506 % U+00B3 SUPERSCRIPT THREE; threesuperior  
 15507 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%\* U+00B3  
 15508 % U+00B4 ACUTE ACCENT; acute  
 15509 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
 15510 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4

15511 % U+00B5 MICRO SIGN; mu, mul  
15512 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
15513 % U+00B6 PILCROW SIGN; paragraph  
15514 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
15515 %\* \textparagraph -> \mathparagraph (LaTeX)  
15516 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
15517 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
15518 % U+00B8 CEDILLA; cedilla  
15519 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
15520 % U+00B9 SUPERSCRIPT ONE; onesuperior  
15521 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%\* U+00B9  
15522 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
15523 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
15524 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
15525 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
15526 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
15527 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
15528 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
15529 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
15530 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
15531 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
15532 % U+00BF INVERTED QUESTION MARK; questiondown  
15533 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
15534 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15535 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
15536 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15537 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
15538 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15539 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
15540 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15541 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
15542 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15543 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
15544 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15545 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
15546 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15547 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
15548 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15549 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
15550 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15551 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
15552 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15553 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
15554 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15555 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
15556 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15557 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
15558 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15559 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
15560 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15561 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
15562 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15563 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
15564 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15565 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
15566 % U+00D0 LATIN CAPITAL LETTER ETH; Eth

15567 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
15568 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15569 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
15570 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15571 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
15572 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15573 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
15574 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15575 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
15576 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15577 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
15578 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15579 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
15580 % U+00D7 MULTIPLICATION SIGN; multiply  
15581 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
15582 %\* \textmultiply -> \vartimes (stmaryrd)  
15583 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15584 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
15585 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15586 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
15587 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15588 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
15589 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15590 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
15591 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15592 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
15593 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15594 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
15595 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15596 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
15597 \DeclareTextCommand{\textThorn}{PU}{\80\336}%\* U+00DE  
15598 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15599 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
15600 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15601 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
15602 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15603 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
15604 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15605 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
15606 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15607 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
15608 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15609 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
15610 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15611 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
15612 % U+00E6 LATIN SMALL LETTER AE; ae  
15613 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
15614 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15615 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
15616 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15617 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
15618 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15619 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
15620 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15621 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
15622 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15623 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB

15624 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
 15625 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
 15626 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
 15627 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
 15628 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 15629 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 15630 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
 15631 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
 15632 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
 15633 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
 15634 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
 15635 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
 15636 % U+00F0 LATIN SMALL LETTER ETH; eth  
 15637 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
 15638 %\* \dh -> \eth (wsuipa, phonetic)  
 15639 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
 15640 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
 15641 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 15642 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
 15643 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 15644 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 15645 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 15646 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4  
 15647 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 15648 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 15649 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 15650 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
 15651 % U+00F7 DIVISION SIGN; divide  
 15652 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 15653 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 15654 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 15655 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 15656 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 15657 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 15658 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 15659 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 15660 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB  
 15661 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 15662 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
 15663 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 15664 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 15665 % U+00FE LATIN SMALL LETTER THORN; thorn;  
 15666 % \th, \thorn (wasysym), \textthorn (tipa)  
 15667 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 15668 \DeclareTextCommand{\textthorn}{PU}{\80\376}%\* U+00FE  
 15669 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 15670 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 51.2.4 Latin Extended-A: U+0080 to U+017F

15671 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 15672 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
 15673 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 15674 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
 15675 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 15676 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 15677 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve

15678 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
15679 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
15680 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
15681 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
15682 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
15683 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
15684 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
15685 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
15686 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
15687 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
15688 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
15689 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
15690 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
15691 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotac-  
cent  
15692 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
15693 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
15694 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
15695 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
15696 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
15697 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
15698 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
15699 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
15700 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
15701 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
15702 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
15703 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
15704 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
15705 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;  
15706 % \textcrd (tipa)  
15707 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
15708 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111  
15709 %\* \textcrd -> \crossd (wsuipa)  
15710 % An alternate glyph with the stroke through the bowl:  
15711 %\* \textcrd -> \textbard (tipa)  
15712 %\* \textcrd -> \bard (wsuipa)  
15713 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
15714 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
15715 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
15716 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
15717 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
15718 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
15719 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
15720 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
15721 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
15722 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
15723 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
15724 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
15725 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
15726 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
15727 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
15728 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
15729 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
15730 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
15731 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
15732 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
15733 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex

15734 \DeclareTextCompositeCommand{\~}{PU}{G}{\81\034}% U+011C  
15735 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
15736 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
15737 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
15738 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
15739 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
15740 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
15741 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotac-  
cent  
15742 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
15743 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
15744 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
15745 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent  
15746 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
15747 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
15748 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
15749 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
15750 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
15751 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
15752 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
15753 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
15754 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
15755 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (AmS)  
15756 \DeclareTextCommand{\textthbar}{PU}{\81\047}%\* U+127  
15757 %\* \textthbar -> \textcrh (tipa)  
15758 %\* \textthbar -> \crossh (wsuipa)  
15759 %\* \textthbar -> \planck (phonetic)  
15760 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
15761 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
15762 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
15763 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
15764 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
15765 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
15766 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
15767 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
15768 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
15769 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
15770 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
15771 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
15772 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
15773 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
15774 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
15775 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
15776 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
15777 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
15778 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
15779 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
15780 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
15781 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
15782 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
15783 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
15784 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
15785 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
15786 % U+0133 LATIN SMALL LIGATURE IJ; ij  
15787 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
15788 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex

15789 \DeclareTextCompositeCommand{\~}{PU}{J}{\81\064}% U+0134  
 15790 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
 15791 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
 15792 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
 15793 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
 15794 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
 15795 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
 15796 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

The canonical name of U+0138, small letter kra, would be \textkgreenlandic, following the glyph naming convention. However latex/base/inputenc.dtx has choosen \textkra.

15797 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
 15798 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
 15799 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
 15800 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
 15801 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
 15802 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
 15803 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
 15804 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
 15805 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
 15806 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
 15807 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
 15808 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
 15809 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
 15810 \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.

15811 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
 15812 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
 15813 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
 15814 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
 15815 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
 15816 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
 15817 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 15818 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
 15819 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
 15820 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
 15821 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
 15822 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
 15823 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent  
 15824 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
 15825 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
 15826 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
 15827 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
 15828 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
 15829 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
 15830 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
 15831 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn  
 15832 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
 15833 % U+014A LATIN CAPITAL LETTER ENG; Eng

15834 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
15835 % U+014B LATIN SMALL LETTER ENG; eng  
15836 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
15837 %\* \ng -> \eng (wsuipa)  
15838 %\* \ng -> \engma (phonetic)  
15839 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
15840 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
15841 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
15842 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
15843 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
15844 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
15845 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
15846 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
15847 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odbla-  
cute, Ohungarumlaut  
15848 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
15849 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-  
cute, ohungarumlaut  
15850 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
15851 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
15852 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
15853 % U+0153 LATIN SMALL LIGATURE OE; oe  
15854 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
15855 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
15856 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
15857 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
15858 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
15859 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-  
cent  
15860 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
15861 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
15862 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
15863 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
15864 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
15865 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
15866 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
15867 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
15868 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
15869 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
15870 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
15871 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
15872 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
15873 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
15874 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
15875 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
15876 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
15877 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
15878 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
15879 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
15880 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
15881 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
15882 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
15883 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-  
cent  
15884 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
15885 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
15886 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163



15887 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
 15888 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
 15889 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
 15890 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
 15891 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
 15892 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
 15893 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
 15894 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
 15895 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
 15896 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
 15897 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
 15898 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 15899 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
 15900 \DeclareTextCompositeCommand{=} {PU}{U}{\81\152}% U+016A  
 15901 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
 15902 \DeclareTextCompositeCommand{=} {PU}{u}{\81\153}% U+016B  
 15903 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
 15904 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
 15905 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
 15906 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
 15907 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
 15908 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
 15909 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
 15910 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
 15911 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
 15912 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
 15913 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
 15914 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
 15915 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
 15916 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
 15917 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
 15918 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
 15919 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
 15920 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
 15921 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
 15922 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
 15923 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
 15924 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
 15925 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 15926 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
 15927 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 15928 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
 15929 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 15930 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
 15931 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 15932 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
 15933 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 15934 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
 15935 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 15936 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 15937 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 15938 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 15939 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 15940 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 15941 % U+017F LATIN SMALL LETTER LONG S; longs, slong

15942 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

### 51.2.5 Latin Extended-B: U+0180 to U+024F

15943 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)

15944 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180

15945 %\* \textcrb -> \crossb (wsuipa)

15946 % An alternate glyph with the stroke through the bowl:

15947 %\* \textcrb -> \textbarb (tipa)

15948 %\* \textcrb -> \barb (wsuipa)

15949 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausab (phonetic)

15950 \DeclareTextCommand{\texthausab}{PU}{\81\201}%\* U+0181

15951 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)

15952 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188

15953 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausad (phonetic)

15954 \DeclareTextCommand{\texthausad}{PU}{\81\212}%\* U+018A

15955 % U+018E LATIN CAPITAL LETTER REVERSED E; Eversed

15956 \DeclareTextCommand{\textEversed}{PU}{\81\216}% U+018E

15957 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E

15958 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin

15959 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192

15960 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)

15961 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195

15962 %\* \texthvlig -> \hv (wsuipa)

15963 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (phonetic)

15964 \DeclareTextCommand{\texthausak}{PU}{\81\230}%\* U+0198

15965 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)

15966 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199

15967 %\* \texthtk -> \hausak (phonetic)

15968 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;

15969 % \textbarl (tipa), \barl (wsuipa)

15970 \DeclareTextCommand{\textbarl}{PU}{\81\232}%\* U+019A

15971 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/

15972 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;

15973 % \textcrlambda (tipa)

15974 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B

15975 %\* \textcrlambda -> \crossnilambda (wsuipa)

15976 %\* \textcrlambda -> \barlambd (phonetic)

15977 %\* \textcrlambda -> \lambdabar (txfonts/pxfonts)

15978 %\* \textcrlambda -> \lambdash (txfonts/pxfonts)

15979 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegrightlong;

15980 % \textnrleg (tipx)

15981 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E

15982 %\* \textPUnrleg -> \textnrleg (tipx)

15983 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthtp (tipa)

15984 \DeclareTextCommand{\texthtp}{PU}{\81\245}% U+01A5

15985 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;

15986 % \textlhookt (tipa)

15987 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB

15988 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)

15989 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD

15990 % U+01B9 LATIN SMALL LETTER EZH REVERSED/

15991 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)

15992 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9

15993 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)  
 15994 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB  
 15995 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;  
 15996 % glottalinvertedstroke; \textcrinvglotstop (tipa)  
 15997 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE  
 15998 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)  
 15999 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF  
 16000 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-  
 tal;  
 16001 % \textpipe (tipa)  
 16002 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0  
 16003 %\* \textpipe -> \textpipevar (tipx)  
 16004 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER  
 16005 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)  
 16006 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1  
 16007 %\* \textdoublepipe -> \textdoublepipevar (tipx)  
 16008 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOU-  
 BLE BAR;  
 16009 % clickalveolar; \textdoublebarpipe (tipa)  
 16010 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2  
 16011 %\* \textdoublebarpipe -> \textdoublebarpipevar (tipx)  
 16012 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 16013 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 16014 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
 16015 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 16016 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 16017 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 16018 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 16019 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 16020 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 16021 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 16022 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 16023 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 16024 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 16025 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 16026 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
 16027 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
 16028 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
 16029 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)  
 16030 \DeclareTextCommand{\textinve}{PU}{\81\335}%\* U+01DD  
 16031 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
 16032 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
 16033 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
 16034 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
 16035 %\* \textgslash -> \textcrg (tipa)  
 16036 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
 16037 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
 16038 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
 16039 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
 16040 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
 16041 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
 16042 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
 16043 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
 16044 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
 16045 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
 16046 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
 16047 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB

16048 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
16049 \DeclareTextCompositeCommand{\vj}{PU}{j}{\81\360}% U+01F0  
16050 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
16051 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
16052 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
16053 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
16054 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
16055 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
16056 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8  
16057 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
16058 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9  
16059 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
16060 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
16061 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
16062 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
16063 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;  
16064 % \*Oslashacute, Ostrokeacute  
16065 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
16066 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;  
16067 % \*oslashacute, ostrokeacute  
16068 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
16069 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
16070 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
16071 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
16072 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
16073 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
16074 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
16075 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
16076 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
16077 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-  
edbreve  
16078 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206  
16079 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einverted-  
breve  
16080 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207  
16081 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
16082 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
16083 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
16084 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
16085 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
16086 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinverted-  
breve  
16087 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A  
16088 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-  
breve  
16089 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
16090 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
16091 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
16092 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
16093 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
16094 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
16095 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-  
edbreve  
16096 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E  
16097 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-  
breve  
16098 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F

16099 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
 16100 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
 16101 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
 16102 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
 16103 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
 16104 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
 16105 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
 16106 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
 16107 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-  
 edbreve  
 16108 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216  
 16109 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-  
 breve  
 16110 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217  
 16111 % U+021E LATIN CAPITAL LETTER H WITH CARON  
 16112 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
 16113 % U+021F LATIN SMALL LETTER H WITH CARON  
 16114 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
 16115 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)  
 16116 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221  
 16117 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)  
 16118 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225  
 16119 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 16120 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 16121 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 16122 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 16123 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 16124 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 16125 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 16126 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 16127 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 16128 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 16129 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 16130 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 16131 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 16132 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 16133 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 16134 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 16135 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)  
 16136 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235  
 16137 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)  
 16138 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236  
 16139 % U+0237 LATIN SMALL LETTER DOTLESS J  
 16140 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237  
 16141 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)  
 16142 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238  
 16143 %\* \textPUdblig -> \textdblig (tipx)  
 16144 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)  
 16145 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239  
 16146 %\* \textPUqplig -> \textqplig (tipx)  
 16147 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)  
 16148 \DeclareTextCommand{\textslashc}{PU}{\82\074}%\* U+023C  
 16149 %\* \textslashc -> \textcentoldstyle (textcomp)  
 16150 % With bar instead of stroke:  
 16151 %\* \textslashc -> \textbarc (tipa)

## 51.2.6 IPA Extensions: U+0250 to U+02AF

16152 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)  
16153 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+250  
16154 %\* \textturna -> \inva (wasysym)  
16155 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER  
16156 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)  
16157 \DeclareTextCommand{\textscripta}{PU}{\82\121}%\* U+251  
16158 %\* \textscripta -> \vara (phonetic)  
16159 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;  
16160 % \textturnscripta (tipa)  
16161 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+252  
16162 %\* \textturnscripta -> \invscripta (wsuipa)  
16163 %\* \textturnscripta -> \rotvara (phonetic)  
16164 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)  
16165 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+253  
16166 %\* \texthtb -> \hookb (wsuipa)  
16167 %\* \texthtb -> \hausab (phonetic)  
16168 % U+0254 LATIN SMALL LETTER OPEN O; oopen;  
16169 % \textopeno (tipa), \openo (wasysym)  
16170 \DeclareTextCommand{\textopeno}{PU}{\82\124}%\* U+0254  
16171 %\* \textopeno -> \varopeno (phonetic)  
16172 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)  
16173 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255  
16174 %\* \textctc -> \curlyc (wsuipa)  
16175 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)  
16176 \DeclareTextCommand{\textrtaild}{PU}{\82\126}%\* U+0256  
16177 %\* \textrtaild -> \taild (wsuipa)  
16178 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)  
16179 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257  
16180 %\* \texthtd -> \hookd (wsuipa)  
16181 %\* \texthtd -> \hausad (phonetic)  
16182 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;  
16183 % \textreve (tipa), \reve (wsuipa)  
16184 \DeclareTextCommand{\textreve}{PU}{\82\130}%\* U+0258  
16185 % U+0259 LATIN SMALL LETTER SCHWA; schwa;  
16186 % \textschwa (tipa), \schwa (wsuipa, phonetic)  
16187 \DeclareTextCommand{\textschwa}{PU}{\82\131}%\* U+0259  
16188 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;  
16189 % \textrhookschwa (tipa)  
16190 \DeclareTextCommand{\textrhookschwa}{PU}{\82\132}% U+025A  
16191 %\* \textrhookschwa -> \er (wsuipa)  
16192 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-  
SILON; eopen;  
16193 % \niepsilon (wsuipa)  
16194 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}%\* U+025B  
16195 %\* \textniepsilon -> \epsi (phonetic)  
16196 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;  
16197 % \textrevepsilon (tipa), \revepsilon (wsuipa)  
16198 \DeclareTextCommand{\textrevepsilon}{PU}{\82\134}%\* U+025C  
16199 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-  
reversedhook;  
16200 % \textrhookrevepsilon (tipa)  
16201 \DeclareTextCommand{\textrhookrevepsilon}{PU}{\82\135}%\* U+025D  
16202 %\* \textrhookrevepsilon -> \hookrevepsilon (wsuipa)  
16203 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-  
versedclosed;  
16204 % \textcloserevepsilon (tipa)  
16205 \DeclareTextCommand{\textcloserevepsilon}{PU}{\82\136}% U+025E

16206 %\* \textcloserevepsilon -> \closedrevepsilon (wsuipa)  
 16207 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdotlessstroke;  
 16208 % \textbardotlessj (tipa)  
 16209 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F  
 16210 %\* \textbardotlessj -> \barj (phonetic)  
 16211 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)  
 16212 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260  
 16213 %\* \texthtg -> \hookg (wsuipa)  
 16214 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;  
 16215 % \textscriptg (tipa), \scriptg (wsuipa)  
 16216 \DeclareTextCommand{\textscriptg}{PU}{\82\141}%\* U+0261  
 16217 %\* \textscriptg -> \varg (phonetic)  
 16218 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)  
 16219 \DeclareTextCommand{\textscg}{PU}{\82\142}%\* U+0262  
 16220 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinsmall;  
 16221 % \ipagamma (wsuipa), \vod (phonetic)  
 16222 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%\* U+0263  
 16223 %\* \textipagamma -> \vod (pnonetic)  
 16224 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;  
 16225 % \babygamma (wsuipa)  
 16226 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%\* U+0264  
 16227 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)  
 16228 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265  
 16229 %\* \textturnh -> \invh (wsuipa)  
 16230 %\* \textturnh -> \udesc (phonetic)  
 16231 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)  
 16232 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266  
 16233 %\* \texthth -> \hookh (wsuipa)  
 16234 %\* \texthth -> \voicedh (phonetic)  
 16235 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \texththeng (tipa)  
 16236 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267  
 16237 %\* \texththeng -> \hookheng (wsuipa)  
 16238 % U+0268 LATIN SMALL LETTER I WITH STROKE;  
 16239 % \textbari (tipa), \bari (wsuipa)  
 16240 \DeclareTextCommand{\textbari}{PU}{\82\150}%\* U+0268  
 16241 %\* \textbari -> \ibar (phonetic)  
 16242 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)  
 16243 \DeclareTextCommand{\textniiota}{PU}{\82\151}%\* U+0269  
 16244 %\* \textniiota -> \vari (phonetic)  
 16245 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)  
 16246 \DeclareTextCommand{\textsci}{PU}{\82\152}%\* U+026A  
 16247 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;  
 16248 % \textltilde (tipa)  
 16249 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B  
 16250 %\* \textltilde -> \tildel (wsuipa)  
 16251 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)  
 16252 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C  
 16253 %\* \textbeltl -> \latfric (wsuipa)  
 16254 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;  
 16255 % \hookretroflex; \textrtaill (tipa)  
 16256 \DeclareTextCommand{\textrtaill}{PU}{\82\155}% U+026D  
 16257 %\* \textrtaill -> \taill (wsuipa)  
 16258 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)  
 16259 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E  
 16260 %\* \textlyoghlig -> \lz (wsuipa)

16261 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)  
16262 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F  
16263 %\* \textturnm -> \invm (wsuipa)  
16264 %\* \textturnm -> \rotrm (phonetic)  
16265 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlongleg-  
turned;  
16266 % \textturnmrleg (tipa)  
16267 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270  
16268 %\* \textturnmrleg -> \legm (wsuipa)  
16269 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)  
16270 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271  
16271 %\* \textltailm -> \labdentainas (wsuipa)  
16272 %\* \textltailm -> \emgma (phonetic)  
16273 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textl-  
tailn (tipa)  
16274 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272  
16275 %\* \textltailn -> \nj (wsuipa)  
16276 %\* \textltailn -> \enya (phonetic)  
16277 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;  
16278 % nhookretroflex; \textrtailn (tipa)  
16279 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273  
16280 %\* \textrtailn -> \tailn (wsuipa)  
16281 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)  
16282 \DeclareTextCommand{\textscn}{PU}{\82\164}%\* U+0274  
16283 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/  
16284 % LATIN CAPITAL LETTER BARRED O; obarred;  
16285 % \textbaro (tipa), \baro (wsuipa)  
16286 \DeclareTextCommand{\textbaro}{PU}{\82\165}%\* U+0275  
16287 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscœlig (tipa)  
16288 \DeclareTextCommand{\textscœlig}{PU}{\82\166}% U+0276  
16289 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;  
16290 % \textcloseomega (tipa)  
16291 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277  
16292 %\* \textcloseomega -> \closedniomega (wsuipa)  
16293 %\* \textcloseomega -> \varomega (phonetic)  
16294 % U+0278 LATIN SMALL LETTER PHI; philatin; \niph (wsuipa)  
16295 \DeclareTextCommand{\textniph}{PU}{\82\170}%\* U+0278  
16296 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)  
16297 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279  
16298 %\* \textturnr -> \invr (wsuipa)  
16299 %\* \textturnr -> \rotr (phonetic)  
16300 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;  
16301 % rlonglegturned; \textturnlongleg (tipa)  
16302 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A  
16303 %\* \textturnlongleg -> \invleg (wsuipa)  
16304 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhookturned;  
16305 % \textturnrrtail (tipa)  
16306 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B  
16307 %\* \textturnrrtail -> \tailinvr (wsuipa)  
16308 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlon-  
glegr (tipa)  
16309 \DeclareTextCommand{\textlongleg}{PU}{\82\174}%\* U+027C  
16310 %\* \textlongleg -> \leg (wsuipa)  
16311 % U+027D LATIN SMALL LETTER R WITH TAIL; rhook; \textrtailr (tipa)  
16312 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D  
16313 %\* \textrtailr -> \tailr (wsuipa)  
16314 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;



16315 % \textfishhookr (tipa)  
16316 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E  
16317 %\* \textfishhookr -> \flapr (wsuipa)  
16318 %\* \textfishhookr -> \flap (phonetic)  
16319 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfishhookreversed;  
16320 % \textlhtlongi (tipa)  
16321 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F  
16322 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)  
16323 \DeclareTextCommand{\textscr}{PU}{\82\200}%\* U+0280  
16324 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;  
16325 % \textinvscr (tipa), \invscr (wsuipa)  
16326 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%\* U+0281  
16327 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \texttrails (tipa)  
16328 \DeclareTextCommand{\texttrails}{PU}{\82\202}% U+0282  
16329 %\* \texttrails -> \tails (wsuipa)  
16330 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)  
16331 \DeclareTextCommand{\textesh}{PU}{\82\203}%\* U+0283  
16332 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;  
16333 % dotlessjstrokehook; \texthtbardotlessj (tipa)  
16334 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284  
16335 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquatreversed;  
16336 % \textvibyi (tipa)  
16337 \DeclareTextCommand{\textvibyi}{PU}{\82\205}% U+0285  
16338 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)  
16339 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286  
16340 %\* \textctesh -> \curlyesh (wsuipa)  
16341 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)  
16342 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287  
16343 %\* \textturnt -> \clickt (wsuipa)  
16344 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflexhook;  
16345 % \texttrtailt (tipa)  
16346 \DeclareTextCommand{\texttrtailt}{PU}{\82\210}% U+0288  
16347 %\* \texttrtailt -> \tailt (wsuipa)  
16348 % U+0289 LATIN SMALL LETTER U BAR; ubar;  
16349 % \textbaru (tipa), \baru (wsuipa)  
16350 \DeclareTextCommand{\textbaru}{PU}{\82\211}%\* U+0289  
16351 %\* \textbaru -> \ubar (phonetic)  
16352 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)  
16353 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%\* U+028A  
16354 %\* \textniupsilon -> \rotOmega (phonetic)  
16355 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LETTER SCRIPT V;  
16356 % vhook; \textscriptv (tipa), \scriptv (wsuipa)  
16357 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%\* U+028B  
16358 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)  
16359 \DeclareTextCommand{\textturnv}{PU}{\82\214}%\* U+028C  
16360 %\* \textturnv -> \invv (wsuipa)  
16361 %\* \textturnv -> \pwedge (phonetic)  
16362 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)  
16363 \DeclareTextCommand{\textturnw}{PU}{\82\215}%\* U+028D  
16364 %\* \textturnw -> \invw (wsuipa)  
16365 %\* \textturnw -> \rotw (phonetic)  
16366 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)  
16367 \DeclareTextCommand{\textturny}{PU}{\82\216}%\* U+028E

16368 %\* \textturny -> \invy (wsuipa)  
 16369 %\* \textturny -> \roty (phonetic)  
 16370 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)  
 16371 \DeclareTextCommand{\textscy}{PU}{\82\217}%\* U+028F  
 16372 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-hook;  
 16373 % \textrtailz (tipa)  
 16374 \DeclareTextCommand{\textrtailz}{PU}{\82\220}% U+0290  
 16375 %\* \textrtailz -> \tailz (wsuipa)  
 16376 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)  
 16377 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291  
 16378 %\* \textctz -> \curlyz (wsuipa)  
 16379 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;  
 16380 % \textyogh (tipa), \yogh (wsuipa)  
 16381 \DeclareTextCommand{\textyogh}{PU}{\82\222}%\* U+0292  
 16382 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LETTER YOGH CURL;  
 16383 % ezhcurl; \textctyogh (tipa)  
 16384 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293  
 16385 %\* \textctyogh -> \curlyyogh (wsuipa)  
 16386 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;  
 16387 % \textglotstop (tipa), \glotstop (wsuipa)  
 16388 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%\* U+0294  
 16389 %\* \textglotstop -> \ejective (wsuipa)  
 16390 %\* \textglotstop -> \glottal (phonetic)  
 16391 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/  
 16392 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;  
 16393 % \textrevglotstop (tipa), \revglotstop (wsuipa)  
 16394 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%\* U+0295  
 16395 %\* \textrevglotstop -> \reveject (wsuipa)  
 16396 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;  
 16397 % \textinvglotstop (tipa), \invglotstop (wsuipa)  
 16398 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%\* U+0296  
 16399 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)  
 16400 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297  
 16401 %\* \textstretchc -> \clickc (wsuipa)  
 16402 %\* \textstretchc -> \textstretchcvar (tipx)  
 16403 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;  
 16404 % \textbullseye (tipa)  
 16405 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298  
 16406 %\* \textbullseye -> \clickb (wsuipa)  
 16407 %\* \textbullseye -> \textObullseye (tipx)  
 16408 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)  
 16409 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299  
 16410 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;  
 16411 % \textcloseepsilon (tipa)  
 16412 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A  
 16413 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;  
 16414 % \texthtscg (tipa)  
 16415 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B  
 16416 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)  
 16417 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C  
 16418 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossetail; \textcdj (tipa)  
 16419 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D  
 16420 %\* \textctj -> \textctjvar (tipx)  
 16421 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)

16422 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E  
 16423 %\* \textturnk -> \textturnsk (tipx)  
 16424 % U+029F LATIN LETTER SMALL CAPITAL L; \textsc (tipa)  
 16425 \DeclareTextCommand{\textsc}{PU}{\82\237}% U+029F  
 16426 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)  
 16427 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0  
 16428 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-  
 stroke;  
 16429 % \textbarglotstop (tipa)  
 16430 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1  
 16431 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/  
 16432 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokere-  
 versed;  
 16433 % \textbarrevglotstop (tipa)  
 16434 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2  
 16435 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)  
 16436 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3  
 16437 %\* \textdzlig -> \dz (wsupipa)  
 16438 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyogh-  
 lig (tipa)  
 16439 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4  
 16440 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;  
 16441 % \textdctzlig (tipa)  
 16442 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5  
 16443 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)  
 16444 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6  
 16445 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \texttshlig (tipa)  
 16446 \DeclareTextCommand{\texttshlig}{PU}{\82\247}% U+02A7  
 16447 %\* \texttshlig -> \tesh (wsuipa)  
 16448 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;  
 16449 % \texttctclig (tipa)  
 16450 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8  
 16451 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;  
 16452 % \textlhtlongy (tipa)  
 16453 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE  
 16454 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;  
 16455 % \textvibyy (tipa)  
 16456 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

### 51.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

16457 % U+02BD MODIFIER LETTER REVERSED COMMA;  
 16458 % commareversedmod, afii64937; \textrevapostrophe (tipa)  
 16459 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD  
 16460 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;  
 16461 % \textraiseglotstop (tipa)  
 16462 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0  
 16463 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;  
 16464 % \textlptr (tipa)  
 16465 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2  
 16466 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;  
 16467 % \textrptr (tipa)  
 16468 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3  
 16469 % U+02C7 CARON; caron  
 16470 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 16471 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticalinmod;  
 16472 % \textprimstress (tipa)  
 16473 \DeclareTextCommand{\textprimstress}{PU}{\82\308}% U+02C8

16474 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; `verticallinelowmod`;  
 16475 % `\textsecstress` (tipa)  
 16476 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC  
 16477 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; `colontriangularmod`;  
 16478 % `\textlengthmark` (tipa)  
 16479 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0  
 16480 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; `colontriangularhalfmod`;  
 16481 % `\texthalflength` (tipa)  
 16482 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1  
 16483 % U+02D8 BREVE; `breve`  
 16484 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 16485 % U+02D9 DOT ABOVE; `dotaccent`  
 16486 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 16487 % U+02DA RING ABOVE; `ring`  
 16488 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 16489 % U+02DB OGONEK; `ogonek`  
 16490 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 16491 % U+02DC SMALL TILDE; `ilde`, `*tilde`  
 16492 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 16493 % U+02DD DOUBLE ACUTE ACCENT; `hungarumlaut`  
 16494 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 16495 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
 16496 % U+02F3 MODIFIER LETTER LOW RING  
 16497 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3  
 16498 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 16499 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 16500 % U+02F7 MODIFIER LETTER LOW TILDE  
 16501 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7  
 16502 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; `\textopencorner` (tipa)  
 16503 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9  
 16504 % U+02FA MODIFIER LETTER END HIGH TONE; `\textcorner` (tipa)  
 16505 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

### 51.2.8 Combining Diacritical Marks: U+0300 to U+036F

16506 % U+030F COMBINING DOUBLE GRAVE ACCENT; `dblgravecmb`  
 16507 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 16508 % U+0311 COMBINING INVERTED BREVE; `breveinvertedcmb`  
 16509 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 16510 % U+0323 COMBINING DOT BELOW; `dotbelowcmb`, `*dotbelowcmb`  
 16511 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 16512 % U+0331 COMBINING MACRON BELOW; `macronbelowcmb`  
 16513 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 16514 % U+0361 COMBINING DOUBLE INVERTED BREVE; `breveinverteddoublecmb`  
 16515 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

### 51.2.9 Greek and Coptic: U+0370 to U+03FF

16516 % U+0374 GREEK NUMERAL SIGN; `numeralsigngreek`  
 16517 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 16518 % U+0375 GREEK LOWER NUMERAL SIGN; `numeralsignlowergreek`  
 16519 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 16520 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; `Alphatonos`  
 16521 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 16522 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; `Epsilontonos`  
 16523 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 16524 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; `Etatonos`

16525 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
16526 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
16527 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
16528 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos  
16529 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
16530 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos  
16531 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
16532 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
16533 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
16534 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS;  
16535 % iotadieresis  
16536 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390  
16537 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
16538 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
16539 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
16540 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
16541 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma; \Gamma (LaTeX)  
16542 \DeclareTextCommand{\textGamma}{PU}{\83\223}%\* U+0393  
16543 % U+0394 GREEK CAPITAL LETTER DELTA; Delta; \Delta (LaTeX)  
16544 \DeclareTextCommand{\textDelta}{PU}{\83\224}%\* U+0394  
16545 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
16546 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
16547 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
16548 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
16549 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
16550 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
16551 % U+0398 GREEK CAPITAL LETTER THETA; Theta; \Theta (LaTeX)  
16552 \DeclareTextCommand{\textTheta}{PU}{\83\230}%\* U+0398  
16553 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
16554 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
16555 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
16556 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
16557 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda; \Lambda (LaTeX)  
16558 \DeclareTextCommand{\textLambda}{PU}{\83\233}%\* U+039B  
16559 % U+039C GREEK CAPITAL LETTER MU; Mu  
16560 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
16561 % U+039D GREEK CAPITAL LETTER NU; Nu  
16562 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
16563 % U+039E GREEK CAPITAL LETTER XI; Xi; \Xi (LaTeX)  
16564 \DeclareTextCommand{\textXi}{PU}{\83\236}%\* U+039E  
16565 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
16566 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
16567 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
16568 \DeclareTextCommand{\textPi}{PU}{\83\240}%\* U+03A0  
16569 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
16570 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
16571 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma; \Sigma (LaTeX)  
16572 \DeclareTextCommand{\textSigma}{PU}{\83\243}%\* U+03A3  
16573 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
16574 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
16575 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon; \Upsilon (LaTeX)  
16576 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%\* U+03A5  
16577 % U+03A6 GREEK CAPITAL LETTER PHI; Phi; \Phi (LaTeX)  
16578 \DeclareTextCommand{\textPhi}{PU}{\83\246}%\* U+03A6  
16579 % U+03A7 GREEK CAPITAL LETTER CHI; Chi

```

16580 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
16581 % U+03A8 GREEK CAPITAL LETTER PSI; Psi; \Psi (LaTeX)
16582 \DeclareTextCommand{\textPsi}{PU}{\83\250}%* U+03A8
16583 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega;
16584 % \Omega (LaTeX)
16585 \DeclareTextCommand{\textOmega}{PU}{\83\251}%* U+03A9
16586 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
16587 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
16588 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
16589 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
    silondieresis
16590 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
16591 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
16592 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}%* U+03AC
16593 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilonos
16594 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
16595 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
16596 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
16597 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
16598 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
16599 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA
16600 % AND TONOS; upsilonos
16601 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0
16602 % U+03B1 GREEK SMALL LETTER ALPHA; alpha; \alpha (LaTeX)
16603 \DeclareTextCommand{\textalpha}{PU}{\83\261}%* U+03B1
16604 % U+03B2 GREEK SMALL LETTER BETA; beta; \beta (LaTeX)
16605 \DeclareTextCommand{\textbeta}{PU}{\83\262}%* U+03B2
16606 % U+03B3 GREEK SMALL LETTER GAMMA; gamma; \gamma (LaTeX)
16607 \DeclareTextCommand{\textgamma}{PU}{\83\263}%* U+03B3
16608 % U+03B4 GREEK SMALL LETTER DELTA; delta; \delta (LaTeX)
16609 \DeclareTextCommand{\textdelta}{PU}{\83\264}%* U+03B4
16610 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon; \epsilon (LaTeX)
16611 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%* U+03B5
16612 % U+03B6 GREEK SMALL LETTER ZETA; zeta; \zeta (LaTeX)
16613 \DeclareTextCommand{\textzeta}{PU}{\83\266}%* U+03B6
16614 % U+03B7 GREEK SMALL LETTER ETA; eta; \eta (LaTeX)
16615 \DeclareTextCommand{\texteta}{PU}{\83\267}%* U+03B7
16616 % U+03B8 GREEK SMALL LETTER THETA; theta; \theta (LaTeX)
16617 \DeclareTextCommand{\texttheta}{PU}{\83\270}%* U+03B8
16618 % U+03B9 GREEK SMALL LETTER IOTA; iota; \iota (LaTeX)
16619 \DeclareTextCommand{\textiota}{PU}{\83\271}%* U+03B9
16620 % U+03BA GREEK SMALL LETTER KAPPA; kappa; \kappa (LaTeX)
16621 \DeclareTextCommand{\textkappa}{PU}{\83\272}%* U+03BA
16622 % U+03BB GREEK SMALL LETTER LAMDA; lambda; \lambda (LaTeX)
16623 \DeclareTextCommand{\textlambda}{PU}{\83\273}%* U+03BB
16624 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu; \mu (LaTeX)
16625 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%* U+03BC
16626 % U+03BD GREEK SMALL LETTER NU; nu; \nu (LaTeX)
16627 \DeclareTextCommand{\textnu}{PU}{\83\275}%* U+03BD
16628 % U+03BE GREEK SMALL LETTER XI; xi; \xi (LaTeX)
16629 \DeclareTextCommand{\textxi}{PU}{\83\276}%* U+03BE
16630 % U+03BF GREEK SMALL LETTER OMICRON; omicron
16631 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
16632 % U+03C0 GREEK SMALL LETTER PI; pi; \pi (LaTeX)
16633 \DeclareTextCommand{\textpi}{PU}{\83\300}%* U+03C0
16634 % U+03C1 GREEK SMALL LETTER RHO; rho; \rho (LaTeX)
16635 \DeclareTextCommand{\textrho}{PU}{\83\301}%* U+03C1

```

16636 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
16637 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%\* U+03C2  
16638 % U+03C3 GREEK SMALL LETTER SIGMA; sigma; \sigma (LaTeX)  
16639 \DeclareTextCommand{\textsigma}{PU}{\83\303}%\* U+03C3  
16640 % U+03C4 GREEK SMALL LETTER TAU; tau; \tau (LaTeX)  
16641 \DeclareTextCommand{\texttau}{PU}{\83\304}%\* U+03C4  
16642 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)  
16643 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%\* U+03C5  
16644 % U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)  
16645 \DeclareTextCommand{\textphi}{PU}{\83\306}%\* U+03C6  
16646 % U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)  
16647 \DeclareTextCommand{\textchi}{PU}{\83\307}%\* U+03C7  
16648 % U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)  
16649 \DeclareTextCommand{\textpsi}{PU}{\83\310}%\* U+03C8  
16650 % U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)  
16651 \DeclareTextCommand{\textomega}{PU}{\83\311}%\* U+03C9  
16652 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis  
16653 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA  
16654 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-  
silondieresis  
16655 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB  
16656 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos  
16657 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC  
16658 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos  
16659 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD  
16660 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD  
16661 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos  
16662 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE  
16663 % U+03DA GREEK LETTER STIGMA; Stigmagreek  
16664 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA  
16665 % U+03DB GREEK SMALL LETTER STIGMA  
16666 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB  
16667 % U+03DC GREEK LETTER DIGAMMA; Digammagreek  
16668 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC  
16669 % U+03DD GREEK SMALL LETTER DIGAMMA  
16670 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD  
16671 %\* \textdigammagreek -> \digamma (AmS)  
16672 % U+03DE GREEK LETTER KOPPA; Koppagreek  
16673 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE  
16674 % U+03DF GREEK SMALL LETTER KOPPA  
16675 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF  
16676 % U+03E0 GREEK LETTER SAMPI; Sampigreek  
16677 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0  
16678 % U+03E1 GREEK SMALL LETTER SAMPI  
16679 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1  
16680 % U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;  
16681 % \backepsilon (AmS)  
16682 \DeclareTextCommand{\textbackepsilon}{PU}{\83\366}% U+03F6

### 51.2.10 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

16683 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE  
16684 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400  
16685 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, \*afii10023  
16686 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401  
16687 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???

16688 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, \*afii10051  
 16689 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402  
 16690 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afii10052  
 16691 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403  
 16692 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, \*afii10053  
 16693 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
 16694 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afii10054  
 16695 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
 16696 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;  
 16697 % Icyrillic, \*afii10055  
 16698 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
 16699 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, \*afii10056  
 16700 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
 16701 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407  
 16702 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
 16703 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
 16704 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
 16705 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
 16706 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
 16707 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
 16708 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
 16709 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
 16710 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
 16711 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
 16712 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
 16713 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D  
 16714 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
 16715 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
 16716 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
 16717 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
 16718 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
 16719 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
 16720 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
 16721 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
 16722 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
 16723 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
 16724 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
 16725 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
 16726 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
 16727 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
 16728 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
 16729 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
 16730 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
 16731 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
 16732 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
 16733 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
 16734 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
 16735 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
 16736 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
 16737 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
 16738 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
 16739 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
 16740 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
 16741 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
 16742 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
 16743 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
 16744 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030



16745 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
16746 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
16747 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
16748 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
16749 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
16750 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
16751 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
16752 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
16753 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
16754 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
16755 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
16756 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
16757 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
16758 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
16759 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
16760 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
16761 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
16762 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
16763 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
16764 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
16765 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
16766 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
16767 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
16768 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
16769 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
16770 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
16771 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
16772 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;  
16773 % Hardsigncyrillic, \*afii10044  
16774 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
16775 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
16776 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
16777 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;  
16778 % Softsigncyrillic, \*afii10046  
16779 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
16780 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
16781 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
16782 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
16783 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
16784 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
16785 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
16786 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
16787 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
16788 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
16789 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
16790 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
16791 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
16792 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
16793 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
16794 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
16795 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
16796 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
16797 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
16798 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhacyrillic  
16799 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436  
16800 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
16801 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437

16802 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
 16803 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
 16804 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
 16805 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
 16806 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
 16807 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
 16808 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
 16809 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
 16810 \DeclareTextCommand{\cysl}{PU}{\84\073}% U+043B  
 16811 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
 16812 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
 16813 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
 16814 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
 16815 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
 16816 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
 16817 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
 16818 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
 16819 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
 16820 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
 16821 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
 16822 \DeclareTextCommand{\cyr{s}}{PU}{\84\101}% U+0441  
 16823 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
 16824 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
 16825 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
 16826 \DeclareTextCommand{\cyr{u}}{PU}{\84\103}% U+0443  
 16827 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
 16828 \DeclareTextCommand{\cyr{f}}{PU}{\84\104}% U+0444  
 16829 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
 16830 \DeclareTextCommand{\cyr{h}}{PU}{\84\105}% U+0445  
 16831 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
 16832 \DeclareTextCommand{\cyr{c}}{PU}{\84\106}% U+0446  
 16833 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
 16834 \DeclareTextCommand{\cyr{ch}}{PU}{\84\107}% U+0447  
 16835 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
 16836 \DeclareTextCommand{\cyr{sh}}{PU}{\84\110}% U+0448  
 16837 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
 16838 \DeclareTextCommand{\cyr{shch}}{PU}{\84\111}% U+0449  
 16839 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
 16840 \DeclareTextCommand{\cyr{hrdsn}}{PU}{\84\112}% U+044A  
 16841 %\* \cyr{hrdsn} -> \hardsign (tipa)  
 16842 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
 16843 \DeclareTextCommand{\cyr{ery}}{PU}{\84\113}% U+044B  
 16844 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
 16845 \DeclareTextCommand{\cyr{sftsn}}{PU}{\84\114}% U+044C  
 16846 %\* \cyr{sftsn} -> \softsign (tipa)  
 16847 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
 16848 \DeclareTextCommand{\cyr{erev}}{PU}{\84\115}% U+044D  
 16849 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
 16850 \DeclareTextCommand{\cyr{yu}}{PU}{\84\116}% U+044E  
 16851 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
 16852 \DeclareTextCommand{\cyr{ya}}{PU}{\84\117}% U+044F  
 16853 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
 16854 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
 16855 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
 16856 \DeclareTextCommand{\cyr{yo}}{PU}{\84\121}% U+0451  
 16857 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451

16858 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
 16859 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
 16860 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
 16861 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
 16862 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
 16863 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
 16864 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
 16865 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
 16866 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;  
 16867 % \*afii10103, icyrillic  
 16868 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
 16869 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
 16870 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
 16871 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
 16872 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
 16873 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
 16874 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
 16875 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459  
 16876 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
 16877 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
 16878 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
 16879 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
 16880 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
 16881 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
 16882 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
 16883 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
 16884 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
 16885 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
 16886 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
 16887 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
 16888 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
 16889 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
 16890 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
 16891 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
 16892 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
 16893 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
 16894 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
 16895 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
 16896 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
 16897 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
 16898 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
 16899 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
 16900 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
 16901 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslitlecyrillic  
 16902 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
 16903 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslitlecyrillic  
 16904 \DeclareTextCommand{\cyrljus}{PU}{\84\147}% U+0467  
 16905 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-  
 otifiedcyrillic  
 16906 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
 16907 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleioti-  
 fiedcyrillic  
 16908 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
 16909 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
 16910 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
 16911 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
 16912 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B

16913 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-cyrillic  
 16914 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
 16915 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-cyrillic  
 16916 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
 16917 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
 16918 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
 16919 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
 16920 \DeclareTextCommand{\cyrkxi}{PU}{\84\157}% U+046F  
 16921 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
 16922 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
 16923 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
 16924 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
 16925 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
 16926 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
 16927 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
 16928 \DeclareTextCommand{\cyrfit}{PU}{\84\163}% U+0473  
 16929 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
 16930 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
 16931 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
 16932 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
 16933 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE  
 16934 % GRAVE ACCENT; Izhitsadblgravecyrillic  
 16935 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
 16936 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE  
 16937 % GRAVE ACCENT; izhitsadblgravecyrillic  
 16938 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
 16939 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
 16940 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
 16941 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
 16942 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 16943 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
 16944 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
 16945 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 16946 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 16947 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
 16948 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 16949 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
 16950 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 16951 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 16952 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 16953 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 16954 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 16955 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 16956 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 16957 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 16958 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 16959 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 16960 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb  
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalization-cyrillicmb  
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneu-

matacyrillicmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumat-  
 acyrillicmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 16961 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 16962 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 16963 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 16964 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 16965 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 16966 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 16967 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 16968 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 16969 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 16970 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 16971 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
 16972 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 16973 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-  
 cyrillic, \*afii10050  
 16974 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
 16975 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, ghe-  
 upturncyrillic  
 16976 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
 16977 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-  
 cyrillic  
 16978 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
 16979 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
 16980 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
 16981 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;  
 16982 % Ghemiddlehookcyrillic  
 16983 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
 16984 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;  
 16985 % ghemiddlehookcyrillic  
 16986 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
 16987 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;  
 16988 % Zhedescendercyrillic  
 16989 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
 16990 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;  
 16991 % zhedescendercyrillic  
 16992 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
 16993 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-  
 dercyrillic  
 16994 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
 16995 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
 16996 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-  
 cyrillic  
 16997 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
 16998 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
 16999 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-  
 dercyrillic  
 17000 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
 17001 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescen-  
 dercyrillic  
 17002 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
 17003 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;  
 17004 % Kavertikalstrokecyrillic

17005 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
 17006 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;  
 17007 % kaverticalstrokecyrillic  
 17008 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
 17009 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
 17010 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
 17011 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
 17012 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
 17013 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
 17014 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
 17015 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
 17016 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
 17017 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-  
 17018 % dercyrillic  
 17018 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
 17019 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-  
 17020 % cyrillic  
 17020 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
 17021 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
 17022 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
 17023 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
 17024 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
 17025 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-  
 17026 % dlehookcyrillic  
 17026 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
 17027 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddle-  
 17028 % hookcyrillic  
 17028 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
 17029 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyril-  
 17030 % lic  
 17030 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
 17031 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
 17032 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
 17033 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescen-  
 17034 % dercyrillic  
 17034 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
 17035 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
 17036 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescender-  
 17037 % cyrillic  
 17037 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
 17038 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB  
 17039 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescen-  
 17040 % dercyrillic  
 17040 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
 17041 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescen-  
 17042 % dercyrillic  
 17042 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD  
 17043 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
 17044 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
 17045 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
 17046 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF  
 17047 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Us-  
 17048 % traightstrokecyrillic  
 17048 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
 17049 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; us-  
 17050 % traightstrokecyrillic  
 17050 \DeclareTextCommand{\cyr yhcrs}{PU}{\84\261}% U+04B1

17051 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hades-  
cencyrillic  
17052 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
17053 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescen-  
cencyrillic  
17054 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
17055 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
17056 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
17057 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
17058 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
17059 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;  
17060 % Chedescendercyrillic  
17061 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
17062 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescen-  
cencyrillic  
17063 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
17064 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;  
17065 % Cheverticalstrokecyrillic  
17066 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
17067 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;  
17068 % cheverticalstrokecyrillic  
17069 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
17070 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
17071 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
17072 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
17073 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
17074 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-  
cyrillic  
17075 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
17076 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-  
lic  
17077 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
17078 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; Chedescenderabkhasiancyrillic  
17079 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
17080 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
17081 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; chedescenderabkhasiancyrillic  
17082 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
17083 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
17084 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
17085 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
17086 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
17087 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
17088 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
17089 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
17090 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
17091 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
17092 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
17093 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
17094 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
17095 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
17096 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
17097 \DeclareTextCommand{\cyrlldsc}{PU}{\84\306}% U+04C6  
17098 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
17099 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
17100 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic

17101 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
 17102 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-  
 siancyrillic  
 17103 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
 17104 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-  
 cyrillic  
 17105 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
 17106 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
 17107 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
 17108 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
 17109 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
 17110 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
 17111 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
 17112 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
 17113 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
 17114 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyril-  
 lic  
 17115 \DeclareTextCompositeCommand{\"}{PU}{\CYRA}{\84\322}% U+04D2  
 17116 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
 17117 \DeclareTextCompositeCommand{\"}{PU}{\cyra}{\84\323}% U+04D3  
 17118 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
 17119 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
 17120 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
 17121 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
 17122 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevcyrillic  
 17123 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
 17124 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevcyrillic  
 17125 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
 17126 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
 17127 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
 17128 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
 17129 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
 17130 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;  
 17131 % Schwadiescyrillic  
 17132 \DeclareTextCompositeCommand{\"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
 17133 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;  
 17134 % schwadiescyrillic  
 17135 \DeclareTextCompositeCommand{\"}{PU}{\cyrschwa}{\84\333}% U+04DB  
 17136 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedie-  
 riscyrillic  
 17137 \DeclareTextCompositeCommand{\"}{PU}{\CYRZH}{\84\334}% U+04DC  
 17138 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-  
 cyrillic  
 17139 \DeclareTextCompositeCommand{\"}{PU}{\cyrzh}{\84\335}% U+04DD  
 17140 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-  
 cyrillic  
 17141 \DeclareTextCompositeCommand{\"}{PU}{\CYRZ}{\84\336}% U+04DE  
 17142 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyril-  
 lic  
 17143 \DeclareTextCompositeCommand{\"}{PU}{\cyrz}{\84\337}% U+04DF  
 17144 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-  
 cyrillic  
 17145 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
 17146 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyril-  
 lic  
 17147 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1



17148 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
 17149 \DeclareTextCompositeCommand{=} {PU}{\CYRI}{\84\342}% U+04E2  
 17150 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
 17151 \DeclareTextCompositeCommand{\=} {PU}{\cyri}{\84\343}% U+04E3  
 17152 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
 17153 \DeclareTextCompositeCommand{"} {PU}{\CYRI}{\84\344}% U+04E4  
 17154 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
 17155 \DeclareTextCompositeCommand{\"} {PU}{\cyri}{\84\345}% U+04E5  
 17156 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
 17157 \DeclareTextCompositeCommand{\"} {PU}{\CYRO}{\84\346}% U+04E6  
 17158 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
 17159 \DeclareTextCompositeCommand{\"} {PU}{\cyro}{\84\347}% U+04E7  
 17160 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
 17161 \DeclareTextCommand{\CYROTLD} {PU}{\84\350}% U+04E8  
 17162 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
 17163 \DeclareTextCommand{\cyrotld} {PU}{\84\351}% U+04E9  
 17164 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;  
 17165 % Obarreddieresiscyrillic  
 17166 \DeclareTextCompositeCommand{\"} {PU}{\CYROTLD}{\84\352}% U+04EA  
 17167 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;  
 17168 % obarreddieresiscyrillic  
 17169 \DeclareTextCompositeCommand{\"} {PU}{\cyrotld}{\84\353}% U+04EB  
 17170 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
 17171 \DeclareTextCompositeCommand{\"} {PU}{\CYREREV}{\84\354}% U+04EC  
 17172 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
 17173 \DeclareTextCompositeCommand{\"} {PU}{\cyreref}{\84\355}% U+04ED  
 17174 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
 17175 \DeclareTextCompositeCommand{=} {PU}{\CYRU}{\84\356}% U+04EE  
 17176 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
 17177 \DeclareTextCompositeCommand{=} {PU}{\cyru}{\84\357}% U+04EF  
 17178 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
 17179 \DeclareTextCompositeCommand{\"} {PU}{\CYRU}{\84\360}% U+04F0  
 17180 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
 17181 \DeclareTextCompositeCommand{\"} {PU}{\cyru}{\84\361}% U+04F1  
 17182 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-  
 garumlautcyrillic  
 17183 \DeclareTextCompositeCommand{\H} {PU}{\CYRU}{\84\362}% U+04F2  
 17184 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-  
 garumlautcyrillic  
 17185 \DeclareTextCompositeCommand{\H} {PU}{\cyru}{\84\363}% U+04F3  
 17186 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-  
 siscyrillic  
 17187 \DeclareTextCompositeCommand{\"} {PU}{\CYRCH}{\84\364}% U+04F4  
 17188 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
 17189 \DeclareTextCompositeCommand{\"} {PU}{\cyrch}{\84\365}% U+04F5  
 17190 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 17191 \DeclareTextCommand{\CYRGDSC} {PU}{\84\366}% U+04F6  
 17192 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 17193 \DeclareTextCommand{\cyrgdsc} {PU}{\84\367}% U+04F7  
 17194 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-  
 siscyrillic  
 17195 \DeclareTextCompositeCommand{\"} {PU}{\CYRERY}{\84\370}% U+04F8  
 17196 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-  
 siscyrillic

```

17197 \DeclareTextCompositeCommand{\"}{PU}{\cyrrery}{\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

17198 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
17199 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
17200 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
17201 \DeclareTextCommand{\cyrrhkh}{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

```

### 51.2.11 Hebrew: U+0590 to U+05FF

Macro names are taken from `he8enc.def`.

```

17202 % U+05C3 HEBREW PUNCTUATION SOF PASUQ
17203 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3
17204 % U+05D0 HEBREW LETTER ALEF
17205 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0
17206 % U+05D1 HEBREW LETTER BET
17207 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1
17208 % U+05D2 HEBREW LETTER GIMEL
17209 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2
17210 % U+05D3 HEBREW LETTER DALET
17211 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3
17212 % U+05D4 HEBREW LETTER HE
17213 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4
17214 % U+05D5 HEBREW LETTER VAV
17215 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5
17216 % U+05D6 HEBREW LETTER ZAYIN
17217 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6
17218 % U+05D7 HEBREW LETTER HET
17219 \DeclareTextCommand{\hebhet}{PU}{\85\327}% U+05D7
17220 % U+05D8 HEBREW LETTER TET
17221 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8
17222 % U+05D9 HEBREW LETTER YOD
17223 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9
17224 % U+05DA HEBREW LETTER FINAL KAF
17225 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA
17226 % U+05DB HEBREW LETTER KAF
17227 \DeclareTextCommand{\hebkafe}{PU}{\85\333}% U+05DB
17228 % U+05DC HEBREW LETTER LAMED
17229 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC
17230 % U+05DD HEBREW LETTER FINAL MEM
17231 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD
17232 % U+05DE HEBREW LETTER MEM
17233 \DeclareTextCommand{\hebmeme}{PU}{\85\336}% U+05DE
17234 % U+05DF HEBREW LETTER FINAL NUN
17235 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF
17236 % U+05E0 HEBREW LETTER NUN
17237 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0
17238 % U+05E1 HEBREW LETTER SAMEKH
17239 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1
17240 % U+05E2 HEBREW LETTER AYIN
17241 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2
17242 % U+05E3 HEBREW LETTER FINAL PE

```

17243 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3  
 17244 % U+05E4 HEBREW LETTER PE  
 17245 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4  
 17246 % U+05E5 HEBREW LETTER FINAL TSADI  
 17247 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5  
 17248 % U+05E6 HEBREW LETTER TSADI  
 17249 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6  
 17250 % U+05E7 HEBREW LETTER QOF  
 17251 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7  
 17252 % U+05E8 HEBREW LETTER RESH  
 17253 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8  
 17254 % U+05E9 HEBREW LETTER SHIN  
 17255 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9  
 17256 %\* \hebshin -> \hebsin (he8)  
 17257 % U+05EA HEBREW LETTER TAV  
 17258 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA  
 17259 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV  
 17260 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0  
 17261 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD  
 17262 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1  
 17263 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD  
 17264 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2

#### 51.2.12 Thai: U+0E00 to U+0E7F

17265 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 17266 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

#### 51.2.13 Phonetic Extensions: U+1D00 to U+1D7F

17267 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textsc (tipa)  
 17268 \DeclareTextCommand{\textsc}{PU}{\9035\000}% U+1D00  
 17269 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)  
 17270 \DeclareTextCommand{\textscd}{PU}{\9035\005}% U+1D05  
 17271 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textsce (tipa)  
 17272 \DeclareTextCommand{\textsce}{PU}{\9035\007}% U+1D07  
 17273 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscj (tipa)  
 17274 \DeclareTextCommand{\textscj}{PU}{\9035\012}% U+1D0A  
 17275 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textस्क (tipx)  
 17276 \DeclareTextCommand{\textPUस्क}{PU}{\9035\013}% U+1D0B  
 17277 %\* \textPUस्क -> \textस्क (tipx)  
 17278 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscm (tipx)  
 17279 \DeclareTextCommand{\textPUscm}{PU}{\9035\015}% U+1D0D  
 17280 %\* \textPUscm -> \textscm (tipx)  
 17281 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscp (tipx)  
 17282 \DeclareTextCommand{\textPUscp}{PU}{\9035\030}% U+1D18  
 17283 %\* \textPUscp -> \textscp (tipx)  
 17284 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)  
 17285 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19  
 17286 %\* \textPUrevscr -> \textrevscr (tipx)  
 17287 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscu (tipa), \scu (wsuipa)  
 17288 \DeclareTextCommand{\textscu}{PU}{\9035\034}% U+1D1C  
 17289 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I  
 17290 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}% U+1D62  
 17291 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R  
 17292 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}% U+1D63  
 17293 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U  
 17294 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}% U+1D64

17295 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V  
 17296 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}%\* U+1D65  
 17297 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA  
 17298 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}%\* U+1D66  
 17299 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA  
 17300 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}%\* U+1D67  
 17301 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO  
 17302 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}%\* U+1D68  
 17303 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI  
 17304 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}%\* U+1D69  
 17305 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI  
 17306 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}%\* U+1D6A  
 17307 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;  
 17308 % \barsci (wsuipa)  
 17309 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%\* U+1D7B  
 17310 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)  
 17311 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%\* U+1D7D  
 17312 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;  
 17313 % \barscu (wsuipa)  
 17314 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%\* U+1D7E

#### 51.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

17315 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-  
 trhooka (tipx)  
 17316 \DeclareTextCommand{\textPURhooka}{PU}{\9035\217}% U+1D8F  
 17317 %\* \textPURhooka -> \textrhooka (tipx)  
 17318 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-  
 taild (tipa)  
 17319 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%\* U+1D91  
 17320 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-  
 trhooke (tipx)  
 17321 \DeclareTextCommand{\textPURhooke}{PU}{\9035\222}% U+1D92  
 17322 %\* \textPURhooke -> \textrhooke (tipx)  
 17323 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;  
 17324 % \textrhookepsilon (tipx)  
 17325 \DeclareTextCommand{\textPURhookepsilon}{PU}{\9035\223}% U+1D93  
 17326 %\* \textPURhookepsilon -> \textrhookepsilon (tipx)  
 17327 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;  
 17328 % \textrhookopeno (tipx)  
 17329 \DeclareTextCommand{\textPURhookopeno}{PU}{\9035\227}% U+1D97  
 17330 %\* \textPURhookopeno -> \textrhookopeno (tipx)

#### 51.2.15 Latin Extended Additional: U+1E00 to U+1EFF

17331 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow  
 17332 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00  
 17333 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow  
 17334 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01  
 17335 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 17336 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02  
 17337 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 17338 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03  
 17339 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow  
 17340 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04  
 17341 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow  
 17342 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05  
 17343 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 17344 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06

17345 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
17346 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
17347 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
17348 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
17349 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
17350 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
17351 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow  
17352 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C  
17353 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow  
17354 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D  
17355 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
17356 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
17357 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
17358 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
17359 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
17360 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
17361 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
17362 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
17363 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-  
cumflexbelow  
17364 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12  
17365 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-  
cumflexbelow  
17366 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13  
17367 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;  
17368 % Emacrongrave  
17369 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14  
17370 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;  
17371 % emacrongrave  
17372 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15  
17373 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;  
17374 % Emacronacute  
17375 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16  
17376 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;  
17377 % emacronacute  
17378 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17  
17379 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-  
cumflexbelow  
17380 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18  
17381 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-  
cumflexbelow  
17382 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19  
17383 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow  
17384 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A  
17385 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow  
17386 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B  
17387 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
17388 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
17389 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
17390 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
17391 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
17392 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
17393 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
17394 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
17395 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
17396 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
17397 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent

17398 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
17399 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow  
17400 \DeclareTextCompositeCommand{\d}{PU}{H}{\9036\044}% U+1E24  
17401 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow  
17402 \DeclareTextCompositeCommand{\d}{PU}{h}{\9036\045}% U+1E25  
17403 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
17404 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
17405 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
17406 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27  
17407 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
17408 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
17409 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
17410 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
17411 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow  
17412 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A  
17413 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow  
17414 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B  
17415 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow  
17416 \DeclareTextCompositeCommand{\textsubtilde}{PU}{I}{\9036\054}% U+1E2C  
17417 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow  
17418 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D  
17419 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
17420 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
17421 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
17422 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
17423 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow  
17424 \DeclareTextCompositeCommand{\d}{PU}{K}{\9036\062}% U+1E32  
17425 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow  
17426 \DeclareTextCompositeCommand{\d}{PU}{k}{\9036\063}% U+1E33  
17427 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
17428 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
17429 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
17430 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
17431 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow  
17432 \DeclareTextCompositeCommand{\d}{PU}{L}{\9036\066}% U+1E36  
17433 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow  
17434 \DeclareTextCompositeCommand{\d}{PU}{l}{\9036\067}% U+1E37  
17435 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
17436 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
17437 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
17438 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
17439 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-  
cumflexbelow  
17440 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C  
17441 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-  
cumflexbelow  
17442 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D  
17443 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
17444 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
17445 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
17446 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
17447 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
17448 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
17449 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
17450 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
17451 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow  
17452 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42

17453 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow  
17454 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43  
17455 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
17456 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
17457 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
17458 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
17459 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow  
17460 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46  
17461 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow  
17462 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47  
17463 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
17464 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
17465 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
17466 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
17467 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-  
cumflexbelow  
17468 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A  
17469 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-  
cumflexbelow  
17470 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B  
17471 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;  
17472 % Omacrongrave  
17473 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50  
17474 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;  
17475 % omacrongrave  
17476 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51  
17477 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;  
17478 % Omacronacute  
17479 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52  
17480 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;  
17481 % omacronacute  
17482 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53  
17483 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
17484 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
17485 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
17486 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
17487 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
17488 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
17489 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
17490 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
17491 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
17492 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
17493 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
17494 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
17495 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow  
17496 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A  
17497 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow  
17498 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B  
17499 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
17500 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
17501 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
17502 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
17503 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
17504 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
17505 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
17506 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
17507 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow

17508 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62  
17509 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow  
17510 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63  
17511 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent  
17512 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A  
17513 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent  
17514 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B  
17515 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow  
17516 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C  
17517 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow  
17518 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D  
17519 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
17520 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
17521 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
17522 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
17523 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcir-  
cumflexbelow  
17524 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70  
17525 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcir-  
cumflexbelow  
17526 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71  
17527 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-  
sisbelow  
17528 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72  
17529 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udiere-  
sisbelow  
17530 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73  
17531 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow  
17532 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74  
17533 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow  
17534 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75  
17535 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucir-  
cumflexbelow  
17536 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76  
17537 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucir-  
cumflexbelow  
17538 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77  
17539 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
17540 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
17541 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
17542 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
17543 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow  
17544 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E  
17545 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow  
17546 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F  
17547 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
17548 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
17549 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
17550 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
17551 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
17552 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
17553 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
17554 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
17555 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
17556 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
17557 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
17558 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85



17559 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
17560 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
17561 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
17562 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
17563 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow  
17564 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88  
17565 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow  
17566 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89  
17567 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
17568 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
17569 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
17570 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
17571 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
17572 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
17573 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
17574 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
17575 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
17576 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
17577 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
17578 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
17579 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
17580 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90  
17581 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
17582 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
17583 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow  
17584 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92  
17585 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow  
17586 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93  
17587 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
17588 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
17589 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
17590 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
17591 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
17592 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
17593 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
17594 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
17595 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
17596 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
17597 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
17598 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
17599 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent  
17600 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
17601 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow  
17602 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
17603 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow  
17604 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1  
17605 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow  
17606 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
17607 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow  
17608 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
17609 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
17610 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
17611 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
17612 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
17613 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow  
17614 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA

17615 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow  
 17616 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
 17617 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow  
 17618 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
 17619 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow  
 17620 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
 17621 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow  
 17622 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
 17623 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow  
 17624 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
 17625 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
 17626 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2  
 17627 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 17628 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
 17629 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow  
 17630 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4  
 17631 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow  
 17632 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 17633 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 17634 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 17635 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 17636 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

### 51.2.16 General Punctuation: U+2000 to U+206F

17637 % U+200C ZERO WIDTH NON-JOINER; \*afi61664, zerowidthnonjoiner  
 17638 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 17639 % U+2013 EN DASH; endash  
 17640 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 17641 % U+2014 EM DASH; emdash  
 17642 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 17643 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 17644 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 17645 %\* \textbardbl -> \textdoublevertline (tipa)  
 17646 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 17647 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 17648 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 17649 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 17650 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 17651 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 17652 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 17653 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 17654 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 17655 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 17656 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 17657 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 17658 % U+2020 DAGGER; dagger  
 17659 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%\* U+2020  
 17660 %\* \textdagger -> \dag (LaTeX)  
 17661 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
 17662 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 17663 %\* \textdaggerdbl -> \ddagger (LaTeX)  
 17664 %\* \textdaggerdbl -> \ddag (LaTeX)  
 17665 % U+2022 BULLET; bullet  
 17666 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%\* U+2022  
 17667 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)  
 17668 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%\* U+2025  
 17669 % U+2026 HORIZONTAL ELLIPSIS; ellipsis

17670 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 17671 %\* \textellipsis -> \mathellipsis  
 17672 % U+2030 PER MILLE SIGN; perthousand  
 17673 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 17674 % U+2031 PER TEN THOUSAND SIGN  
 17675 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 17676 % U+2032 PRIME; minute; \prime (MnSymbol)  
 17677 \DeclareTextCommand{\textprime}{PU}{\9040\062}%\* U+2032  
 17678 % U+2033 DOUBLE PRIME; \second (mathabx)  
 17679 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%\* U+2033  
 17680 % U+2034 TRIPLE PRIME; \third (mathabx)  
 17681 \DeclareTextCommand{\textthird}{PU}{\9040\064}%\* U+2034  
 17682 % U+2035 REVERSED PRIME; \backprime (AmS)  
 17683 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%\* U+2035  
 17684 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
     lingleft  
 17685 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
 17686 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
     singright  
 17687 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
 17688 % U+203B REFERENCE MARK; referencemark  
 17689 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 17690 % U+203D INTERROBANG  
 17691 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 17692 % U+2044 FRACTION SLASH; fraction  
 17693 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 17694 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 17695 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 17696 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 17697 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 17698 % U+2052 COMMERCIAL MINUS SIGN  
 17699 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052  
 17700 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)  
 17701 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%\* U+2056  
 17702 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)  
 17703 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%\* U+2057  
 17704 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)  
 17705 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%\* U+2058

### 51.2.17 Superscripts and Subscripts: U+2070 to U+209F

17706 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 17707 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%\* U+2070  
 17708 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I  
 17709 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%\* U+2071  
 17710 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 17711 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%\* U+2074  
 17712 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 17713 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%\* U+2075  
 17714 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 17715 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%\* U+2076  
 17716 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 17717 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%\* U+2077  
 17718 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 17719 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%\* U+2078  
 17720 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 17721 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%\* U+2079  
 17722 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior

17723 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%\* U+207A  
17724 % U+207B SUPERScript MINUS  
17725 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%\* U+207B  
17726 % U+207C SUPERScript EQUALS SIGN; equalsuperior  
17727 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}%\* U+207C  
17728 % U+207D SUPERScript LEFT PARENTHESIS; parenleftsuperior  
17729 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%\* U+207D  
17730 % U+207E SUPERScript RIGHT PARENTHESIS; parenrightsuperior  
17731 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%\* U+207E  
17732 % U+207F SUPERScript LATIN SMALL LETTER N; nsuperior  
17733 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%\* U+207F  
17734 % U+2080 SUBSCRIPT ZERO; zeroinferior  
17735 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%\* U+2080  
17736 % U+2081 SUBSCRIPT ONE; oneinferior  
17737 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%\* U+2081  
17738 % U+2082 SUBSCRIPT TWO; twoinferior  
17739 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%\* U+2082  
17740 % U+2083 SUBSCRIPT THREE; threeinferior  
17741 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}%\* U+2083  
17742 % U+2084 SUBSCRIPT FOUR; fourinferior  
17743 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%\* U+2084  
17744 % U+2085 SUBSCRIPT FIVE; fiveinferior  
17745 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%\* U+2085  
17746 % U+2086 SUBSCRIPT SIX; sixinferior  
17747 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%\* U+2086  
17748 % U+2087 SUBSCRIPT SEVEN; seveninferior  
17749 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%\* U+2087  
17750 % U+2088 SUBSCRIPT EIGHT; eightinferior  
17751 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%\* U+2088  
17752 % U+2089 SUBSCRIPT NINE; nineinferior  
17753 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%\* U+2089  
17754 % U+208A SUBSCRIPT PLUS SIGN  
17755 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%\* U+208A  
17756 % U+208B SUBSCRIPT MINUS  
17757 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%\* U+208B  
17758 % U+208C SUBSCRIPT EQUALS SIGN  
17759 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%\* U+208C  
17760 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
17761 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%\* U+208D  
17762 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
17763 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%\* U+208E  
17764 % U+2090 LATIN SUBSCRIPT SMALL LETTER A  
17765 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%\* U+2090  
17766 % U+2091 LATIN SUBSCRIPT SMALL LETTER E  
17767 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%\* U+2091  
17768 % U+2092 LATIN SUBSCRIPT SMALL LETTER O  
17769 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%\* U+2092  
17770 % U+2093 LATIN SUBSCRIPT SMALL LETTER X  
17771 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%\* U+2093  
17772 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA  
17773 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%\* U+2094  
17774 % U+2095 LATIN SUBSCRIPT SMALL LETTER H  
17775 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%\* U+2095  
17776 % U+2096 LATIN SUBSCRIPT SMALL LETTER K  
17777 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%\* U+2096  
17778 % U+2097 LATIN SUBSCRIPT SMALL LETTER L  
17779 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%\* U+2097

17780 % U+2098 LATIN SUBSCRIPT SMALL LETTER M  
 17781 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%\* U+2098  
 17782 % U+2099 LATIN SUBSCRIPT SMALL LETTER N  
 17783 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%\* U+2099  
 17784 % U+209A LATIN SUBSCRIPT SMALL LETTER P  
 17785 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%\* U+209A  
 17786 % U+209B LATIN SUBSCRIPT SMALL LETTER S  
 17787 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%\* U+209B  
 17788 % U+209C LATIN SUBSCRIPT SMALL LETTER T  
 17789 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%\* U+209C

### 51.2.18 Currency Symbols: U+20A0 to U+20CF

17790 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 17791 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 17792 % U+20A4 LIRA SIGN; afii08941, \*lira  
 17793 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 17794 % U+20A6 NAIRA SIGN  
 17795 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 17796 % U+20A7 PESETA SIGN; peseta  
 17797 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 17798 % U+20A9 WON SIGN; won  
 17799 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 17800 % U+20AB DONG SIGN; dong  
 17801 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 17802 % U+20AC EURO SIGN; \*Euro, euro  
 17803 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 17804 % U+20B1 PESO SIGN  
 17805 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 17806 % U+20B2 GUARANI SIGN  
 17807 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

### 51.2.19 Letterlike Symbols: U+2100 to U+214F

17808 % U+2103 DEGREE CELSIUS; centigrade  
 17809 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 17810 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)  
 17811 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%\* U+210F  
 17812 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)  
 17813 \DeclareTextCommand{\textIm}{PU}{\9041\021}%\* U+2111  
 17814 % U+2113 SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)  
 17815 \DeclareTextCommand{\textell}{PU}{\9041\023}%\* U+2113  
 17816 % U+2116 NUMERO SIGN; \*afii61352, numero  
 17817 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 17818 % U+2117 SOUND RECORDING COPYRIGHT  
 17819 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 17820 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);  
 17821 % weierstrass; \wp (LaTeX)  
 17822 \DeclareTextCommand{\textwp}{PU}{\9041\030}%\* U+2118  
 17823 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)  
 17824 \DeclareTextCommand{\textRe}{PU}{\9041\034}%\* U+211C  
 17825 % U+211E PRESCRIPTION TAKE; prescription  
 17826 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 17827 % U+2120 SERVICE MARK  
 17828 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 17829 % U+2122 TRADE MARK SIGN; trademark  
 17830 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 17831 % U+2126 OHM SIGN; Ohm, Omega

17832 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 17833 % U+2127 INVERTED OHM SIGN  
 17834 \DeclareTextCommand{\textmho}{PU}{\9041\047}%\* U+2127  
 17835 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)  
 17836 \DeclareTextCommand{\textriota}{PU}{\9041\051}%\* U+2129  
 17837 % U+212B ANGSTROM SIGN; angstrom  
 17838 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 17839 % U+212E ESTIMATED SYMBOL; estimated  
 17840 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 17841 % U+2132 TURNED CAPITAL F; \Finv (AmS)  
 17842 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%\* U+2132  
 17843 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)  
 17844 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%\* U+2135  
 17845 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)  
 17846 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%\* U+2136  
 17847 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)  
 17848 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%\* U+2137  
 17849 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)  
 17850 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%\* U+2138  
 17851 % U+213B FACSIMILE SIGN; \fax (marvosym)  
 17852 \DeclareTextCommand{\textfax}{PU}{\9041\073}%\* U+213B  
 17853 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game  
 17854 \DeclareTextCommand{\textGame}{PU}{\9041\101}%\* U+2141  
 17855 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)  
 17856 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B  
 17857 %\* \textinvamp -> \bindnasrepma (stmaryrd)  
 17858 %\* \textinvamp -> \parr (cml)

### 51.2.20 Number Forms: U+2150 to U+218F

17859 % U+2150 VULGAR FRACTION ONE SEVENTH  
 17860 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150  
 17861 % U+2151 VULGAR FRACTION ONE NINTH  
 17862 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151  
 17863 % U+2152 VULGAR FRACTION ONE TENTH  
 17864 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152  
 17865 % U+2153 VULGAR FRACTION ONE THIRD; onethird  
 17866 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153  
 17867 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds  
 17868 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154  
 17869 % U+2155 VULGAR FRACTION ONE FIFTH  
 17870 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155  
 17871 % U+2156 VULGAR FRACTION TWO FIFTHS  
 17872 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156  
 17873 % U+2157 VULGAR FRACTION THREE FIFTHS  
 17874 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157  
 17875 % U+2158 VULGAR FRACTION FOUR FIFTHS  
 17876 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158  
 17877 % U+2159 VULGAR FRACTION ONE SIXTH  
 17878 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159  
 17879 % U+215A VULGAR FRACTION FIVE SIXTHS  
 17880 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A  
 17881 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth  
 17882 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B  
 17883 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths  
 17884 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C  
 17885 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths  
 17886 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D

17887 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths  
 17888 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E  
 17889 % U+2184 LATIN SMALL LETTER REVERSED C  
 17890 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184  
 17891 % U+2189 VULGAR FRACTION ZERO THIRDS  
 17892 \DeclareTextCommand{\textzer thirds}{PU}{\9041\211}% U+2189

### 51.2.21 Arrows: U+2190 to U+21FF

17893 % U+2190 LEFTWARDS ARROW; arrowleft  
 17894 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%\* U+2190  
 17895 % U+2191 UPWARDS ARROW; arrowup  
 17896 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%\* U+2191  
 17897 % U+2192 RIGHTWARDS ARROW; arrowright  
 17898 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%\* U+2192  
 17899 % U+2193 DOWNWARDS ARROW; arrowdown  
 17900 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%\* U+2193  
 17901 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightarrow (LaTeX)  
 17902 \DeclareTextCommand{\textleftrightarrow}{PU}{\9041\224}%\* U+2194  
 17903 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)  
 17904 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%\* U+2195  
 17905 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)  
 17906 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%\* U+2196  
 17907 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)  
 17908 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%\* U+2197  
 17909 %\* \textnearrow -> \textglobrise (tipa)  
 17910 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)  
 17911 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%\* U+2198  
 17912 %\* \textsearrow -> \textglobfall (tipa)  
 17913 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)  
 17914 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%\* U+2199  
 17915 % U+219A LEFTWARDS ARROW WITH STROKE; \nleftarrow (AmS)  
 17916 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%\* U+219A  
 17917 % U+219B RIGHTWARDS ARROW WITH STROKE; \nrightarrow (AmS)  
 17918 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\233}%\* U+219B  
 17919 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)  
 17920 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%\* U+219E  
 17921 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)  
 17922 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%\* U+219F  
 17923 % U+21A0 RIGHTWARDS TWO HEADED ARROW;  
 17924 % \twoheadrightarrow (AmS)  
 17925 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%\* U+21A0  
 17926 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-  
 Symbol)  
 17927 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%\* U+21A1  
 17928 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)  
 17929 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%\* U+21A2  
 17930 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)  
 17931 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%\* U+21A3  
 17932 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)  
 17933 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%\* U+21A6  
 17934 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)  
 17935 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%\* U+21A9  
 17936 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)  
 17937 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%\* U+21AA  
 17938 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)  
 17939 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%\* U+21AB  
 17940 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)

```

17941 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
17942 % U+21AE LEFT RIGHT ARROW WITH STROKE; \nletrightarrow (AmS)
17943 \DeclareTextCommand{\textnletrightarrow}{PU}{\9041\256}%* U+21AE
17944 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
17945 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
17946 %* \textlightning -> \Lightning (marvosym)
17947 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
17948 % \dls (mathabx)
17949 \DeclareTextCommand{\textdls}{PU}{\9041\265}%* U+21B5
17950 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
17951 % \curvearrowleft (AmS)
17952 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
17953 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
17954 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
17955 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
    barbup;
17956 % \leftharpoonup (LaTeX)
17957 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
17958 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
17959 % \leftharpoondown (LaTeX)
17960 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
17961 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
17962 % \upharpoonright (AmS)
17963 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
17964 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
17965 % \upharpoonleft (AmS)
17966 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
17967 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
    barbup
17968 % \rightharpoonup (LaTeX)
17969 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
17970 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
17971 % \rightharpoondown (LaTeX)
17972 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
17973 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
17974 % \downharpoonright (AmS)
17975 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
17976 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
17977 % \downharpoonleft (AmS)
17978 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
17979 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
17980 % \rightarrowoverleft; \rightleftarrows (MnSymbol)
17981 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
17982 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; ar-
    rowupleftofdown;
17983 % \updownarrows (MnSymbol)
17984 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5
17985 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; arrowleft-
    overright;
17986 % \leftrightarrows (AmS)
17987 \DeclareTextCommand{\textleftrightarrows}{PU}{\9041\306}%* U+21C6
17988 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
17989 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
17990 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
17991 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8
17992 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
17993 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%* U+21C9

```



```

17994 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)
17995 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%* U+21CA
17996 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
17997 % \leftrightharpoons (AmS);
17998 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%* U+21CB
17999 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
18000 % \rightleftharpoons (LaTeX, AmS)
18001 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
18002 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftd-
    blstroke;
18003 % \nLeftarrow (AmS)
18004 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD
18005 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightarrow
    (AmS)
18006 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%* U+21CE
18007 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightd-
    blstroke;
18008 % \nRightarrow (AmS)
18009 \DeclareTextCommand{\textnRightarrow}{PU}{\9041\317}%* U+21CF
18010 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;
18011 % \Leftarrow (LaTeX)
18012 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
18013 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)
18014 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
18015 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;
18016 % \Rightarrow (LaTeX)
18017 \DeclareTextCommand{\textRightarrow}{PU}{\9041\322}%* U+21D2
18018 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbldown; \Downarrow (La-
    TeX)
18019 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
18020 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdblboth;
18021 % \Leftrightarrow (LaTeX)
18022 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
18023 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)
18024 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%* U+21D5
18025 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
18026 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%* U+21D6
18027 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)
18028 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%* U+21D7
18029 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)
18030 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%* U+21D8
18031 % U+21D9 SOUTH WEST DOUBLE ARROW; \Swarrow (MnSymbol)
18032 \DeclareTextCommand{\textSwarrow}{PU}{\9041\331}%* U+21D9
18033 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)
18034 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%* U+21DA
18035 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)
18036 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
18037 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
18038 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
18039 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
18040 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%* U+21DD
18041 % U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;
18042 % \dashleftarrow (AmS)
18043 \DeclareTextCommand{\textdashleftarrow}{PU}{\9041\340}%* U+21E0
18044 %* \textdashleftarrow -> \dashedleftarrow (MnSymbol)
18045 % U+21E1 UPWARDS DASHED ARROW; arrowdashup; \dasheduparrow (Mn-
    Symbol)

```

```

18046 \DeclareTextCommand{\textdasheduparrow}{PU}{\9041\341}%* U+21E1
18047 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightarrow (AmS)
18048 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\342}%* U+21E2
18049 %* \textdashrightarrow -> \dashedrightarrow (MnSymbol)
18050 % U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dashedrightarrow (MnSymbol)
18051 \DeclareTextCommand{\textdasheddownarrow}{PU}{\9041\343}%* U+21E3
18052 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
18053 % \downuparrows (MnSymbol)
18054 \DeclareTextCommand{\textdownuparrows}{PU}{\9041\365}%* U+21F5

```

### 51.2.22 Mathematical Operators: U+2200 to U+22FF

```

18055 % U+2200 FOR ALL; forall; \forall (LaTeX)
18056 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
18057 % U+2201 COMPLEMENT; \complement (AmS)
18058 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
18059 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
18060 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
18061 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
18062 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203
18063 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
18064 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
18065 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
18066 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
18067 %* \textemptyset -> \varnothing (AmS)
18068 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)
18069 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
18070 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
18071 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207
18072 % U+2208 ELEMENT OF; element; \in (LaTeX)
18073 \DeclareTextCommand{\textin}{PU}{\9042\010}%* U+2208
18074 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
18075 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209
18076 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
18077 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A
18078 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
18079 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
18080 %* \textni -> \owns (mathabx)
18081 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
18082 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C
18083 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
18084 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
18085 % U+220F N-ARY PRODUCT; \prod (LaTeX)
18086 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
18087 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
18088 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
18089 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
18090 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
18091 % U+2212 MINUS SIGN; minus
18092 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
18093 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
18094 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213
18095 % U+2214 DOT PLUS; \dotplus (AmS)
18096 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
18097 % U+2216 SET MINUS; \setminus (LaTeX)
18098 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216

```

```

18099 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
18100 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
18101 % U+2218 RING OPERATOR; \circ (LaTeX)
18102 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
18103 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
18104 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219
18105 % U+221A SQUARE ROOT; radical
18106 \DeclareTextCommand{\textsurd}{PU}{\9042\032}%* U+221A
18107 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
18108 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
18109 % U+221E INFINITY; infinity; \infty (LaTeX)
18110 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
18111 % U+2220 ANGLE; angle; \angle (LaTeX)
18112 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
18113 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
18114 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
18115 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)
18116 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222
18117 %* \textsphericalangle -> \varangle (wasysym)
18118 %* \textsphericalangle -> \Anglesign (marvosym)
18119 % U+2223 DIVIDES; divides; \mid (LaTeX)
18120 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
18121 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
18122 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224
18123 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
18124 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225
18125 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
18126 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226
18127 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
18128 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
18129 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
18130 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
18131 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
18132 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229
18133 % U+222A UNION; union; \cup (LaTeX)
18134 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A
18135 % U+222B INTEGRAL; integral; \int (LaTeX)
18136 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
18137 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)
18138 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
18139 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
18140 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%* U+222D
18141 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
18142 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
18143 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
18144 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%* U+222F
18145 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
18146 % \ointclockwise (txfonts/pxfonts)
18147 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
18148 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrackwise (tx-
      fonts/pxfonts)
18149 \DeclareTextCommand{\textointctrackwise}{PU}{\9042\063}%* U+2233
18150 % U+2234 THEREFORE; therefore; \therefore (AmS)
18151 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
18152 %* \texttherefore -> uptherefore (MnSymbol)
18153 % U+2235 BECAUSE; because; \because (AmS)
18154 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235

```

```

18155 %* \textbecause -> \downtherefore (MnSymbol)
18156 % U+2236 RATIO; \vdotdot (MnSymbol)
18157 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%* U+2236
18158 % U+2237 PROPORTION; \squaredots (MnSymbol)
18159 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%* U+2237
18160 % U+2238 DOT MINUS; \dotminus (MnSymbol)
18161 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238
18162 %* \textdotminus -> \textdotdiv (mathabx)
18163 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)
18164 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%* U+2239
18165 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)
18166 \DeclareTextCommand{\textsim}{PU}{\9042\074}%* U+223C
18167 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)
18168 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%* U+223D
18169 % U+2240 WREATH PRODUCT; \wr (LaTeX)
18170 \DeclareTextCommand{\textwr}{PU}{\9042\100}%* U+2240
18171 %* \textwr -> \wreath (MnSymbol)
18172 % U+2241 NOT TILDE; \nsim (AmS)
18173 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%* U+2241
18174 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (LaTeX)
18175 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%* U+2243
18176 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)
18177 \DeclareTextCommand{\textcong}{PU}{\9042\105}%* U+2245
18178 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;
18179 % \ncong (AmS)
18180 \DeclareTextCommand{\textncong}{PU}{\9042\107}%* U+2247
18181 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)
18182 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%* U+2248
18183 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)
18184 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%* U+224A
18185 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)
18186 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%* U+224B
18187 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)
18188 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%* U+224C
18189 % U+224D EQUIVALENT TO; \asymp (LaTeX)
18190 \DeclareTextCommand{\textasympt}{PU}{\9042\115}%* U+224D
18191 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)
18192 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%* U+224E
18193 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)
18194 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%* U+224F
18195 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)
18196 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%* U+2250
18197 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;
18198 % \doteqdot (AmS)
18199 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%* U+2251
18200 %* \textdoteqdot -> \Doteq (MnSymbol)
18201 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-
18202 % equalorimage;
18202 % \fallingdotseq (AmS)
18203 \DeclareTextCommand{\textfallingdoteq}{PU}{\9042\122}%* U+2252
18204 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapprox-
18205 % imatelyequal;
18205 % \risingdotseq (AmS)
18206 \DeclareTextCommand{\textrisingdoteq}{PU}{\9042\123}%* U+2253
18207 % U+2254 COLON EQUALS; \colonequals (colonequals)
18208 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%* U+2254

```

```

18209 % U+2255 EQUALS COLON; \equalscolon (colonequals)
18210 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%* U+2255
18211 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)
18212 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%* U+2256
18213 % U+2257 RING EQUAL TO; \circeq (AmS)
18214 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%* U+2257
18215 % U+2259 ESTIMATES; \hateq (MnSymbol)
18216 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%* U+2259
18217 %* \texthateq -> \corresponds (mathabx)
18218 % U+225C DELTA EQUAL TO; \triangleeq (AmS)
18219 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%* U+225C
18220 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)
18221 \DeclareTextCommand{\textneq}{PU}{\9042\140}%* U+2260
18222 \DeclareTextCommand{\textne}{PU}{\9042\140}%* U+2260
18223 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)
18224 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%* U+2261
18225 % U+2262 NOT IDENTICAL TO; notidentical; \nequiv (txfonts/pxfonts)
18226 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%* U+2262
18227 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)
18228 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
18229 \DeclareTextCommand{\textle}{PU}{\9042\144}%* U+2264
18230 % U+2265 GREATER-THAN OR EQUAL TO; greaterequal;
18231 % \ge (LaTeX), \geq (LaTeX)
18232 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265
18233 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
18234 % U+2266 LESS-THAN OVER EQUAL TO; lessorequal; \leqq (AmS)
18235 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
18236 % U+2267 GREATER-THAN OVER EQUAL TO; greaterorequal; \geqq (AmS)
18237 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
18238 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
18239 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268
18240 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
18241 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
18242 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
18243 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A
18244 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
18245 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
18246 % U+226C BETWEEN; \between (AmS)
18247 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
18248 % U+226E NOT LESS-THAN; notless; \nless (AmS)
18249 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
18250 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
18251 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18252 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18253 % \nleq (AmS)
18254 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18255 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal; \ngeq (AmS)
18256 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18257 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lesssim (AmS)
18258 \DeclareTextCommand{\textlesssim}{PU}{\9042\162}%* U+2272
18259 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim (AmS)
18260 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18261 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)
18262 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%* U+2276
18263 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)

```

```

18264 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%* U+2277
18265 % U+227A PRECEDES; precedes; \prec (LaTeX)
18266 \DeclareTextCommand{\textprec}{PU}{\9042\172}%* U+227A
18267 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)
18268 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%* U+227B
18269 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)
18270 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%* U+227C
18271 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)
18272 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%* U+227D
18273 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)
18274 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%* U+227E
18275 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)
18276 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%* U+227F
18277 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)
18278 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%* U+2280
18279 % U+2281 DOES NOT SUCCEED; notsucceeds; \nsucc (AmS)
18280 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%* U+2281
18281 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)
18282 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%* U+2282
18283 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)
18284 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%* U+2283
18285 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)
18286 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%* U+2284
18287 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)
18288 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%* U+2285
18289 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseteq (LaTeX)
18290 \DeclareTextCommand{\textsubsetq}{PU}{\9042\206}%* U+2286
18291 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)
18292 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%* U+2287
18293 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)
18294 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%* U+2288
18295 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)
18296 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%* U+2289
18297 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subsetneq (AmS)
18298 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%* U+228A
18299 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supsetneq (AmS)
18300 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%* U+228B
18301 % U+228D MULTISSET MULTIPLICATION; \cupdot (MnSymbol)
18302 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%* U+228D
18303 % U+228E MULTISSET UNION; \cupplus (MnSymbol)
18304 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%* U+228E
18305 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)
18306 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%* U+228F
18307 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)
18308 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%* U+2290
18309 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseteq (LaTeX)
18310 \DeclareTextCommand{\textsqsubsetq}{PU}{\9042\221}%* U+2291
18311 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseteq (LaTeX)
18312 \DeclareTextCommand{\textsqsupseteq}{PU}{\9042\222}%* U+2292
18313 % U+2293 SQUARE CAP; \sqcap (LaTeX)
18314 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18315 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18316 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18317 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
18318 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295

```

```

18319 %* \textoplus -> \varoplus (stmaryrd)
18320 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
18321 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
18322 %* \textominus -> \varominus (stmaryrd)
18323 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18324 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18325 %* \textotimes -> \varotimes (stmaryrd)
18326 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18327 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18328 %* \textoslash -> \varoslash (stmaryrd)
18329 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18330 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18331 %* \textodot -> \varodot (stmaryrd)
18332 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18333 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18334 %* \textcircledcirc -> \ocirc (mathabx)
18335 %* \textcircledcirc -> \varocircle (stmaryrd)
18336 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18337 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18338 %* \textcircledast -> \varoast (stmaryrd)
18339 %* \textcircledast -> \oasterisk (mathabx)
18340 % U+229D CIRCLED DASH; \circleddash (AmS)
18341 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18342 % U+229E SQUARED PLUS; \boxplus (AmS)
18343 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
18344 % U+229F SQUARED MINUS; \boxminus (AmS)
18345 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18346 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18347 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
18348 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18349 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18350 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18351 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18352 %* \textvdash -> \rightvdash (MnSymbol)
18353 % U+22A3 LEFT TACK; tackleft; \dashv (LaTeX)
18354 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18355 %* \textdashv -> \leftvdash (MnSymbol)
18356 % U+22A4 DOWN TACK (=top); tackdown; \top (LaTeX)
18357 \DeclareTextCommand{\texttop}{PU}{\9042\244}%* U+22A4
18358 %* \texttop -> \downvdash (MnSymbol)
18359 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
18360 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
18361 % U+22A8 TRUE; \vDash (AmS)
18362 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
18363 %* \textvDash -> \models (LaTeX)
18364 %* \textvDash -> \rightmodels (MnSymbol)
18365 % U+22A9 FORCES; \Vdash (AmS)
18366 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
18367 %* \textVdash -> \rightVdash (MnSymbol)
18368 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
18369 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
18370 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
18371 % \VDash (mathabx)
18372 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
18373 %* \textVDash -> \rightModels (MnSymbol)
18374 % U+22AC DOES NOT PROVE; \nvdash (AmS)
18375 \DeclareTextCommand{\textnvdash}{PU}{\9042\254}%* U+22AC

```

```

18376 % U+22AD NOT TRUE; \nvDash (AmS)
18377 \DeclareTextCommand{\textnvDash}{PU}{\9042\255}%* U+22AD
18378 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
      STILE; \nVDash (AmS)
18379 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
18380 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
18381 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
18382 %* \textlhd -> \lessclosed (MnSymbol)
18383 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
18384 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
18385 %* \textrhd -> \gtrclosed (MnSymbol)
18386 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
18387 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
18388 %* \textunlhd -> \leqclosed (MnSymbol)
18389 %* \textunlhd -> \trianglelefteq (MnSymbol)
18390 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
      texsym, ...)
18391 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
18392 %* \textunrhd -> \geqclosed (MnSymbol)
18393 %* \textunrhd -> \trianglerighteq (MnSymbol)
18394 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
18395 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
18396 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
18397 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
18398 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
18399 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8
18400 % U+22BB XOR; \veebar (AmS)
18401 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB
18402 % U+22BC NAND; \barwedge (mathabx)
18403 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC
18404 % U+22C6 STAR OPERATOR; \star (LaTeX)
18405 \DeclareTextCommand{\textstar}{PU}{\9042\306}%* U+22C6
18406 % U+22C7 DIVISION TIMES; \divideontimes (AmS)
18407 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%* U+22C7
18408 % U+22C8 BOWTIE; \bowtie (LaTeX)
18409 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%* U+22C8
18410 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)
18411 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%* U+22C9
18412 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;
18413 % \rtimes (AmS)
18414 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%* U+22CA
18415 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)
18416 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%* U+22CB
18417 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)
18418 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%* U+22CC
18419 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)
18420 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%* U+22CD
18421 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)
18422 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%* U+22CE
18423 %* \textcurlyvee -> \varcurlyvee (stmaryrd)
18424 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)
18425 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%* U+22CF
18426 %* \textcurlywedge -> \varcurlywedge (stmaryrd)
18427 % U+22D0 DOUBLE SUBSET; \Subset (AmS)
18428 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%* U+22D0
18429 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)
18430 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%* U+22D1

```



```

18431 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)
18432 \DeclareTextCommand{\textCap}{PU}{\9042\322}%* U+22D2
18433 %* \textCap -> \doublecap (mathabx)
18434 % U+22D3 DOUBLE UNION; \Cup (AmS)
18435 \DeclareTextCommand{\textCup}{PU}{\9042\323}%* U+22D3
18436 %* \textCup -> \doublecup (mathabx)
18437 % U+22D4 PITCHFORK; \pitchfork (mathabx)
18438 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%* U+22D4
18439 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)
18440 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%* U+22D6
18441 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)
18442 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%* U+22D7
18443 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)
18444 \DeclareTextCommand{\textlll}{PU}{\9042\330}%* U+22D8
18445 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)
18446 \DeclareTextCommand{\textggg}{PU}{\9042\331}%* U+22D9
18447 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lessequalorgreater;
18448 % \lesseqgtr (AmS)
18449 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%* U+22DA
18450 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterequalorless;
18451 % \gtreqless (AmS)
18452 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%* U+22DB
18453 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)
18454 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%* U+22DE
18455 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)
18456 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%* U+22DF
18457 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)
18458 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%* U+22E0
18459 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)
18460 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%* U+22E1
18461 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-
18462 % fonts/pxfonts)
18462 \DeclareTextCommand{\textnqsubseq}{PU}{\9042\342}%* U+22E2
18463 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-
18464 % fonts/pxfonts)
18464 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%* U+22E3
18465 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)
18466 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%* U+22E4
18467 %* \textsqsubsetneq -> \varsqsubsetneq (mathabx)
18468 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-
18469 % abx)
18469 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%* U+22E5
18470 %* \textsqsupsetneq -> \varsqsupsetneq (mathabx)
18471 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
18472 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
18473 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
18474 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
18475 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precnsim (AmS)
18476 \DeclareTextCommand{\textprecnsim}{PU}{\9042\350}%* U+22E8
18477 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succnsim (AmS)
18478 \DeclareTextCommand{\textsuccnsim}{PU}{\9042\351}%* U+22E9
18479 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)
18480 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%* U+22EA
18481 %* \textntriangleleft -> \nlessclosed (MnSymbol)
18482 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriang-
18483 % leright (AmS)
18483 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%* U+22EB

```

18484 %\* \textntriangleright -> \ngtrclosed (MnSymbol)  
 18485 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;  
 18486 % \ntrianglelefteq (AmS)  
 18487 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%\* U+22EC  
 18488 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;  
 18489 % \ntrianglerighteq (AmS)  
 18490 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%\* U+22ED  
 18491 %\* \textntrianglerighteq -> \textngeqclosed  
 18492 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)  
 18493 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%\* U+22EE  
 18494 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)  
 18495 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%\* U+22EF  
 18496 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)  
 18497 \DeclareTextCommand{\textudots}{PU}{\9042\360}%\* U+22F0  
 18498 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)  
 18499 \DeclareTextCommand{\textddots}{PU}{\9042\361}%\* U+22F1  
 18500 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)  
 18501 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%\* U+22F6

### 51.2.23 Miscellaneous Technical: U+2300 to U+23FF

18502 % U+2300 DIAMETER SIGN; \diameter (mathabx)  
 18503 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%\* U+2300  
 18504 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)  
 18505 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%\* U+2310  
 18506 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)  
 18507 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%\* U+2319  
 18508 % U+231A WATCH; \clock (wasysym)  
 18509 \DeclareTextCommand{\textclock}{PU}{\9043\032}%\* U+231A  
 18510 %\* \textclock -> \Clocklogo (marvosym)  
 18511 % U+231C TOP LEFT CORNER; \ulcorner (AmS)  
 18512 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%\* U+231C  
 18513 % U+231D TOP RIGHT CORNER; \urcorner (AmS)  
 18514 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%\* U+231D  
 18515 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)  
 18516 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%\* U+231E  
 18517 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)  
 18518 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%\* U+231F  
 18519 % U+2322 FROWN; \frown (LaTeX)  
 18520 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%\* U+2322  
 18521 % U+2323 SMILE; \smile (LaTeX)  
 18522 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%\* U+2323  
 18523 % U+2328 KEYBOARD; \Keyboard (marvosym)  
 18524 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%\* U+2328  
 18525 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \langle (LaTeX)  
 18526 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%\* U+2329  
 18527 % U+232A RIGHT-POINTING ANGLE BRACKET; \angleright; \rangle (LaTeX)  
 18528 \DeclareTextCommand{\textrangle}{PU}{\9043\052}%\* U+232A  
 18529 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)  
 18530 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%\* U+2339  
 18531 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)  
 18532 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%\* U+233F  
 18533 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;  
 18534 % \notbackslash (wasysym)  
 18535 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%\* U+2340  
 18536 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxback-  
 slash (mathabx)  
 18537 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%\* U+2342

18538 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;  
 18539 % \APLleftarrowbox (wasysym)  
 18540 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%\* U+2347  
 18541 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;  
 18542 % \APLrightarrowbox (wasysym)  
 18543 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%\* U+2348  
 18544 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLuparrowbox (wasysym)  
 18545 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%\* U+2350  
 18546 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;  
 18547 % \APLdownarrowbox (wasysym)  
 18548 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%\* U+2357  
 18549 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;  
 18550 % \APLinput (wasysym)  
 18551 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%\* U+235E  
 18552 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)  
 18553 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%\* U+2370

#### 51.2.24 Control Pictures: U+2400 to U+243F

18554 % U+2422 BLANK SYMBOL  
 18555 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
 18556 % U+2423 OPEN BOX; blank  
 18557 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

#### 51.2.25 Optical Character Recognition: U+2440 to U+245F

18558 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)  
 18559 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%\* U+244A  
 18560 %\* \textbbslash -> \varparallelinv (txfonts/pxfonts)

#### 51.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

18561 % U+2460 CIRCLED DIGIT ONE; onecircle  
 18562 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
 18563 % U+2461 CIRCLED DIGIT TWO; twocircle  
 18564 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
 18565 % U+2462 CIRCLED DIGIT THREE; threecircle  
 18566 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
 18567 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
 18568 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
 18569 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
 18570 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
 18571 % U+2465 CIRCLED DIGIT SIX; sixcircle  
 18572 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
 18573 % U+2466 CIRCLED DIGIT SEVEN; sevendigit  
 18574 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
 18575 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
 18576 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
 18577 % U+2468 CIRCLED DIGIT NINE; ninecircle  
 18578 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
 18579 % U+2469 CIRCLED NUMBER TEN; tencircle  
 18580 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
 18581 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
 18582 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
 18583 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
 18584 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
 18585 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
 18586 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
 18587 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle

18588 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
18589 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
18590 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
18591 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
18592 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
18593 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
18594 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
18595 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
18596 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
18597 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
18598 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
18599 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
18600 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
18601 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
18602 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
18603 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
18604 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
18605 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
18606 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
18607 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
18608 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
18609 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
18610 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
18611 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
18612 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
18613 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
18614 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
18615 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
18616 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
18617 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
18618 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
18619 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
18620 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
18621 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
18622 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
18623 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
18624 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
18625 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
18626 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
18627 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
18628 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
18629 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
18630 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
18631 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
18632 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
18633 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
18634 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
18635 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
18636 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
18637 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
18638 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
18639 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
18640 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
18641 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
18642 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
18643 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
18644 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB

18645 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 18646 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 18647 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 18648 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 18649 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 18650 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 18651 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 18652 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 18653 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 18654 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 18655 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 18656 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 18657 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 18658 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 18659 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 18660 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 18661 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 18662 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 18663 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 18664 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 18665 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 18666 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 18667 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 18668 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 18669 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 18670 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 18671 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 18672 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 18673 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 18674 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 18675 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 18676 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 18677 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 18678 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 18679 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 18680 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 18681 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 18682 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 18683 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 18684 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 18685 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 18686 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 18687 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 18688 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 18689 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 18690 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 18691 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 18692 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 18693 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 18694 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 18695 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 18696 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 18697 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 18698 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 18699 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 18700 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 18701 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle

18702 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 18703 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 18704 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 18705 % U+24EA CIRCLED DIGIT ZERO  
 18706 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

### 51.2.27 Geometric Shapes: U+25A0 to U+25FF

18707 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;  
 18708 % \bigtriangleup (LaTeX)  
 18709 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%\* U+25B3  
 18710 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restriction);  
 18711 % whiterightpointingtriangle; \triangleright (LaTeX)  
 18712 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%\* U+25B7  
 18713 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtriangle;  
 18714 % \bigtriangledown (LaTeX)  
 18715 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%\* U+25BD  
 18716 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain restriction);  
 18717 % whiteleftpointingtriangle; \triangleleft (LaTeX)  
 18718 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%\* U+25C1  
 18719 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)  
 18720 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%\* U+25C7  
 18721 % U+25CA LOZENGE; lozenge; \lozenge (AmS)  
 18722 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%\* U+25CA  
 18723 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
 18724 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%\* U+25E6  
 18725 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;  
 18726 % \boxbar (stmaryrd)  
 18727 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%\* U+25EB  
 18728 % U+25EF LARGE CIRCLE; largecircle  
 18729 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%\* U+25EF  
 18730 %

### 51.2.28 Miscellaneous Symbols: U+2600 to U+26FF

18731 % U+2601 CLOUD; \Cloud (ifsym)  
 18732 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%\* U+2601  
 18733 % U+2605 BLACK STAR; \FiveStar (bding)  
 18734 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%\* U+2605  
 18735 % U+2606 WHITE STAR; \FiveStarOpen (bding)  
 18736 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%\* U+2606  
 18737 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bding)  
 18738 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%\* U+260E  
 18739 %\* \textPhone -> \Telefon (marvosym)  
 18740 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)  
 18741 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%\* U+2611  
 18742 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)  
 18743 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%\* U+2612  
 18744 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)  
 18745 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%\* U+2615  
 18746 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bding)  
 18747 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%\* U+261A  
 18748 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bding)  
 18749 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%\* U+261B  
 18750 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bding)  
 18751 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%\* U+261C

18752 %\* \textHandLeft -> \rightpointleft (fourier)  
18753 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bbding)  
18754 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%\* U+261E  
18755 %\* \textHandRight -> \leftpointright (fourier)  
18756 %\* \textHandRight -> \PointingHand (marvosym)  
18757 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)  
18758 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%\* U+2622  
18759 %\* \textRadioactivity -> \Radiation (ifsym)  
18760 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)  
18761 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%\* U+2623  
18762 % U+2625 ANKH; \Ankh (marvosym)  
18763 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%\* U+2625  
18764 % U+262F YIN YANG; \Yinyang (marvosym)  
18765 \DeclareTextCommand{\textYinyang}{PU}{\9046\057}%\* U+262F  
18766 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)  
18767 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%\* U+2639  
18768 %\* \textfrownie -> \Frowny (marvosym)  
18769 % U+263A WHITE SMILING FACE; \smiley (wasysym)  
18770 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%\* U+263A  
18771 %\* \textsmiley -> \Smiley (marvosym)  
18772 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)  
18773 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%\* U+263B  
18774 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)  
18775 \DeclareTextCommand{\textsun}{PU}{\9046\074}%\* U+263C  
18776 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)  
18777 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%\* U+263D  
18778 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)  
18779 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%\* U+263E  
18780 % U+263F MERCURY; \mercury (wasysym)  
18781 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%\* U+263F  
18782 %\* \textmercury -> \Mercury (marvosym)  
18783 % U+2640 FEMALE SIGN; female; \female (wasysym)  
18784 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640  
18785 %\* \textPUfemale -> \textfemale (tipx)  
18786 %\* \textPUfemale -> \female (wasysym)  
18787 %\* \textPUfemale -> \venus (wasysym)  
18788 %\* \textPUfemale -> \Venus (marvosym)  
18789 % U+2641 EARTH; \earth (wasysym)  
18790 \DeclareTextCommand{\textearth}{PU}{\9046\101}%\* U+2641  
18791 %\* \textearth -> \Earth (marvosym)  
18792 % U+2642 MALE SIGN; male, mars; \male (wasysym)  
18793 \DeclareTextCommand{\textmale}{PU}{\9046\102}%\* U+2642  
18794 %\* \textmale -> \mars (wasysym)  
18795 %\* \textmale -> \Mars (marvosym)  
18796 % U+2643 JUPITER; \jupiter (wasysym)  
18797 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%\* U+2643  
18798 %\* \textjupiter -> \Jupiter (marvosym)  
18799 % U+2644 SATURN; \saturn (wasysym)  
18800 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%\* U+2644  
18801 %\* \textsaturn -> \Saturn (marvosym)  
18802 % U+2645 URANUS; \uranus (wasysym)  
18803 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%\* U+2645  
18804 %\* \texturanus -> \Uranus (marvosym)  
18805 % U+2646 NEPTUNE; \neptune (wasysym)  
18806 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%\* U+2646  
18807 %\* \textneptune -> \Neptune (marvosym)  
18808 % U+2647 PLUTO; \pluto (wasysym)

```

18809 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%* U+2647
18810 %* \textpluto -> \Pluto (marvosym)
18811 % U+2648 ARIES; \aries (wasysym)
18812 \DeclareTextCommand{\textaries}{PU}{\9046\110}%* U+2648
18813 %* \textaries -> \Aries (marvosym)
18814 % U+2649 TAURUS; \taurus (wasysym)
18815 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%* U+2649
18816 %* \texttaurus -> \Taurus (marvosym)
18817 % U+264A GEMINI; \gemini (wasysym)
18818 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%* U+264A
18819 %* \textgemini -> \Gemini (marvosym)
18820 % U+264B CANCER; \cancer (wasysym)
18821 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%* U+264B
18822 %* \textcancer -> \Cancer (marvosym)
18823 % U+264C LEO; \leo (wasysym)
18824 \DeclareTextCommand{\textleo}{PU}{\9046\114}%* U+264C
18825 %* \textleo -> \Leo (marvosym)
18826 % U+264D VIRGO; \virgo (wasysym)
18827 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%* U+264D
18828 %* \textvirgo -> \Virgo (marvosym)
18829 % U+264E LIBRA; \libra (wasysym)
18830 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%* U+264E
18831 %* \textlibra -> \Libra (marvosym)
18832 % U+264F SCORPIO; \scorpio (wasysym)
18833 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%* U+264F
18834 %* \textscorpio -> \Scorpio (marvosym)
18835 % U+2650 SAGITTARIUS; \sagittarius (wasysym)
18836 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%* U+2650
18837 %* \textsagittarius -> \Sagittarius (marvosym)
18838 % U+2651 CAPRICORN; \capricorn (wasysym)
18839 \DeclareTextCommand{\textcapricorn}{PU}{\9046\121}%* U+2651
18840 %* \textcapricorn -> \Capricorn (marvosym)
18841 % U+2652 AQUARIUS; \aquarius (wasysym)
18842 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%* U+2652
18843 %* \textaquarius -> \Aquarius (marvosym)
18844 % U+2653 PISCES; \pisces (wasysym)
18845 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%* U+2653
18846 %* \textpisces -> \Pisces (marvosym)
18847 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
18848 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660
18849 %* \textspadesuitblack -> \spadesuit (MnSymbol)
18850 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
18851 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661
18852 %* \textheartsuitwhite -> \heartsuit (MnSymbol)
18853 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
18854 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662
18855 %* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)
18856 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)
18857 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663
18858 %* \textclubsuitblack -> \clubsuit (MnSymbol)
18859 % U+2664 WHITE SPADE SUIT; spadesuitwhite
18860 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664
18861 % U+2665 BLACK HEART SUIT; heartsuitblack, heart
18862 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665
18863 % U+2666 BLACK DIAMOND SUIT; diamond
18864 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666
18865 % U+2667 WHITE CLUB SUIT; clubsuitwhite

```



```

18866 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667
18867 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)
18868 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%* U+2669
18869 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)
18870 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
18871 %* \textmusicalnote -> \eighthnote (wasysym, arev)
18872 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)
18873 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%* U+266B
18874 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-
      note (arev)
18875 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%* U+266C
18876 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)
18877 \DeclareTextCommand{\textflat}{PU}{\9046\155}%* U+266D
18878 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)
18879 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%* U+266E
18880 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)
18881 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%* U+266F
18882 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)
18883 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%* U+2672
18884 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)
18885 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%* U+267F
18886 % U+2691 BLACK FLAG; \Flag (ifsym)
18887 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%* U+2691
18888 %* \textFlag -> \VarFlag (ifsym)
18889 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)
18890 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%* U+2694
18891 %* \textdsmilitary -> \textxswup (fourier)
18892 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)
18893 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%* U+2695
18894 % U+2696 SCALES; \dsjuridical (dictsym)
18895 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%* U+2696
18896 % U+2697 ALEMBIC; \dschemical (dictsym)
18897 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%* U+2697
18898 % U+2698 FLOWER; \dsbiological (dictsym)
18899 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%* U+2698
18900 % U+269A STAFF OF HERMES; \dscommercial (dictsym)
18901 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%* U+269A
18902 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)
18903 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%* U+269D
18904 % U+26A0 WARNING SIGN; \danger (fourier)
18905 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%* U+26A0
18906 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)
18907 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%* U+26A2
18908 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)
18909 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%* U+26A3
18910 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (mar-
      vosym)
18911 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%* U+26A4
18912 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)
18913 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%* U+26A5
18914 % U+26AD MARRIAGE SYMBOL
18915 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
18916 % U+26AE DIVORCE SYMBOL
18917 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE
18918 % U+26B2 NEUTER; \textuncrfemale (tipx)
18919 \DeclareTextCommand{\textPUuncrfemale}{PU}{\9046\262}% U+26B2
18920 %* \textPUuncrfemale -> \textuncrfemale (tipx)

```

18921 % U+26BD SOCCER BALL; \Football (marvosym)  
18922 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD  
18923 %\* \textSoccerBall -> \Football (marvosym)  
18924 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)  
18925 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%\* U+26C5  
18926 % U+26C6 RAIN; \Rain (ifsym)  
18927 \DeclareTextCommand{\textRain}{PU}{\9046\306}%\* U+26C6  
18928 % U+26D4 NO ENTRY; \noway (fourier)  
18929 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%\* U+26D4  
18930 % U+26F0 MOUNTAIN; \Mountain (ifsym)  
18931 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%\* U+26F0  
18932 % U+26FA TENT; \Tent (ifsym)  
18933 \DeclareTextCommand{\textTent}{PU}{\9046\372}%\* U+26FA

### 51.2.29 Dingbats: U+2700 to U+27BF

18934 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bding)  
18935 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701  
18936 %\* \textScissorRightBrokenBottom -> \Cutright (marvosym)  
18937 % U+2702 BLACK SCISSORS; \ScissorRight (bding)  
18938 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%\* U+2702  
18939 %\* \textScissorRight -> \Rightsscissors (marvosym)  
18940 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bding)  
18941 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%\* U+2703  
18942 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bding)  
18943 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%\* U+2704  
18944 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bding)  
18945 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%\* U+2706  
18946 % U+2707 TAPE DRIVE; \Tape (bding)  
18947 \DeclareTextCommand{\textTape}{PU}{\9047\007}%\* U+2707  
18948 % U+2708 AIRPLANE; \Plane (bding)  
18949 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%\* U+2708  
18950 % U+2709 ENVELOPE; \Envelope (bding),  
18951 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%\* U+2709  
18952 %\* \textEnvelope -> \Letter (marvosym)  
18953 % U+270C VICTORY HAND; \Peace (bding)  
18954 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%\* U+270C  
18955 % U+270D WRITING HAND; \Writinghand (marvosym)  
18956 \DeclareTextCommand{\textWritinghand}{PU}{\9047\015}%\* U+270D  
18957 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bding)  
18958 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%\* U+270E  
18959 % U+270F PENCIL; \PencilRight (bding)  
18960 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%\* U+270F  
18961 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)  
18962 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%\* U+2710  
18963 % U+2711 WHITE NIB; \NibRight (bding)  
18964 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%\* U+2711  
18965 % U+2712 BLACK NIB; \NibSolidRight (bding)  
18966 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%\* U+2712  
18967 % U+2713 CHECK MARK; \checkmark; \Checkmark (bding)  
18968 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%\* U+2713  
18969 %\* \textCheckmark -> \checkmark (MnSymbol)  
18970 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)  
18971 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%\* U+2714  
18972 % U+2715 MULTIPLICATION X; \XSolid (bding)  
18973 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%\* U+2715  
18974 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)  
18975 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%\* U+2716

18976 % U+2717 BALLOT X; \XSolidBrush (bbling)  
 18977 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%\* U+2717  
 18978 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bbling)  
 18979 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%\* U+2719  
 18980 % U+271A HEAVY GREEK CROSS; \Plus (bbling)  
 18981 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%\* U+271A  
 18982 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bbling)  
 18983 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%\* U+271B  
 18984 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bbling)  
 18985 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%\* U+271C  
 18986 % U+271D LATIN CROSS; \Cross (bbling)  
 18987 \DeclareTextCommand{\textCross}{PU}{\9047\035}%\* U+271D  
 18988 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bbling)  
 18989 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%\* U+271E  
 18990 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bbling)  
 18991 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%\* U+271F  
 18992 % U+2720 MALTESE CROSS; \CrossMaltese (bbling)  
 18993 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%\* U+2720  
 18994 % U+2721 STAR OF DAVID; \DavidStar (bbling)  
 18995 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%\* U+2721  
 18996 %\* \textDavidStar -> \davidstar (wasysym)  
 18997 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bbling)  
 18998 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%\* U+2722  
 18999 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bbling)  
 19000 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%\* U+2723  
 19001 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bbling)  
 19002 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%\* U+2724  
 19003 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bbling)  
 19004 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%\* U+2725  
 19005 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bbling)  
 19006 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%\* U+2726  
 19007 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bbling)  
 19008 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%\* U+2727  
 19009 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bbling)  
 19010 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%\* U+272A  
 19011 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bbling)  
 19012 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%\* U+272B  
 19013 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bbling)  
 19014 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%\* U+272C  
 19015 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bbling)  
 19016 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%\* U+272D  
 19017 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bbling)  
 19018 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%\* U+272E  
 19019 % U+272F PINWHEEL STAR; \FiveStarConvex (bbling)  
 19020 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%\* U+272F  
 19021 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bbling)  
 19022 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%\* U+2730  
 19023 % U+2731 HEAVY ASTERISK; \AsteriskBold (bbling)  
 19024 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%\* U+2731  
 19025 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bbling)  
 19026 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%\* U+2732  
 19027 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bbling)  
 19028 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%\* U+2734  
 19029 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bbling)  
 19030 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%\* U+2735  
 19031 % U+2736 SIX POINTED BLACK STAR; \SixStar (bbling)

19032 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%\* U+2736  
19033 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)  
19034 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%\* U+2737  
19035 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)  
19036 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%\* U+2738  
19037 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)  
19038 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%\* U+2739  
19039 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)  
19040 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%\* U+273A  
19041 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)  
19042 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%\* U+273B  
19043 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;  
19044 % \SixFlowerOpenCenter (bding)  
19045 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%\* U+273C  
19046 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)  
19047 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%\* U+273D  
19048 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)  
19049 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%\* U+273E  
19050 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)  
19051 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%\* U+273F  
19052 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)  
19053 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%\* U+2740  
19054 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)  
19055 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%\* U+2741  
19056 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)  
19057 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%\* U+2742  
19058 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)  
19059 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%\* U+2743  
19060 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)  
19061 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%\* U+2744  
19062 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)  
19063 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%\* U+2745  
19064 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)  
19065 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%\* U+2746  
19066 % U+2747 SPARKLE; \Sparkle (bding)  
19067 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%\* U+2747  
19068 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)  
19069 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%\* U+2748  
19070 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)  
19071 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%\* U+2749  
19072 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
19073 % \EightFlowerPetalRemoved (bding)  
19074 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%\* U+274A  
19075 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
19076 % \EightAsterisk (bding)  
19077 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%\* U+274B  
19078 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)  
19079 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%\* U+274D  
19080 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;  
19081 % \SquareShadowBottomRight (bding)

19082 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%\* U+274F  
 19083 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;  
 19084 % \SquareShadowTopRight (bbding)  
 19085 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%\* U+2750  
 19086 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;  
 19087 % \SquareCastShadowBottomRight (bbding)  
 19088 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%\* U+2751  
 19089 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;  
 19090 % \SquareCastShadowTopRight (bbding)  
 19091 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%\* U+2752  
 19092 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (bbding)  
 19093 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%\* U+2756  
 19094 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bbding)  
 19095 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%\* U+2758  
 19096 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bbding)  
 19097 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%\* U+2759  
 19098 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bbding)  
 19099 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%\* U+275A

### 51.2.30 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

19100 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)  
 19101 \DeclareTextCommand{\textperp}{PU}{\9047\302}%\* U+27C2  
 19102 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)  
 19103 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%\* U+27C7  
 19104 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)  
 19105 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%\* U+27D1  
 19106 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)  
 19107 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%\* U+27DC  
 19108 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 19109 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%\* U+27E6  
 19110 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 19111 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%\* U+27E7

### 51.2.31 Supplemental Arrows-A: U+27F0 to U+27FF

19112 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;  
 19113 % \circlearrowleft (AmS)  
 19114 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%\* U+27F2  
 19115 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)  
 19116 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%\* U+27F3  
 19117 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)  
 19118 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%\* U+27F5  
 19119 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)  
 19120 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%\* U+27F6  
 19121 % U+27F7 LONG LEFT RIGHT ARROW; \longlefttrightarrow (AmS)  
 19122 \DeclareTextCommand{\textlonglefttrightarrow}{PU}{\9047\367}%\* U+27F7  
 19123 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)  
 19124 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%\* U+27F8  
 19125 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \Longrightarrow (AmS)  
 19126 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%\* U+27F9  
 19127 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longlefttrightarrow (AmS)  
 19128 \DeclareTextCommand{\textLonglefttrightarrow}{PU}{\9047\372}%\* U+27FA  
 19129 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)  
 19130 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%\* U+27FC  
 19131 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmapsfrom (stmaryrd)  
 19132 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%\* U+27FD

19133 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmapsto (stmaryrd)  
 19134 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%\* U+27FE

### 51.2.32 Supplemental Arrows-B

19135 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSymbol)  
 19136 \DeclareTextCommand{\textnwsearrow}{PU}{\051\041}%\* U+2921  
 19137 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSymbol)  
 19138 \DeclareTextCommand{\textneswarrow}{PU}{\051\042}%\* U+2922  
 19139 % U+2923 NORTH WEST ARROW WITH HOOK; \lhooknwarrow (MnSymbol)  
 19140 \DeclareTextCommand{\textlhooknwarrow}{PU}{\051\043}%\* U+2923  
 19141 % U+2924 NORTH EAST ARROW WITH HOOK; \rhooknearrow (MnSymbol)  
 19142 \DeclareTextCommand{\textrhooknearrow}{PU}{\051\044}%\* U+2924  
 19143 % U+2925 SOUTH EAST ARROW WITH HOOK; \lhooksearrow (MnSymbol)  
 19144 \DeclareTextCommand{\textlhooksearrow}{PU}{\051\045}%\* U+2925  
 19145 % U+2926 SOUTH WEST ARROW WITH HOOK; \rhookswarrow (MnSymbol)  
 19146 \DeclareTextCommand{\textrhookswarrow}{PU}{\051\046}%\* U+2926  
 19147 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;  
 19148 % \rcurvearrowne (MnSymbol)  
 19149 \DeclareTextCommand{\textrcurvearrowne}{PU}{\051\064}%\* U+2934  
 19150 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWNWARDS;  
 19151 % \lcurvearrowse (MnSymbol)  
 19152 \DeclareTextCommand{\textlcurvearrowse}{PU}{\051\065}%\* U+2935  
 19153 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFTWARDS;  
 19154 % \lcurvearrowsw (MnSymbol)  
 19155 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\051\066}%\* U+2936  
 19156 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHTWARDS;  
 19157 % \rcurvearrowse (MnSymbol)  
 19158 \DeclareTextCommand{\textrcurvearrowse}{PU}{\051\067}%\* U+2937  
 19159 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (MnSymbol)  
 19160 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\051\070}%\* U+2938  
 19161 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;  
 19162 % \rcurvearrowdown (MnSymbol)  
 19163 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\051\071}%\* U+2939  
 19164 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSymbol)  
 19165 \DeclareTextCommand{\textrcurvearrowleft}{PU}{\051\072}%\* U+293A  
 19166 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;  
 19167 % \rcurvearrowright (MnSymbol)  
 19168 \DeclareTextCommand{\textrcurvearrowright}{PU}{\051\073}%\* U+293B  
 19169 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \lefttrightharpoon (mathabx)  
 19170 \DeclareTextCommand{\textlefttrightharpoon}{PU}{\051\112}%\* U+294A  
 19171 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightleftharpoon (mathabx)  
 19172 \DeclareTextCommand{\textrightleftharpoon}{PU}{\051\113}%\* U+294B  
 19173 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;  
 19174 % \updownharpoonrightleft (MnSymbol)  
 19175 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\051\114}%\* U+294C  
 19176 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;  
 19177 % \updownharpoonleftright (MnSymbol)

19178 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\051\115}%\* U+294D  
 19179 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS  
 19180 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)  
 19181 \DeclareTextCommand{\textleftleftharpoons}{PU}{\051\142}%\* U+2962  
 19182 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS  
 19183 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)  
 19184 \DeclareTextCommand{\textupupharpoons}{PU}{\051\143}%\* U+2963  
 19185 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHT-  
 WARDS HARPOON  
 19186 % WITH BARB DOWN; \rightrightarpoons (mathabx)  
 19187 \DeclareTextCommand{\textrightarpoons}{PU}{\051\144}%\* U+2964  
 19188 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWN-  
 WARDS HARPOON  
 19189 % WITH BARB RIGHT; \downdownharpoons (mathabx)  
 19190 \DeclareTextCommand{\textdowndownharpoons}{PU}{\051\145}%\* U+2965  
 19191 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;  
 19192 % \leftbarharpoon (mathabx)  
 19193 \DeclareTextCommand{\textleftbarharpoon}{PU}{\051\152}%\* U+296A  
 19194 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW  
 19195 % LONG DASH; \barleftharpoon (mathabx)  
 19196 \DeclareTextCommand{\textbarleftharpoon}{PU}{\051\153}%\* U+296B  
 19197 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE  
 19198 % LONG DASH; \rightbarharpoon (mathabx)  
 19199 \DeclareTextCommand{\textrightbarharpoon}{PU}{\051\154}%\* U+296C  
 19200 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW  
 19201 % LONG DASH; \barrightharpoon (mathabx)  
 19202 \DeclareTextCommand{\textbarrightharpoon}{PU}{\051\155}%\* U+296D  
 19203 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWN-  
 WARDS HARPOON  
 19204 % WITH BARB RIGHT; \updownharpoons (mathabx)  
 19205 \DeclareTextCommand{\textupdownharpoons}{PU}{\051\156}%\* U+296E  
 19206 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UP-  
 WARDS HARPOON  
 19207 % WITH BARB RIGHT; \downupharpoons (mathabx)  
 19208 \DeclareTextCommand{\textdownupharpoons}{PU}{\051\157}%\* U+296F

### 51.2.33 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

19209 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)  
 19210 \DeclareTextCommand{\textobar}{PU}{\9051\266}%\* U+29B6  
 19211 %\* \textobar -> \textvarobar (stmaryrd)  
 19212 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)  
 19213 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%\* U+29B8  
 19214 %\* \textobslash -> \circledbslash (txfonts/pxfonts)  
 19215 %\* \textobslash -> \obackslash (mathabx)  
 19216 %\* \textobslash -> \varobslash (stmaryrd)  
 19217 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF  
 19218 % DIVIDED BY VERTICAL BAR; \obot (mathabx)  
 19219 \DeclareTextCommand{\textobot}{PU}{\9051\272}%\* U+29BA  
 19220 %\* \textobot -> \odplus (ulsy)  
 19221 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)  
 19222 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%\* U+29C0  
 19223 %\* \textolessthan -> \varolessthan (stmaryrd)  
 19224 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)  
 19225 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%\* U+29C1  
 19226 %\* \textogreaterthan -> \varogreaterthan (stmaryrd)  
 19227 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)  
 19228 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%\* U+29C4

19229 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)  
 19230 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%\* U+29C5  
 19231 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)  
 19232 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%\* U+29C6  
 19233 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)  
 19234 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%\* U+29C7  
 19235 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)  
 19236 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%\* U+29C8  
 19237 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)  
 19238 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%\* U+29DF  
 19239 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)  
 19240 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%\* U+29E2

### 51.2.34 Supplemental Mathematical Operators: U+2A00 to U+2AFF

19241 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)  
 19242 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%\* U+2A04  
 19243 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)  
 19244 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%\* U+2A07  
 19245 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)  
 19246 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%\* U+2A08  
 19247 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,  
 19248 % pxfonts, wasysym)  
 19249 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%\* U+2A1D  
 19250 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)  
 19251 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%\* U+2A22  
 19252 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)  
 19253 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%\* U+2A2A  
 19254 %\* \textminusdot -> \divdot (mathabx)  
 19255 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dotimes (math-  
 19256 % abx)  
 19256 \DeclareTextCommand{\textdotimes}{PU}{\9052\060}%\* U+2A30  
 19257 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;  
 19258 % \dtimes (mathdesign)  
 19259 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%\* U+2A32  
 19260 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)  
 19261 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%\* U+2A38  
 19262 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)  
 19263 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%\* U+2A3C  
 19264 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)  
 19265 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%\* U+2A4E  
 19266 %\* \textsqdoublecap -> \doublesqcap (MnSymbol)  
 19267 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)  
 19268 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%\* U+2A40  
 19269 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)  
 19270 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%\* U+2A4F  
 19271 %\* \textsqdoublecup -> \doublesqcup (MnSymbol)  
 19272 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)  
 19273 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%\* U+2A55  
 19274 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)  
 19275 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%\* U+2A56  
 19276 %\* \textdoublevee -> \merge (stmaryrd)  
 19277 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;  
 19278 % \doublebarwedge (AmS)  
 19279 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%\* U+2A5E  
 19280 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;  
 19281 % \veedoublebar (mahtabx)  
 19282 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%\* U+2A63



19283 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)  
 19284 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%\* U+2A66  
 19285 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)  
 19286 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%\* U+2A74  
 19287 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)  
 19288 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%\* U+2A7D  
 19289 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)  
 19290 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%\* U+2A7E  
 19291 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)  
 19292 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%\* U+2A85  
 19293 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)  
 19294 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%\* U+2A86  
 19295 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)  
 19296 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%\* U+2A87  
 19297 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;  
 19298 % \gneq (AmS)  
 19299 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%\* U+2A88  
 19300 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)  
 19301 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%\* U+2A89  
 19302 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)  
 19303 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%\* U+2A8A  
 19304 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-THAN;  
 19305 % \lesseqqgtr (AmS)  
 19306 \DeclareTextCommand{\textlesseqqgtr}{PU}{\9052\213}%\* U+2A8B  
 19307 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-THAN;  
 19308 % \gtreqqless (AmS)  
 19309 \DeclareTextCommand{\textgtreqqless}{PU}{\9052\214}%\* U+2A8C  
 19310 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)  
 19311 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%\* U+2A95  
 19312 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)  
 19313 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%\* U+2A96  
 19314 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)  
 19315 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%\* U+2AA6  
 19316 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)  
 19317 \DeclareTextCommand{\textright slice}{PU}{\9052\247}%\* U+2AA7  
 19318 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-  
 Symbol)  
 19319 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%\* U+2AAF  
 19320 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-  
 Symbol)  
 19321 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%\* U+2AB0  
 19322 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \precneq  
 (mathabx)  
 19323 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%\* U+2AB1  
 19324 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succneq  
 (mathabx)  
 19325 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%\* U+2AB2  
 19326 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)  
 19327 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%\* U+2AB3  
 19328 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)  
 19329 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%\* U+2AB4  
 19330 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)  
 19331 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%\* U+2AB5  
 19332 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)  
 19333 \DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%\* U+2AB6  
 19334 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)  
 19335 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%\* U+2AB7

19336 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)  
 19337 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}% U+2AB8  
 19338 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnap-  
 prox (AmS)  
 19339 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}% U+2AB9  
 19340 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnap-  
 prox (AmS)  
 19341 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}% U+2ABA  
 19342 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)  
 19343 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}% U+2AC5  
 19344 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)  
 19345 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}% U+2AC6  
 19346 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE  
 19347 \DeclareTextCommand{\textdashV}{PU}{\9052\343}% U+2AE3  
 19348 %\* \textdashV -> \leftVdash (MnSymbol)  
 19349 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)  
 19350 \DeclareTextCommand{\textDashv}{PU}{\9052\344}% U+2AE4  
 19351 %\* \textDashv -> \leftmodels (MnSymbol)  
 19352 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;  
 19353 % \DashV (mathabx)  
 19354 \DeclareTextCommand{\textDashV}{PU}{\9052\345}% U+2AE5  
 19355 %\* \textDashV -> \leftModels (MnSymbol)  
 19356 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)  
 19357 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}% U+2AEA  
 19358 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)  
 19359 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}% U+2AEB  
 19360 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)  
 19361 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}% U+2AEF  
 19362 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;  
 19363 % \interleave (stmaryrd)  
 19364 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}% U+2AF4  
 19365 % U+2AFD DOUBLE SOLIDUS OPERATOR; \slash (stmaryrd)  
 19366 \DeclareTextCommand{\textslash}{PU}{\9052\375}% U+2AFD  
 19367 %\* \textslash -> \varparallel (txfonts\pxfonts)

### 51.2.35 Latin Extended-C: U+2C60 to U+2C7F

19368 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J  
 19369 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}% U+2C7C

### 51.2.36 Supplemental Punctuation: U+2E00 to U+2E7F

19370 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)  
 19371 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}% U+2E13  
 19372 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)  
 19373 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18  
 19374 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)  
 19375 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}% U+2E2D

### 51.2.37 Modifier Tone Letters: U+A700 to U+A71F

19376 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)  
 19377 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B  
 19378 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;  
 19379 % \textdownstep (tipa)  
 19380 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

### 51.2.38 Latin Extended-D: U+A720 to U+A7FF

19381 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)  
 19382 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727

19383 %\* \textPUheng -> \textheng (tipx)  
 19384 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)  
 19385 \DeclareTextCommand{\textPULhookfour}{PU}{\9247\054}% U+A72C  
 19386 %\* \textPULhookfour -> \textlhookfour (tipx)  
 19387 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)  
 19388 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730  
 19389 %\* \textPUscf -> \textscf (tipx)  
 19390 % U+A735 LATIN SMALL LETTER AO; \textao lig (tipx)  
 19391 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735  
 19392 %\* \textPUaolig -> \textao lig (tipx)  
 19393 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)  
 19394 \DeclareTextCommand{\textoo}{PU}{\9247\117}%\* U+A74F  
 19395 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT  
 19396 \DeclareTextCommand{\textcircumlow}{PU}{\9247\210}% U+A788

### 51.2.39 Alphabetic Presentation Forms: U+FB00 to U+FB4F

19397 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 19398 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 19399 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 19400 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 51.2.40 Musical Symbols: U+1D100 to U+1D1FF

19401 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)  
 19402 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%\* U+1D13B  
 19403 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)  
 19404 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%\* U+1D13C  
 19405 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)  
 19406 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%\* U+1D13D  
 19407 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)  
 19408 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%\* U+1D13E  
 19409 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)  
 19410 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%\* U+1D13F  
 19411 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)  
 19412 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%\* U+1D140  
 19413 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)  
 19414 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%\* U+1D15D  
 19415 %\* \textfullnote -> \Ganz (harmony)  
 19416 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)  
 19417 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%\* U+1D15E  
 19418 %\* \texthalfnote -> \Halb (harmony)  
 19419 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)  
 19420 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%\* U+1D15F  
 19421 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)  
 19422 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%\* U+1D160  
 19423 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)  
 19424 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%\* U+1D161  
 19425 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)  
 19426 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%\* U+1D162

### 51.2.41 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

19427 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)  
 19428 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%\* U+1F30D  
 19429 % U+1F469 WOMAN; \Womanface (marvosym)  
 19430 \DeclareTextCommand{\textWomanface}{PU}{\9330\075\9334\151}%\* U+1F469  
 19431 % U+1F525 FIRE; \Fire (ifsym)  
 19432 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%\* U+1F525

### 51.2.42 Transport and Map Symbols: U+1F680 to U+1F6FF

```
19433 % U+1F6B2 BICYCLE; \Bicycle (marvosym)
19434 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%* U+1F6B2
19435 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)
19436 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%* U+1F6B9
19437 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)
19438 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%* U+1F6BA
```

### 51.2.43 Miscellaneous

```
19439 \DeclareTextCommand{\SS}{PU}{SS}
19440 % \textcopyleft (textcomp)
19441 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD
19442 % \ccnc (ccllicenses)
19443 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%* U+0024 U+20E0
19444 % \ccnd (ccllicenses)
19445 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%* U+003D U+20DD
19446 % \ccsa (ccllicenses)
19447 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%* U+27F2 U+20DD
19448 % \CircledA (marvosym)
19449 \DeclareTextCommand{\textCircledA}{PU}{A\9040\335}%* U+0041 U+20DD
19450 % \Info (marvosym, china2e)
19451 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\940\336}%* U+1D422 U+20DE
```

### 51.2.44 Aliases

Aliases (german.sty)

```
19452 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
19453 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
19454 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
19455 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
19456 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
19457 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
19458 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
19459 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}
```

Aliases (math names)

```
19460 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
19461 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
19462 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*
19463 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
19464 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
19465 </puenc>
```

## 51.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```
19466 <*puvnenc>
19467 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
19468 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
19469 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
19470 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
19471 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
19472 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
19473 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
19474 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
19475 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
```

19476 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4  
19477 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0  
19478 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF  
  
19479 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
19480 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1  
19481 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0  
19482 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3  
19483 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
19484 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF  
19485 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7  
19486 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}% U+1EB1  
19487 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3  
19488 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5  
19489 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5  
19490 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD  
19491 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}% U+1EA7  
19492 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9  
19493 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB  
19494 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
19495 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
19496 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8  
19497 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB  
19498 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
19499 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF  
19500 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7  
19501 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}% U+1EC1  
19502 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3  
19503 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5  
19504 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
19505 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
19506 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
19507 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9  
19508 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
19509 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
19510 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
19511 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
19512 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF  
19513 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
19514 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1  
19515 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9  
19516 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}% U+1ED3  
19517 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5  
19518 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7  
19519 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB  
19520 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3  
19521 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}% U+1EDD  
19522 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF  
19523 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1  
19524 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
19525 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
19526 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
19527 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7  
19528 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
19529 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9  
19530 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1  
19531 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}% U+1EEB  
19532 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED

19533 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF  
19534 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
19535 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
19536 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
19537 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7  
19538 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9  
19539 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
19540 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
19541 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}% U+00C0  
19542 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2  
19543 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
19544 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE  
19545 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6  
19546 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}% U+1EB0  
19547 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2  
19548 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4  
19549 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4  
19550 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC  
19551 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6  
19552 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8  
19553 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA  
19554 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
19555 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
19556 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}% U+00C8  
19557 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA  
19558 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
19559 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE  
19560 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6  
19561 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0  
19562 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2  
19563 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4  
19564 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
19565 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
19566 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}% U+00CC  
19567 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8  
19568 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
19569 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
19570 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
19571 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}% U+00D2  
19572 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE  
19573 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
19574 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0  
19575 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8  
19576 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2  
19577 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4  
19578 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6  
19579 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA  
19580 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2  
19581 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}% U+1EDC  
19582 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE  
19583 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0  
19584 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
19585 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
19586 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9  
19587 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6  
19588 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
19589 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8

```

19590 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0
19591 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}% U+1EEA
19592 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
19593 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
19594 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
19595 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
19596 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2
19597 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
19598 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
19599 </p>

```

## 51.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

19600 (*puarenc)

19601 % U+0621;afii57409;ARABIC LETTER HAMZA
19602 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
19603 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
19604 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
19605 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
19606 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
19607 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
19608 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
19609 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
19610 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625
19611 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
19612 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626
19613 % U+0627;afii57415;ARABIC LETTER ALEF
19614 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627
19615 % U+0628;afii57416;ARABIC LETTER BEH
19616 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628
19617 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA
19618 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629
19619 % U+062A;afii57418;ARABIC LETTER TEH
19620 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A
19621 % U+062B;afii57419;ARABIC LETTER THEH
19622 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B
19623 % U+062C;afii57420;ARABIC LETTER JEEM
19624 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C
19625 % U+062D;afii57421;ARABIC LETTER HAH
19626 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D
19627 % U+062E;afii57422;ARABIC LETTER KHAH
19628 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E
19629 % U+062F;afii57423;ARABIC LETTER DAL
19630 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F
19631 % U+0630;afii57424;ARABIC LETTER THAL
19632 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630
19633 % U+0631;afii57425;ARABIC LETTER REH
19634 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631
19635 % U+0632;afii57426;ARABIC LETTER ZAIN
19636 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632
19637 % U+0633;afii57427;ARABIC LETTER SEEN
19638 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633
19639 % U+0634;afii57428;ARABIC LETTER SHEEN
19640 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634
19641 % U+0635;afii57429;ARABIC LETTER SAD

```

19642 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635  
 19643 % U+0636;afii57430;ARABIC LETTER DAD  
 19644 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636  
 19645 % U+0637;afii57431;ARABIC LETTER TAH  
 19646 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637  
 19647 % U+0638;afii57432;ARABIC LETTER ZAH  
 19648 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638  
 19649 % U+0639;afii57433;ARABIC LETTER AIN  
 19650 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639  
 19651 % U+063A;afii57434;ARABIC LETTER GHAIN  
 19652 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A  
 19653 % U+0640;afii57440;ARABIC TATWEEL  
 19654 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640  
 19655 % U+0641;afii57441;ARABIC LETTER FEH  
 19656 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641  
 19657 % U+0642;afii57442;ARABIC LETTER QAF  
 19658 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642  
 19659 % U+0643;afii57443;ARABIC LETTER KAF  
 19660 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643  
 19661 % U+0644;afii57444;ARABIC LETTER LAM  
 19662 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644  
 19663 % U+0645;afii57445;ARABIC LETTER MEEM  
 19664 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645  
 19665 % U+0646;afii57446;ARABIC LETTER NOON  
 19666 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646  
 19667 % U+0647;afii57470;ARABIC LETTER HEH  
 19668 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647  
 19669 % U+0648;afii57448;ARABIC LETTER WAW  
 19670 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648  
 19671 % U+0649;afii57449;ARABIC LETTER ALEF MAKSURA  
 19672 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649  
 19673 % U+064A;afii57450;ARABIC LETTER YEH  
 19674 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A  
  
 19675 % U+064B;afii57451;ARABIC FATHATAN  
 19676 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B  
 19677 % U+064C;afii57452;ARABIC DAMMATAN  
 19678 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C  
 19679 % U+064D;afii57453;ARABIC KASRATAN  
 19680 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D  
 19681 % U+064E;afii57454;ARABIC FATHA  
 19682 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E  
 19683 % U+064F;afii57455;ARABIC DAMMA  
 19684 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F  
 19685 % U+0650;afii57456;ARABIC KASRA  
 19686 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650  
 19687 % U+0651;afii57457;ARABIC SHADDA  
 19688 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651  
 19689 % U+0652;afii57458;ARABIC SUKUN  
 19690 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652  
  
 Farsi  
 19691 % U+067E ARABIC LETTER PEH; afii57506  
 19692 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E  
 19693 % U+0686 ARABIC LETTER TCHEH; afii57507  
 19694 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686  
 19695 % U+0698 ARABIC LETTER JEH; afii57508  
 19696 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698



19697 % U+06A9 ARABIC LETTER KEHEH  
 19698 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9  
 19699 % U+06AF ARABIC LETTER GAF; afi57509  
 19700 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF  
 19701 % U+06CC ARABIC LETTER FARSI YEH  
 19702 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC  
  
 19703 % U+200C ZERO WIDTH NON-JOINER; afi61664  
 19704 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% U+200C  
 19705 % U+200D ZERO WIDTH JOINER; afi301  
 19706 \DeclareTextCommand{\noboundary}{PU}{\9040\015}% U+200D  
  
 19707 </puarenc>  
 19708 <\*psdextra>  
 19709 \Hy@VersionCheck{psdextra.def}  
 19710 \newcommand\*{\psdmapshortnames}{%  
 19711 \let\copyright\textcopyright  
 19712 \let\twosuperior\texttwosuperior  
 19713 \let\threesuperior\textthreesuperior  
 19714 \let\onesuperior\textonesuperior  
 19715 \let\Thorn\textThorn  
 19716 \let\thorn\textthorn  
 19717 \let\hbar\texthbar  
 19718 \let\hausasB\texthausasB  
 19719 \let\hausasD\texthausasD  
 19720 \let\hausasK\texthausasK  
 19721 \let\barl\textbarl  
 19722 \let\inve\textinve  
 19723 \let\slashc\textslashc  
 19724 \let\scripta\textscripta  
 19725 \let\openo\textopeno  
 19726 \let\rtaild\textrtaild  
 19727 \let\reve\textreve  
 19728 \let\schwa\textschwa  
 19729 \let\niepsilon\textniepsilon  
 19730 \let\reveysilon\textreveysilon  
 19731 \let\rhookreveysilon\texthookreveysilon  
 19732 \let\scriptg\textscriptg  
 19733 \let\scg\textscg  
 19734 \let\ipagamma\textipagamma  
 19735 \let\babygamma\textbabygamma  
 19736 \let\bari\textbari  
 19737 \let\niiota\textniiota  
 19738 \let\sci\textsci  
 19739 \let\scn\textscn  
 19740 \let\baro\textbaro  
 19741 \let\niphi\textniphi  
 19742 \let\longleggr\textlongleggr  
 19743 \let\scr\textscr  
 19744 \let\invscr\textinvscr  
 19745 \let\esh\textesh  
 19746 \let\baru\textbaru  
 19747 \let\niupsilon\textniupsilon  
 19748 \let\scriptv\textscriptv  
 19749 \let\turnv\textturnv  
 19750 \let\turnw\textturnw  
 19751 \let\turny\textturny  
 19752 \let\scy\textscy

19753 \let\yogh\textyogh  
 19754 \let\glotstop\textglotstop  
 19755 \let\revglotstop\textrevglotstop  
 19756 \let\invglotstop\textinvglotstop  
 19757 \let\Gamma\textGamma  
 19758 \let\Delta\textDelta  
 19759 \let\Theta\textTheta  
 19760 \let\Lambda\textLambda  
 19761 \let\Xi\textXi  
 19762 \let\Pi\textPi  
 19763 \let\Sigma\textSigma  
 19764 \let\Upsilon\textUpsilon  
 19765 \let\Phi\textPhi  
 19766 \let\Psi\textPsi  
 19767 \let\Omega\textOmega  
 19768 \let\alpha\textalpha  
 19769 \let\beta\textbeta  
 19770 \let\gamma\textgamma  
 19771 \let\delta\textdelta  
 19772 \let\epsilon\textepsilon  
 19773 \let\zeta\textzeta  
 19774 \let\eta\texteta  
 19775 \let\theta\texttheta  
 19776 \let\iota\textiota  
 19777 \let\kappa\textkappa  
 19778 \let\lambda\textlambda  
 19779 \let\mugreek\textmugreek  
 19780 \let\nu\textnu  
 19781 \let\xi\textxi  
 19782 \let\pi\textpi  
 19783 \let\rho\rho  
 19784 \let\varsigma\textvarsigma  
 19785 \let\sigma\textsigma  
 19786 \let\tau\texttau  
 19787 \let\upsilon\textupsilon  
 19788 \let\phi\textphi  
 19789 \let\chi\textchi  
 19790 \let\psi\textpsi  
 19791 \let\omega\textomega  
 19792 \let\scd\textscd  
 19793 \let\scu\textscu  
 19794 \let\iinferior\textiinferior  
 19795 \let\rinferior\extrinferior  
 19796 \let\uiinferior\textuiinferior  
 19797 \let\vinferior\textvinferior  
 19798 \let\betainferior\textbetainferior  
 19799 \let\gammainferior\textgammainferior  
 19800 \let\rhoinferior\extrhoinferior  
 19801 \let\phiinferior\textphiinferior  
 19802 \let\chiinferior\textchiinferior  
 19803 \let\barsci\textbarsci  
 19804 \let\barp\textbarp  
 19805 \let\barscu\textbarscu  
 19806 \let\htrtaild\texthtrtaild  
 19807 \let\dagger\textdagger  
 19808 \let\bullet\textbullet  
 19809 \let\hdotfor\texthdotfor

19810  $\backslash\text{let}\backslash\text{prime}\backslash\text{textprime}$   
 19811  $\backslash\text{let}\backslash\text{second}\backslash\text{textsecond}$   
 19812  $\backslash\text{let}\backslash\text{third}\backslash\text{textthird}$   
 19813  $\backslash\text{let}\backslash\text{backprime}\backslash\text{textbackprime}$   
 19814  $\backslash\text{let}\backslash\text{lefttherefore}\backslash\text{textlefttherefore}$   
 19815  $\backslash\text{let}\backslash\text{fourth}\backslash\text{textfourth}$   
 19816  $\backslash\text{let}\backslash\text{diamonddots}\backslash\text{textdiamonddots}$   
 19817  $\backslash\text{let}\backslash\text{zerosuperior}\backslash\text{textzerosuperior}$   
 19818  $\backslash\text{let}\backslash\text{isuperior}\backslash\text{textisuperior}$   
 19819  $\backslash\text{let}\backslash\text{foursuperior}\backslash\text{textfoursuperior}$   
 19820  $\backslash\text{let}\backslash\text{fivesuperior}\backslash\text{textfivesuperior}$   
 19821  $\backslash\text{let}\backslash\text{sixsuperior}\backslash\text{textsixsuperior}$   
 19822  $\backslash\text{let}\backslash\text{sevensuperior}\backslash\text{textsevensuperior}$   
 19823  $\backslash\text{let}\backslash\text{eightsuperior}\backslash\text{texteightsuperior}$   
 19824  $\backslash\text{let}\backslash\text{ninesuperior}\backslash\text{textninesuperior}$   
 19825  $\backslash\text{let}\backslash\text{plussuperior}\backslash\text{textplussuperior}$   
 19826  $\backslash\text{let}\backslash\text{minussuperior}\backslash\text{textminussuperior}$   
 19827  $\backslash\text{let}\backslash\text{equalsuperior}\backslash\text{tequalsuperior}$   
 19828  $\backslash\text{let}\backslash\text{parenleftsuperior}\backslash\text{textparenleftsuperior}$   
 19829  $\backslash\text{let}\backslash\text{parenrightsuperior}\backslash\text{textparenrightsuperior}$   
 19830  $\backslash\text{let}\backslash\text{nsuperior}\backslash\text{textnsuperior}$   
 19831  $\backslash\text{let}\backslash\text{zeroinferior}\backslash\text{textzeroinferior}$   
 19832  $\backslash\text{let}\backslash\text{oneinferior}\backslash\text{textoneinferior}$   
 19833  $\backslash\text{let}\backslash\text{twoinferior}\backslash\text{texttwoinferior}$   
 19834  $\backslash\text{let}\backslash\text{threeinferior}\backslash\text{textthreeinferior}$   
 19835  $\backslash\text{let}\backslash\text{fourinferior}\backslash\text{textfourinferior}$   
 19836  $\backslash\text{let}\backslash\text{fiveinferior}\backslash\text{textfiveinferior}$   
 19837  $\backslash\text{let}\backslash\text{sixinferior}\backslash\text{textsixinferior}$   
 19838  $\backslash\text{let}\backslash\text{seveninferior}\backslash\text{textseveninferior}$   
 19839  $\backslash\text{let}\backslash\text{eightinferior}\backslash\text{teightinferior}$   
 19840  $\backslash\text{let}\backslash\text{nineinferior}\backslash\text{textnineinferior}$   
 19841  $\backslash\text{let}\backslash\text{plusinferior}\backslash\text{textplusinferior}$   
 19842  $\backslash\text{let}\backslash\text{minusinferior}\backslash\text{textminusinferior}$   
 19843  $\backslash\text{let}\backslash\text{equalsinferior}\backslash\text{tequalsinferior}$   
 19844  $\backslash\text{let}\backslash\text{parenleftinferior}\backslash\text{textparenleftinferior}$   
 19845  $\backslash\text{let}\backslash\text{parenrightinferior}\backslash\text{textparenrightinferior}$   
 19846  $\backslash\text{let}\backslash\text{ainferior}\backslash\text{textainferior}$   
 19847  $\backslash\text{let}\backslash\text{einferior}\backslash\text{texteinferior}$   
 19848  $\backslash\text{let}\backslash\text{oinferior}\backslash\text{textoinferior}$   
 19849  $\backslash\text{let}\backslash\text{xinferior}\backslash\text{textxinferior}$   
 19850  $\backslash\text{let}\backslash\text{schwainferior}\backslash\text{textschwainferior}$   
 19851  $\backslash\text{let}\backslash\text{hinferior}\backslash\text{texthinferior}$   
 19852  $\backslash\text{let}\backslash\text{kinferior}\backslash\text{textkinferior}$   
 19853  $\backslash\text{let}\backslash\text{linferior}\backslash\text{textlinferior}$   
 19854  $\backslash\text{let}\backslash\text{mininferior}\backslash\text{textmininferior}$   
 19855  $\backslash\text{let}\backslash\text{ninferior}\backslash\text{textninferior}$   
 19856  $\backslash\text{let}\backslash\text{pinferior}\backslash\text{textpinferior}$   
 19857  $\backslash\text{let}\backslash\text{sinferior}\backslash\text{textsinferior}$   
 19858  $\backslash\text{let}\backslash\text{tinferior}\backslash\text{texttinferior}$   
 19859  $\backslash\text{let}\backslash\text{hslash}\backslash\text{texthslash}$   
 19860  $\backslash\text{let}\backslash\text{Im}\backslash\text{textIm}$   
 19861  $\backslash\text{let}\backslash\text{ell}\backslash\text{textell}$   
 19862  $\backslash\text{let}\backslash\text{wp}\backslash\text{textwp}$   
 19863  $\backslash\text{let}\backslash\text{Re}\backslash\text{textRe}$   
 19864  $\backslash\text{let}\backslash\text{mho}\backslash\text{textmho}$   
 19865  $\backslash\text{let}\backslash\text{riota}\backslash\text{textriota}$   
 19866  $\backslash\text{let}\backslash\text{Finv}\backslash\text{textFinv}$

19867 \let\aleph\textaleph  
 19868 \let\beth\textbeth  
 19869 \let\gimel\textgimel  
 19870 \let\daleth\textdaleth  
 19871 \let\xfax\textfax  
 19872 \let\Game\textGame  
 19873 \let\leftarrow\textleftarrow  
 19874 \let\uparrow\textuparrow  
 19875 \let\rightarrow\textrightarrow  
 19876 \let\downarrow\textdownarrow  
 19877 \let\leftrightarrow\textleftrightarrow  
 19878 \let\updownarrow\textupdownarrow  
 19879 \let\nwarrow\textnwarrow  
 19880 \let\nearrow\textnearrow  
 19881 \let\searrow\textsearrow  
 19882 \let\swarrow\textswarrow  
 19883 \let\nleftarrow\textnleftarrow  
 19884 \let\nrightarrow\textnrightarrow  
 19885 \let\twoheadleftarrow\texttwoheadleftarrow  
 19886 \let\twoheaduparrow\texttwoheaduparrow  
 19887 \let\twoheadrightarrow\texttwoheadrightarrow  
 19888 \let\twoheaddownarrow\texttwoheaddownarrow  
 19889 \let\leftarrowtail\textleftarrowtail  
 19890 \let\rightarrowtail\textrightarrowtail  
 19891 \let\mapsto\textmapsto  
 19892 \let\hookleftarrow\texthookleftarrow  
 19893 \let\hookrightarrow\texthookrightarrow  
 19894 \let\looparrowleft\textlooparrowleft  
 19895 \let\looparrowright\textlooparrowright  
 19896 \let\nleftrightarrow\textnleftrightarrow  
 19897 \let\lightning\textlightning  
 19898 \let\dlsh\textdlsh  
 19899 \let\curvearrowleft\textcurvearrowleft  
 19900 \let\curvearrowright\textcurvearrowright  
 19901 \let\leftharpoonup\textleftharpoonup  
 19902 \let\leftharpoondown\textleftharpoondown  
 19903 \let\upharpoonright\textupharpoonright  
 19904 \let\upharpoonleft\textupharpoonleft  
 19905 \let\rightharpoonup\textrightharpoonup  
 19906 \let\rightharpoondown\textrightharpoondown  
 19907 \let\downharpoonright\textdownharpoonright  
 19908 \let\downharpoonleft\textdownharpoonleft  
 19909 \let\rightleftarrows\textrightleftarrows  
 19910 \let\updownarrows\textupdownarrows  
 19911 \let\leftrightarrows\textleftrightarrows  
 19912 \let\leftleftarrows\textleftleftarrows  
 19913 \let\upuparrows\textupuparrows  
 19914 \let\righttrightarrows\textrighttrightarrows  
 19915 \let\downdownarrows\textdowndownarrows  
 19916 \let\leftrightharpoons\textleftrightharpoons  
 19917 \let\rightleftharpoons\textrightleftharpoons  
 19918 \let\nLeftarrow\textnLeftarrow  
 19919 \let\nLeftrightarrow\textnLeftrightarrow  
 19920 \let\nRightarrow\textnRightarrow  
 19921 \let\Leftarrow\textLeftarrow  
 19922 \let\Uparrow\textUparrow  
 19923 \let\Rightarrow\textRightarrow

19924  $\Downarrow$   
 19925  $\Leftrightarrow$   
 19926  $\Uparrow$   
 19927  $\Nrightarrow$   
 19928  $\Nearrow$   
 19929  $\Srightarrow$   
 19930  $\Svarrow$   
 19931  $\Lleftarrow$   
 19932  $\Rrightarrow$   
 19933  $\leftrightsquigarrow$   
 19934  $\rightleftarrows$   
 19935  $\dashleftarrow$   
 19936  $\dasheduparrow$   
 19937  $\dashrightarrow$   
 19938  $\dashedownarrow$   
 19939  $\Downarrows$   
 19940  $\forall$   
 19941  $\complement$   
 19942  $\partial$   
 19943  $\exists$   
 19944  $\nexists$   
 19945  $\emptyset$   
 19946  $\triangle$   
 19947  $\nabla$   
 19948  $\in$   
 19949  $\notin$   
 19950  $\smallin$   
 19951  $\ni$   
 19952  $\notown$   
 19953  $\smallown$   
 19954  $\prod$   
 19955  $\amalg$   
 19956  $\sum$   
 19957  $\mp$   
 19958  $\dotplus$   
 19959  $\setminus$   
 19960  $\ast$   
 19961  $\circ$   
 19962  $\surd$   
 19963  $\propto$   
 19964  $\infty$   
 19965  $\angle$   
 19966  $\measuredangle$   
 19967  $\sphericalangle$   
 19968  $\mid$   
 19969  $\nmid$   
 19970  $\parallel$   
 19971  $\nparallel$   
 19972  $\wedge$   
 19973  $\vee$   
 19974  $\cap$   
 19975  $\cup$   
 19976  $\int$   
 19977  $\iint$   
 19978  $\iiint$   
 19979  $\oint$   
 19980  $\oiint$

19981 \let\ointclockwise\textointclockwise  
 19982 \let\ointctrckwise\textointctrckwise  
 19983 \let\therefore\texttherefore  
 19984 \let\because\textbecause  
 19985 \let\vdotdot\textvdotdot  
 19986 \let\squaredots\textsquaredots  
 19987 \let\dotminus\textdotminus  
 19988 \let\eqcolon\texteqcolon  
 19989 \let\sim\textsim  
 19990 \let\backsim\textbacksim  
 19991 \let\wr\textwr  
 19992 \let\sim\textnsim  
 19993 \let\simeq\textsimeq  
 19994 \let\cong\textcong  
 19995 \let\ncong\textncong  
 19996 \let\approx\textapprox  
 19997 \let\approxeq\textapproxeq  
 19998 \let\triplesim\texttriplesim  
 19999 \let\backcong\textbackcong  
 20000 \let\asympt\textasympt  
 20001 \let\Bumpeq\textBumpeq  
 20002 \let\bumpeq\textbumpeq  
 20003 \let\doteq\textdoteq  
 20004 \let\doteqdot\textdoteqdot  
 20005 \let\fallingdoteq\textfallingdoteq  
 20006 \let\risingdoteq\textrisingdoteq  
 20007 \let\colonequals\textcolonequals  
 20008 \let\equalscolon\textequalscolon  
 20009 \let\eqcirc\texteqcirc  
 20010 \let\circeq\textcirceq  
 20011 \let\hateq\texthateq  
 20012 \let\triangleeq\texttriangleeq  
 20013 \let\neq\textneq  
 20014 \let\ne\textne  
 20015 \let\equiv\textequiv  
 20016 \let\nequiv\textnequiv  
 20017 \let\leq\textleq  
 20018 \let\le\textle  
 20019 \let\geq\textgeq  
 20020 \let\ge\textge  
 20021 \let\leqq\textleqq  
 20022 \let\geqq\textgeqq  
 20023 \let\lneqq\textlneqq  
 20024 \let\gneqq\textgneqq  
 20025 \let\ll\textll  
 20026 \let\gg\textgg  
 20027 \let\between\textbetween  
 20028 \let\nless\textnless  
 20029 \let\ngtr\textngtr  
 20030 \let\nleq\textnleq  
 20031 \let\ngeq\textngeq  
 20032 \let\lesssim\textlessim  
 20033 \let\gtrsim\textgtrsim  
 20034 \let\lessgtr\textlessgtr  
 20035 \let\gtrless\textgtrless  
 20036 \let\prec\textprec  
 20037 \let\succ\textsucc

20038 \let\preccurlyeq\textpreccurlyeq  
 20039 \let\succcurlyeq\textsucccurlyeq  
 20040 \let\precsim\textprecsim  
 20041 \let\succsim\textsuccsim  
 20042 \let\nprec\textnprec  
 20043 \let\nsucc\textnsucc  
 20044 \let\subset\textsubset  
 20045 \let\supset\textsupset  
 20046 \let\subset\textsubset  
 20047 \let\supset\textsupset  
 20048 \let\subseteq\textsubseteq  
 20049 \let\supseteq\textsupseteq  
 20050 \let\subseteq\textsubseteq  
 20051 \let\supseteq\textsupseteq  
 20052 \let\subsetneq\textsubsetneq  
 20053 \let\supsetneq\textsupsetneq  
 20054 \let\cupdot\textcupdot  
 20055 \let\cupplus\textcupplus  
 20056 \let\sqsubset\textsqsubset  
 20057 \let\sqsupset\textsqsupset  
 20058 \let\sqsubseteq\textsqsubseteq  
 20059 \let\sqsupseteq\textsqsupseteq  
 20060 \let\sqcap\textsqcap  
 20061 \let\sqcup\textsqcup  
 20062 \let\oplus\textoplus  
 20063 \let\ominus\textominus  
 20064 \let\otimes\textotimes  
 20065 \let\oslash\textoslash  
 20066 \let\odot\textodot  
 20067 \let\circledcirc\textcircledcirc  
 20068 \let\circledast\textcircledast  
 20069 \let\circleddash\textcircleddash  
 20070 \let\boxplus\textboxplus  
 20071 \let\boxminus\textboxminus  
 20072 \let\boxtimes\textboxtimes  
 20073 \let\boxdot\textboxdot  
 20074 \let\vdash\textvdash  
 20075 \let\dashv\textdashv  
 20076 \let\top\texttop  
 20077 \let\bot\textbot  
 20078 \let\vDash\textvDash  
 20079 \let\Vdash\textVdash  
 20080 \let\Vvdash\textVvdash  
 20081 \let\VDash\textVDash  
 20082 \let\nvdash\textnvdash  
 20083 \let\nvDash\textnvDash  
 20084 \let\NVdash\textNVdash  
 20085 \let\lhd\textlhd  
 20086 \let\rhd\textrhd  
 20087 \let\unlhd\textunlhd  
 20088 \let\unrhd\textunrhd  
 20089 \let\multimapdotbothA\textmultimapdotbothA  
 20090 \let\multimapdotbothB\textmultimapdotbothB  
 20091 \let\multimap\textmultimap  
 20092 \let\veebar\textveebar  
 20093 \let\barwedge\textbarwedge  
 20094 \let\star\textstar

20095 \let\divideontimes\textdivideontimes  
 20096 \let\bowtie\textbowtie  
 20097 \let\ltimes\textltimes  
 20098 \let\rtimes\textrtimes  
 20099 \let\leftthreetimes\textleftthreetimes  
 20100 \let\rightthreetimes\textrightthreetimes  
 20101 \let\backsimeq\textbacksimeq  
 20102 \let\curlyvee\textcurlyvee  
 20103 \let\curlywedge\textcurlywedge  
 20104 \let\Subset\textSubset  
 20105 \let\Supset\textSupset  
 20106 \let\Cap\textCap  
 20107 \let\Cup\textCup  
 20108 \let\pitchfork\textpitchfork  
 20109 \let\lessdot\textlessdot  
 20110 \let\gtrdot\textgtrdot  
 20111 \let\lll\textlll  
 20112 \let\ggg\textggg  
 20113 \let\lesseqgtr\textlesseqgtr  
 20114 \let\gtreqless\textgtreqless  
 20115 \let\curlyeqprec\textcurlyeqprec  
 20116 \let\curlyeqsucc\textcurlyeqsucc  
 20117 \let\npreccurlyeq\textnpreccurlyeq  
 20118 \let\nsucccurlyeq\textnsucccurlyeq  
 20119 \let\nqsubseteq\textnqsubseteq  
 20120 \let\nqsupseteq\textnqsupseteq  
 20121 \let\sqsubsetneq\textsqsubsetneq  
 20122 \let\sqsupsetneq\textsqsupsetneq  
 20123 \let\lnsim\textlnsim  
 20124 \let\gnsim\textgnsim  
 20125 \let\precnsim\textprecnsim  
 20126 \let\succnsim\textsuccnsim  
 20127 \let\ntriangleright\textntriangleright  
 20128 \let\ntrianglerighteq\textntrianglerighteq  
 20129 \let\ntrianglerighteq\textntrianglerighteq  
 20130 \let\vdots\textvdots  
 20131 \let\cdots\textcdots  
 20132 \let\udots\textudots  
 20133 \let\ddots\textddots  
 20134 \let\barin\textbarin  
 20135 \let\diameter\textdiameter  
 20136 \let\backneg\textbackneg  
 20137 \let\invbackneg\textinvbackneg  
 20138 \let\clock\textclock  
 20139 \let\ulcorner\textulcorner  
 20140 \let\urcorner\texturcorner  
 20141 \let\llcorner\textllcorner  
 20142 \let\lrcorner\textlrcorner  
 20143 \let\frown\textfrown  
 20144 \let\smile\textsmile  
 20145 \let\Keyboard\textKeyboard  
 20146 \let\langle\textlangle  
 20147 \let\rangle\textrangle  
 20148 \let\APLinv\textAPLinv  
 20149 \let\notslash\textnotslash  
 20150 \let\notbackslash\textnotbackslash



20152 \let\boxbackslash\textboxbackslash  
 20153 \let\APLleftarrowbox\textAPLleftarrowbox  
 20154 \let\APLrightarrowbox\textAPLrightarrowbox  
 20155 \let\APLuparrowbox\textAPLuparrowbox  
 20156 \let\APLdownarrowbox\textAPLdownarrowbox  
 20157 \let\APLinput\textAPLinput  
 20158 \let\Request\textRequest  
 20159 \let\bbslash\textbbslash  
 20160 \let\bigtriangleup\textbigtriangleup  
 20161 \let\triangleright\texttriangleright  
 20162 \let\bigtriangledown\textbigtriangledown  
 20163 \let\triangleleft\texttriangleleft  
 20164 \let\diamond\textdiamond  
 20165 \let\lozenge\textlozenge  
 20166 \let\openbullet\textopenbullet  
 20167 \let\boxbar\textboxbar  
 20168 \let\bigcircle\textbigcircle  
 20169 \let\Cloud\textCloud  
 20170 \let\FiveStar\textFiveStar  
 20171 \let\FiveStarOpen\textFiveStarOpen  
 20172 \let\Phone\textPhone  
 20173 \let\Checkedbox\textCheckedbox  
 20174 \let\Crossedbox\textCrossedbox  
 20175 \let\Coffeecup\textCoffeecup  
 20176 \let\HandCuffLeft\textHandCuffLeft  
 20177 \let\HandCuffRight\textHandCuffRight  
 20178 \let\HandLeft\textHandLeft  
 20179 \let\HandRight\textHandRight  
 20180 \let\Radioactivity\textRadioactivity  
 20181 \let\Biohazard\textBiohazard  
 20182 \let\Ankh\textAnkh  
 20183 \let\Yinyang\textYinyang  
 20184 \let\frownie\textfrownie  
 20185 \let\smiley\textsmiley  
 20186 \let\blacksmiley\textblacksmiley  
 20187 \let\sun\textsun  
 20188 \let\leftmoon\textleftmoon  
 20189 \let\rightmoon\textrightmoon  
 20190 \let\mercury\textmercury  
 20191 \let\earth\textearth  
 20192 \let\male\textmale  
 20193 \let\jupiter\textjupiter  
 20194 \let\saturn\textsaturn  
 20195 \let\uranus\texturanus  
 20196 \let\neptune\textneptune  
 20197 \let\pluto\textpluto  
 20198 \let\aries\textaries  
 20199 \let\taurus\texttaurus  
 20200 \let\gemini\textgemini  
 20201 \let\cancer\textcancer  
 20202 \let\leo\textleo  
 20203 \let\virgo\textvirgo  
 20204 \let\libra\textlibra  
 20205 \let\scorpio\textscorpio  
 20206 \let\sagittarius\textsagittarius  
 20207 \let\capricorn\textcapricorn  
 20208 \let\aquarius\textaquarius

20209 \let\pisces\textpisces  
 20210 \let\quarternote\textquarternote  
 20211 \let\twonotes\texttwonotes  
 20212 \let\sixteenthnote\textsixteenthnote  
 20213 \let\flat\textflat  
 20214 \let\natural\textnatural  
 20215 \let\sharp\textsharp  
 20216 \let\recycle\textrecycle  
 20217 \let\Wheelchair\textWheelchair  
 20218 \let\Flag\textFlag  
 20219 \let\ds military\textds military  
 20220 \let\ds medical\textds medical  
 20221 \let\ds juridical\textds juridical  
 20222 \let\ds chemical\textds chemical  
 20223 \let\ds biological\textds biological  
 20224 \let\ds commercial\textds commercial  
 20225 \let\manstar\textmanstar  
 20226 \let\danger\textdanger  
 20227 \let\FemaleFemale\textFemaleFemale  
 20228 \let\MaleMale\textMaleMale  
 20229 \let\FemaleMale\textFemaleMale  
 20230 \let\Hermaphrodite\textHermaphrodite  
 20231 \let\SunCload\textSunCload  
 20232 \let\Rain\textRain  
 20233 \let\noway\textnoway  
 20234 \let\Mountain\textMountain  
 20235 \let\Tent\textTent  
 20236 \let\ScissorRight\textScissorRight  
 20237 \let\ScissorRightBrokenTop\textScissorRightBrokenTop  
 20238 \let\ScissorHollowRight\textScissorHollowRight  
 20239 \let\PhoneHandset\textPhoneHandset  
 20240 \let\Tape\textTape  
 20241 \let\Plane\textPlane  
 20242 \let\Envelope\textEnvelope  
 20243 \let\Peace\textPeace  
 20244 \let\Writinghand\textWritinghand  
 20245 \let\PencilRightDown\textPencilRightDown  
 20246 \let\PencilRight\textPencilRight  
 20247 \let\PencilRightUp\textPencilRightUp  
 20248 \let\NibRight\textNibRight  
 20249 \let\NibSolidRight\textNibSolidRight  
 20250 \let\Checkmark\textCheckmark  
 20251 \let\CheckmarkBold\textCheckmarkBold  
 20252 \let\XSolid\textXSolid  
 20253 \let\XSolidBold\textXSolidBold  
 20254 \let\XSolidBrush\textXSolidBrush  
 20255 \let\PlusOutline\textPlusOutline  
 20256 \let\Plus\textPlus  
 20257 \let\PlusThinCenterOpen\textPlusThinCenterOpen  
 20258 \let\PlusCenterOpen\textPlusCenterOpen  
 20259 \let\Cross\textCross  
 20260 \let\CrossOpenShadow\textCrossOpenShadow  
 20261 \let\CrossOutline\textCrossOutline  
 20262 \let\CrossMaltese\textCrossMaltese  
 20263 \let\DavidStar\textDavidStar  
 20264 \let\FourAsterisk\textFourAsterisk  
 20265 \let\JackStar\textJackStar

20266 \let\JackStarBold\textJackStarBold  
 20267 \let\ClowerTips\textClowerTips  
 20268 \let\FourStar\textFourStar  
 20269 \let\FourStarOpen\textFourStarOpen  
 20270 \let\FiveStarOpenCircled\textFiveStarOpenCircled  
 20271 \let\FiveStarCenterOpen\textFiveStarCenterOpen  
 20272 \let\FiveStarOpenDotted\textFiveStarOpenDotted  
 20273 \let\FiveStarOutline\textFiveStarOutline  
 20274 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy  
 20275 \let\FiveStarConvex\textFiveStarConvex  
 20276 \let\FiveStarShadow\textFiveStarShadow  
 20277 \let\AsteriskBold\textAsteriskBold  
 20278 \let\AsteriskCenterOpen\textAsteriskCenterOpen  
 20279 \let\EightStarTaper\textEightStarTaper  
 20280 \let\EightStarConvex\textEightStarConvex  
 20281 \let\SixStar\textSixStar  
 20282 \let\EightStar\textEightStar  
 20283 \let\EightStarBold\textEightStarBold  
 20284 \let\TwelveStar\textTwelveStar  
 20285 \let\SixteenStarLight\textSixteenStarLight  
 20286 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved  
 20287 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter  
 20288 \let\Asterisk\textAsterisk  
 20289 \let\SixFlowerAlternate\textSixFlowerAlternate  
 20290 \let\FiveFlowerPetal\textFiveFlowerPetal  
 20291 \let\FiveFlowerOpen\textFiveFlowerOpen  
 20292 \let\EightFlowerPetal\textEightFlowerPetal  
 20293 \let\SunshineOpenCircled\textSunshineOpenCircled  
 20294 \let\SixFlowerAltPetal\textSixFlowerAltPetal  
 20295 \let\SnowflakeChevron\textSnowflakeChevron  
 20296 \let\Snowflake\textSnowflake  
 20297 \let\SnowflakeChevronBold\textSnowflakeChevronBold  
 20298 \let\Sparkle\textSparkle  
 20299 \let\SparkleBold\textSparkleBold  
 20300 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds  
 20301 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved  
 20302 \let\EightAsterisk\textEightAsterisk  
 20303 \let\CircleShadow\textCircleShadow  
 20304 \let\SquareShadowBottomRight\textSquareShadowBottomRight  
 20305 \let\SquareTopRight\textSquareTopRight  
 20306 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight  
 20307 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight  
 20308 \let\DiamandSolid\textDiamandSolid  
 20309 \let\RectangleThin\textRectangleThin  
 20310 \let\Rectangle\textRectangle  
 20311 \let\RectangleBold\textRectangleBold  
 20312 \let\perp\textperp  
 20313 \let\veedot\textveedot  
 20314 \let\wedgedot\textwedgedot  
 20315 \let\leftspoon\textleftspoon  
 20316 \let\lbrackdbl\textlbrackdbl  
 20317 \let\rbrackdbl\textrbrackdbl  
 20318 \let\circlearrowleft\textcirclearrowleft  
 20319 \let\circlearrowright\textcirclearrowright  
 20320 \let\longleftarrow\textlongleftarrow  
 20321 \let\longrightarrow\textlongrightarrow  
 20322 \let\longleftarrow\textlongleftarrow

20323  $\backslash\mathrm{let}\backslash\mathrm{Longleftarrow}\backslash\mathrm{textLongleftarrow}$   
 20324  $\backslash\mathrm{let}\backslash\mathrm{Longrightarrow}\backslash\mathrm{textLongrightarrow}$   
 20325  $\backslash\mathrm{let}\backslash\mathrm{Longleftrightarrow}\backslash\mathrm{textLongleftrightarrow}$   
 20326  $\backslash\mathrm{let}\backslash\mathrm{longmapsto}\backslash\mathrm{textlongmapsto}$   
 20327  $\backslash\mathrm{let}\backslash\mathrm{Longmapsfrom}\backslash\mathrm{textLongmapsfrom}$   
 20328  $\backslash\mathrm{let}\backslash\mathrm{Longmapsto}\backslash\mathrm{textLongmapsto}$   
 20329  $\backslash\mathrm{let}\backslash\mathrm{nwsearrow}\backslash\mathrm{textnwsearrow}$   
 20330  $\backslash\mathrm{let}\backslash\mathrm{neswarrow}\backslash\mathrm{textneswarrow}$   
 20331  $\backslash\mathrm{let}\backslash\mathrm{hookrightarrow}\backslash\mathrm{texthookrightarrow}$   
 20332  $\backslash\mathrm{let}\backslash\mathrm{hookleftarrow}\backslash\mathrm{texthookleftarrow}$   
 20333  $\backslash\mathrm{let}\backslash\mathrm{hooksearrow}\backslash\mathrm{texthooksearrow}$   
 20334  $\backslash\mathrm{let}\backslash\mathrm{hookswarrow}\backslash\mathrm{texthookswarrow}$   
 20335  $\backslash\mathrm{let}\backslash\mathrm{curvearrowright}\backslash\mathrm{textcurvearrowright}$   
 20336  $\backslash\mathrm{let}\backslash\mathrm{curvearrowleft}\backslash\mathrm{textcurvearrowleft}$   
 20337  $\backslash\mathrm{let}\backslash\mathrm{curvearrowup}\backslash\mathrm{textcurvearrowup}$   
 20338  $\backslash\mathrm{let}\backslash\mathrm{curvearrowdown}\backslash\mathrm{textcurvearrowdown}$   
 20339  $\backslash\mathrm{let}\backslash\mathrm{curvearrowright}\backslash\mathrm{textcurvearrowright}$   
 20340  $\backslash\mathrm{let}\backslash\mathrm{curvearrowleft}\backslash\mathrm{textcurvearrowleft}$   
 20341  $\backslash\mathrm{let}\backslash\mathrm{curvearrowright}\backslash\mathrm{textcurvearrowright}$   
 20342  $\backslash\mathrm{let}\backslash\mathrm{leftrightharpoon}\backslash\mathrm{textleftrightharpoon}$   
 20343  $\backslash\mathrm{let}\backslash\mathrm{rightleftharpoon}\backslash\mathrm{textrightleftharpoon}$   
 20344  $\backslash\mathrm{let}\backslash\mathrm{updownharpoonrightleft}\backslash\mathrm{textupdownharpoonrightleft}$   
 20345  $\backslash\mathrm{let}\backslash\mathrm{updownharpoonleftright}\backslash\mathrm{textupdownharpoonleftright}$   
 20346  $\backslash\mathrm{let}\backslash\mathrm{leftleftharpoons}\backslash\mathrm{textleftleftharpoons}$   
 20347  $\backslash\mathrm{let}\backslash\mathrm{upupharpoons}\backslash\mathrm{textupupharpoons}$   
 20348  $\backslash\mathrm{let}\backslash\mathrm{rightrightarpoons}\backslash\mathrm{textrightarpoons}$   
 20349  $\backslash\mathrm{let}\backslash\mathrm{downdownharpoons}\backslash\mathrm{textdowndownharpoons}$   
 20350  $\backslash\mathrm{let}\backslash\mathrm{leftbarharpoon}\backslash\mathrm{textleftbarharpoon}$   
 20351  $\backslash\mathrm{let}\backslash\mathrm{barleftharpoon}\backslash\mathrm{textbarleftharpoon}$   
 20352  $\backslash\mathrm{let}\backslash\mathrm{rightbarharpoon}\backslash\mathrm{textrightbarharpoon}$   
 20353  $\backslash\mathrm{let}\backslash\mathrm{barriharpoon}\backslash\mathrm{textbarriharpoon}$   
 20354  $\backslash\mathrm{let}\backslash\mathrm{updownharpoons}\backslash\mathrm{textupdownharpoons}$   
 20355  $\backslash\mathrm{let}\backslash\mathrm{downupharpoons}\backslash\mathrm{textdownupharpoons}$   
 20356  $\backslash\mathrm{let}\backslash\mathrm{obar}\backslash\mathrm{textobar}$   
 20357  $\backslash\mathrm{let}\backslash\mathrm{obslash}\backslash\mathrm{textobslash}$   
 20358  $\backslash\mathrm{let}\backslash\mathrm{obot}\backslash\mathrm{textobot}$   
 20359  $\backslash\mathrm{let}\backslash\mathrm{olessthan}\backslash\mathrm{textolessthan}$   
 20360  $\backslash\mathrm{let}\backslash\mathrm{ogreaterthan}\backslash\mathrm{textogreaterthan}$   
 20361  $\backslash\mathrm{let}\backslash\mathrm{boxslash}\backslash\mathrm{textboxslash}$   
 20362  $\backslash\mathrm{let}\backslash\mathrm{boxbslash}\backslash\mathrm{textboxbslash}$   
 20363  $\backslash\mathrm{let}\backslash\mathrm{boxast}\backslash\mathrm{textboxast}$   
 20364  $\backslash\mathrm{let}\backslash\mathrm{boxcircle}\backslash\mathrm{textboxcircle}$   
 20365  $\backslash\mathrm{let}\backslash\mathrm{boxbox}\backslash\mathrm{textboxbox}$   
 20366  $\backslash\mathrm{let}\backslash\mathrm{multimapboth}\backslash\mathrm{textmultimapboth}$   
 20367  $\backslash\mathrm{let}\backslash\mathrm{shuffle}\backslash\mathrm{textshuffle}$   
 20368  $\backslash\mathrm{let}\backslash\mathrm{upplus}\backslash\mathrm{textupplus}$   
 20369  $\backslash\mathrm{let}\backslash\mathrm{bigdoublewedge}\backslash\mathrm{textbigdoublewedge}$   
 20370  $\backslash\mathrm{let}\backslash\mathrm{bigdoublevee}\backslash\mathrm{textbigdoublevee}$   
 20371  $\backslash\mathrm{let}\backslash\mathrm{Join}\backslash\mathrm{textJoin}$   
 20372  $\backslash\mathrm{let}\backslash\mathrm{circplus}\backslash\mathrm{textcircledplus}$   
 20373  $\backslash\mathrm{let}\backslash\mathrm{minusdot}\backslash\mathrm{textminusdot}$   
 20374  $\backslash\mathrm{let}\backslash\mathrm{dotimes}\backslash\mathrm{textdotimes}$   
 20375  $\backslash\mathrm{let}\backslash\mathrm{ddiv}\backslash\mathrm{textddiv}$   
 20376  $\backslash\mathrm{let}\backslash\mathrm{odiv}\backslash\mathrm{textodiv}$   
 20377  $\backslash\mathrm{let}\backslash\mathrm{invneg}\backslash\mathrm{textinvneg}$   
 20378  $\backslash\mathrm{let}\backslash\mathrm{sqdoublecap}\backslash\mathrm{textsdoublecap}$   
 20379

20380  $\backslash\mathrm{let}\backslash\mathrm{capdot}\backslash\mathrm{textcapdot}$   
 20381  $\backslash\mathrm{let}\backslash\mathrm{sqdoublecup}\backslash\mathrm{textsdoublecup}$   
 20382  $\backslash\mathrm{let}\backslash\mathrm{doublewedge}\backslash\mathrm{textdoublewedge}$   
 20383  $\backslash\mathrm{let}\backslash\mathrm{doublevee}\backslash\mathrm{textdoublevee}$   
 20384  $\backslash\mathrm{let}\backslash\mathrm{doublebarwedge}\backslash\mathrm{textdoublebarwedge}$   
 20385  $\backslash\mathrm{let}\backslash\mathrm{veedoublebar}\backslash\mathrm{textveedoublebar}$   
 20386  $\backslash\mathrm{let}\backslash\mathrm{eqdot}\backslash\mathrm{texteqdot}$   
 20387  $\backslash\mathrm{let}\backslash\mathrm{coloncolonequals}\backslash\mathrm{textcoloncolonequals}$   
 20388  $\backslash\mathrm{let}\backslash\mathrm{leqslant}\backslash\mathrm{textleqslant}$   
 20389  $\backslash\mathrm{let}\backslash\mathrm{geqslant}\backslash\mathrm{textgeqslant}$   
 20390  $\backslash\mathrm{let}\backslash\mathrm{lessapprox}\backslash\mathrm{textlessapprox}$   
 20391  $\backslash\mathrm{let}\backslash\mathrm{gtrapprox}\backslash\mathrm{textgtrapprox}$   
 20392  $\backslash\mathrm{let}\backslash\mathrm{lneq}\backslash\mathrm{textlneq}$   
 20393  $\backslash\mathrm{let}\backslash\mathrm{gneq}\backslash\mathrm{textgneq}$   
 20394  $\backslash\mathrm{let}\backslash\mathrm{lnapprox}\backslash\mathrm{textlnapprox}$   
 20395  $\backslash\mathrm{let}\backslash\mathrm{gnapprox}\backslash\mathrm{textgnapprox}$   
 20396  $\backslash\mathrm{let}\backslash\mathrm{lesseqqgtr}\backslash\mathrm{textlesseqqgtr}$   
 20397  $\backslash\mathrm{let}\backslash\mathrm{gtreqqlless}\backslash\mathrm{textgtreqqlless}$   
 20398  $\backslash\mathrm{let}\backslash\mathrm{eqslantless}\backslash\mathrm{texteqslantless}$   
 20399  $\backslash\mathrm{let}\backslash\mathrm{eqslantgtr}\backslash\mathrm{texteqslantgtr}$   
 20400  $\backslash\mathrm{let}\backslash\mathrm{leftslice}\backslash\mathrm{textleftslice}$   
 20401  $\backslash\mathrm{let}\backslash\mathrm{rightslice}\backslash\mathrm{textrightslice}$   
 20402  $\backslash\mathrm{let}\backslash\mathrm{preceq}\backslash\mathrm{textpreceq}$   
 20403  $\backslash\mathrm{let}\backslash\mathrm{succeq}\backslash\mathrm{textsucceq}$   
 20404  $\backslash\mathrm{let}\backslash\mathrm{precneq}\backslash\mathrm{textprecneq}$   
 20405  $\backslash\mathrm{let}\backslash\mathrm{succneq}\backslash\mathrm{textsuccneq}$   
 20406  $\backslash\mathrm{let}\backslash\mathrm{preceqq}\backslash\mathrm{textpreceqq}$   
 20407  $\backslash\mathrm{let}\backslash\mathrm{succeqq}\backslash\mathrm{textsucceqq}$   
 20408  $\backslash\mathrm{let}\backslash\mathrm{precneqq}\backslash\mathrm{textprecneqq}$   
 20409  $\backslash\mathrm{let}\backslash\mathrm{succneqq}\backslash\mathrm{textsuccneqq}$   
 20410  $\backslash\mathrm{let}\backslash\mathrm{precapprox}\backslash\mathrm{textprecapprox}$   
 20411  $\backslash\mathrm{let}\backslash\mathrm{precnapprox}\backslash\mathrm{textprecnapprox}$   
 20412  $\backslash\mathrm{let}\backslash\mathrm{succnapprox}\backslash\mathrm{textsuccnapprox}$   
 20413  $\backslash\mathrm{let}\backslash\mathrm{subseteqq}\backslash\mathrm{textsubseteqq}$   
 20414  $\backslash\mathrm{let}\backslash\mathrm{supseteqq}\backslash\mathrm{textsupseteqq}$   
 20415  $\backslash\mathrm{let}\backslash\mathrm{dashV}\backslash\mathrm{textdashV}$   
 20416  $\backslash\mathrm{let}\backslash\mathrm{Dashv}\backslash\mathrm{textDashv}$   
 20417  $\backslash\mathrm{let}\backslash\mathrm{DashV}\backslash\mathrm{textDashV}$   
 20418  $\backslash\mathrm{let}\backslash\mathrm{downmodels}\backslash\mathrm{textdownmodels}$   
 20419  $\backslash\mathrm{let}\backslash\mathrm{upmodels}\backslash\mathrm{textupmodels}$   
 20420  $\backslash\mathrm{let}\backslash\mathrm{upspoon}\backslash\mathrm{textupspoon}$   
 20421  $\backslash\mathrm{let}\backslash\mathrm{interleave}\backslash\mathrm{textinterleave}$   
 20422  $\backslash\mathrm{let}\backslash\mathrm{slash}\backslash\mathrm{textslash}$   
 20423  $\backslash\mathrm{let}\backslash\mathrm{jinferior}\backslash\mathrm{textjinferior}$   
 20424  $\backslash\mathrm{let}\backslash\mathrm{slashdiv}\backslash\mathrm{textslashdiv}$   
 20425  $\backslash\mathrm{let}\backslash\mathrm{fivedots}\backslash\mathrm{textfivedots}$   
 20426  $\backslash\mathrm{let}\backslash\mathrm{oo}\backslash\mathrm{textoo}$   
 20427  $\backslash\mathrm{let}\backslash\mathrm{GaPa}\backslash\mathrm{textGaPa}$   
 20428  $\backslash\mathrm{let}\backslash\mathrm{HaPa}\backslash\mathrm{textHaPa}$   
 20429  $\backslash\mathrm{let}\backslash\mathrm{ViPa}\backslash\mathrm{textViPa}$   
 20430  $\backslash\mathrm{let}\backslash\mathrm{AcPa}\backslash\mathrm{textAcPa}$   
 20431  $\backslash\mathrm{let}\backslash\mathrm{SePa}\backslash\mathrm{textSePa}$   
 20432  $\backslash\mathrm{let}\backslash\mathrm{ZwPa}\backslash\mathrm{textZwPa}$   
 20433  $\backslash\mathrm{let}\backslash\mathrm{fullnote}\backslash\mathrm{textfullnote}$   
 20434  $\backslash\mathrm{let}\backslash\mathrm{halfnote}\backslash\mathrm{texthalfnote}$   
 20435  $\backslash\mathrm{let}\backslash\mathrm{Vier}\backslash\mathrm{textVier}$   
 20436  $\backslash\mathrm{let}\backslash\mathrm{Acht}\backslash\mathrm{textAcht}$

20437 \let\Sech\textSech  
 20438 \let\Zwdr\textZwdr  
 20439 \let\Mundus\textMundus  
 20440 \let\Womanface\textWomanface  
 20441 \let\Fire\textFire  
 20442 \let\Bicycle\textBicycle  
 20443 \let\Gentsroom\textGentsroom  
 20444 \let\Ladiesroom\textLadiesroom  
 20445 \let\ccnc\textccnc  
 20446 \let\ccsa\textccsa  
 20447 \let\CircledA\textCircledA  
 20448 \let\Info\textInfo  
 20449 \let\neg\textneg  
 20450 \let\times\texttimes  
 20451 \let\div\textdiv  
 20452 \let\pm\textpm  
 20453 \let\cdot\textcdot  
 20454 }% \psdmapshortnames  
 20455 \newcommand\*{\psdaliasnames}{%  
 20456 \let\epsdice\HyPsd@DieFace  
 20457 \let\fcdice\HyPsd@DieFace  
 20458 \let\MoonPha\HyPsd@MoonPha  
 20459 \let\mathdollar\textdollar  
 20460 \let\binampersand\textampersand  
 20461 \let\with\textampersand  
 20462 \let\mathunderscore\textunderscore  
 20463 \let\textvertline\textbar  
 20464 \let\mathsterling\textsterling  
 20465 \let\pounds\textsterling  
 20466 \let\brokenvert\textbrokenbar  
 20467 \let\mathsection\textsection  
 20468 \let\S\textsection  
 20469 \let\mathparagraph\textparagraph  
 20470 \let\vartimes\textmultiply  
 20471 \let\eth\dh  
 20472 \let\crossd\textcrd  
 20473 \let\textbard\textcrd  
 20474 \let\bard\textcrd  
 20475 \let\textcrh\texthbar  
 20476 \let\crossh\texthbar  
 20477 \let\planck\texthbar  
 20478 \let\eng\ng  
 20479 \let\engma\ng  
 20480 \let\crossb\textcrb  
 20481 \let\textbarb\textcrb  
 20482 \let\barb\textcrb  
 20483 \let\hv\texthvligh  
 20484 \let\hausak\texthtk  
 20485 \let\crossnilambda\textcrlambda  
 20486 \let\barlambda\textcrlambda  
 20487 \let\lambdabar\textcrlambda  
 20488 \let\lambdaslash\textcrlambda  
 20489 \let\textnrleg\textPUnrleg  
 20490 \let\textpipevar\textpipe  
 20491 \let\textdoublepipevar\textdoublepipe  
 20492 \let\textdoublebarpipevar\textdoublebarpipe  
 20493 \let\textcrg\textgslash

20494 \let\textdblig\textPUdblig  
 20495 \let\textqplig\textPUqplig  
 20496 \let\textcentoldstyle\textslashc  
 20497 \let\textbarc\textslashc  
 20498 \let\inva\textturna  
 20499 \let\vara\textscripta  
 20500 \let\invscripta\textturnscripta  
 20501 \let\rotvara\textturnscripta  
 20502 \let\hookb\texthtb  
 20503 \let\hausab\texthtb  
 20504 \let\varopeno\textopeno  
 20505 \let\curlyc\textctc  
 20506 \let\taild\textrtaild  
 20507 \let\hookd\texthtd  
 20508 \let\hausad\texthtd  
 20509 \let\er\textrhooschwa  
 20510 \let\epsi\textniepsilon  
 20511 \let\hookrepsilon\textrhooschwa  
 20512 \let\closedrepsilon\textcloseepsilon  
 20513 \let\barj\textbardotlessj  
 20514 \let\hookg\texthtg  
 20515 \let\varg\textscriptg  
 20516 \let\vod\textipagamma  
 20517 \let\invh\textturnh  
 20518 \let\udesc\textturnh  
 20519 \let\hookh\texthth  
 20520 \let\voicedh\texthth  
 20521 \let\hookheng\texththeng  
 20522 \let\ibar\textbari  
 20523 \let\vari\textniota  
 20524 \let\tildel\textltilde  
 20525 \let\latfric\textbeltl  
 20526 \let\tail\textrtail  
 20527 \let\lz\textlyoghlig  
 20528 \let\invm\textturnm  
 20529 \let\rotm\textturnm  
 20530 \let\legm\textturnmrleg  
 20531 \let\labdentalnas\textltailm  
 20532 \let\emgma\textltailm  
 20533 \let\nj\textltailn  
 20534 \let\enya\textltailn  
 20535 \let\tailn\textrtailn  
 20536 \let\closedniomega\textcloseomega  
 20537 \let\varomega\textcloseomega  
 20538 \let\invr\textturnr  
 20539 \let\rotr\textturnr  
 20540 \let\invlegr\textturnlonglegr  
 20541 \let\tailinvr\textturnrrtail  
 20542 \let\legr\textlonglegr  
 20543 \let\tailr\textrtailr  
 20544 \let\flapr\textfishhookr  
 20545 \let\flap\textfishhookr  
 20546 \let\tails\textrtails  
 20547 \let\curlyesh\textctesh  
 20548 \let\clickt\textturnt  
 20549 \let\tailt\textrtailt  
 20550 \let\ubar\textbaru

20551  $\backslash\mathrm{rot}\Omega\backslash\mathrm{textniupsilon}$   
 20552  $\backslash\mathrm{invv}\backslash\mathrm{textturnv}$   
 20553  $\backslash\mathrm{pwedge}\backslash\mathrm{textturnv}$   
 20554  $\backslash\mathrm{invw}\backslash\mathrm{textturnw}$   
 20555  $\backslash\mathrm{rotw}\backslash\mathrm{textturnw}$   
 20556  $\backslash\mathrm{invy}\backslash\mathrm{textturny}$   
 20557  $\backslash\mathrm{roty}\backslash\mathrm{textturny}$   
 20558  $\backslash\mathrm{tailz}\backslash\mathrm{textrtailz}$   
 20559  $\backslash\mathrm{curlyz}\backslash\mathrm{textctz}$   
 20560  $\backslash\mathrm{curlyyogh}\backslash\mathrm{textctyogh}$   
 20561  $\backslash\mathrm{ejective}\backslash\mathrm{textglotstop}$   
 20562  $\backslash\mathrm{glottal}\backslash\mathrm{textglotstop}$   
 20563  $\backslash\mathrm{reveject}\backslash\mathrm{textrevglotstop}$   
 20564  $\backslash\mathrm{clickc}\backslash\mathrm{textstretchc}$   
 20565  $\backslash\mathrm{textstretchcvar}\backslash\mathrm{textstretchc}$   
 20566  $\backslash\mathrm{clickb}\backslash\mathrm{textbullseye}$   
 20567  $\backslash\mathrm{textObullseye}\backslash\mathrm{textbullseye}$   
 20568  $\backslash\mathrm{textctjvar}\backslash\mathrm{textctj}$   
 20569  $\backslash\mathrm{textturnsck}\backslash\mathrm{textturnk}$   
 20570  $\backslash\mathrm{dz}\backslash\mathrm{textdzlig}$   
 20571  $\backslash\mathrm{tesh}\backslash\mathrm{textteshlig}$   
 20572  $\backslash\mathrm{digamma}\backslash\mathrm{textdigammagreek}$   
 20573  $\backslash\mathrm{hardsign}\backslash\mathrm{cyrhrdsn}$   
 20574  $\backslash\mathrm{softsign}\backslash\mathrm{cyrsoftsn}$   
 20575  $\backslash\mathrm{hebsin}\backslash\mathrm{hebshin}$   
 20576  $\backslash\mathrm{textsck}\backslash\mathrm{textPUsc}$   
 20577  $\backslash\mathrm{textscm}\backslash\mathrm{textPUscm}$   
 20578  $\backslash\mathrm{textscp}\backslash\mathrm{textPUscp}$   
 20579  $\backslash\mathrm{textrevscr}\backslash\mathrm{textPUrevscr}$   
 20580  $\backslash\mathrm{textrhooka}\backslash\mathrm{textPURhooka}$   
 20581  $\backslash\mathrm{textrhooke}\backslash\mathrm{textPURhooke}$   
 20582  $\backslash\mathrm{textrhookepsilon}\backslash\mathrm{textPURhookepsilon}$   
 20583  $\backslash\mathrm{textrhookopeno}\backslash\mathrm{textPURhookopeno}$   
 20584  $\backslash\mathrm{textdoublevertline}\backslash\mathrm{textbardbl}$   
 20585  $\backslash\mathrm{dag}\backslash\mathrm{textdagger}$   
 20586  $\backslash\mathrm{ddagger}\backslash\mathrm{textdaggerdbl}$   
 20587  $\backslash\mathrm{ddag}\backslash\mathrm{textdaggerdbl}$   
 20588  $\backslash\mathrm{mathellipsis}\backslash\mathrm{textellipsis}$   
 20589  $\backslash\mathrm{bindnasrepma}\backslash\mathrm{textinvamp}$   
 20590  $\backslash\mathrm{parr}\backslash\mathrm{textinvamp}$   
 20591  $\backslash\mathrm{textglobrise}\backslash\mathrm{textnearrow}$   
 20592  $\backslash\mathrm{textglobfall}\backslash\mathrm{textsearrow}$   
 20593  $\backslash\mathrm{Lightning}\backslash\mathrm{textlightning}$   
 20594  $\backslash\mathrm{dashedleftarrow}\backslash\mathrm{textdashleftarrow}$   
 20595  $\backslash\mathrm{dashedrightarrow}\backslash\mathrm{textdashrightarrow}$   
 20596  $\backslash\mathrm{varnothing}\backslash\mathrm{textemptyset}$   
 20597  $\backslash\mathrm{owns}\backslash\mathrm{textni}$   
 20598  $\backslash\mathrm{varangle}\backslash\mathrm{textsphericalangle}$   
 20599  $\backslash\mathrm{Anglesign}\backslash\mathrm{textsphericalangle}$   
 20600  $\backslash\mathrm{downtherefore}\backslash\mathrm{textbecause}$   
 20601  $\backslash\mathrm{textdotdiv}\backslash\mathrm{textdotminus}$   
 20602  $\backslash\mathrm{wreath}\backslash\mathrm{textwr}$   
 20603  $\backslash\mathrm{Doteq}\backslash\mathrm{textdoteqdot}$   
 20604  $\backslash\mathrm{corresponds}\backslash\mathrm{texthateq}$   
 20605  $\backslash\mathrm{varoplus}\backslash\mathrm{textoplus}$   
 20606  $\backslash\mathrm{varominus}\backslash\mathrm{textominus}$   
 20607  $\backslash\mathrm{varotimes}\backslash\mathrm{textotimes}$



20608 \let\varoslash\textoslash  
 20609 \let\varodot\textodot  
 20610 \let\ocirc\textcircledcirc  
 20611 \let\varocircle\textcircledcirc  
 20612 \let\varoast\textcircledast  
 20613 \let\oasterisk\textcircledast  
 20614 \let\rightvdash\textvdash  
 20615 \let\leftvdash\textdashv  
 20616 \let\downvdash\texttop  
 20617 \let\models\textvDash  
 20618 \let\rightmodels\textvDash  
 20619 \let\rightVdash\textVdash  
 20620 \let\rightModels\textVDash  
 20621 \let\lessclosed\textlhd  
 20622 \let\gtrclosed\textrhd  
 20623 \let\leqclosed\textunlhd  
 20624 \let\trianglelefteq\textunlhd  
 20625 \let\geqclosed\textunrhd  
 20626 \let\trianglerighteq\textunrhd  
 20627 \let\varcurlyvee\textcurlyvee  
 20628 \let\varcurlywedge\textcurlywedge  
 20629 \let\doublecap\textCap  
 20630 \let\doublecup\textCup  
 20631 \let\varsqsubsetneq\textsqsubsetneq  
 20632 \let\varsqsupsetneq\textsqsupsetneq  
 20633 \let\llessclosed\textntriangleleft  
 20634 \let\ngtrclosed\textntriangleright  
 20635 \let\Clocklogo\textclock  
 20636 \let\varparallelinv\textbbslash  
 20637 \let\Telefon\textPhone  
 20638 \let\rightpointleft\textHandLeft  
 20639 \let\leftpointright\textHandRight  
 20640 \let\PointingHand\textHandRight  
 20641 \let\Radiation\textRadioactivity  
 20642 \let\Frowny\textfrownie  
 20643 \let\Smiley\textsmiley  
 20644 \let\Mercury\textmercury  
 20645 \let\textfemale\textPUfemale  
 20646 \let\female\textPUfemale  
 20647 \let\venus\textPUfemale  
 20648 \let\Venus\textPUfemale  
 20649 \let\Earth\textearth  
 20650 \let\mars\textmale  
 20651 \let\Mars\textmale  
 20652 \let\Jupiter\textjupiter  
 20653 \let\Saturn\textsaturn  
 20654 \let\Uranus\texturanus  
 20655 \let\Neptune\textneptune  
 20656 \let\Pluto\textpluto  
 20657 \let\Aries\textaries  
 20658 \let\Taurus\texttaurus  
 20659 \let\Gemini\textgemini  
 20660 \let\Cancer\textcancer  
 20661 \let\Leo\textleo  
 20662 \let\Virgo\textvirgo  
 20663 \let\Libra\textlibra  
 20664 \let\Scorpio\textscorpio

```

20665 \let\Sagittarius\textsagittarius
20666 \let\Capricorn\textcapricorn
20667 \let\Aquarius\textaquarius
20668 \let\Pisces\textpisces
20669 \let\spadesuit\textspadesuitblack
20670 \let\heartsuit\textheartsuitwhite
20671 \let\diamondsuit\textdiamondsuitwhite
20672 \let\clubsuit\textclubsuitblack
20673 \let\eighthnote\textmusicalnote
20674 \let\VarFlag\textFlag
20675 \let\textxswup\textdsmilitary
20676 \let\textuncrfemale\textPUuncrfemale
20677 \let\Football\textSoccerBall
20678 \let\Cutright\textScissorRightBrokenBottom
20679 \let\Rightsscissors\textScissorRight
20680 \let\Letter\textEnvelope
20681 \let\checkmark\textCheckmark
20682 \let\davidstar\textDavidStar
20683 \let\textvarobar\textobar
20684 \let\circledbslash\textobslash
20685 \let\obackslash\textobslash
20686 \let\varobslash\textobslash
20687 \let\odplus\textobot
20688 \let\varolessthan\textolessthan
20689 \let\varogreaterthan\textogreaterthan
20690 \let\divdot\textminusdot
20691 \let\doublesqcap\textsquaddoublecap
20692 \let\doublesqcup\textsquaddoublecup
20693 \let\merge\textdoublevee
20694 \let\leftVdash\textdashV
20695 \let\leftmodels\textDashv
20696 \let\leftModels\textDashV
20697 \let\varparallel\textsslash
20698 \let\textheng\textPUheng
20699 \let\textlhookfour\textPUlhookfour
20700 \let\textscf\textPUscf
20701 \let\textaoilig\textPUaoilig
20702 \let\Ganz\textfullnote
20703 \let\Halb\texthalfnote
20704 }% \psdaliasnames
20705 </psdextra>

```

## 52 End of file hycheck.tex

```

20706 <*check>
20707 \typeout{}
20708 \begin{document}
20709 \end{document}
20710 </check>

```

## 53 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, 2095	15870, 15930, 15932, 16052,
\” 202, 227, 3328, 14536, 14896,		16054, 16060, 16062, 16065,
14908, 14920, 15046, 15132,		16068, 16521, 16523, 16525,
15146, 15154, 15169, 15181,		16527, 16529, 16531, 16533,
15198, 15212, 15223, 15224,		16536, 16592, 16594, 16596,
15238, 15250, 15257, 15308,		16598, 16657, 16660, 16662,
15349, 15376, 15405, 15543,		16691, 16711, 16861, 16881,
15557, 15565, 15579, 15592,		17420, 17422, 17444, 17446,
15609, 15623, 15634, 15635,		17484, 17486, 17552, 17554,
15650, 15662, 15670, 15928,		19479, 19484, 19489, 19494,
16588, 16590, 16601, 16653,		19499, 19504, 19509, 19514,
16655, 16687, 16701, 16857,		19519, 19524, 19529, 19534,
16871, 17115, 17117, 17132,		19539, 19544, 19549, 19554,
17135, 17137, 17139, 17141,		19559, 19564, 19569, 19574,
17143, 17153, 17155, 17157,		19579, 19584, 19589, 19594
17159, 17166, 17169, 17171,	\( . 190, 215, 323, 773, 776, 778,	
17173, 17179, 17181, 17187,	2097, 14602, 14966	
17189, 17195, 17197, 17404,	\) . 191, 216, 324, 745, 751, 754,	
17406, 17556, 17558, 17572,	2098, 14603, 14968	
17574, 17594	\* . . . . . 326	
\# . 552, 2180, 2181, 4776, 4787,	\+ . . . . . 200, 225, 327	
4789, 4805, 4837, 4897,	\- . . . . . 201, 226	
8961, 8963, 9815, 9824,	\. 198, 223, 320, 1245, 3670, 4097,	
9859, 10700, 12304, 12315,	14899, 14911, 14923, 14987,	
12351, 12582, 12591, 12631,	15281, 15288, 15306, 15352,	
14456	15379, 15411, 15455, 15456,	
\\$ 184, 209, 322, 553, 4778, 4896	15692, 15694, 15722, 15724,	
\% . 554, 2095, 2155, 2156, 4775,	15742, 15744, 15781, 15812,	
4784, 4786, 4838, 8963	15814, 15934, 15936, 16120,	
\& . . . 185, 210, 555, 4779, 4790,	16122, 16128, 16130, 17336,	
4792, 12361	17338, 17348, 17350, 17388,	
\’ . . . 203, 228, 3268, 3282, 3323,	17390, 17396, 17398, 17448,	
3325, 3326, 3327, 3328,	17450, 17456, 17458, 17488,	
3333, 3334, 3336, 3341,	17490, 17492, 17494, 17504,	
3347, 3351, 3352, 3355,	17506, 17512, 17514, 17560,	
3398, 3399, 3404, 3405,	17562, 17568, 17570, 17576,	
3406, 3407, 3408, 3409,	17578, 17600	
3410, 3411, 3413, 3417,	\/. 194, 219, 686, 687, 688, 756,	
3430, 14534, 14893, 14905,	1869, 8359	
14917, 15126, 15142, 15150,	\: . . . . . 189, 214	
15163, 15177, 15183, 15192,	\; . . . . . 199, 224, 8655	
15208, 15217, 15218, 15232,	\< . . . . . 196, 221	
15246, 15252, 15276, 15278,	\= . . . 167, 173, 180, 183, 14901,	
15279, 15280, 15283, 15285,	14913, 14925, 15301, 15356,	
15286, 15287, 15295, 15346,	15383, 15410, 15672, 15674,	
15373, 15402, 15537, 15553,	15714, 15716, 15766, 15768,	
15561, 15573, 15588, 15594,	15769, 15840, 15842, 15900,	
15603, 15619, 15628, 15629,	15902, 16132, 16134, 17149,	
15644, 15658, 15664, 15684,	17151, 17175, 17177, 17392,	
15686, 15800, 15802, 15820,	17394	
15822, 15856, 15858, 15868,	\> . . . . . 197, 222	
	\? . . . . . 328	
	\@ . . . . . 3319	
	\@@ . . . . . 2536	
	\@@BOOKMARK 14517, 14520,	
	14578, 14646, 14653	
	\@@ListBox 12953, 12977, 13442,	
	13475, 13783, 13826	
	\@@Menu . . . . . 13168, 13176	
	\@@PasswordField . 13117, 13123	
	\@@Radio . 12938, 12959, 13166,	
	13190, 13427, 13448, 13768,	
	13789	
	\@@TextField . . . . 13119, 13134	
	\@@commahyperpage 8466, 8467	
	\@@hyper@readexternallink . . .	
	. . . . . 5088, 5090	
	\@@hyperref . . . . . 4999, 5000	
	\@@latextohtmlX . . . 3147, 5305	
	\@@wrindex . . . . . 8394, 8395	
	\@@writetorep . . . . 14377, 14383	
	\@Alph . . . . . 6988, 6990	
	\@BIBLABEL . 7831, 7837, 7843	
	\@BOOKMARK . . 14517, 14519	
	\@CITE . . . . . 7908, 7916	
	\@CITEX . . . . . 7910	
	\@CheckBox 6102, 10765, 13051,	
	13083, 13221, 13559, 13928	
	\@ChoiceMenu . . . . 6099, 10768,	
	12891, 13086, 13156, 13379,	
	13720	
	\@Form . . . . 5763, 10755, 12676,	
	13073, 13100, 13299, 13642	
	\@Gauge . . . 6108, 10759, 12860,	
	13077, 13105, 13242, 13639	
	\@Localurlfalse . . . . . 10708	
	\@Localurltrue . . . . . 10705	
	\@M . . . 1151, 2593, 4883, 7443	
	\@MM . . . . . 7593	
	\@PackageError . . . . . 264	
	\@PackageInfo . . . . . 267	
	\@PackageInfoNoLine . . . . 268	
	\@PackageWarning . . . . . 265	
	\@PackageWarningNoLine . . 266	
	\@PushButton . . . . 6105, 10771,	
	12984, 13089, 13202, 13484,	
	13842	
	\@Refstar . . . . . 8770, 8777	
	\@Reset . . . . 6114, 10774, 13028,	
	13092, 13218, 13535, 13899	
	\@Roman . . . . . 647	
	\@SCTR . . . . . 8514, 8566	
	\@SetMaxRnhefLabel . . . . 7905	

<code>\@Submit</code> . . . 6111, 10777, 13011, 13095, 13215, 13513, 13876	<code>\@citedatax@opt</code> . . . 8050, 8056	<code>\@extra@b@citeb</code> . . . . .
<code>\@TextField</code> . 6096, 10762, 12863, 13080, 13108, 13350, 13683	<code>\@citeseppen</code> . . . . . 8035, 8041	. . . 7816, 7819, 7836, 7841, 7861, 7909, 7931, 7947, 7954
<code>\@addchap</code> . . . . . 14853	<code>\@citex</code> . . . . . 7937	<code>\@extra@binfo</code> . 7815, 7818, 7822
<code>\@addtoreset</code> . 8288, 8289, 8303, 8511	<code>\@clubpenalty</code> . . . . . 7445	<code>\@fifthoffive</code> . . 4284, 4715, 5033, 8721, 8840
<code>\@afterheading</code> . . . . . 14870	<code>\@commahyperpage</code> . 8461, 8466	<code>\@filebordercolor</code> 3713, 4186, 9363, 9365, 10389, 10391, 10908, 10910, 11974
<code>\@alph</code> . . . . . 6984, 6986	<code>\@ctrerr</code> . . . . . 6962, 6971	<code>\@filecolor</code> 3639, 3651, 9384, 9998, 10015, 10407, 10914
<code>\@anchorcolor</code> 3649, 9784, 9879, 10822, 12272, 12552	<code>\@currDisplay</code> . . . . 5851, 12903, 12966, 13185, 13199, 13391, 13455, 13732, 13799	<code>\@firstoffive</code> . . 4711, 4720, 8760, 8845
<code>\@arabic</code> 1121, 1126, 1130, 6904, 6919, 6983	<code>\@currValue</code> . . 5853, 5855, 12964, 12971, 13185, 13196, 13453, 13462, 13797, 13814, 14254	<code>\@firstofone</code> . . . . . 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 636, 673, 829, 987, 998, 1231, 1235, 1239, 1577, 4075, 4602, 5729, 5735, 6001, 6802, 6981, 6993, 7060, 7697, 7779, 7920, 7943, 8125, 8349, 9672, 13272, 14013, 14030, 14048
<code>\@auxout</code> 2530, 5046, 5252, 6322, 6324, 7073, 7101, 7851, 7866, 7882, 7892, 7922, 7945, 7971, 7977, 8001	<code>\@currentHlabel</code> . . . . . 7034	<code>\@firstoftwo</code> 656, 945, 1113, 1785, 6292, 14819
<code>\@backslashchar</code> . . . . . 869, 872, 875, 1375, 2057, 2061, 2064, 2202, 2219, 2225, 2229, 2237, 4800, 8976, 8986	<code>\@currentHref</code> . . . . . . . . 2538, 5281, 6204, 6887, 7014, 7016, 7025, 7027, 7034, 7115, 7117, 7127, 7178, 7189, 7191, 7230, 7249, 7253, 7262, 7288, 7380, 7411, 7436, 7509, 7519, 7521, 7522, 7578, 7606, 7704, 7730, 7734, 7761, 7763, 7980, 8164, 8187, 8200, 8207, 8258, 8282, 8284, 14367, 14758, 14771, 14782, 14812, 14829, 14864	<code>\@fnsymbol</code> . . . . . 6982
<code>\@baseurl</code> 3656, 3658, 5146, 9496, 9499, 9769, 9771, 10057, 10059, 10577, 10587, 10673, 10675, 11211, 11213, 11603, 11617, 12257, 12259, 12458, 12472, 12538, 12540	<code>\@currentlabel</code> 7157, 7596, 7973, 7980, 8263, 8270, 8520, 8572	<code>\@footnotemark</code> 7452, 7515, 7533, 7615, 7627, 7629, 7641, 7642, 7672, 7674
<code>\@begintheorem</code> 7345, 7349, 7375, 7382, 7406, 7413	<code>\@currentlabelname</code> . 2528, 7510, 7579, 7607, 7709	<code>\@footnotetext</code> . . . . . . . . 7451, 7458, 7492, 7532, 7628, 7630, 7644, 7645, 7665
<code>\@bibitem</code> . . . . . 7858, 7889	<code>\@currentlabstr</code> . . . . 2527, 2535	<code>\@for</code> . . . 3689, 5371, 7917, 7940, 12900, 12962, 13174, 13181, 13191, 13388, 13451, 13729, 13795
<code>\@biblabel</code> . . . . . 7831, 7878	<code>\@curropt</code> . 12900, 12901, 12962, 12963, 13174, 13181, 13182, 13184, 13191, 13192, 13194, 13388, 13389, 13451, 13452, 13729, 13730, 13795, 13796	<code>\@fourthoffive</code> 4714, 5034, 8835, 8842
<code>\@bookmarkopenstatus</code> . . 4600, 4617, 14438	<code>\@dblarg</code> . . . . . 7699, 7781	<code>\@gobble</code> . . . . . 49, 56, 117, 576, 577, 578, 579, 616, 617, 618, 619, 659, 660, 661, 670, 672, 833, 952, 985, 996, 1137, 1141, 1144, 1514, 1575, 1594, 1607, 1611, 1674, 1737, 1738, 1745, 1750, 1764, 1769, 2383, 2565, 2838, 2850, 4063, 4272, 4327, 4766, 5714, 5991, 6257, 6261, 6278, 6280, 6296, 6297, 6300, 6301, 6303, 6776, 6796, 6800, 7334, 7362, 7395, 7686, 7776, 8163, 8900, 9674, 11091, 11094, 13300, 13643, 14424, 14425, 14426, 14427
<code>\@bookmarksopenlevel</code> . . 3610, 3612, 4603	<code>\@definecounter</code> . . . . 8243, 8244	<code>\@gobblefour</code> . . . 582, 696, 1271,
<code>\@bsphack</code> . . . . 2523, 5039, 7975	<code>\@ehc</code> . . 2891, 3005, 3030, 3063, 3101, 3108, 3119, 3125, 4325, 4945, 5110, 5475, 5599, 5795, 5828, 6038, 6087, 12993, 13039, 13494, 13546, 13852, 13910	
<code>\@capstartfalse</code> . . . . . 7724	<code>\@ehd</code> . . 63, 283, 289, 304, 7685, 7775	
<code>\@caption</code> 7689, 7701, 7744, 7781, 7783	<code>\@elt</code> . . . . . 6894, 6896	
<code>\@capter</code> 2532, 7684, 7688, 7692, 7699, 7706, 7760, 7774, 7778, 7781	<code>\@endForm</code> . 5764, 10758, 12859, 13076, 13104, 13349, 13669	
<code>\@car</code> . . . 1657, 1673, 1691, 1711, 3589, 5381, 9448, 9459	<code>\@endparent</code> . . 7343, 7371, 7402	
<code>\@cdr</code> . . . . . 9449, 9460	<code>\@eqnqr</code> . . . . . 7272	
<code>\@chapter</code> . . . . . 14777, 14778	<code>\@eqnstarfalse</code> . . . . 7244, 7275	
<code>\@cite</code> . . 7908, 7939, 8036, 8042	<code>\@eqnstartrue</code> . . . . . 7272	
<code>\@cite@opt</code> 8037, 8043, 8047, 8057	<code>\@eqnswtrue</code> . . . . . 7205, 7214	
<code>\@citea</code> . 7911, 7918, 7919, 7938, 7941, 7942	<code>\@esphack</code> 2544, 5050, 7985, 8406	
<code>\@citeb</code> . 7917, 7920, 7922, 7924, 7928, 7931, 7940, 7943, 7945, 7947, 7951, 7954		
<code>\@citebordercolor</code> . . 3712, 4188		
<code>\@citecolor</code> . . . . . 3650		
<code>\@citedata@opt</code> 8038, 8044, 8046		
<code>\@citedatax</code> . . . . . 8053, 8058		

1272, 1273, 3866, 8635	9019, 10649, 11291, 11292,	2507, 2508, 2509, 2510,
\@gobbleopt . . . . . 6303, 6305	12087, 13300, 13643, 14022,	2511, 2512, 2513, 2514,
\@gobbletwo 580, 663, 689, 697,	14434	2660, 2970, 2971, 2972,
698, 846, 1270, 1692, 1769,	\@indexfile . . . 8398, 8413, 8421,	2973, 2974, 2975, 2976,
1773, 2723, 3864, 3865,	8425, 8430	2977, 3457, 3469, 5481,
4276, 5660, 6282, 6291,	\@inlabeledfalse . . . . . 7424	5482, 5483, 5484, 5806,
6299, 6303, 8823, 14768	\@inmathwarn . . . . . 546, 547	5807, 7046, 7271, 7274,
\@harvarditem . . . . . 7990, 7992	\@inpenc@undefined@ . . . . 2257	7965, 7966, 7967, 7968
\@hyper@C@anchor . . 5196, 5197	\@labels . . . . . 7440	\@namerefstar . . . . . 4753, 8765
\@hyper@itemfalse . . 6832, 6850,	\@latex@ . . . . . 6406, 6407	\@nameuse 2532, 2967, 5487, 5798
6864	\@latex@error . . . . . 7685, 7775	\@ne 1120, 2910, 3051, 4588, 4915,
\@hyper@itemtrue . . . . . 6833	\@latex@warning . . . 5026, 7927,	10321, 10326, 11190, 12112,
\@hyper@launch . . . 5116, 5125,	7950, 8696, 8716, 8733, 8851	13678
9388, 10412, 10983, 11992	\@libibitem . . . . . 7832, 7877	\@newctr . . . . . 8248, 8249
\@hyper@linkfile . . . 5097, 5100,	\@linkbordercolor . . 3714, 4183,	\@newl@bel . . . 5235, 6369, 7818
5104, 5136	9312, 10812	\@newlistfalse . . . . . 7421
\@hyper@readexternallink 5091,	\@linkcolor . . . . . 3648, 11650	\@nil 294, 311, 491, 495, 500, 504,
5095	\@linkdim 474, 9833, 9834, 9842,	519, 1569, 1572, 1580, 1657,
\@hyperdef . . . . . 5007, 5008	9843, 9844, 9913, 9914,	1675, 1693, 1709, 1711,
\@hyperpage . . . . . 8458, 8459	9926, 9927, 9928, 9950,	1714, 1717, 1720, 2266,
\@hyperref . . . . . 4988, 4999	9951, 9964, 9965, 9966,	2268, 2284, 2286, 3589,
\@ifclasslater . . . . . 14876, 14881	9990, 9991, 10004, 10005,	4822, 4826, 4831, 5163,
\@ifclassloaded 2515, 4742, 7045,	10006, 12325, 12326, 12334,	5171, 5177, 5179, 5381,
7082, 7900, 8494, 8498,	12335, 12336, 12600, 12601,	5982, 5985, 6004, 6394,
9677, 14875, 14880	12614, 12615, 12616	6397, 6404, 6406, 6407,
\@ifnextchar . . 12, 88, 103, 123,	\@listctr . . . . . 7867, 7893	6519, 6567, 6568, 6570,
690, 4890, 4988, 5007, 5058,	\@m . . . 1134, 7919, 7942, 11138	6593, 6610, 6664, 6666,
5763, 6096, 6099, 6102,	\@mainaux . . 6320, 6321, 6759,	7173, 7182, 7184, 7196,
6105, 6108, 6111, 6114,	6767, 13268, 13292	8445, 8447, 8454, 8477,
6303, 6375, 6384, 7631,	\@makecaption 7725, 7727, 7794	8480, 8490, 8700, 8703,
7649, 7990, 8048, 11628,	\@makefnmark . . . . . 7524, 7677	8859, 8890, 8972, 8978,
11903, 11917, 14517, 14520	\@makefnstext . . . . . 7597	8982, 8988, 9448, 9449,
\@ifpackagelater 238, 1007, 2546,	\@makeother . . . . . 166, 167,	9459, 9460, 11056, 11058,
7036, 8313	179, 180, 182, 183, 188, 189,	14020, 14033, 14039, 14466,
\@ifpackageloaded . . . . . 505,	190, 191, 192, 193, 194, 195,	14469, 14472, 14481, 14484,
899, 1006, 2518, 2943, 3566,	196, 197, 198, 199, 200, 201,	14493
3570, 4244, 4430, 6873,	202, 203, 4790, 8948, 14606,	\@nbreakfalse . . . . . 6366, 7443
7035, 7048, 7110, 7143,	14609, 14636, 14639	\@nocnterr . . . . . 8302, 8316
7147, 7167, 7201, 7328,	\@makeschapterhead . . . . 14867,	\@nocounterr . . . . . 8301, 8315
7529, 7545, 7585, 7757,	14869	\@noparitemfalse . . . . . 7422
7960, 8033, 8255, 8312,	\@mem@titleref . . . . . 4749	\@number . . . . . 6981, 7060, 8125
8354, 8355, 8356, 8504,	\@mem@titleref@nolink . . . . 4749	\@onx . . . 8305, 8319, 8322, 8324
8769, 8913, 8917, 12530	\@menubordercolor . 3715, 4185,	\@onelevel@sanitize . 2716, 2720,
\@ifpackagewith 3448, 4245, 8278	9734, 9736, 10483, 10485,	2925, 3588, 4302, 4332,
\@ifstar . . . 66, 4737, 4740, 4749,	11021, 11023, 11896	4353, 4856, 5158, 5161,
4753, 6239, 6243, 6309,	\@menucolor . 3653, 9749, 10494,	5174, 5188, 5471, 5707,
6313, 8777, 8803, 8823	11027	5791, 6620, 6622, 7021,
\@ifundefined 34, 362, 918, 926,	\@minipagefalse . . . . . 7420	8193, 8746, 10178, 14463
948, 951, 2812, 2960, 3466,	\@mkboth . . . 663, 8617, 14768,	\@oparg . 7345, 7349, 7375, 7382,
3502, 3510, 3517, 3539,	14856, 14858	7406, 7413
3587, 4212, 5470, 5790,	\@mpfn . . . . . 7455, 7650, 7662	\@outlinefile 14436, 14525, 14620,
6729, 6842, 6877, 6892,	\@mpfootnotetext . . 7458, 7471,	14622, 14624, 14702, 14704,
7149, 7170, 7171, 7224,	7472, 7534	14706
7255, 7283, 7320, 7690,	\@mycount . . . . . 14582, 14592	\@pagerefstar . . 4740, 8762, 8793
7708, 7825, 7908, 7924,	\@namedef 1251, 2486, 2488, 2490,	\@pagesetref . . . . . 8712
7947, 8252, 8293, 8301,	2492, 2494, 2496, 2498,	\@parboxrestore 7595, 7717, 7789
8302, 8315, 8316, 8323,	2500, 2502, 2504, 2506,	\@parcount . . . . . 14584, 14592

\@part . . . . .	14795, 14802	9566, 10035, 10037, 10520,	11982
\@pdfauthor . . . . .	3882, 4191, 9556,	10522, 11508, 11512, 12385,	\@pdfstartpage 4084, 4086, 4202,
10039, 10524, 11264, 11529,	12389	12387	9504, 9508, 10065, 10070,
\@pdfborder . . . . .		\@pdfnonfullscreenpagemode . . .	10580, 10584, 11203, 11207,
. . . . .	3531, 3727, 3728, 3729,	9518, 10094, 10556, 11222,	11553, 11558, 12408, 12413
3736, 3740, 3763, 3765,		11582, 12437	\@pdfstartview 4091, 4093, 4200,
4683, 9242, 10196, 10810,		\@pdfnumcopies . . . . .	9506, 9508, 10067, 10071,
11395, 11490, 11894, 11907,		10110, 10112, 10572, 10574,	10582, 10584, 11205, 11555,
11922, 11943, 11971, 12002,		11238, 11240, 11598, 11600,	11559, 12410, 12414
12031, 12118, 12206, 12366		12453, 12455	\@pdfsubject . . . . .
\@pdfborderstyle . . . . .		\@pdfpageduration . . . . .	3928, 4196, 9558,
. . . . .	3532, 3744, 3745, 3746,	9620, 9625, 10622, 10624,	10044, 10514, 11266, 11527,
3755, 3759, 3767, 3769,		10627, 11147, 11149, 11152,	12394
4684, 5953, 9243, 10197,		11434, 11436, 11444	\@pdftempa . . . . .
10811, 11396, 11491, 11895,		\@pdfpagelayout . . . . .	5102, 5103, 5106
11908, 11923, 11944, 11972,		9544, 10122,	\@pdftempwordfile . . . . .
12003, 12032, 12119, 12207,		10596, 11243, 11245, 11612,	5093, 5103
12367		12467	\@pdftempwordrun . . . . .
\@pdfcreationdate . . . . .		\@pdfpagemode . . . . .	5094, 5106
. . . . .	3915, 4194,	. . . . .	\@pdftitle . . . . .
9560, 9562, 10031, 10033,		. . . . .	3876, 4190, 9557,
10516, 10518, 11504, 11506,		. . . . .	10029, 10513, 11265, 11526,
12381, 12383		. . . . .	12379
\@pdfcreator . . . . .	3910, 4193, 9559,	\@pdfpagescrop 4129, 4199, 9483,	\@pdftrapped 3939, 3942, 3945,
10030, 10515, 11267, 11528,		9487, 10061, 10062, 10083,	3954, 3963, 4198, 9573,
12380		10085, 10603, 10605, 11199,	9575, 10530, 10532, 11531
\@pdfdirection . . . . .	9519, 10095,	11201, 11571, 11573, 12426,	\@pdfview . . . . .
10557, 11223, 11583, 12438		12428	4065, 9224, 9232,
\@pdfduplex 9525, 10101, 10563,		\@pdfpagetransition . . . . .	10146, 10150, 10154, 10158,
11229, 11589, 12444		3662, 9592,	10162, 10166, 10167, 10170,
\@pdfhighlight . . . . .		9596, 9601, 10611, 10613,	10171, 10174, 10178, 10180,
. . . . .	3719, 4189, 9262, 9264,	10616, 11036, 11038, 11040,	10195, 10809, 10819, 10831,
9323, 9359, 9361, 9396,		11417, 11419, 11427	11332, 11352, 12033, 12120,
9398, 9730, 9732, 11394,		\@pdfpicktraybypdftype . . . . .	12208, 12480
11489, 11893, 11942, 11970,		. . . . .	\@pdfviewarea . . . . .
12001		. . . . .	9520, 10096,
\@pdfhighlight . . . . .	9321	. . . . .	10558, 11224, 11584, 12439
\@pdfkeywords 3934, 4197, 9572,		. . . . .	\@pdfviewclip 9521, 10097, 10559,
10028, 10529, 11272, 11530,		. . . . .	11225, 11585, 12440
12378		. . . . .	\@pdfviewparams . . . . .
\@pdflang 4175, 4204, 9545, 9547,		. . . . .	4067, 4069,
10123, 10125, 10597, 10599,		. . . . .	11332, 11352, 12034, 12121,
11613, 11615, 12468, 12470		. . . . .	12209, 12481
\@pdfm@dest 10140, 10199, 10203		\@pdfprintarea . . . . .	\@percentchar 4785, 4786, 4838,
\@pdfm@mark . . . . .	6747, 10139,	10560, 11226, 11586, 12441	14440
10191, 10211, 10225, 10227,		\@pdfprintclip . . . . .	\@processme . . . . .
10241, 10243, 10248, 10249,		. . . . .	5839, 5840, 9598,
10279, 10303, 10305, 10310,		. . . . .	9604, 9622, 9628, 9644,
10328, 10351, 10383, 10417,		. . . . .	9650, 11631, 11632, 11743,
10448, 10477, 10511, 10578,		. . . . .	11744, 11747, 11748
10605, 13646, 13647, 13648,		. . . . .	\@protected@testopt . . . . .
13667, 13710, 13716, 13805,		. . . . .	693
13819, 13834, 13840, 13865,		. . . . .	\@protected@testopt@xargs . . . . .
13872, 13890, 13896, 13918,		. . . . .	694
13924, 13947, 13953, 13958,		. . . . .	\@refstar . . . . .
13990, 13998, 14673		. . . . .	4737, 8759
\@pdfmoddate 3921, 4195, 9564,		. . . . .	\@runbordercolor . . . . .
		. . . . .	3716, 4187,
		. . . . .	9400, 9402, 10423, 10425,
		. . . . .	11002, 11004, 12005
		. . . . .	\@runcolor . . . . .
		. . . . .	3654, 9420, 10439,
		. . . . .	11008
		. . . . .	\@safe@activesfalse . . . . .
		. . . . .	645, 4717
		. . . . .	\@safe@activestrue . . . . .
		. . . . .	644, 4716
		. . . . .	\@savsf . . . . .
		. . . . .	9227, 9235
		. . . . .	\@schapter . . . . .
		. . . . .	14765, 14766
		. . . . .	\@secondoffive 4285, 4712, 4725,
		. . . . .	8722, 8723, 8763
		. . . . .	\@secondoftwo . . . . .
		. . . . .	626, 635,
		. . . . .	943, 1116, 1643, 1783, 4284,

4285, 14821		
\@sect . . . . .	14816, 14817	
\@seqncr . . . . .	7272	
\@serial@counter . . . . .	14532, 14580, 14582, 14583	
\@seteqlabel . . . . .	8279, 8280	
\@setminipage . . . . .	7719, 7791	
\@setref . . . . .	4720, 4725, 8691, 8692, 8729	
\@sharp . . . . .	7173, 7179	
\@skiphyperreffalse . . . . .	6851, 7847, 7859	
\@skiphyperreftrue . . . . .	7833, 7859	
\@spaces . . . . .	271	
\@spart . . . . .	14808, 14809	
\@ssect . . . . .	14751, 14752	
\@startlos . . . . .	8629, 8636, 8685	
\@starttoc . . . . .	6354	
\@tempa . . . . .	7344, 7345, 7348, 7352, 7374, 7381, 7385, 7405, 7412, 7416, 7547, 7551, 7554, 7566	
\@tempb . . . . .	7300, 7304	
\@tempboxa . . . . .	9831, 9833, 9842, 9911, 9913, 9916, 9917, 9926, 9932, 9933, 9948, 9950, 9953, 9954, 9964, 9970, 9971, 9988, 9990, 9993, 9994, 10004, 10010, 10011, 12323, 12325, 12334, 12598, 12600, 12614	
\@tempcnta . . . . .	14389, 14390, 14391, 14392, 14393, 14395, 14398, 14399, 14400, 14406, 14408, 14410, 14501, 14502, 14503, 14506, 14507, 14508, 14509, 14510, 14724, 14725, 14726	
\@tempdima . . . . .	2596, 6136, 6137, 6138, 6139, 6140, 6141, 6142, 6143, 9217, 12899, 12904, 12906, 12942, 12943, 12944, 12948, 12949, 12950, 12951, 13387, 13392, 13394, 13431, 13432, 13433, 13437, 13438, 13439, 13440, 13728, 13733, 13735, 13772, 13773, 13774, 13778, 13779, 13780, 13781	
\@tempdimb . . . . .	12903, 12904, 13391, 13392, 13732, 13733	
\@tempswafalse . . . . .	8052	
\@tempswatrue . . . . .	8022, 8025, 8028, 8049	
\@temptokena . . . . .	3435, 3440, 3443, 3445	
\@tfor . . . . .	7301	
\@the@H@page . . . . .	8092, 8128, 8130, 8131	
\@thefnmark . . . . .	7456, 7467, 7558, 7596, 7613, 7620, 7651, 7663, 7670	
\@thirdoffive . . . . .	4713, 8766	
\@thm . . . . .	7354, 7355, 7388	
\@topnewpage . . . . .	14867	
\@topsep . . . . .	7342, 7370, 7401	
\@topsepadd . . . . .	7343, 7371, 7402	
\@typeset@protect . . . . .	14737	
\@undefined . . . . .	375, 378, 699, 3439, 6293, 6328, 6341, 6353, 6582, 6600, 6645, 7684, 7748, 7753, 7759, 7774, 8754, 9215, 9428, 9437, 10782, 11178, 11192	
\@undottedtocline . . . . .	8681	
\@unprocessedoptions . . . . .	4563	
\@urlbordercolor . . . . .	3717, 4184, 9325, 9327, 10454, 10456, 10934, 10936, 11945	
\@urlcolor . . . . .	3652, 9344, 9838, 9851, 9958, 9975, 10468, 10940, 12330, 12343, 12609, 12622	
\@urltype . . . . .	9804, 9809, 10678, 10704, 10839, 10853, 12292, 12297, 12571, 12576	
\@vpageref . . . . .	8787	
\@whilenum . . . . .	1287	
\@wrindex . . . . .	8362, 8363, 8394	
\@writefile . . . . .	7978	
\@x@sf . . . . .	7517, 7526, 7676, 7678	
\@xfootnote . . . . .	7649	
\@xfootnotemark . . . . .	7464, 7667	
\@xfootnotenext . . . . .	7453, 7660	
\@xp . . . . .	8269, 8304, 8305, 8318, 8319, 8321, 8322	
\[ . . . . .	192, 217, 321, 3733, 3751, 4957	
\{ . . . . .	329, 351, 549, 2097, 11323, 14458	
\} . . . . .	330, 356, 550, 2098, 11323, 14459	
\] . . . . .	193, 218	
\^ . . . . .	186, 211, 319, 2195, 2196, 3346, 4773, 4774, 4782, 14894, 14906, 14918, 15128, 15144, 15152, 15165, 15179, 15194, 15210, 15220, 15221, 15234, 15248, 15297, 15347, 15374, 15403, 15539, 15555, 15563, 15575, 15590, 15605, 15621, 15631, 15632, 15646, 15660, 15688, 15690, 15734, 15736, 15750, 15752, 15789, 15791, 15792,	
	15872, 15874, 15920, 15922, 15924, 15926, 17580, 17582	
\_ . . . . .	187, 212, 557, 4777, 4794, 4795	
\' . . . . .	166, 172, 179, 182, 3282, 3416, 3419, 3421, 3429, 14457, 14892, 14904, 14916, 15124, 15140, 15148, 15161, 15175, 15190, 15206, 15214, 15215, 15230, 15244, 15293, 15345, 15372, 15401, 15535, 15551, 15559, 15571, 15586, 15601, 15617, 15625, 15626, 15642, 15656, 16056, 16058, 16684, 16713, 16854, 16883, 17548, 17550, 17626, 17628, 19481, 19486, 19491, 19496, 19501, 19506, 19511, 19516, 19521, 19526, 19531, 19536, 19541, 19546, 19551, 19556, 19561, 19566, 19571, 19576, 19581, 19586, 19591, 19596	
\  . . . . .	188, 213, 325, 2003, 2096, 2137, 3228, 4227, 8358, 8947, 8957	
\~ . . . . .	556, 1289, 2245, 3340, 3348, 3349, 3350, 4346, 4798, 14895, 14907, 14919, 15130, 15159, 15167, 15196, 15228, 15236, 15299, 15348, 15375, 15404, 15541, 15569, 15577, 15607, 15640, 15648, 15761, 15763, 15764, 15896, 15898, 17540, 17542, 17610, 17612, 17634, 17636, 19483, 19488, 19493, 19498, 19503, 19508, 19513, 19518, 19523, 19528, 19533, 19538, 19543, 19548, 19553, 19558, 19563, 19568, 19573, 19578, 19583, 19588, 19593, 19598	
	<b>Numbers</b>	
\3 . . . . .	533, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 2359, 2496, 2504, 2506, 14601, 15124, 15126, 15128, 15130, 15132, 15134, 15136, 15138, 15140, 15142, 15144, 15146, 15148, 15150, 15152, 15154, 15156, 15157, 15159, 15161, 15163, 15165, 15167, 15169, 15171, 15173, 15175, 15177, 15179, 15181, 15183, 15185, 15186, 15188, 15190, 15192, 15194, 15196,	



15198, 15200, 15202, 15204,  
 15206, 15208, 15210, 15212,  
 15214, 15215, 15217, 15218,  
 15220, 15221, 15223, 15224,  
 15226, 15228, 15230, 15232,  
 15234, 15236, 15238, 15240,  
 15242, 15244, 15246, 15248,  
 15250, 15252, 15254, 15255,  
 15257, 15258, 15342, 15535,  
 15537, 15539, 15541, 15543,  
 15545, 15547, 15549, 15551,  
 15553, 15555, 15557, 15559,  
 15561, 15563, 15565, 15567,  
 15569, 15571, 15573, 15575,  
 15577, 15579, 15581, 15584,  
 15586, 15588, 15590, 15592,  
 15594, 15596, 15597, 15599,  
 15601, 15603, 15605, 15607,  
 15609, 15611, 15613, 15615,  
 15617, 15619, 15621, 15623,  
 15625, 15626, 15628, 15629,  
 15631, 15632, 15634, 15635,  
 15637, 15640, 15642, 15644,  
 15646, 15648, 15650, 15652,  
 15654, 15656, 15658, 15660,  
 15662, 15664, 15667, 15668,  
 15670, 16002, 16006, 16010,  
 16013, 16015, 16017, 16019,  
 16020, 16022, 16024, 16026,  
 16028, 16030, 16032, 16034,  
 16037, 16039, 16041, 16043,  
 16045, 16047, 16049, 16050,  
 16052, 16054, 16056, 16058,  
 16060, 16062, 16065, 16068,  
 16462, 16465, 16468, 16470,  
 16473, 16476, 16479, 16482,  
 16484, 16486, 16488, 16490,  
 16492, 16494, 16497, 16499,  
 16501, 16503, 16505, 16633,  
 16635, 16637, 16639, 16641,  
 16643, 16645, 16647, 16649,  
 16651, 16653, 16655, 16657,  
 16659, 16660, 16662, 16664,  
 16666, 16668, 16670, 16673,  
 16675, 16677, 16679, 16682,  
 17085, 17087, 17089, 17091,  
 17093, 17095, 17097, 17099,  
 17101, 17103, 17105, 17107,  
 17109, 17111, 17113, 17115,  
 17117, 17119, 17121, 17123,  
 17125, 17127, 17129, 17132,  
 17135, 17137, 17139, 17141,  
 17143, 17145, 17147, 17149,  
 17151, 17153, 17155, 17157,  
 17159, 17161, 17163, 17166,  
 17169, 17171, 17173, 17175,  
 17177, 17179, 17181, 17183,

17185, 17187, 17189, 17191,  
 17193, 17195, 17197, 17199,  
 17201, 17203, 17205, 17207,  
 17209, 17211, 17213, 17215,  
 17217, 17219, 17221, 17223,  
 17225, 17227, 17229, 17231,  
 17233, 17235, 17237, 17239,  
 17241, 17243, 17245, 17247,  
 17249, 17251, 17253, 17255,  
 17258, 17260, 17262, 17264,  
 17614, 17616, 17618, 17620,  
 17622, 17624, 17626, 17628,  
 17630, 17632, 17634, 17636,  
 17969, 17972, 17975, 17978,  
 17981, 17984, 17987, 17989,  
 17991, 17993, 17995, 17998,  
 18001, 18004, 18006, 18009,  
 18012, 18014, 18017, 18019,  
 18022, 18024, 18026, 18028,  
 18030, 18032, 18034, 18036,  
 18038, 18040, 18043, 18046,  
 18048, 18051, 18054, 18405,  
 18407, 18409, 18411, 18414,  
 18416, 18418, 18420, 18422,  
 18425, 18428, 18430, 18432,  
 18435, 18438, 18440, 18442,  
 18444, 18446, 18449, 18452,  
 18454, 18456, 18458, 18460,  
 18462, 18464, 18466, 18469,  
 18472, 18474, 18476, 18478,  
 18480, 18483, 18487, 18490,  
 18493, 18495, 18497, 18499,  
 18501, 18622, 18624, 18626,  
 18628, 18630, 18632, 18634,  
 18636, 18638, 18640, 18642,  
 18644, 18646, 18648, 18650,  
 18652, 18654, 18656, 18658,  
 18660, 18662, 18664, 18666,  
 18668, 18670, 18672, 18674,  
 18676, 18678, 18680, 18682,  
 18684, 18686, 18688, 18690,  
 18692, 18694, 18696, 18698,  
 18700, 18702, 18704, 18706,  
 18718, 18720, 18722, 18724,  
 18727, 18729, 18925, 18927,  
 18929, 18931, 18933, 19101,  
 19103, 19105, 19107, 19109,  
 19111, 19114, 19116, 19118,  
 19120, 19122, 19124, 19126,  
 19128, 19130, 19132, 19134,  
 19222, 19225, 19228, 19230,  
 19232, 19234, 19236, 19238,  
 19240, 19343, 19345, 19347,  
 19350, 19354, 19357, 19359,  
 19361, 19364, 19366, 19441,  
 19443, 19445, 19447, 19449,  
 19451, 19468, 19469, 19470,

19474, 19475, 19476, 19479,  
 19481, 19483, 19494, 19496,  
 19500, 19501, 19502, 19503,  
 19504, 19505, 19506, 19507,  
 19509, 19510, 19511, 19512,  
 19513, 19514, 19515, 19516,  
 19517, 19518, 19519, 19520,  
 19521, 19522, 19523, 19524,  
 19525, 19526, 19527, 19529,  
 19530, 19531, 19532, 19533,  
 19534, 19535, 19536, 19537,  
 19538, 19539, 19541, 19543,  
 19554, 19556, 19560, 19561,  
 19562, 19563, 19564, 19565,  
 19566, 19567, 19569, 19570,  
 19571, 19572, 19573, 19574,  
 19575, 19576, 19577, 19578,  
 19579, 19580, 19581, 19582,  
 19583, 19584, 19585, 19586,  
 19587, 19589, 19590, 19591,  
 19592, 19593, 19594, 19595,  
 19596, 19597, 19598, 19702

\9 . 536, 1353, 1356, 1387, 2287,  
 2302, 2311, 2339, 2359,  
 2396, 2400, 2414, 2418,  
 2426, 2431, 2434, 2468,  
 2472, 2475, 2478, 2488,  
 2490, 2492, 2494, 2496,  
 2498, 2500, 2502, 2504,  
 2506, 15342, 17266, 17268,  
 17270, 17272, 17274, 17276,  
 17279, 17282, 17285, 17288,  
 17290, 17292, 17294, 17296,  
 17298, 17300, 17302, 17304,  
 17306, 17309, 17311, 17314,  
 17316, 17319, 17321, 17325,  
 17329, 17332, 17334, 17336,  
 17338, 17340, 17342, 17344,  
 17346, 17348, 17350, 17352,  
 17354, 17356, 17358, 17360,  
 17362, 17364, 17366, 17369,  
 17372, 17375, 17378, 17380,  
 17382, 17384, 17386, 17388,  
 17390, 17392, 17394, 17396,  
 17398, 17400, 17402, 17404,  
 17406, 17408, 17410, 17412,  
 17414, 17416, 17418, 17420,  
 17422, 17424, 17426, 17428,  
 17430, 17432, 17434, 17436,  
 17438, 17440, 17442, 17444,  
 17446, 17448, 17450, 17452,  
 17454, 17456, 17458, 17460,  
 17462, 17464, 17466, 17468,  
 17470, 17473, 17476, 17479,  
 17482, 17484, 17486, 17488,  
 17490, 17492, 17494, 17496,  
 17498, 17500, 17502, 17504,



17506, 17508, 17510, 17512,  
17514, 17516, 17518, 17520,  
17522, 17524, 17526, 17528,  
17530, 17532, 17534, 17536,  
17538, 17540, 17542, 17544,  
17546, 17548, 17550, 17552,  
17554, 17556, 17558, 17560,  
17562, 17564, 17566, 17568,  
17570, 17572, 17574, 17576,  
17578, 17580, 17582, 17584,  
17586, 17588, 17590, 17592,  
17594, 17596, 17598, 17600,  
17602, 17604, 17606, 17608,  
17610, 17612, 17614, 17616,  
17618, 17620, 17622, 17624,  
17626, 17628, 17630, 17632,  
17634, 17636, 17638, 17640,  
17642, 17644, 17647, 17649,  
17651, 17653, 17655, 17657,  
17659, 17662, 17666, 17668,  
17670, 17673, 17675, 17677,  
17679, 17681, 17683, 17685,  
17687, 17689, 17691, 17693,  
17695, 17697, 17699, 17701,  
17703, 17705, 17707, 17709,  
17711, 17713, 17715, 17717,  
17719, 17721, 17723, 17725,  
17727, 17729, 17731, 17733,  
17735, 17737, 17739, 17741,  
17743, 17745, 17747, 17749,  
17751, 17753, 17755, 17757,  
17759, 17761, 17763, 17765,  
17767, 17769, 17771, 17773,  
17775, 17777, 17779, 17781,  
17783, 17785, 17787, 17789,  
17791, 17793, 17795, 17797,  
17799, 17801, 17803, 17805,  
17807, 17809, 17811, 17813,  
17815, 17817, 17819, 17822,  
17824, 17826, 17828, 17830,  
17832, 17834, 17836, 17838,  
17840, 17842, 17844, 17846,  
17848, 17850, 17852, 17854,  
17856, 17860, 17862, 17864,  
17866, 17868, 17870, 17872,  
17874, 17876, 17878, 17880,  
17882, 17884, 17886, 17888,  
17890, 17892, 17894, 17896,  
17898, 17900, 17902, 17904,  
17906, 17908, 17911, 17914,  
17916, 17918, 17920, 17922,  
17925, 17927, 17929, 17931,  
17933, 17935, 17937, 17939,  
17941, 17943, 17945, 17949,  
17952, 17954, 17957, 17960,  
17963, 17966, 17969, 17972,  
17975, 17978, 17981, 17984,

17987, 17989, 17991, 17993,  
17995, 17998, 18001, 18004,  
18006, 18009, 18012, 18014,  
18017, 18019, 18022, 18024,  
18026, 18028, 18030, 18032,  
18034, 18036, 18038, 18040,  
18043, 18046, 18048, 18051,  
18054, 18056, 18058, 18060,  
18062, 18064, 18066, 18069,  
18071, 18073, 18075, 18077,  
18079, 18082, 18084, 18086,  
18088, 18090, 18092, 18094,  
18096, 18098, 18100, 18102,  
18104, 18106, 18108, 18110,  
18112, 18114, 18116, 18120,  
18122, 18124, 18126, 18128,  
18130, 18132, 18134, 18136,  
18138, 18140, 18142, 18144,  
18147, 18149, 18151, 18154,  
18157, 18159, 18161, 18164,  
18166, 18168, 18170, 18173,  
18175, 18177, 18180, 18182,  
18184, 18186, 18188, 18190,  
18192, 18194, 18196, 18199,  
18203, 18206, 18208, 18210,  
18212, 18214, 18216, 18219,  
18221, 18222, 18224, 18226,  
18228, 18229, 18232, 18233,  
18235, 18237, 18239, 18241,  
18243, 18245, 18247, 18249,  
18251, 18254, 18256, 18258,  
18260, 18262, 18264, 18266,  
18268, 18270, 18272, 18274,  
18276, 18278, 18280, 18282,  
18284, 18286, 18288, 18290,  
18292, 18294, 18296, 18298,  
18300, 18302, 18304, 18306,  
18308, 18310, 18312, 18314,  
18316, 18318, 18321, 18324,  
18327, 18330, 18333, 18337,  
18341, 18343, 18345, 18347,  
18349, 18351, 18354, 18357,  
18360, 18362, 18366, 18369,  
18372, 18375, 18377, 18379,  
18381, 18384, 18387, 18391,  
18395, 18397, 18399, 18401,  
18403, 18405, 18407, 18409,  
18411, 18414, 18416, 18418,  
18420, 18422, 18425, 18428,  
18430, 18432, 18435, 18438,  
18440, 18442, 18444, 18446,  
18449, 18452, 18454, 18456,  
18458, 18460, 18462, 18464,  
18466, 18469, 18472, 18474,  
18476, 18478, 18480, 18483,  
18487, 18490, 18493, 18495,  
18497, 18499, 18501, 18503,

18505, 18507, 18509, 18512,  
18514, 18516, 18518, 18520,  
18522, 18524, 18526, 18528,  
18530, 18532, 18535, 18537,  
18540, 18543, 18545, 18548,  
18551, 18553, 18555, 18557,  
18559, 18562, 18564, 18566,  
18568, 18570, 18572, 18574,  
18576, 18578, 18580, 18582,  
18584, 18586, 18588, 18590,  
18592, 18594, 18596, 18598,  
18600, 18602, 18604, 18606,  
18608, 18610, 18612, 18614,  
18616, 18618, 18620, 18622,  
18624, 18626, 18628, 18630,  
18632, 18634, 18636, 18638,  
18640, 18642, 18644, 18646,  
18648, 18650, 18652, 18654,  
18656, 18658, 18660, 18662,  
18664, 18666, 18668, 18670,  
18672, 18674, 18676, 18678,  
18680, 18682, 18684, 18686,  
18688, 18690, 18692, 18694,  
18696, 18698, 18700, 18702,  
18704, 18706, 18709, 18712,  
18715, 18718, 18720, 18722,  
18724, 18727, 18729, 18732,  
18734, 18736, 18738, 18741,  
18743, 18745, 18747, 18749,  
18751, 18754, 18758, 18761,  
18763, 18765, 18767, 18770,  
18773, 18775, 18777, 18779,  
18781, 18784, 18790, 18793,  
18797, 18800, 18803, 18806,  
18809, 18812, 18815, 18818,  
18821, 18824, 18827, 18830,  
18833, 18836, 18839, 18842,  
18845, 18848, 18851, 18854,  
18857, 18860, 18862, 18864,  
18866, 18868, 18870, 18873,  
18875, 18877, 18879, 18881,  
18883, 18885, 18887, 18890,  
18893, 18895, 18897, 18899,  
18901, 18903, 18905, 18907,  
18909, 18911, 18913, 18915,  
18917, 18919, 18922, 18925,  
18927, 18929, 18931, 18933,  
18935, 18938, 18941, 18943,  
18945, 18947, 18949, 18951,  
18954, 18956, 18958, 18960,  
18962, 18964, 18966, 18968,  
18971, 18973, 18975, 18977,  
18979, 18981, 18983, 18985,  
18987, 18989, 18991, 18993,  
18995, 18998, 19000, 19002,  
19004, 19006, 19008, 19010,  
19012, 19014, 19016, 19018,

19020, 19022, 19024, 19026, 19028, 19030, 19032, 19034, 19036, 19038, 19040, 19042, 19045, 19047, 19049, 19051, 19053, 19055, 19057, 19059, 19061, 19063, 19065, 19067, 19069, 19071, 19074, 19077, 19079, 19082, 19085, 19088, 19091, 19093, 19095, 19097, 19099, 19101, 19103, 19105, 19107, 19109, 19111, 19114, 19116, 19118, 19120, 19122, 19124, 19126, 19128, 19130, 19132, 19134, 19210, 19213, 19219, 19222, 19225, 19228, 19230, 19232, 19234, 19236, 19238, 19240, 19242, 19244, 19246, 19249, 19251, 19253, 19256, 19259, 19261, 19263, 19265, 19268, 19270, 19273, 19275, 19279, 19282, 19284, 19286, 19288, 19290, 19292, 19294, 19296, 19299, 19301, 19303, 19306, 19309, 19311, 19313, 19315, 19317, 19319, 19321, 19323, 19325, 19327, 19329, 19331, 19333, 19335, 19337, 19339, 19341, 19343, 19345, 19347, 19350, 19354, 19357, 19359, 19361, 19364, 19366, 19369, 19371, 19373, 19375, 19377, 19380, 19382, 19385, 19388, 19391, 19394, 19396, 19398, 19400, 19402, 19404, 19406, 19408, 19410, 19412, 19414, 19417, 19420, 19422, 19424, 19426, 19428, 19430, 19432, 19434, 19436, 19438, 19441, 19443, 19445, 19447, 19449, 19451, 19480, 19482, 19484, 19485, 19486, 19487, 19488, 19489, 19490, 19491, 19492, 19493, 19495, 19497, 19498, 19499, 19500, 19501, 19502, 19503, 19505, 19507, 19510, 19512, 19514, 19515, 19516, 19517, 19518, 19519, 19520, 19521, 19522, 19523, 19525, 19527, 19529, 19530, 19531, 19532, 19533, 19535, 19536, 19537, 19538, 19540, 19542, 19544, 19545, 19546, 19547, 19548, 19549, 19550, 19551, 19552, 19553, 19555, 19557, 19558, 19559, 19560, 19561, 19562, 19563, 19565, 19567, 19570, 19572,	19574, 19575, 19576, 19577, 19578, 19579, 19580, 19581, 19582, 19583, 19585, 19587, 19589, 19590, 19591, 19592, 19593, 19595, 19596, 19597, 19598, 19704, 19706  \l . . . . . 332, 678, 3363, 3366, 4097, 7919, 7942, 14916, 14917, 14918, 14919, 14920, 14921, 14922, 14923, 14924, 14925, 14926, 14927, 15372, 15373, 15374, 15375, 15376, 15377, 15378, 15379, 15380, 15381, 15382, 15383, 15384, 15385, 15386, 15387, 15388, 15389, 15390, 15391, 15392, 15393, 15394, 15395, 15396, 15397, 15398  A \ABREVE . 19473, 19544, 19545, 19546, 19547, 19548 \abreve . . . 19467, 19484, 19485, 19486, 19487, 19488 \AccFancyVerbLineautorefname . . . . . . 3390 \Accfootnoteautorefname . . 3370 \Acctheoremautorefname . . 3394 \Acht . . . . . 19421, 20436 \ACIRCUMFLEX 19474, 19549, 19550, 19551, 19552, 19553 \acircumflex 3421, 19468, 19489, 19490, 19491, 19492, 19493 \AcPa . . . . . 19407, 20430 \Acrobatmenu 2567, 4281, 6290, 9723, 10473, 11013, 11887 \active . . 1267, 1274, 1874, 4774, 4775, 4776, 4777, 4778, 4779, 4782, 4784, 4787, 4795, 14605, 14635 \add@accent . . . . . 548 \addcontentsline . . . 7713, 7785, 8161, 8166, 8237, 14872 \AddLineBeginAux . . . . . 5296 \addtocontents 8206, 8238, 8512, 8564, 14860, 14861 \addtocounter 7057, 7080, 7089, 7100, 7104, 7322, 10330 \addvspace . . . . . 14860, 14861 \adl@LT@array . . . . . 7171 \advance . . . . . 472, 473, 1288, 4923, 5331, 5659, 5705, 6137, 6138, 6141, 6142, 6492, 6500, 6537, 8064, 8074, 8077, 8091, 9473, 9843, 9927, 9965,	10005, 11174, 12335, 12615, 12906, 12949, 12950, 13394, 13438, 13439, 13678, 13735, 13779, 13780, 14390, 14392, 14393, 14399, 14408, 14509, 14725 \AE . . . . . 15136, 15547, 16060 \ae . . . . . 15202, 15613, 16062 \afterassignment . . . 1883, 1889, 1895, 5914 \AfterBeginDocument . 362, 376 \aftergroup . . . . . 7600 \ainferior . . . . . 19846 \alef . . . . . 19614 \alefhamza . . . . . 19606 \aleflowerhamza . . . . . 19610 \alefmadda . . . . . 19604 \alefmaqsura . . . . . 19672 \aleph . . . . . 17843, 19867 \Alph . . . . . 6586, 6942 \alph . . . . . 6587, 7293, 7324 \alpha . . . . . 16602, 19768 \amalg . . . . . 18087, 19955 \AMSautorefname . . . . . 8922 \anchor@spot . 5201, 5214, 5221, 5227, 5229, 9282, 9784, 9879, 10750, 10822, 11329, 11675, 11678, 12272, 12552 \angle . . . . . 18111, 19965 \Anglesign . . . . . 18118, 20599 \Ankh . . . . . 18762, 20182 \APLdownarrowbox 18547, 20156 \APLinput . . . . . 18550, 20157 \APLinv . . . . . 18529, 20149 \APLleftarrowbox . 18539, 20153 \APLrightarrowbox 18542, 20154 \APLuparrowbox . . 18544, 20155 \appendix . . . . . 6934, 6946 \appendixautorefname . . . . . . . 3238, 3256, 3274, 3292, 3310, 3328, 3346, 3378, 3379, 3404, 3422, 8932 \approx . . . . . 18181, 19996 \approxeq . . . . . 18183, 19997 \Aquarius . . . . . 18843, 20667 \aquarius . . . . . 18841, 20208 \arabic . 6583, 6807, 6810, 6813, 6814, 6815, 6817, 6818, 6819, 6820, 6822, 6823, 6824, 6825, 6826, 6827, 6830, 6840, 6841, 7064, 8246, 8252, 8300, 8314, 8500, 8505, 8507 \Aries . . . . . 18813, 20657 \aries . . . . . 18811, 20198 \ast . . . . . 18099, 19960 \Asterisk . . . . . 19046, 20288
---	--	--

`\AsteriskBold` . . . . . 19023, 20277  
`\AsteriskCenterOpen` . . . . . 19025, 20278  
`\AsteriskRoundedEnds` . . 19070, 20300  
`\asympt` . . . . . 18189, 20000  
`\AtBeginDocument` . . 363, 5264, 5268, 6326, 7161, 12644  
`\AtBeginShipout` . . . 6438, 6450, 9762, 10276  
`\AtBeginShipoutBox` 6442, 6445, 9755, 9756, 10277, 10278  
`\AtBeginShipoutFirst` . . 6455, 10646, 12084, 12199  
`\AtEndDocument` . . . . . 6340  
`\AtEndOfPackage` . . . . . 373  
`\AtVeryEndDocument` . . . 6685, 13309  
`\author` . . . . . 6374, 6384  
`\autopageref` . . . . . 4417, 8802  
`\autoref` . 667, 4416, 8821, 12639  
`\ayn` . . . . . 19650

## B

`\b` . 900, 904, 910, 14902, 14914, 14926, 15338, 15365, 15392, 17344, 17346, 17356, 17358, 17428, 17430, 17436, 17438, 17464, 17466, 17500, 17502, 17520, 17522, 17588, 17590, 17592  
`\baa` . . . . . 19616  
`\babygamma` . . . . . 16225, 19735  
`\back@none` . . 3173, 3183, 3196  
`\back@page` . . . . . 3175, 3188  
`\back@section` 3174, 3180, 3186, 3192  
`\back@slide` . . . . . 3176, 3185  
`\backcite` . . . . . 7979  
`\backcong` . . . . . 18187, 19999  
`\backepsilon` . . . . . 16681  
`\backneg` . . . . . 18504, 20137  
`\backprime` . . . . . 17682, 19813  
`\backref` . . . . . 8010, 12643  
`\backsim` . . . . . 18167, 19990  
`\backsimeq` . . . . . 18419, 20101  
`\barb` . . . . . 15948, 20482  
`\bard` . . . . . 15712, 20474  
`\bari` . . . . . 16239, 19736  
`\barin` . . . . . 18500, 20135  
`\barj` . . . . . 16210, 20513  
`\barl` . . . . . 15969, 19721  
`\barlambd` . . . . . 15976, 20486  
`\barlefttharpoon` . . . 19195, 20352  
`\baro` . . . . . 16285, 19740  
`\barp` . . . . . 17310, 19804  
`\barrighttharpoon` . . 19201, 20354

`\barsci` . . . . . 17308, 19803  
`\barscu` . . . . . 17313, 19805  
`\baru` . . . . . 16349, 19746  
`\barwedge` . . . . . 18402, 20093  
`\baselineskip` . 2570, 6150, 6151, 6152, 6153, 6154, 6155, 9898, 11348, 11380, 12067  
`\bbl@cite@choice` . . . . . 7826  
`\bbslash` . . . . . 18558, 20159  
`\because` . . . . . 18153, 19984  
`\BeforeTeXIVht` . . . . . 3012  
`\begin` . . . . . 624, 12665, 20708  
`\belowpdfbookmark` . . . . 14505  
`\beta` . . . . . 16604, 19769  
`\betainferior` . . . . . 19798  
`\beth` . . . . . 17845, 19868  
`\between` . . . . . 18246, 20027  
`\bfseries` . 598, 7925, 7948, 8695, 8715, 8732, 8850  
`\bgroup` . . 687, 4890, 7587, 7599, 9189, 10294, 10750, 11369, 13112, 13204, 13225  
`\bibcite` . 7817, 7823, 7827, 7852, 7867, 7883, 7893  
`\Bicycle` . . . . . 19433, 20442  
`\bigcircle` . . . . . 20168  
`\bigdoublevee` . . . . . 19245, 20371  
`\bigdoublewedge` . . 19243, 20370  
`\bigtriangledown` . . 18714, 20162  
`\bigtriangleup` . . . 18708, 20160  
`\binampersand` . . . 15431, 20460  
`\bindnasrepma` . . . 17857, 20589  
`\Biohazard` . . . . . 18760, 20181  
`\bitsetGetDec` 5383, 5516, 5534, 5548, 5561, 5577, 5609, 5634  
`\bitsetGetHex` . . . . . 5384  
`\bitsetGetSetBitList` . . . . 5372  
`\bitsetIsEmpty` 5513, 5531, 5545, 5558, 5574, 5606, 5631  
`\bitsetReset` . . 5486, 5520, 5539, 5553, 5566, 5582, 5614  
`\bitsetSetValue` . . . . . 5352, 5362  
`\blacksmiley` . . . . . 18772, 20186  
`\BOOKMARK` . . . . . 14437, 14516  
`\booknumberline` . . 14420, 14425  
`\bot` . . . . . 18359, 20077  
`\bowtie` . . . . . 18408, 20096  
`\box` . . 6144, 6445, 9203, 10308, 11722, 11725  
`\boxast` . . . . . 19231, 20364  
`\boxbackslash` . . . . 18536, 20152  
`\boxbar` . . . . . 18726, 20167  
`\boxbox` . . . . . 19235, 20366  
`\boxbslash` . . . . . 19229, 20363  
`\boxcircle` . . . . . 19233, 20365  
`\boxdot` . . . . . 18348, 20073  
`\boxminus` . . . . . 18344, 20071

`\boxplus` . . . . . 18342, 20070  
`\boxslash` . . . . . 19227, 20362  
`\boxtimes` . . . . . 18346, 20072  
`\brokenvert` . . . . . 15480, 20466  
`\bullet` . . 8647, 8655, 8665, 8673, 18103, 19808  
`\Bumpeq` . . . . . 18191, 20001  
`\bumpeq` . . . . . 18193, 20002

## C

`\C` . . . . . 15317, 16935, 16938  
`\c` . . . . . 901, 905, 911, 3340, 3348, 3349, 3350, 6397, 6404, 14900, 14912, 14924, 15138, 15204, 15327, 15353, 15380, 15399, 15549, 15615, 15746, 15748, 15794, 15796, 15804, 15806, 15824, 15826, 15860, 15862, 15876, 15878, 15884, 15886, 16124, 16126, 16995, 16998, 17360, 17362, 17408, 17410  
`\c@footnote` . . 7466, 7549, 7557, 7669  
`\c@Hy@tempcnt` . . . 4908, 4909, 4915, 4923  
`\c@note` . . . . . 8067  
`\c@overlay` . . . . . 8067  
`\c@page` . 6492, 6500, 6517, 6537, 6538, 6542, 6554, 6556, 6561, 6568, 6570, 6572, 6601, 8064, 8068, 8070, 8074, 8077, 8078, 8091, 8121  
`\c@secnumdepth` . 14785, 14803, 14818  
`\c@slide` . . . . . 8067  
`\c@slidesection` 8513, 8641, 8642  
`\c@slidesubsection` . . . . . 8565  
`\c@tocdepth` . . . . . 3580, 3585  
`\calc@bm@number` . 14647, 14723  
`\calculate@pdfview` . 4061, 4064  
`\Cancer` . . . . . 18822, 20660  
`\cancer` . . . . . 18820, 20201  
`\Cap` . . . . . 18431, 20106  
`\cap` . . . . . 18131, 19974  
`\capdot` . . . . . 19267, 20380  
`\capitalacute` . . . . . 15402  
`\capitalbreve` . . . . . 15409  
`\capitalcaron` . . . . . 15408  
`\capitalcedilla` . . . . . 15399  
`\capitalcircumflex` . . . . . 15403  
`\capitaldieresis` . . . . . 15405  
`\capitaldotaccent` . . . . . 15411  
`\capitalgrave` . . . . . 15401  
`\capitalhungarumlaut` . . . 15406  
`\capitalmacron` . . . . . 15410  
`\capitalnewtie` . . . . . 15413

\capitalgonek . . . . .	15400	\CircledA . . . . .	19448, 20447	\colonequals . . . . .	18207, 20007
\capitalring . . . . .	15407	\circledast . . . . .	18336, 20068	\color@begingroup . .	9189, 10294
\capitaltie . . . . .	15412	\circledbslash . . . .	19214, 20684	\color@endgroup . . .	9196, 10301
\capitaltilde . . . . .	15404	\circledcirc . . . . .	18332, 20067	\columnwidth . . . . .	7594
\Capricorn . . . . .	18840, 20666	\circleddash . . . . .	18340, 20069	\comma@entry . . . . .	5700, 5707, 5709
\capricorn . . . . .	18838, 20207	\CircleShadow . . . . .	19078, 20303	\comma@parse . . . . .	5699
\caption . . . . .	7683, 7685, 7773, 7775	\circplus . . . . .	19250, 20373	\complement . . . . .	18057, 19941
\catcode . . . . .	172, 173, 184, 185, 186, 187, 206, 826, 827, 934, 967, 1267, 1274, 1874, 1962, 2003, 2004, 2137, 2138, 2194, 2195, 2196, 4633, 4635, 4773, 4774, 4775, 4776, 4777, 4778, 4779, 4782, 4784, 4787, 4795, 4805, 4896, 4897, 8947, 11410, 11411, 14534, 14536, 14605, 14608, 14635, 14638	\citation . . . . .	7922, 7945, 7971	\cong . . . . .	18176, 19994
\ccnc . . . . .	19442, 20445	\citeauthoryear . . . .	8037, 8043	\contentsline . . . . .	6329, 6330, 6342, 8207, 8211, 8238, 8240
\ccnd . . . . .	19444	\citeN . . . . .	8034	\copy . . . . .	9199, 9756, 10278, 10304
\ccsa . . . . .	19446, 20446	\CJK@char . . . . .	1270	\copyright . . . . .	19711
\cdot . . . . .	20453	\CJK@charx . . . . .	1271	\corresponds . . . . .	18217, 20604
\cdots . . . . .	18494, 20132	\CJK@CJK . . . . .	1259	\count@ . . . . .	865, 867, 868, 871, 874, 877, 880, 1286, 1287, 1288, 1289, 1884, 3596, 3597, 3602, 3603, 5330, 5331, 5346, 5642, 5657, 5659, 5683, 5705, 5721, 9468, 9469, 9470, 9471, 9472, 9473, 9476, 11170, 11171, 11172, 11173, 11174, 11177
\cf@encoding . . . . .	1592	\CJK@eight . . . . .	1470, 1473, 1587	\Cross . . . . .	18986, 20259
\chapterautorefname . . . . .	3239, 3257, 3275, 3293, 3311, 3329, 3347, 3376, 3405, 3423, 8933	\CJK@five . . . . .	1470, 1472, 1587	\crossb . . . . .	15945, 20480
\chapternumberline . . . . .	14422, 14427	\CJK@four . . . . .	1469, 1472, 1586	\CrossClowerTips . . . . .	19003
\char . . . . .	13339, 14538, 14575	\CJK@hundred . . . . .	1536	\crossd . . . . .	15709, 20472
\chardef . . . . .	276, 309, 2802, 2803, 2804, 2805, 3051, 3053, 4558, 4588, 11670, 11673, 11679	\CJK@hundredmillion . . . .	1499	\Crossedbox . . . . .	18742, 20174
\check@bm@number . . . . .	14658, 14666, 14716, 14724	\CJK@ignorespaces . . . . .	1269	\crossh . . . . .	15758, 20476
\CheckBox . . . . .	6101	\CJK@kern . . . . .	1257	\CrossMaltese . . . . .	18992, 20262
\CheckCommand . . . . .	7546	\CJK@minus . . . . .	1461	\crossnilambda . . . . .	15975, 20485
\checkcommand . . . . .	42, 7099, 7660, 7667, 7674, 7773, 7783, 7877, 7889, 8237, 8240, 8300, 8729	\CJK@nine . . . . .	1470, 1474, 1587	\CrossOpenShadow . . . . .	18988, 20260
\Checkedbox . . . . .	18740, 20173	\CJK@null . . . . .	1563	\CrossOutline . . . . .	18990, 20261
\checklatex . . . . .	4, 7659, 7772, 7876, 8236, 8728	\CJK@one . . . . .	1469, 1471, 1586	\Cube . . . . .	621
\Checkmark . . . . .	18967, 20250	\CJK@punctchar . . . . .	1272	\Cup . . . . .	18434, 20107
\checkmark . . . . .	18969, 20681	\CJK@punctcharx . . . . .	1273	\cup . . . . .	18133, 19975
\CheckmarkBold . . . . .	18970, 20251	\CJK@seven . . . . .	1470, 1473, 1587	\cupdot . . . . .	18301, 20054
\checkpackage . . . . .	9, 7098, 8299	\CJK@six . . . . .	1470, 1473, 1587	\cupplus . . . . .	18303, 20055
\chi . . . . .	16646, 19789	\CJK@ten . . . . .	1471, 1472, 1473, 1474, 1551	\curlyc . . . . .	16174, 20505
\chiinferior . . . . .	19802	\CJK@thousand . . . . .	1521	\curlyeqprec . . . . .	18453, 20115
\ChoiceBox . . . . .	5709	\CJK@three . . . . .	1469, 1472, 1586	\curlyeqsucc . . . . .	18455, 20116
\ChoiceMenu . . . . .	6098	\CJK@two . . . . .	1469, 1471, 1586	\curlyesh . . . . .	16340, 20547
\circ . . . . .	18101, 19961	\CJK@zero . . . . .	1469, 1487, 1504, 1508, 1524, 1539, 1561	\curlyvee . . . . .	18421, 20102
\circeq . . . . .	18213, 20010	\CJK@digits . . . . .	1346	\curlywedge . . . . .	18424, 20103
\circlearrowleft . . . . .	19113, 20318	\CJKkern . . . . .	1258	\curlyyogh . . . . .	16385, 20560
\circlearrowright . . . . .	19115, 20319	\CJKnumber . . . . .	1345	\curlyz . . . . .	16378, 20559
		\cl@ckpt . . . . .	6900	\CurrentBorderColor . . . . .	9266, 9268, 9295, 9297, 9305, 9307, 9312, 10812, 10846, 10848, 10864, 10866, 10885, 10887, 10949, 10951, 10968, 10970
		\clickb . . . . .	16406, 20566	\currentpdfbookmark . . . . .	14497
		\clickt . . . . .	16401, 20564	\curu . . . . .	16886
		\clock . . . . .	18508, 20139	\curvearrowleft . . . . .	17951, 19899
		\Clocklogo . . . . .	18510, 20635	\curvearrowright . . . . .	17953, 19900
		\close@pdfink . . . . .	9276, 9301, 9310, 9345, 9385, 9421, 9750	\Cutright . . . . .	18936, 20678
		\closedniomega . . . . .	16292, 20536		
		\closedrepsilon . . . . .	16206, 20512		
		\closeout . . . . .	6320, 14525		
		\Cloud . . . . .	18731, 20169		
		\ClowerTips . . . . .	20267		
		\clubpenalty . . . . .	7443, 7445		
		\clubsuit . . . . .	18856, 18858, 20672		
		\codeof . . . . .	8001		
		\Coffeecup . . . . .	18744, 20175		
		\coloncolonequals . . . . .	19285, 20387		

\cyr	646, 3358, 3360, 3363, 3366, 3369, 3370, 3371, 3372, 3373, 3374, 3375, 3376, 3377, 3378, 3380, 3382, 3383, 3384, 3385, 3386, 3387, 3388, 3389, 3390, 3391, 3392, 3393, 3394, 3395	\CYRFITA	16926	\CYRKSI	16918
\CYRA	16720, 17111, 17115	\cyrfta	16928	\cyrksi	16920
\cyra	3360, 3367, 3369, 3374, 3377, 3382, 3383, 3389, 3393, 16787, 17113, 17117	\CYRG	16691, 16726	\CYRKVCRS	17005
\CYRABHCH	17075, 17080	\cyrgh	3376, 16793, 16861	\cyrkvcrs	17008
\cyrabhch	17077, 17083	\CYRGDSC	17191	\CYRL	16743
\CYRABHCHDSC	17079	\cyrghdsc	17193	\cyrll	3374, 3376, 3378, 3380, 16810
\CYRABHDZE	17145	\CYRGHCRS	16978	\CYRLDSC	17095
\cyrabhdze	17147	\cyrghcrs	16980	\cyrldsc	17097
\CYRABHHA	17030	\CYRGHK	16983	\CYRLJE	16705
\cyrabhha	17032	\cyrghk	16986	\cyrlje	16875
\CYRAE	17119	\CYRGUP	16974	\CYRLYUS	16902
\cyrae	17121	\cyrgup	16976	\cyrlyus	16904
\CYRB	16722	\CYRH	16763	\CYRM	16745
\cyrb	3374, 16789	\cyrh	16830	\cyrmm	3363, 3367, 3393, 3394, 16812
\CYRBYUS	16910	\CYRHDSC	17052	\CYRMDSC	17107
\cyrbyus	16912	\cyrhdsc	17054	\cyrmdsc	17109
\CYRC	16765	\CYRHHK	17199	\CYRN	16747
\cyrcc	16832	\cyrhkh	17201	\cyrn	3360, 3366, 3367, 3369, 3370, 3372, 3380, 3386, 3387, 16814
\CYRCH	16767, 17187	\CYRHRDSN	16774	\CYRNDSC	17018
\cyrch	3366, 3367, 3375, 16834, 17189	\cyrhrdsn	16840, 16841, 20573	\cyrndsc	17020
\CYRCHLDSC	17103	\CYRI	16713, 16736, 16739, 17149, 17153	\CYRNG	17022
\cyrchldsc	17105	\cyri	3360, 3363, 3367, 3373, 3378, 3380, 16803, 16806, 16883, 17151, 17155	\cyrng	17024
\CYRCHRDSC	17061	\CYRIE	16693	\CYRNHK	17099
\cyrchrdsc	17063	\cyrle	16863	\cyrnhk	17101
\CYRCHVCRS	17066	\CYRII	16698, 16701	\CYRNJE	16707
\cyrchvcrs	17069	\cyrll	16868, 16871	\cyrnje	16877
\CYRD	16728	\CYRIOTBYUS	16914	\CYRO	16749, 17157
\cyrd	3363, 3366, 3377, 3382, 3383, 16795	\cyrllotbyus	16916	\cyro	3363, 3366, 3369, 3370, 3380, 3389, 3390, 3392, 3393, 3394, 16816, 17159
\CYRDJE	16689	\CYRIOTE	16898	\CYROMEGA	16890
\cyrdje	16859	\cyrllote	16900	\cyromega	16892
\CYRDZE	16695	\CYRIOTLYUS	16906	\CYROMEGARND	16944
\cyrdze	16865	\cyrllotlyus	16908	\cyromegarnd	16946
\CYRDZHE	16718	\CYRISHRT	16738	\CYROMEGATITLO	16948
\cyrdzhe	16888	\cyrllshrt	16805	\cyromegatitlo	16950
\CYRE	16684, 16687, 16730, 17123	\CYRISHRTDSC	16962	\CYROT	16952
\cyre	3360, 3366, 3367, 3380, 3392, 3393, 3394, 16797, 16854, 16857, 17125	\cyrllshrtdsc	16964	\cyrot	16954
\cyreref	17173	\CYRIZH	16930, 16935	\CYROTLTLD	17161, 17166
\CYREREV	16781, 17171	\cyrllzh	16932, 16938	\cyrotld	17163, 17169
\cyrerev	16848	\CYRJE	16703	\CYRP	16751
\CYRERY	16776, 17195	\cyrje	16873	\cyrp	3363, 3366, 3367, 3371, 3372, 3378, 3380, 3384, 3385, 3386, 3387, 16818
\cyrery	3358, 3360, 16843, 17197	\CYRK	16711, 16741	\CYRpalochka	17085
\CYRF	16761	\cyrk	3369, 3370, 3372, 3386, 3387, 3389, 3390, 3391, 16808, 16881	\CYRPHK	17026
\cyrf	16828	\CYRKBEAK	17014	\cyrphk	17028
		\cyrkbeak	17016	\CYRPSI	16922
		\CYRKDSC	17000	\cyrpsi	16924
		\cyrkdsc	17002	\CYRR	16753
		\CYRKHCERS	17010	\cyr	3358, 3360, 3363, 3366, 3367, 3373, 3377, 3378, 3380, 3382, 3383, 3388,
		\cyrkhcrs	17012		
		\CYRKHK	17091		
		\cyrkhk	17093		
		\CYRKOPPA	16956		
		\cyrkoppa	16958		



3389, 3390, 3391, 3392,  
 3393, 3394, 16820  
 \CYRRTICK ..... 16970  
 \cyrrtick ..... 16972  
 \CYRS ..... 16755, 17035  
 \cyr s ... 3363, 3366, 3369, 3370,  
 3373, 3388, 3389, 3390,  
 3391, 3395, 16822, 17038  
 \CYRSCHWA .... 17127, 17132  
 \cyr schwa ..... 17129, 17135  
 \CYRSDSC ..... 17034, 17035  
 \cyr sdsc ..... 17037  
 \CYRSEMISFTSN ..... 16966  
 \cyr semisftsn ..... 16968  
 \CYRSFTSN ..... 16779  
 \cyr sftsn .. 16845, 16846, 20574  
 \CYRSH ..... 16769  
 \cyrsh ..... 16836  
 \CYRSHCH ..... 16771  
 \cyrshch ..... 16838  
 \CYRSHHA ..... 17071  
 \cyrshha ..... 17073  
 \CYRT ..... 16757  
 \cyr t ... 3363, 3366, 3372, 3374,  
 3386, 3387, 3388, 3389,  
 3390, 3391, 3392, 3393,  
 3394, 16824  
 \CYRTDSC ..... 17040  
 \cyr tdsc ..... 17042  
 \CYRTETSE ..... 17056  
 \cyr tetse ..... 17058  
 \cyr thousands ..... 16960  
 \CYRTSHE ..... 16709  
 \cyr tshe ..... 16879  
 \CYRU ... 16716, 16759, 17175,  
 17179, 17183  
 \cyr u 3370, 3372, 3386, 3387, 3390,  
 3394, 16826, 17177, 17181,  
 17185  
 \CYRUK ..... 16940  
 \cyr uk ..... 16942  
 \CYRUSHRT ..... 16715  
 \cyr ushrt ..... 16885  
 \CYRV ..... 16724  
 \cyr v ..... 3358, 3360, 16791  
 \CYRY ..... 17044  
 \cyr y ..... 17046  
 \CYRYA ..... 16785  
 \cyr ya ..... 16852  
 \CYRYAT ..... 16894  
 \cyr yat ..... 16896  
 \CYRYHC RS ..... 17048  
 \cyr yhc rs ..... 17050  
 \CYRYI ..... 16700  
 \cyr yi ..... 16870  
 \CYRYO ..... 16686  
 \cyr yo ..... 16856

\CYRYU ..... 16783  
 \cyr yu ..... 16850  
 \CYRZ ... 16734, 16995, 17141  
 \cyr z .. 3377, 3382, 3383, 16801,  
 16998, 17143  
 \CYRZDSC ..... 16994  
 \cyr zdsc ..... 16997  
 \CYRZH .. 16732, 17087, 17137  
 \cyr zh 3360, 3380, 16799, 17089,  
 17139  
 \CYRZHDSC ..... 16989  
 \cyr zhdsc ..... 16992

## D

\d 902, 906, 912, 3418, 3422, 3424,  
 3425, 3426, 3427, 3428,  
 3430, 14903, 14915, 14927,  
 15321, 15366, 15393, 17340,  
 17342, 17352, 17354, 17400,  
 17402, 17424, 17426, 17432,  
 17434, 17452, 17454, 17460,  
 17462, 17496, 17498, 17508,  
 17510, 17516, 17518, 17544,  
 17546, 17564, 17566, 17584,  
 17586, 17602, 17604, 17606,  
 17608, 17614, 17616, 17618,  
 17620, 17622, 17624, 17630,  
 17632, 19480, 19485, 19490,  
 19495, 19500, 19505, 19510,  
 19515, 19520, 19525, 19530,  
 19535, 19540, 19545, 19550,  
 19555, 19560, 19565, 19570,  
 19575, 19580, 19585, 19590,  
 19595  
 \dad ..... 19644  
 \dag ..... 17660, 20585  
 \dagger ..... 19807  
 \dal ..... 19630  
 \daleth ..... 17849, 19870  
 \damma ..... 19684  
 \danger ..... 18904, 20226  
 \dasheddownarrow 18050, 19938  
 \dashedleftarrow .. 18044, 20594  
 \dashedrightarrow . 18049, 20595  
 \dasheduparrow ... 18045, 19936  
 \dashleftarrow .... 18042, 19935  
 \dashrightarrow ... 18047, 19937  
 \DashV ..... 19353, 20417  
 \Dashv ..... 19349, 20416  
 \dashV ..... 20415  
 \dashv ..... 18353, 20075  
 \DavidStar ..... 18994, 20263  
 \davidstar ..... 18996, 20682  
 \ddag ..... 17664, 20587  
 \ddagger .. 15000, 17661, 17663,  
 20586  
 \ddots ..... 18498, 20134

\declare@shorthand .....  
 .. 1021, 1022, 1027, 1028,  
 1033, 1043, 1044, 1045,  
 1050, 1051, 1056, 1057,  
 1062, 1067, 1068, 1073,  
 1078, 1079, 1080, 1081,  
 1082, 1083, 1088, 1089,  
 1094, 1095, 1100, 1101  
 \DeclareFontEncoding ... 14891,  
 15291  
 \DeclareFontFamily ... 922, 930  
 \DeclareFontShape ... 923, 931  
 \DeclareFontSubstitution .. 924,  
 932  
 \DeclareLocalOptions .... 4241  
 \DeclareRobustCommand .....  
 .. 4736, 4739, 4748, 4752,  
 4887, 4974, 4976, 4978,  
 4987, 6095, 6098, 6101,  
 6104, 6107, 6110, 6113,  
 6238, 6242, 6308, 6312,  
 8776, 8802, 8821, 14741  
 \DeclareTextAccent 14892, 14893,  
 14894, 14895, 14896, 14897,  
 14898, 14899, 14900, 14901,  
 14902, 14903  
 \DeclareVoidOption .....  
 .. 3009, 3023, 3033, 3038,  
 3043, 3056, 3066, 3071,  
 3076, 3082, 3111, 3128,  
 3135, 3140, 3145, 3150,  
 3499, 3507, 3515, 3525  
 \DefaultHeightofCheckBox 6150,  
 13056, 13564, 13933  
 \DefaultHeightofChoiceMenu ...  
 6152, 12896, 13384, 13725  
 \DefaultHeightofReset ... 6148,  
 13030, 13537, 13901  
 \DefaultHeightofSubmit . 6146,  
 13013, 13515, 13878  
 \DefaultHeightofText .... 6154,  
 12872, 13359, 13692  
 \DefaultHeightofTextMultiline ..  
 6155, 12870, 13357, 13690  
 \DefaultOptionsofCheckBox 6160,  
 13058, 13566, 13935  
 \DefaultOptionsofComboBox ...  
 ..... 6163  
 \DefaultOptionsofListBox . 6162  
 \DefaultOptionsofPopdownBox .  
 ..... 6164  
 \DefaultOptionsofPushButton ..  
 6159, 12988, 13488, 13846  
 \DefaultOptionsofRadio ... 6165  
 \DefaultOptionsofReset .. 6158,  
 13033, 13540, 13904

<code>\DefaultOptionsofSubmit</code>	6157, 13016, 13518, 13881	11852, 11854, 11856, 11858, 11860, 11862, 11864, 11866, 11867, 11868, 11869, 11870, 11871, 11872, 11873, 11874, 11875, 11876, 11877	12962, 13174, 13181, 13191, 13388, 13451, 13729, 13795, 14604, 14634
<code>\DefaultOptionsofText</code>	6161, 12877, 13364, 13697		
<code>\DefaultWidthofCheckBox</code>	6151, 13055, 13563, 13932		
<code>\DefaultWidthofChoiceMenu</code>	6153, 12895, 13383, 13724		
<code>\DefaultWidthofReset</code>	6149, 13029, 13536, 13900		
<code>\DefaultWidthofSubmit</code>	6147, 13012, 13514, 13877		
<code>\DefaultWidthofText</code>	6156, 12867, 13354, 13687		
<code>\define@key</code>	2701, 2703, 2746, 2761, 2764, 2767, 2775, 2778, 2788, 2791, 2794, 2811, 2823, 2825, 2828, 2831, 2848, 2852, 2855, 2858, 2861, 2864, 2867, 2870, 2873, 2898, 2954, 2959, 3048, 3156, 3167, 3170, 3177, 3206, 3225, 3228, 3465, 3522, 3534, 3549, 3574, 3577, 3581, 3609, 3614, 3618, 3621, 3628, 3640, 3647, 3657, 3660, 3663, 3667, 3682, 3691, 3701, 3708, 3719, 3726, 3743, 3833, 3842, 3872, 3878, 3884, 3906, 3912, 3918, 3924, 3930, 3936, 3969, 3976, 4010, 4061, 4062, 4082, 4089, 4099, 4129, 4130, 4133, 4136, 4139, 4142, 4145, 4148, 4151, 4174, 4177, 4180, 4904, 4933, 4939, 4951, 5324, 5412, 5468, 5770, 5775, 5788, 5816, 5858, 5861, 5864, 5868, 5871, 5875, 5878, 5882, 5886, 5890, 5893, 5897, 5900, 5903, 5906, 5909, 5946, 5962, 5965, 5968, 5971, 5974, 5977, 6007, 6010, 6013, 6016, 6035, 6041, 6056, 6062, 6079, 6084, 6090, 6698, 6709, 11249, 11255, 11754, 11756, 11759, 11761, 11763, 11772, 11780, 11787, 11789, 11791, 11793, 11795, 11797, 11806, 11816, 11818, 11820, 11821, 11827, 11836, 11838, 11840, 11842, 11844, 11846, 11848, 11850,	<code>\Delta</code> 16543, 19758 <code>\delta</code> 16608, 19771 <code>\dest@name</code> 5244 <code>\df@tag</code> 8261, 8267 <code>\DH</code> 15156, 15567 <code>\dh</code> 15226, 15637, 15638, 20471 <code>\dhal</code> 19632 <code>\DiamondSolid</code> 20308 <code>\diameter</code> 18502, 20136 <code>\diamond</code> 18719, 20164 <code>\diamonddots</code> 17704, 19816 <code>\diamondsuit</code> 18853, 18855, 20671 <code>\digamma</code> 16671, 20572 <code>\dimen@</code> 511, 512, 516, 1890, 1967, 1968, 1971, 1973, 4213, 4214, 4216, 4223, 4224, 5915, 5924, 5927, 5940, 11137, 11138, 11140, 11712, 11727, 11730 <code>\dimexpr</code> 523, 2263, 2265, 2273, 2278, 2281, 2283, 2297, 2299, 2302, 2303, 2310, 2313, 2316, 2317, 2318, 2319, 2329, 2334, 2342, 2346, 2351, 2361, 2364, 2369, 2372, 2377, 2378, 5940 <code>\ding</code> 620, 5982, 5985 <code>\DingObject</code> 13462 <code>\discretionary</code> 689 <code>\div</code> 20451 <code>\divdot</code> 19254, 20690 <code>\divide</code> 9469, 11171 <code>\divideontimes</code> 18406, 20095 <code>\DJ</code> 3430, 15157, 15704 <code>\dj</code> 3427, 3428, 15707 <code>\dls</code> 17948, 19898 <code>\do</code> 1287, 2718, 2723, 2728, 3689, 3721, 3722, 3723, 3724, 3773, 3774, 3775, 3776, 3777, 3778, 3781, 3782, 3783, 3784, 3785, 3786, 3789, 3790, 3793, 3794, 3795, 3796, 3797, 3800, 3801, 3802, 3803, 3804, 3807, 3808, 3809, 3810, 3811, 3814, 3815, 3816, 3817, 3818, 3821, 3822, 3825, 3826, 3827, 3830, 3831, 3837, 3838, 3839, 3840, 4167, 4168, 4169, 4170, 4171, 4172, 5372, 7304, 7917, 7940, 12900,	<code>\documentclass</code> 2, 9076 <code>\dospecials</code> 14613, 14643 <code>\Doteq</code> 18200, 20603 <code>\doteq</code> 18195, 20003 <code>\doteqdot</code> 18198, 20004 <code>\dotminus</code> 18160, 19987 <code>\dotplus</code> 18095, 19958 <code>\dots</code> 560 <code>\dottimes</code> 19255, 20375 <code>\doublebarwedge</code> 19278, 20384 <code>\doublecap</code> 18433, 20629 <code>\doublecup</code> 18436, 20630 <code>\doublesqcap</code> 19266, 20691 <code>\doublesqcup</code> 19271, 20692 <code>\doublevav</code> 17260 <code>\doublevee</code> 19274, 20383 <code>\doublewedge</code> 19272, 20382 <code>\doubleyod</code> 17264 <code>\Downarrow</code> 18018, 19924 <code>\downarrow</code> 19876 <code>\downdownarrows</code> 17994, 19915 <code>\downdownharpoons</code> 19189, 20350 <code>\downharpoonleft</code> 17977, 19908 <code>\downharpoonright</code> 17974, 19907 <code>\downmodels</code> 19356, 20418 <code>\downtherefore</code> 18155, 20600 <code>\downuparrows</code> 18053, 19939 <code>\downupharpoons</code> 19207, 20356 <code>\downvdash</code> 18358, 20616 <code>\dp</code> 6140, 6143, 7592, 9833, 9913, 9950, 9990, 11713, 11716, 12325, 12600, 13673 <code>\dsbiological</code> 18898, 20223 <code>\dschemical</code> 18896, 20222 <code>\dscommercial</code> 18900, 20224 <code>\dsjuridical</code> 18894, 20221 <code>\dsmedical</code> 18892, 20220 <code>\dsmilitary</code> 18889, 20219 <code>\dth@counter</code> 7372, 7373, 7403, 7404, 7431 <code>\dth@everypar</code> 7419 <code>\dtimes</code> 19258, 20376 <code>\dvipdfm@setdim</code> 13670, 13712, 13811, 13836, 13867, 13892, 13920, 13949 <code>\dz</code> 16437, 20570
<b>E</b>			
<code>\Earth</code>	18791, 20649		
<code>\earth</code>	18789, 20191		
<code>\ECIRCUMFLEX</code>	19475, 19559, 19560, 19561, 19562, 19563		
<code>\ecircumflex</code>	19469, 19499, 19500, 19501, 19502, 19503		

<code>\EdefEscapeHex</code> . . . . .	845	<code>\eqcolon</code> . . . . .	18163, 19988	<code>\Field@toks</code> . . . . .	5836, 5837, 5839, 13113, 13130, 13141, 13152, 13162, 13179, 13197, 13205, 13210, 13226, 13235
<code>\EdefEscapeName</code> . . . . .	4000, 4044, 9726, 10476, 11014, 11888, 12961, 12964, 13450, 13453, 13791, 13797	<code>\eqdot</code> . . . . .	19283, 20386	<code>\Field@Width</code> . . . . .	5749, 5895
<code>\EdefEscapeString</code> . . . . .	799, 809	<code>\eqnarray</code> . . . . .	7245, 7247, 7272	<code>\figureautorefname</code> . . . . .	3235, 3253, 3271, 3289, 3307, 3325, 3343, 3373, 3401, 3419, 8929
<code>\EdefUnescapeName</code> . . . . .	4001	<code>\eqslantgtr</code> . . . . .	19312, 20399	<code>\filename@area</code> . . . . .	5142
<code>\EdefUnescapeString</code> . . . . .	794, 8130	<code>\eqslantless</code> . . . . .	19310, 20398	<code>\filename@base</code> . . . . .	5142
<code>\egroup</code> . . . . .	688, 9196, 10301, 10750, 11405, 13121, 13213, 13238	<code>\equal</code> . . . . .	7998	<code>\filename@ext</code> . . . . .	5139, 5140, 5142, 5143
<code>\EightAsterisk</code> . . . . .	19076, 20302	<code>\equalscolon</code> . . . . .	18209, 20008	<code>\filename@parse</code> . . . . .	5138
<code>\EightFlowerPetal</code> . . . . .	19054, 20292	<code>\equalsinferior</code> . . . . .	19843	<code>\find@pdfink</code> . . . . .	9245, 9299, 9309
<code>\EightFlowerPetalRemoved</code> . . . . .	19073, 20301	<code>\equalsuperior</code> . . . . .	19827	<code>\Finv</code> . . . . .	17841, 19866
<code>\eighthnote</code> . . . . .	18871, 20673	<code>\equation</code> . . . . .	7199, 7208, 7212, 7221	<code>\Fire</code> . . . . .	19431, 20441
<code>\eighthinferior</code> . . . . .	19839	<code>\equationautorefname</code> . . . . .	3232, 3250, 3268, 3286, 3304, 3322, 3340, 3358, 3359, 3398, 3416, 8922, 8926	<code>\fivedots</code> . . . . .	19374, 20425
<code>\EightStar</code> . . . . .	19033, 20282	<code>\equiv</code> . . . . .	18223, 20015	<code>\FiveFlowerOpen</code> . . . . .	19052, 20291
<code>\EightStarBold</code> . . . . .	19035, 20283	<code>\er</code> . . . . .	16191, 20509	<code>\FiveFlowerPetal</code> . . . . .	19050, 20290
<code>\EightStarConvex</code> . . . . .	19029, 20280	<code>\errmessage</code> . . . . .	3462	<code>\fiveinferior</code> . . . . .	19836
<code>\EightStarTaper</code> . . . . .	19027, 20279	<code>\es@roman</code> . . . . .	647	<code>\FiveStar</code> . . . . .	18733, 20170
<code>\eightsuperior</code> . . . . .	19823	<code>\es@save@dot</code> . . . . .	1245	<code>\FiveStarCenterOpen</code> . . . . .	19011, 20271
<code>\einferior</code> . . . . .	19847	<code>\escapechar</code> . . . . .	529, 850, 4360, 7297, 14464, 14645, 14696	<code>\FiveStarConvex</code> . . . . .	19019, 20275
<code>\ejective</code> . . . . .	16389, 20561	<code>\esh</code> . . . . .	16330, 19745	<code>\FiveStarOpen</code> . . . . .	18735, 20171
<code>\ell</code> . . . . .	17814, 19861	<code>\eta</code> . . . . .	16614, 19774	<code>\FiveStarOpenCircled</code> . . . . .	19009, 20270
<code>\em</code> . . . . .	604	<code>\eTeX</code> . . . . .	569, 12671	<code>\FiveStarOpenDotted</code> . . . . .	19013, 20272
<code>\emgma</code> . . . . .	16272, 20532	<code>\etex@unexpanded</code> . . . . .	1820, 1827	<code>\FiveStarOutline</code> . . . . .	19015, 20273
<code>\emph</code> . . . . .	583	<code>\eTeXversion</code> . . . . .	9428, 9430, 9432	<code>\FiveStarOutlineHeavy</code> . . . . .	19017, 20274
<code>\empty</code> . . . . .	1269, 3584	<code>\eth</code> . . . . .	15638, 20471	<code>\FiveStarShadow</code> . . . . .	19021, 20276
<code>\emptyset</code> . . . . .	18065, 19945	<code>\evensidemargin</code> . . . . .	8148	<code>\fivesuperior</code> . . . . .	19820
<code>\enc@html</code> . . . . .	5774, 5777	<code>\everypar</code> . . . . .	7445	<code>\Flag</code> . . . . .	18886, 20218
<code>\enc@update</code> . . . . .	545	<code>\ExecuteOptions</code> . . . . .	4228, 4229, 4233	<code>\flap</code> . . . . .	16318, 20545
<code>\END</code> . . . . .	1617, 1618, 1644, 1645, 1660, 1661, 1678, 1679, 1696, 1697, 2076, 2082, 2087, 2189, 2191, 9595, 9608, 9612, 9619, 9632, 9636, 9642, 9654, 9658	<code>\exists</code> . . . . .	18061, 19943	<code>\flapr</code> . . . . .	16317, 20544
<code>\end</code> . . . . .	625, 20709	<code>\ext@figure</code> . . . . .	8496	<code>\flat</code> . . . . .	18876, 20213
<code>\endeqnarray</code> . . . . .	7246, 7268, 7275	<code>\ext@table</code> . . . . .	8495	<code>\Fld@@additionalactions</code> . . . . .	14076, 14119, 14123
<code>\endequation</code> . . . . .	7200, 7234	<code>\extra@b@citeb</code> . . . . .	7924	<code>\Fld@@DingDef</code> . . . . .	5982, 5985, 6004
<code>\endForm</code> . . . . .	5764	<code>\extrasvietnam</code> . . . . .	3508	<code>\Fld@additionalactions</code> . . . . .	14076, 14165, 14193, 14227, 14261, 14295, 14329, 14360
<code>\endinput</code> . . . . .	64, 3020, 3095, 4413, 4518, 8689, 11338, 12663, 14731	<code>\extrasvietnamese</code> . . . . .	3500	<code>\Fld@align</code> . . . . .	5753, 5969, 14144, 14202, 14269
<code>\endlinechar</code> . . . . .	4772	<b>F</b>			
<code>\endNoHyper</code> . . . . .	6272				
<code>\EndPreamble</code> . . . . .	12666	<code>\fa</code> . . . . .	19656	<code>\Fld@altname</code> . . . . .	5885, 5887, 14055, 14057, 14129, 14131
<code>\endsubeqnarray</code> . . . . .	7279, 7290	<code>\fallingdoteq</code> . . . . .	20005	<code>\Fld@annotflags</code> . . . . .	5532, 5534, 14140, 14171, 14198, 14231, 14265, 14300, 14335
<code>\eng</code> . . . . .	15837, 20478	<code>\fallingdotseq</code> . . . . .	18202	<code>\Fld@annotnames</code> . . . . .	14127, 14141, 14172, 14199, 14232, 14266, 14301, 14336
<code>\engma</code> . . . . .	15838, 20479	<code>\FancyVerbLineautorefname</code> . . . . .	3245, 3263, 3281, 3299, 3317, 3335, 3353, 3388, 3391, 3411, 3429, 8939	<code>\Fld@bcolor</code> . . . . .	5755, 6011, 14155, 14157, 14218, 14220, 14246, 14248, 14273, 14285, 14287
<code>\ensuremath</code> . . . . .	673	<code>\farsikaf</code> . . . . .	19698		
<code>\Envelope</code> . . . . .	18950, 20242	<code>\farsiya</code> . . . . .	19702		
<code>\enya</code> . . . . .	16276, 20534	<code>\fatha</code> . . . . .	19682		
<code>\epsdice</code> . . . . .	622, 20456	<code>\fax</code> . . . . .	17851, 19871		
<code>\epsi</code> . . . . .	16195, 20510	<code>\fbox</code> . . . . .	13343, 13346		
<code>\epsilon</code> . . . . .	16610, 19772	<code>\fcdice</code> . . . . .	623, 20457		
<code>\eqcirc</code> . . . . .	18211, 20009	<code>\female</code> . . . . .	18783, 18786, 20646		
		<code>\FemaleFemale</code> . . . . .	18906, 20227		
		<code>\FemaleMale</code> . . . . .	18910, 20229		
		<code>\Field@addtoks</code> . . . . .	5838, 5869, 5872, 6057, 6080		
		<code>\Field@boolkey</code> . . . . .	5325, 5413, 5832, 5862, 5865		



\fld@bcolor . . . . .	14206	\Fld@height . 5904, 12868, 12885,	\Fld@radiosymbol . . 5761, 5978,
\Fld@bordercolor . . .	5756, 6014,	12896, 12951, 12968, 12980,	14250
14151, 14153, 14178, 14186,		13013, 13030, 13056, 13065,	\Fld@rotation 5762, 6008, 14147,
14188, 14205, 14214, 14216,		13355, 13374, 13384, 13440,	14149, 14177, 14182, 14184,
14242, 14244, 14272, 14281,		13467, 13480, 13515, 13537,	14204, 14210, 14212, 14238,
14283, 14307, 14315, 14317,		13564, 13575, 13688, 13704,	14240, 14271, 14277, 14279,
14342, 14350, 14352		13725, 13781, 13793, 13829,	14306, 14311, 14313, 14341,
\Fld@bordersep . . . .	5757, 5963	13878, 13901, 13933, 13941	14346, 14348
\Fld@borderstyle . . . . .		\Fld@hiddenfalse . . . . .	\Fld@submitflags . . . 5514, 5516,
. . . 5759, 5947, 5948, 5949,		5435	14327
5959, 14145, 14176, 14203,		\Fld@hiddentrue . . . . .	\Fld@temp . . . 5981, 5983, 5986,
14236, 14270, 14305, 14358		5436	5987, 5996, 5997
\Fld@borderwidth . . . . .		\Fld@invisiblefalse . . . . .	\Fld@validate@code 6021, 14085,
. . . 5758, 5910, 6134, 6137,		5431	14087
6138, 6141, 6142, 12949,		\Fld@invisibletrue . . . . .	\Fld@value 5665, 5672, 5674, 5972,
12950, 13438, 13439, 13779,		5432	12866, 12881, 12894, 12932,
13780, 14145, 14176, 14203,		\Fld@keystroke@code . . . .	12933, 13353, 13369, 13382,
14236, 14270, 14305, 14358		6023,	13421, 13422, 13686, 13702,
\Fld@calculate@code 6022, 14089,		14077, 14079	13723, 13762, 13763, 14294
14091		\Fld@listcount . . . 12960, 12965,	\Fld@width . 5894, 12867, 12880,
\Fld@cbsymbol 5760, 5975, 14159		12976, 13449, 13454, 13468,	12885, 12895, 12931, 12942,
\Fld@charsize 5750, 5751, 5907,		13474, 13790, 13798, 13802,	12944, 12968, 12980, 13000,
12948, 13437, 13778, 14161,		13807, 13818, 13825	13012, 13020, 13029, 13043,
14224, 14252, 14291, 14340		\Fld@loc . . . . .	13055, 13061, 13065, 13354,
\Fld@checkedfalse . . . . .	5746	5859	13368, 13374, 13383, 13420,
\Fld@checkequals . 5850, 12901,		\Fld@mappingname . 5889, 5891,	13431, 13433, 13467, 13480,
12963, 13182, 13192, 13389,		14059, 14061, 14133, 14135	13501, 13514, 13522, 13536,
13452, 13730, 13796		\Fld@maxlen . 5752, 5898, 14296	13550, 13563, 13570, 13575,
\Fld@choices . . . . .		\Fld@menulength . . 5748, 5901,	13687, 13701, 13704, 13724,
. . . 5639, 5647, 5649, 5653,		12898, 12902, 12948, 13173,	13761, 13772, 13774, 13793,
5662, 5670, 5675, 5723,		13174, 13177, 13386, 13390,	13829, 13860, 13877, 13885,
5725, 5733, 5734, 14226		13437, 13727, 13731, 13778	13900, 13914, 13932, 13939,
\Fld@color . . . 5754, 6017, 14162,		\Fld@name . 5883, 12864, 12892,	13941
14225, 14253, 14292		12985, 13052, 13110, 13115,	\float@caption . . . . . 7693, 7765
\Fld@default . 5664, 5667, 5669,		13126, 13127, 13138, 13139,	\float@makebox . . . . 7767, 7768
5966, 12865, 12881, 12893,		13148, 13149, 13157, 13178,	\floatingpenalty . . . . . 7593
12933, 12961, 13053, 13111,		13195, 13203, 13208, 13223,	\flq . . . . . 654
13129, 13143, 13151, 13158,		13232, 13351, 13380, 13485,	\flqq . . . . . 652
13184, 13194, 13224, 13234,		13560, 13684, 13721, 13843,	\fmtname . . . . . 7
13352, 13369, 13381, 13422,		13929, 14054, 14128	\fmtversion . . . . . 7
13450, 13561, 13685, 13702,		\Fld@norotatefalse . . . . .	\fontencoding . . . 537, 541, 576,
13722, 13763, 13791, 13930,		5448	13335
14254, 14255, 14256, 14293		\Fld@norotatetrue . . . . .	\fontfamily . . . . . 577, 13334
\Fld@DingDef . 5975, 5978, 5980		5447	\fontseries 578, 7337, 7365, 7396,
\Fld@disabledfalse . . . . .	5747	\Fld@noviewfalse . . . . .	13336
\Fld@export . 5477, 5480, 5487,		5451	\fontshape . . . . 579, 4699, 13337
5779		\Fld@noviewtrue . . . . .	\fontsize . . . . . 580
\Fld@findlength . . . 13161, 13172		5452	\Football . . . 18921, 18923, 20677
\Fld@flags 5546, 5548, 5559, 5561,		\Fld@nozoomfalse . . . . .	\footins . . . . . 7587
5575, 5577, 5607, 5609,		5444	\footnote . . . . . 5301
5632, 5634, 14143, 14174,		\Fld@nozoomtrue . . . . .	\footnoteautorefname . . . . .
14201, 14234, 14268, 14303,		5443	. . . 3233, 3251, 3269, 3287,
14338		\Fld@onblur@code . 6025, 14097,	3305, 3323, 3341, 3362,
\Fld@format@code . 6020, 14081,		14099	3365, 3399, 3417, 8923, 8927
14083		\Fld@onclick@code . 6019, 6091,	\footnotesep . . . . . 7591, 7598
\Fld@getmethodfalse . . . . .	5799	14192	\footnotesize . . . . . 609, 7589
\Fld@getmethodtrue . . . . .	5801	\Fld@onenter@code 6028, 14109,	\footnotetext . . . . . 7549
		14111	
		\Fld@onexit@code . 6029, 14113,	
		14115	
		\Fld@onfocus@code 6024, 14093,	
		14095	
		\Fld@onmousedown@code 6026,	
		14101, 14103	
		\Fld@onmouseup@code . . 6027,	
		14105, 14107	
		\Fld@printfalse . . . . .	
		5440	
		\Fld@printrtrue . . . . .	
		5439	

`\footref` ..... 7617, 7618  
`\forall` ..... 18055, 19940  
`\foreignlanguage` ..... 635  
`\Form` ..... 5763  
`\Form@action` 5773, 13102, 14325  
`\Form@boolkey` ..... 5767  
`\Form@htmlfalse` ... 5766, 5785  
`\Form@htmltrue` ..... 5778  
`\Form@method` 5797, 5805, 13102  
`\FourAsterisk` .... 18997, 20264  
`\fourinferior` ..... 19835  
`\FourStar` ..... 19005, 20268  
`\FourStarOpen` ... 19007, 20269  
`\foursuperior` ..... 19819  
`\fourth` ..... 17702, 19815  
`\frown` ..... 18519, 20144  
`\frownie` ..... 18766, 20184  
`\Frowny` ..... 18768, 20642  
`\frq` ..... 655  
`\frqq` ..... 653  
`\fullnote` ..... 19413, 20433  
`\futurelet` ..... 708, 1611  
`\FV@SetLineNo` ..... 7038  
`\FV@StepLineNo` ... 7037, 7039, 7040

## G

`\G` .. 15316, 15355, 15382, 16070, 16072, 16074, 16076, 16082, 16084, 16085, 16092, 16094, 16100, 16102, 16104, 16106  
`\g@addto@macro` ... 6459, 6631, 7826, 8103, 8106, 8109, 8158, 9662, 10639, 11161, 11461, 12036, 12122, 12184, 12486, 12677  
`\G@refundeftrue` 5025, 7926, 7949, 8694, 8714, 8731, 8849  
`\gaf` ..... 19700  
`\Game` ..... 17853, 19872  
`\Gamma` ..... 16541, 19757  
`\gamma` ..... 16606, 19770  
`\gammainferior` ..... 19799  
`\Ganz` ..... 19415, 20702  
`\GaPa` ..... 19401, 20427  
`\Gauge` ..... 6107  
`\ge` ..... 18231, 20020  
`\Gemini` ..... 18819, 20659  
`\gemini` ..... 18817, 20200  
`\GenericError` ..... 696, 3866  
`\GenericInfo` ..... 698, 3864  
`\GenericWarning` . 270, 697, 3865  
`\Gentsroom` ..... 19435, 20443  
`\geq` ..... 18231, 20019  
`\geqclosed` ..... 18392, 20625  
`\geqq` ..... 18236, 20022  
`\geqslant` ..... 19289, 20389

`\getpagerefnumber` ..... 7152  
`\getrefbykeydefault` . 7108, 7109  
`\gexmode` . 11192, 11193, 11293  
`\gg` ..... 18244, 20026  
`\ggg` ..... 18445, 20112  
`\ghayn` ..... 19652  
`\gimel` ..... 17847, 19869  
`\Gin@setfile` ..... 8338, 8339  
`\glossary` ..... 661  
`\glotstop` ..... 16387, 19754  
`\glottal` ..... 16390, 20562  
`\glq` ..... 650  
`\glqq` ..... 648  
`\gnapprox` ..... 19302, 20395  
`\gneq` ..... 19298, 20393  
`\gneqq` ..... 18240, 20024  
`\gnsim` ..... 18473, 20124  
`\Greeknumeral` ..... 1109  
`\greeknumeral` ..... 1108  
`\grq` ..... 651  
`\grqq` ..... 649  
`\gtrapprox` ..... 19293, 20391  
`\gtrclosed` ..... 18385, 20622  
`\gtrdot` ..... 18441, 20110  
`\gtreqless` ..... 18451, 20114  
`\gtreqqlless` ..... 19308, 20397  
`\gtrless` ..... 18263, 20035  
`\gtrsim` ..... 18259, 20033  
`\guill@spacing` ..... 1038  
`\guillemotleft` 1078, 15083, 15265, 15492, 19456  
`\guillemotright` ... 1079, 15114, 15266, 15525, 19457  
`\guilsinglleft` 15014, 15267, 17685, 19458  
`\guilsinglright` ... 15016, 15268, 17687, 19459

## H

`\H` .. 15312, 15357, 15384, 15406, 15848, 15850, 15912, 15914, 17183, 17185  
`\h` .. 3420, 19482, 19487, 19492, 19497, 19502, 19507, 19512, 19517, 19522, 19527, 19532, 19537, 19542, 19547, 19552, 19557, 19562, 19567, 19572, 19577, 19582, 19587, 19592, 19597  
`\H@@footnotemark` . 7452, 7469, 7533, 7622, 7629, 7641, 7652  
`\H@@footnotetext` .....  
... 7451, 7461, 7493, 7532, 7571, 7630, 7644, 7652  
`\H@mpfootnotetext` 7459, 7471, 7473, 7534  
`\H@definecounter` .. 8243, 8245

`\H@endeqnarray` ... 7246, 7269  
`\H@endequation` ... 7200, 7240  
`\H@endsubeqnarray` . 7279, 7291  
`\H@eqnarray` ..... 7245, 7250  
`\H@equation` ..... 7199, 7223  
`\H@item` 6828, 6834, 7834, 7859  
`\H@newctr` ..... 8248, 8250  
`\H@old@part` .... 14795, 14806  
`\H@old@schapter` .. 14765, 14774  
`\H@old@ssect` 14816, 14827, 14836  
`\H@old@spart` .... 14808, 14814  
`\H@old@ssect` .... 14751, 14756  
`\H@refstepcounter` .. 6845, 6855, 7039, 7163, 7176, 7222, 7378, 7409, 7688, 8510, 8563  
`\H@seteqlabel` ..... 8279, 8281  
`\H@subeqnarray` .... 7278, 7282  
`\ha` ..... 19668  
`\Haa` ..... 19626  
`\Halb` ..... 19418, 20703  
`\halfnote` ..... 19416, 20434  
`\halign` ..... 670  
`\hamza` ..... 19602  
`\HandCuffLeft` .... 18746, 20176  
`\HandCuffRight` ... 18748, 20177  
`\HandLeft` ..... 18750, 20178  
`\HandRight` ..... 18753, 20179  
`\HaPa` ..... 19403, 20428  
`\HAR@checkcitations` ..... 8014  
`\HAR@citetoaux` ..... 7970  
`\HAR@tempa` 8015, 8016, 8017, 8018, 8019, 8020  
`\hardsign` ..... 16841, 20573  
`\harvardcite` ..... 7964, 8001  
`\harvarditem` ..... 7989  
`\hateq` ..... 18215, 20011  
`\hausab` ..... 15949, 19718  
`\hausab` ..... 16167, 20503  
`\hausad` ..... 15953, 19719  
`\hausad` ..... 16181, 20508  
`\hausak` ..... 15963, 19720  
`\hausak` ..... 15967, 20484  
`\hbar` ..... 15755, 19717  
`\hbox` ..... 1882, 1888, 1894, 2600, 3595, 3601, 5177, 5179, 5895, 6128, 6129, 6130, 6131, 7954, 8143, 9189, 9755, 9834, 9844, 9914, 9928, 9951, 9966, 9991, 10006, 10277, 10294, 11369, 11716, 11730, 12326, 12336, 12601, 12616, 13250, 13703, 13792, 13828, 13858, 13886, 13915, 13940, 14743  
`\hc@currentHref` ..... 7704  
`\HCode` ... 13102, 13104, 13115, 13124, 13136, 13144, 13146,

13177, 13183, 13188, 13193, 13207, 13212, 13216, 13219, 13228	\hskip . . 1893, 1980, 2641, 2642, 4884, 6134, 13250	\hvtex@trans@effect@Dissolve . . ..... 11046
\hdotfor ..... 17667, 19809	\hslash ..... 17810, 19859	\hvtex@trans@effect@Glitter . . . ..... 11047
\headerps@out .... 6732, 12026, 12037, 12109, 12123, 12176, 12185, 12198, 12212, 12251, 12369, 12487, 12678	\hspace ..... 658, 8004, 8005	\hvtex@trans@effect@R . . 11050
\heartsuit . 18850, 18852, 20670	\hss ..... 8152, 14748	\hvtex@trans@effect@Split 11048
\hebalef ..... 17205	\ht 6136, 6139, 9842, 9917, 9926, 9933, 9954, 9964, 9971, 9994, 10004, 10011, 11712, 12334, 12614, 13671	\hvtex@trans@effect@Wipe 11049
\hebayin ..... 17241	\htmladdimg ..... 5299	\hvtex@trans@par 11083, 11087, 11089, 11092, 11095
\hebbet ..... 17207	\htmladdnormallink ..... 5300	\hvtex@trans@params . . . 11077, 11079, 11103
\hebdalet ..... 17211	\htmladdnormallinkfoot . . . 5301	\Hy@@CleanupFile . 5177, 5179
\hebfinalkaf ..... 17225	\htmlref ..... 5302	\Hy@@DefNameKey . 2743, 2745
\hebfinalmem ..... 17231	\htrtaild ..... 19806	\Hy@@escapeform 14020, 14033, 14039
\hebfinalnun ..... 17235	\Huge ..... 606	\Hy@@SectionAnchor . . . . 14738, 14741
\hebfinalpe ..... 17243	\huge ..... 610	\Hy@Ctemp . . 3625, 3627, 6031, 6033
\hebfinaltsadi ..... 17247	\Hurl ..... 4973, 4975, 4977	\Hy@@VersionCheck . . 292, 311
\hebgimel ..... 17209	\hv ..... 15962, 20483	\Hy@cabspace . 6479, 6565, 6681, 6758
\hebhe ..... 17213	\hv@pdf@char . . . 14533, 14598, 14599, 14600, 14601	\Hy@Acrobatmenu . . 4298, 4339, 9724, 10474, 11015, 11889
\hebhet ..... 17219	\hvtex@buffer . . . 11056, 11060, 11068, 11071, 11080, 11084, 11100	\Hy@Activeanchorfalse ..... .. 4770, 9290, 9786, 9801, 9880, 9890, 10206, 10735, 10752, 10823, 10836, 11355, 12274, 12289, 12554, 12568
\hebkafe ..... 17227	\hvtex@gettoken . 11055, 11069, 11073, 11082, 11086	\Hy@Activeanchortrue ..... .. 9286, 9783, 9797, 9878, 9887, 10202, 10731, 10749, 10821, 10833, 11345, 12271, 12285, 12551, 12564
\heblamed ..... 17229	\hvtex@gettoken@ . 11056, 11058	\Hy@ActiveCarriageReturn 4806, 4809
\hebmem ..... 17233	\hvtex@par@dimension . . 11051, 11092	\Hy@AllowHyphens 4880, 11343, 11375, 11699
\hebnnun ..... 17237	\hvtex@par@direction . . . 11052, 11095	\Hy@AlphNoErr 6935, 6948, 6950
\hebpe ..... 17245	\hvtex@par@duration . . . 11053, 11087	\Hy@AnchorName ..... .. 5010, 5012, 5015, 5017, 5041, 5043, 5047, 5052, 5054
\hebqof ..... 17251	\hvtex@par@motion 11054, 11089	\Hy@Appendixstring 6930, 6952
\hebresh ..... 17253	\hvtex@param@dimension 11064, 11093, 11111, 11114	\Hy@BeginDocument ..... ... 365, 1017, 2882, 2942, 3016, 3091, 3147, 3537, 4210, 4253, 4270, 4409, 4415, 4514, 4667, 4757, 6206, 6317, 6765, 7044, 7961, 8768, 8916, 9184, 9670, 10289, 10804, 12211, 12249, 13265, 13266
\hebsamekh ..... 17239	\hvtex@param@direction . 11065, 11096, 11122, 11130	\Hy@AtBeginDocumentHook 366, 371, 377, 378
\hebshin . . 17255, 17256, 20575	\hvtex@param@duration . 11066, 11088, 11135, 11137	\Hy@AtEndOfPackage . . . . 368, 908, 2516, 3501, 3509, 3516, 4397, 4423, 4429, 4619
\hebsin ..... 17256, 20575	\hvtex@param@motion . . 11067, 11090, 11111, 11118	
\hebtav ..... 17258	\hvtex@parse@trans 11040, 11062	
\hebtet ..... 17221	\hvtex@produce@trans . . . 11101, 11107	
\hebtsadi ..... 17249	\hvtex@token . . . 11059, 11070, 11076, 11083, 11088, 11091, 11094, 11096	
\hebvav ..... 17215	\hvtex@trans@code 11044, 11045, 11046, 11047, 11048, 11049, 11050, 11063, 11109, 11110, 11112, 11114, 11116, 11118, 11120, 11122, 11124, 11125, 11126, 11127, 11128, 11130	
\hebyod ..... 17223	\hvtex@trans@effect@Blinds . . . . ..... 11044	
\hebzayin ..... 17217	\hvtex@trans@effect@Box 11045	
\Hermaphrodite . . . 18912, 20230		
\hfill . . . 6128, 6129, 6130, 6131, 7845, 7878		
\Hfootnoteautorefname . . . 8923		
\hyperref ..... 5306		
\hinferior ..... 19851		
\hoffset ..... 8144		
\hookb ..... 16166, 20502		
\hookd ..... 16180, 20507		
\hookg ..... 16213, 20514		
\hookh ..... 16233, 20519		
\hookheng ..... 16237, 20521		
\hookleftarrow . . . 17934, 19892		
\hookrelepsilon . . . 16202, 20511		
\hookrightarrow . . 17936, 19893		
\hphantom ..... 619		
\href 662, 4887, 5300, 5301, 6298		
\href@ ..... 4890, 4893, 4898		
\href@split ..... 4898, 4899		
\hsize ..... 7594		

\Hy@AtEndOfPackageHook	369, 372, 374, 375	10368, 10407, 10439, 10468, 10494, 10822, 10844, 10914, 10940, 10975, 11008, 11027, 11373, 11650, 11652, 12272, 12295, 12330, 12343, 12552, 12574, 12609, 12622	11280, 11281, 11282, 11540, 11541, 11542, 11543, 11544, 11545, 11546, 11547, 11548, 11549, 12102, 12395, 12396, 12397, 12398, 12399, 12400, 12401, 12402, 12403, 12404		
\Hy@atrestore	934, 937				
\Hy@author	6386, 6390				
\Hy@babelnormalise	4988, 4990				
\Hy@backout	4766, 6257, 6261, 7800	\Hy@colorlinksfalse	3526		
\Hy@backreffalse	433, 3197, 3219, 4421	\Hy@ColorList	3688, 3689		
\Hy@backreftrue	3190, 3194, 3216	\Hy@CounterExists	6793, 6806, 6809		
\Hy@BeginAnnot	10319, 10336, 10377, 10414, 10446, 10475	\Hy@currentbookmarklevel	14381, 14391, 14392, 14398, 14405, 14498, 14501, 14506, 14510		
\Hy@bibcite	7823, 7827	\Hy@debugfalse	429		
\Hy@bookmarksdepth	3580, 3585, 3597, 3603, 14375	\Hy@debugtrue	428		
\Hy@bookmarksnumberedfalse	434	\Hy@defaultbp	5910, 5912		
\Hy@bookmarksopenfalse	435	\Hy@defaultbpAux	5914, 5919, 5933		
\Hy@bookmarkstrue	436	\Hy@defaultdriver	4503, 4528, 4538, 4549		
\Hy@bookmarkstype	3615, 3617, 8174, 14386	\Hy@DefFormAction	5771, 5773		
\Hy@boolkey	2670, 2762, 2765, 2768, 2789, 2792, 2795, 2826, 2829, 2832, 2849, 2853, 2856, 2859, 2862, 2865, 2868, 2871, 2874, 2955, 3168, 3171, 3226, 3523, 3535, 3550, 3575, 3578, 3619, 3622, 3683, 3843, 4131, 4134, 4137, 4140, 4143, 4146, 4149, 4157, 4178, 4181, 6699	\Hy@DefNameKey	2742, 3720, 3772, 3780, 3788, 3792, 3799, 3806, 3813, 3820, 3824, 3829, 3836, 4166		
\Hy@BorderArrayPatch	11767, 11770, 12035, 12485	\Hy@DEST	11667, 11734		
\Hy@breaklinks@unsupported	2837, 11321	\Hy@destlabelfalse	440		
\Hy@breaklinksfalse	437	\Hy@DestName	9232, 9239		
\Hy@breaklinksunhbox	11666, 11720	\Hy@DestRename	5240, 5265, 5269		
\Hy@CatcodeWrapper	4628, 4687, 4731, 4760	\Hy@DisableOption	2699, 4290, 4291, 4292, 4294, 4297, 4402, 4428, 4565, 4566, 4567, 4568, 4569, 4570, 4571, 4572, 4573, 4574, 4575, 4576, 4577, 4578, 4579, 4580, 4581, 4582, 4627, 4680, 4708, 4709, 4768, 4769, 5295, 6210, 6211, 6212, 6213, 6214, 6215, 6216, 6217, 6218, 6219, 6220, 6221, 6222, 6223, 6224, 6225, 6226, 6227, 6228, 6229, 6230, 6231, 6232, 6233, 6410, 6633, 7656, 8343, 8441, 8442, 9109, 9212, 9580, 9581, 9582, 9583, 9584, 9585, 9586, 9587, 9588, 9589, 9719, 10045, 10046, 10047, 10048, 10049, 10050, 10051, 10052, 10053, 10054, 10317, 10537, 10538, 10539, 10540, 10541, 10542, 10543, 10544, 10545, 10546, 10664, 10806, 11273, 11274, 11275, 11276, 11277, 11278, 11279,	\Hy@DviErrMsg	2980, 2982, 2985, 2991, 3004
\Hy@chapapp	6931, 6952, 6978, 14769, 14780, 14862		\Hy@DviModetrue	2989, 2994	
\Hy@chapterstring	6926, 6928, 6931, 6977		\Hy@DvipdfmxOutlineOpentru	4589, 4596	
\Hy@CheckOptionValue	2713, 2750		\Hy@EndAnnot	10325, 10371, 10410, 10442, 10471, 10497	
\Hy@CJKbookmarksfalse	439		\Hy@endcolorlink	3530, 4695, 4700, 4704, 9194, 9277, 9784, 9821, 9845, 9853, 9879, 9903, 9924, 9938, 9962, 9977, 10002, 10017, 10299, 10327, 10822, 10895, 10916, 10942, 10977, 11010, 11029, 11400, 11659, 12272, 12311, 12337, 12345, 12552, 12588, 12613, 12624	
\Hy@cjkpu	1280, 1282, 1303		\Hy@EndWrap	4629, 4631, 4632, 4665	
\Hy@CleanupFile	5175, 9351, 10379, 10900, 11961		\Hy@Error	264, 280, 286, 300, 2886, 3002, 3027, 3060, 3098, 3105, 3116, 3122, 4323, 4941, 5108, 5472, 5596, 5792, 5824, 6036, 6085, 12991, 13037, 13492, 13544, 13850, 13908	
\Hy@colorlink	3529, 4691, 4699, 4703, 9185, 9271, 9344, 9384, 9420, 9749, 9784, 9807, 9838, 9851, 9879, 9895, 9920, 9936, 9958, 9975, 9998, 10015, 10290,		\Hy@escapeform	12884, 12967, 12979, 13003, 13021, 13044, 13064, 13372, 13457, 13478, 13504, 13524, 13551, 13573, 13709, 13801, 13832, 13864, 13888, 13916, 13946, 14014,	

14044, 14051

\Hy@escapestring 14011, 14079, 14083, 14087, 14091, 14095, 14099, 14103, 14107, 14111, 14115, 14159, 14192, 14293, 14294, 14325

\Hy@EveryPageAnchor .. 8116, 8159

\Hy@EveryPageBoxHook .....  
.. 6436, 6440, 6444, 8158, 10639, 11161, 11461

\Hy@EveryPageHook 6435, 6439, 6631, 9662

\Hy@ExchangeLeftParenthesis ..  
..... 8972, 8978

\Hy@ExchangeRightParenthesis .  
..... 8982, 8988

\Hy@false 2564, 2680, 3182, 3218, 5821

\Hy@finalfalse ..... 396

\Hy@finaltrue ..... 395

\Hy@FirstPage ..... 4309

\Hy@FirstPageHook .....  
.. 6437, 6451, 6452, 6456, 6459, 6730, 6731, 12036, 12122, 12184, 12486, 12677

\Hy@FixNotFirstPage 9753, 9754, 9762

\Hy@float@caption .. 7694, 7744, 7758

\Hy@float@currentHref .. 7748, 7751, 7753, 7759, 7761, 7763

\Hy@footnote@currentHref .....  
.. 6205, 7481, 7486, 7501, 7506, 7509, 7521, 7523, 7562, 7603, 7606

\Hy@FormObjects 13303, 13581, 13635, 13645, 13957, 14007

\Hy@frenchlinksfalse ..... 3528

\Hy@Gin@setfile ... 8338, 8340

\Hy@GlobalStepCount 473, 6565, 7008, 7031, 8134, 8552, 8603

\Hy@gtemp ..... 823, 824, 4361, 4367, 4369, 5669, 5670, 5674, 5675, 5686, 5700, 7538, 7543, 8996, 8998, 14072, 14074

\Hy@href ..... 4890, 4892

\Hy@href@nextactionraw .....  
..... 4927, 4950, 4952, 4953, 4955, 4960, 4964, 4966, 9340, 9380, 9416, 9745, 10364, 10403, 10435, 10464, 10490, 10859, 10929, 10997, 11986, 12015

\Hy@href@page 4905, 4907, 4911, 4912, 4914, 4921, 4924, 9376, 10398, 11982

\Hy@hyperfiguresfalse ..... 442

\Hy@hyperfootnotestruetrue ... 444

\Hy@hyperindextrue ..... 445

\Hy@hypertextnamesfalse .. 2520

\Hy@hypertextnamestruetrue ... 446

\Hy@IfStringEndsWith .. 5143, 5155

\Hy@imPLICITtrue ..... 447

\Hy@Info .....  
267, 2688, 4372, 4374, 4377, 4379, 4382, 4384, 4387, 4389, 4392, 4394, 4612, 4618, 4696, 4701, 4705, 4849, 4876, 5379, 6167, 6169, 6172, 6174, 6177, 6179, 6182, 6184, 6187, 6189, 6192, 6194, 6197, 6199, 7901, 7962, 8179, 8196

\Hy@InfoNoLine 268, 4404, 4406, 9034, 12531

\Hy@IsNotEmpty .. 5247, 5248, 5271

\Hy@LastPage ..... 4312

\Hy@level . 14387, 14389, 14400, 14405, 14406, 14407, 14438

\Hy@levelcheck ... 14388, 14403

\Hy@linkcounter ..... 477, 479, 7008, 7009, 7031, 7032, 8282, 8552, 8553, 8557, 8603, 8604, 8608

\Hy@linkfileprefix .. 3659, 5127, 9824, 10700, 12315, 12591

\Hy@LinkMath .. 11364, 11366, 11371, 11403, 11691, 11693, 11698, 11700, 11706, 11708

\Hy@linktoc . 2797, 2799, 2807, 2809, 2819, 8215

\Hy@linktoc@all ..... 2805

\Hy@linktoc@none ..... 2802

\Hy@linktoc@page .. 2797, 2804, 2807

\Hy@linktoc@section 2799, 2803, 2809

\Hy@linktocpagefalse ..... 448

\Hy@localanchornamefalse .. 449

\Hy@LookForParentCounter 6908

\Hy@LT@currentHref 7178, 7189

\Hy@LT@footnotetext 7561, 7570

\Hy@make@anchor . 8256, 8262, 8268

\Hy@make@df@tag@@ 8260, 8275

\Hy@make@df@tag@@@ .. 8266, 8276

\Hy@MakeCurrentHref .. 7019, 7032

\Hy@MakeCurrentHrefAuto 7030, 7112, 8257, 14366, 14753, 14769, 14780, 14810, 14824, 14862

\Hy@MakeRemoteAction . 4910, 9354, 10382, 11964

\Hy@maketitle@end . 7633, 7638, 7640

\Hy@maketitle@optarg 7631, 7636

\Hy@Match ..... 315, 317, 3159, 3669, 3729, 3746, 4105, 4955, 5949

\Hy@MaybeStopNow 3081, 4234, 4237

\Hy@Message .....  
269, 3015, 3090, 4408, 4513, 4557, 10756, 10760, 10763, 10766, 10769, 10772, 10775, 10778, 12861, 13074, 13078, 13081, 13084, 13087, 13090, 13093, 13096, 13106, 13243, 13640

\Hy@naturalnamesfalse .... 451

\Hy@nestingfalse ..... 452

\Hy@newline@author ..... 6429

\Hy@newline@title ..... 6428

\Hy@next ... 6581, 6591, 6596, 14779, 14788, 14791

\Hy@nextfalse ..... 4341, 8353

\Hy@NextPage ..... 4303

\Hy@nexttrue 4342, 4343, 4344, 8354, 8355, 8356

\Hy@number .. 4074, 4078, 4086

\Hy@numberline . 14382, 14419, 14420, 14421, 14422

\Hy@ObsoletePaperOption 2771, 2779

\Hy@ocgcolor 9188, 9202, 10293, 10307

\Hy@ocgcolorlinksfalse 3527, 4675

\Hy@org@chapter . 14777, 14792

\Hy@OrgMakeLabel 12646, 12653

\Hy@OutlineName . 14657, 14712

\Hy@OutlineRerunCheck . 14522, 14621, 14703

\Hy@PageAnchorSlide ... 8076, 8114, 8127

\Hy@PageAnchorSlidesPlain 8063, 8113, 8122

\Hy@pageanchortruetrue ..... 455

\Hy@pagecounter 478, 480, 7070, 8134, 8136

\Hy@pageheight ... 4224, 12124, 12213

\Hy@param .. 6976, 6977, 6978, 7005, 7009

\Hy@pdfafalse ..... 471



\Hy@pdfcenterwindowfalse .	438	\Hy@pstringF . . . . .	9350, 9351, 9352, 9372, 9390, 9409, 9414, 10378, 10379, 10380, 10395, 10415, 10428, 10433, 10899, 10900, 10904, 10984, 10991, 10995, 11960, 11961, 11962, 11979, 11994, 12010, 12013	\Hy@ReturnAfterElseFiFiEnd . . . . .	483, 1854
\Hy@pdfdisplaydoctitlefalse .	470	\Hy@pstringName 14656, 14657, 14672, 14686		\Hy@ReturnAfterFiFiEnd .	482, 1846, 1860, 1948, 1955
\Hy@pdfencoding@pdfdoc .	2937	\Hy@pstringP 9391, 9414, 10416, 10433, 10985, 10995, 11995, 12013		\Hy@ReturnEnd .	481, 482, 483, 1866, 1960
\Hy@pdfescapeformfalse . . .	441	\Hy@pstringURI . . . 9315, 9336, 10447, 10460, 10843, 10855, 10921, 10925, 11936, 11948		\Hy@safe@activesfalse <u>484</u> , 4721, 4726, 5071, 8838	
\Hy@pdffitwindowfalse . . . .	443	\Hy@PutCatalog 6627, <u>6635</u> , <u>6747</u>		\Hy@safe@activestru . . . . .	484, 4350, 4719, 4724, 4802, 4839, 4847, 4875, 4992, 5063, 5233, 5243, 8744, 8827, 14614, 14644
\Hy@pdfmarkerrorfalse . .	11630	\Hy@raisedlink 2588, 6886, 7114, 7135, 7136, 7137, 7140, 7190, 7230, 7235, 7238, 7261, 7433, 7484, 7504, 7575, 7601, 7732, 7811, 7835, 7840, 7860, 8258, 8283, 12024, 12107, 12365, 12529, 14367, 14745, 14770, 14781, 14811, 14863		\Hy@saved@currentHref . .	7519, 7522
\Hy@pdfmarkerrortrue . .	11800, 11809	\Hy@raiselinksfalse . . 460, 7963		\Hy@saved@footnotemark	7627, 7642
\Hy@pdfmenubartrue . . . . .	450	\Hy@RemoveDurPageAttr 9619, <u>9632</u>		\Hy@saved@footnotetext .	7628, 7645
\Hy@pdfminorversion . . . . .	9008, 9014, 9017, 9025, 9044, 9067, 9088, 9103, 9107	\Hy@RemoveHidPageAttr 9642, <u>9654</u>		\Hy@saved@hook . . .	6414, 6424
\Hy@pdfnewwindowfalse . . .	454	\Hy@RemovePercentCr . . 4822, 4826, 4831		\Hy@saved@refstepcounter	6872, 7164
\Hy@pdfnewwindowsetfalse	453, 4154	\Hy@RemoveTransPageAttr 9594, <u>9608</u>		\Hy@SavedSpaceFactor . . . . .	2571, 2573, 2578, 2579, 2585, 12651
\Hy@pdfnewwindowsettrue	4156, 4929	\Hy@reserved@a 5057, 7248, 7281, 13109, 13159, 13222		\Hy@SaveLastskip . . . . .	2609, 9229, 9775, 9790, 9872, 9884, 10141, 10723, 10739, 10814, 10827, 11326, 11340, 12264, 12278, 12544, 12558
\Hy@pdfnewwindowtrue . .	4930	\Hy@RestoreCatcodes <u>205</u> , 4230, 4564		\Hy@SaveSavedSpaceFactor . . . .	2583, 9830, 9910, 9947, 9987, 12322, 12597
\Hy@pdfpagehiddenfalse . . .	457	\Hy@RestoreLastskip . . . . .	2609, 9233, 9787, 9802, 9881, 9891, 10193, 10736, 10753, 10824, 10837, 11336, 11356, 12275, 12290, 12555, 12569	\Hy@SaveSpaceFactor . . . . .	2572, 2592, 2603, 9829, 9841, 9909, 9923, 9946, 9961, 9986, 10001, 11368, 11404, 11689, 11701, 11709, 12321, 12333, 12596, 12612, 12649, 12656
\Hy@pdfpagelabelsfalse . . .	6466	\Hy@RestoreSavedSpaceFactor . .	2584, 9832, 9912, 9949, 9989, 12324, 12599	\Hy@scanauthor . . .	6384, 6389
\Hy@pdfpagelabelstrue . . . .	456	\Hy@RestoreSpaceFactor . . . . .	2575, 2601, 2606, 9831, 9839, 9846, 9911, 9921, 9929, 9948, 9959, 9967, 9988, 9999, 10007, 11370, 11406, 11697, 11705, 11732, 12323, 12331, 12338, 12598, 12610, 12617, 12654, 12658	\Hy@scanoptauthor .	6384, 6385
\Hy@pdfstringdef <u>822</u> , 5644, 5652				\Hy@scanopttitle . . .	6375, 6376
\Hy@pdfstringfalse . .	458, 6235			\Hy@scantitle . . . . .	6375, 6380
\Hy@pdfstringtrue . . .	675, 6207			\Hy@secnum@part	14798, 14800, 14803
\Hy@pdftoolbartrue . . . . .	464			\Hy@SectionAnchorHref . .	672, 14736, 14758, 14829
\Hy@pdfusetitlefalse . . . . .	467			\Hy@SectionHShift	14735, 14744, 14754, 14825
\Hy@pdfversion 2967, 2978, 5646, 9030, 9038, 9044, 9067, 9070, 9088, 9090, 9104, 9107, 14066				\Hy@seminarslidesfalse . . .	8502
\Hy@pdfwindowuitrue . . . . .	469			\Hy@seminarslidestrue . . . .	8499
\Hy@plainpagesfalse . . . . .	459			\Hy@setbreaklinks . .	2834, 2838, 2850, 9004, 10134
\Hy@PrevPage . . . . .	4306			\Hy@SetCatcodes <u>181</u> , 231, 4232	
\Hy@ProvideTheHCounter <u>6891</u>					
\Hy@ps@CR <u>12166</u> , 12173, 12178, 12179, 12196, 12217, 12218, 12219, 12225, 12232, 12239, 12246					
\Hy@psdextrafalse . . . . .	463				
\Hy@pstringB 9496, 9501, 10577, 10589, 11603, 11619, 12458, 12474					
\Hy@pstringD 9353, 9378, 10381, 10400, 11963, 11984					
\Hy@pstringdef <u>8943</u> , 9231, 9255, 9315, 9352, 9353, 9390, 9391, 9496, 10144, 10345, 10380, 10381, 10415, 10416, 10447, 10577, 10843, 10921, 10984, 10985, 11603, 11798, 11807, 11936, 11962, 11963, 11994, 11995, 12458, 14037, 14656, 14672					
\Hy@pstringDest . . .	9231, 9232, 10144, 10191, 11798, 11799, 11803, 11807, 11808, 11812				

\Hy@SetNewWindow	4160, 9374, 9411, 10402, 10430, 10992, 11978, 12009	6067, 6068, 6069, 6070, 6071, 6072, 6073, 6074, 6075, 6076, 6077, 6522, 6525, 6534, 6536, 6540, 6544, 6588, 6590, 6894, 6895, 6914, 7064, 7067, 7070, 7076, 7202, 7208, 7329, 7354, 7611, 7617, 8450, 8451, 9046, 9049, 9050, 9066, 9084, 9511, 9540, 9542, 10064, 10069, 10075, 10079, 10082, 10087, 10118, 10120, 10549, 10592, 10594, 11503, 11506, 11510, 11511, 11517, 11518, 11524, 11552, 11557, 11563, 11567, 11570, 11575, 11608, 11610, 11671, 11672, 11676, 11764, 11765, 11773, 11774, 11878, 11879, 12407, 12412, 12418, 12422, 12425, 12430, 12463, 12465, 14019, 14020, 14654, 14660, 14668, 14683	14465, 14466, 14468, 14469, 14852, 14877, 14882, 14885, 14888	
\Hy@Setouterhbox	. 11665, 11696		\Hy@tempb	.. 6572, 6573, 6612, 6613, 14410, 14411, 14439
\Hy@Setpagesizetrue	..... 461		\Hy@tempcolor	.. 11382, 11384, 11397, 11473, 11475, 11487
\Hy@Setpdfborder	..... .. 3762, 9261, 9320, 9358, 9395, 9729, 10356, 10388, 10422, 10453, 10482, 10863, 10884, 10907, 10933, 10967, 11001, 11020		\Hy@TempPageAnchor	.. 8065, 8121, 8131, 8135, 8151
\Hy@Setpdfversiontrue	.... 2966		\Hy@Test@Alph	.... 6965, 6988
\Hy@Setref@link	.... 8700, 8703		\Hy@Test@alph	.... 6956, 6984
\Hy@SlidesFormatOptionalPage	. 6495, 8062, 8081, 8085		\Hy@Testname	..... .. 9247, 9248, 9253, 9255, 9256, 9270, 10337, 10338, 10343, 10345, 10347, 10363, 10871, 10872, 10877, 10881, 10954, 10955, 10960, 10964, 11478, 11479, 11484, 11495
\Hy@SlidesPage	6502, 8095, 8096, 8102, 8104, 8107, 8110		\Hy@texhtfalse	..... 462
\Hy@slidetitle	8529, 8531, 8538, 8546, 8556, 8580, 8582, 8589, 8597, 8607		\Hy@texhttrue	..... 3010, 4432
\Hy@StartlinkName	. 9259, 9273		\Hy@TheSlideOptionalPage	8080, 8084, 8089, 8098
\Hy@StepCount	472, 6542, 12902, 12965, 13174, 13390, 13454, 13731, 13798, 14502, 14507, 14583		\Hy@title	..... 6377, 6381
\Hy@Stoppedearlyfalse	4239, 6792		\Hy@toclevel	.. 8184, 8188, 8201
\Hy@Stoppedearlytrue	4236, 6789		\Hy@true	2563, 2676, 2678, 3212, 3214, 5818
\Hy@StringLocalhost	5173, 5174, 5189		\Hy@typexmlfalse	..... 465
\Hy@tabularx@hook	7531, 7539		\Hy@undefinedname	9244, 9251, 9253, 10332, 10341, 10343, 10840, 10875, 10877, 10958, 10960, 11469, 11482, 11484
\Hy@temp	..... 703, 710, 826, 898, 1005, 1008, 1016, 1017, 2777, 2782, 2783, 2784, 2785, 2786, 2787, 3624, 3633, 3634, 3635, 3636, 3637, 3638, 3639, 3689, 3690, 3691, 3694, 3696, 3699, 3709, 3712, 3713, 3714, 3715, 3716, 3717, 3727, 3740, 3744, 3759, 3896, 3897, 3937, 3938, 3941, 3944, 3947, 3972, 3980, 3981, 3982, 3983, 3984, 3985, 3986, 3987, 3988, 4152, 4153, 4330, 4334, 4335, 4336, 4337, 4436, 4438, 4443, 4445, 4448, 4462, 4464, 4469, 4471, 4478, 4480, 4485, 4487, 4490, 4550, 4551, 5369, 5373, 5374, 5385, 5469, 5470, 5471, 5473, 5477, 5789, 5790, 5791, 5793, 5797, 5798, 5947, 5959, 6030, 6046, 6047, 6048, 6049, 6050, 6051, 6052, 6053, 6055, 6061,	\Hy@temp@A ..... 735, 736, 1838, 1840, 1851, 1853, 1858, 1859, 1862, 3973, 3975, 6909, 6912, 6913, 6914, 6915, 8372, 8373, 8374, 8381, 8409, 8410, 8411, 8420, 9047, 9058, 9059, 9060, 9061, 9064, 9069, 9072, 9098  \Hy@temp@B ..... 1839, 1840  \Hy@temp@menu ... 9726, 9744, 10476, 10489, 11014, 11017, 11888, 11897  \Hy@tempa .. 2671, 2673, 2675, 2676, 2678, 2680, 2682, 2685, 2688, 2689, 3178, 3179, 3180, 3182, 3183, 3185, 3186, 3188, 3192, 3196, 3207, 3209, 3211, 3212, 3214, 3218, 4808, 4809, 4820, 4824, 4993, 4997, 5062, 5065, 5074, 5076, 5776, 5777, 5817, 5818, 5821, 5825, 6571, 6573, 6611, 6613, 6758, 6760, 7299, 7301, 7302, 7305, 7306, 7307, 7689, 7694, 7699, 8173, 8174, 8192, 8193, 8199, 8516, 8517, 8568, 8569, 9808, 9809, 10704, 10852, 10853, 12296, 12297, 12575, 12576, 14385, 14386, 14409, 14411, 14430, 14431, 14439, 14463,	\Hy@tempc .. 6572, 6573, 6612, 6613, 14410, 14411, 14439  \Hy@TempPageAnchor .. 8065, 8121, 8131, 8135, 8151  \Hy@Test@Alph .... 6965, 6988 \Hy@Test@alph .... 6956, 6984 \Hy@Testname ..... .. 9247, 9248, 9253, 9255, 9256, 9270, 10337, 10338, 10343, 10345, 10347, 10363, 10871, 10872, 10877, 10881, 10954, 10955, 10960, 10964, 11478, 11479, 11484, 11495  \Hy@texhtfalse ..... 462 \Hy@texhttrue ..... 3010, 4432 \Hy@TheSlideOptionalPage 8080, 8084, 8089, 8098  \Hy@title ..... 6377, 6381 \Hy@toclevel .. 8184, 8188, 8201 \Hy@true 2563, 2676, 2678, 3212, 3214, 5818  \Hy@typexmlfalse ..... 465 \Hy@undefinedname 9244, 9251, 9253, 10332, 10341, 10343, 10840, 10875, 10877, 10958, 10960, 11469, 11482, 11484  \Hy@unicodefalse .... 466, 802, 812, 2893, 2894, 2902, 3914, 3920, 7066, 8126, 14068  \Hy@unicodetrue ... 2894, 6692, 6706  \Hy@useHidKeyfalse ..... 3681 \Hy@useHidKeytrue ..... 3685 \Hy@UseMaketitleInfos .. 6430, 9553, 10026, 10509, 11262, 11501, 12376  \Hy@UseMaketitleString . 6411, 6431, 6432  \Hy@UseNameKey ..... .. 2755, 9518, 9519, 9520, 9521, 9522, 9523, 9524, 9525, 9544, 10094, 10095, 10096, 10097, 10098, 10099, 10100, 10101, 10122, 10556, 10557, 10558, 10559, 10560, 10561, 10562, 10563, 10596, 11222, 11223, 11224, 11225, 11226, 11227, 11228, 11229, 11582, 11583, 11584, 11585, 11586, 11587, 11588, 11589, 11612, 12437, 12438, 12439,	

12440, 12441, 12442, 12443,  
 12444, 12467  
 \Hy@varioref@refstepcounter . . .  
     . . . . . 7155, 7162  
 \Hy@varioref@undefined . 7146,  
     7150, 8833  
 \Hy@VerboseAnchor . . . . .  
     . . 4872, 9230, 9776, 9791,  
     9873, 9885, 10142, 10724,  
     10740, 10815, 10828, 11327,  
     11341, 12265, 12279, 12545,  
     12559  
 \Hy@Verbosefalse . . . . . 429, 468  
 \Hy@VerboseGlobalTemp 4848,  
     4849, 4850, 4851, 4855  
 \Hy@VerboseLinkInfo 4855, 4856,  
     4859, 4866  
 \Hy@VerboseLinkStart . . . . .  
     . . 4844, 9293, 9303, 9806,  
     9858, 9894, 9906, 10334,  
     10680, 10703, 10842, 10947,  
     11359, 11471, 12294, 12350,  
     12573, 12630  
 \Hy@VerboseLinkStop 4860, 9278  
 \Hy@verbosetrue . . . . . 428  
 \Hy@VersionCheck . . 277, 4561,  
     19709  
 \Hy@VersionChecked . . 276, 309,  
     4558, 4560  
 \Hy@vt@PutCatalog 6664, 6666  
 \Hy@VTeXversion . . 6644, 6656,  
     10903, 11033, 11169, 14535  
 \Hy@WarnHTMLFieldOption . .  
     . 5843, 5876, 5879, 6063  
 \Hy@Warning . . . . . 265, 340,  
     506, 1778, 2693, 2708, 2733,  
     2813, 2921, 2926, 3541,  
     3593, 3672, 3735, 3754,  
     3890, 3898, 3949, 3996,  
     4004, 4115, 4671, 4916,  
     4959, 5077, 5199, 5426,  
     5781, 5844, 5952, 6702,  
     6717, 8165, 8813, 8863,  
     9249, 10175, 10179, 10339,  
     10873, 10956, 11250, 11256,  
     11480, 11801, 11810, 14394,  
     14412  
 \Hy@WarningNoLine . . . . .  
     . . . 266, 2772, 2840, 2947,  
     3644, 3705, 3849, 3965,  
     4217, 4288, 4440, 4449,  
     4466, 4482, 4491, 6358,  
     6467, 6658, 6772, 7051,  
     8175, 8330, 9080, 11638  
 \Hy@WarningPageBorderColor .  
     . . . 3702, 3704, 3706  
 \Hy@WarningPageColor . 3641,  
     3643, 3645  
 \Hy@WarnOptionDisabled 2705,  
     2707  
 \Hy@WarnOptionValue . . 2686,  
     2692, 3199, 3221  
 \Hy@wrapper@babel 4348, 4366  
 \Hy@WrapperDef . . . . .  
     . . 4358, 9225, 9774, 9789,  
     9871, 9883, 10140, 10722,  
     10738, 10813, 10826, 11325,  
     11339, 12263, 12277, 12543,  
     12557  
 \Hy@writebookmark 2568, 8185,  
     8536, 8544, 8554, 8587,  
     8595, 8605, 14371, 14513  
 \Hy@xspace@end . . . . .  
     . . 4251, 4256, 4260, 4265,  
     4268, 4273, 4274, 4275,  
     4277, 4278, 4279, 4280,  
     4281, 6246, 6247, 6249,  
     6252, 6254, 6255, 6256,  
     6260, 6263, 6266, 6268,  
     6269, 6270, 9309, 9344,  
     9384, 9420, 9851, 9922,  
     9937, 9960, 9976, 10000,  
     10016, 10373, 10409, 10441,  
     10470, 10496, 10684, 10694,  
     10915, 10941, 10976, 11009,  
     11028, 11699, 11707, 12332,  
     12343, 12611, 12623, 12655  
 \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 . . . . . 500, 504  
 \HyCal@scan . . . . 491, 495, 519  
 \HyCnt@LookForParentCounter  
     . . . . . 6897, 6908  
 \HyCnt@ProvideTheHCounter . .  
     . . . . . 6882, 6891  
 \HyColor@FieldBColor . . 6011,  
     6014  
 \HyColor@FieldColor . . . . 6017  
 \HyColor@HyperrefBorderColor  
     . . . . . 3692, 3710  
 \HyColor@HyperrefColor . . . . .  
     . . 3629, 3648, 3649, 3650,  
     3651, 3652, 3653, 3654  
 \HyColor@UseColor . 4693, 9191,  
     9202, 10296, 10307  
 \HyField@AddToFields . 13285,  
     13289  
 \HyField@PDFChoices . 5664,  
     5665, 5680  
 \HyField@SetFlag . 5359, 5361  
 \HyField@UseFlag . 5349, 5351  
 \HyField@AddToFields . . 13255,  
     13284, 13375, 13469, 13482,  
     13508, 13532, 13555, 13577  
 \HyField@AdvanceAnnotCount .  
     . . . . 13677, 13706, 13803,  
     13833, 13861, 13889, 13917,  
     13943  
 \HyField@afields . 13252, 13274,  
     13275, 13277, 13312  
 \HyField@AfterAuxOpen . 13265,  
     13272, 13290  
 \HyField@AnnotCount . . 13675,  
     13678, 13681  
 \HyField@AuxAddToFields . . . .  
     13264, 13269, 13273, 13293  
 \HyField@FlagsAnnot 5519, 5538,  
     5552, 5565, 5581, 5613  
 \HyField@FlagsCheckBox 5551,  
     13060, 13569, 13938  
 \HyField@FlagsChoice . . 5612,  
     12941, 13430, 13771



\HyField@FlagsPushButton	5537, 12999, 13018, 13042, 13500, 13520, 13549, 13859, 13883, 13913	5524, 5525, 5526, 5527, 5528, 5529, 5540, 5541, 5542, 5554, 5555, 5556, 5567, 5568, 5569, 5570, 5572, 5583, 5584, 5585, 5586, 5587, 5588, 5589, 5590, 5601, 5604, 5615, 5616, 5617, 5618, 5620, 5622, 5623, 5626, 5629	3483, 3484, 3485, 3486, 3487, 3488, 3489, 3490, 3491, 3492, 3493, 3494, 3495, 3496, 3497, 3498
\HyField@FlagsRadioButton	5564, 12937, 13426, 13767		\HyLang@english
\HyField@FlagsSubmit	5485, 13019, 13521, 13884		\HyLang@french
\HyField@FlagsText	5580, 12879, 13367, 13700		\HyLang@german
\HyField@NeedAppearancesfalse	5809, 5822		\HyLang@italian
\HyField@NeedAppearancetrue	5812, 5815, 5819		\HyLang@magyar
\HyField@NewBitsetFlag	5317, 5320, 5328		\HyLang@portuges
\HyField@NewFlag	5315, 5391, 5392, 5393, 5394, 5395, 5396, 5397, 5398, 5399, 5400, 5401, 5402, 5403, 5404, 5405, 5406, 5407, 5408, 5409, 5410, 5415, 5416, 5417, 5418, 5419, 5420, 5421, 5422, 5423, 5456, 5458, 5459, 5461, 5462, 5464, 5465, 5466, 5467	\HyInd@@@wrindex	\HyLang@portuges
\HyField@NewFlagOnly	5319, 5457, 5460, 5463	8368, 8371, 8402, 8408	\HyLang@russian
\HyField@NewOption	5316, 5322	\HyInd@@hyperpage	\HyLang@spanish
\HyField@PDFAFlagWarning	5425, 5433, 5437, 5441, 5445, 5449, 5453	8448, 8458	\HyLang@vietnamese
\HyField@PDFChoices	5637, 12978, 13476, 13827	\HyInd@@wrindex	3415, 3500, 3508
\HyField@PrintFlags	5366, 5512, 5530, 5544, 5557, 5573, 5605, 5630	8363, 8364	\HyLinguex@OrgB
\HyField@SetFlag	5358, 5498, 5504, 5509, 5543, 5571	\HyInd@EncapChar	900, 904
\HyField@SetKeys	5741, 12876, 12908, 12911, 12930, 12987, 13015, 13032, 13057, 13363, 13396, 13399, 13418, 13487, 13517, 13539, 13565, 13696, 13737, 13740, 13759, 13845, 13880, 13903, 13934	8358	\HyLinguex@OrgC
\HyField@TheAnnotCount	13680, 13711, 13716, 13808, 13820, 13835, 13840, 13866, 13872, 13891, 13896, 13919, 13924, 13948, 13953	\HyInd@hyperpage	901, 905
\HyField@UseFlag	5348, 5489, 5490, 5491, 5492, 5493, 5494, 5495, 5496, 5499, 5500, 5501, 5502, 5505, 5506, 5507, 5510, 5521, 5522, 5523,	8445, 8447, 8454	\HyLinguex@OrgD
		\HyInd@org@wrindex	902, 906
		8376, 8382, 8384, 8387	\HyLinguex@Restore
		\HyInd@pagelink	903, 916, 920, 928
		8463, 8469, 8471, 8474	\HyNew@float@makebox
		\HyInd@ParenLeft	7745, 7768
		8345, 8373, 8410	\HyOpt@CheckDvi
		\HyInd@ParenRight	2998, 3034, 3039, 3044, 3067, 3072, 3077, 3129, 3136, 3141, 3146, 3151
		8346, 8374, 8381, 8411, 8420	\HyOpt@DriverFallback
		\HyInd@removespaces	3155, 3158, 3159, 3163, 4527, 4532
		8477, 8480, 8490	\HyOpt@DriverType
		\HyInfo@AddonHandler	4500, 4502, 4529, 4539, 4541, 4557
		3991, 3994	\HyOrg@addtoreset
		\HyInfo@AddonList	8288, 8290, 8317
		4018, 4019, 4053, 4060	\HyOrg@appendix
		\HyInfo@Addons	6934, 6953
		4039, 4055, 9577, 10534, 11533, 11537	\HyOrg@author
		\HyInfo@AddonUnsupportedtrue	6374, 6387, 6391
		10024, 11248, 12374	\HyOrg@float@makebox
		\HyInfo@do	7746, 7767
		3993, 4020, 4043	\HyOrg@hyperpage
		\HyInfo@GenerateAddons	8348, 8350, 8351
		4037, 9554, 10510, 11502	\HyOrg@languageshorthands
		\HyInfo@Key	976, 990, 1001, 1011
		4001, 4002, 4010, 4015, 4020, 4023, 4030, 4044, 4048	\HyOrg@make@df@tag@@
		\HyInfo@KeyEscaped	8273, 8274
		4000, 4001	\HyOrg@make@df@tag@@@
		\HyInfo@trapped@false	7625, 7632, 7637
		3941, 3960	\HyOrg@subequations
		\HyInfo@trapped@true	7316, 7323
		3938, 3959	\HyOrg@title
		\HyInfo@trapped@unknown	6373, 6378, 6382
		3944, 3961	\HyOrg@TX@endtabularx
		\HyInfo@TrappedUnsupported	7530
		3962, 3966, 10027, 11263, 12377	\HyOrg@url
		\HyInfo@Value	4972
		4014, 4016	\HyPat@NonNegativeReal
		\HyLang@addto	3730, 3731, 3732, 3733, 3749, 3751, 4096, 4106, 4107, 4108, 4110, 4111, 4112
		3433, 3449, 3467, 3500, 3508	\HyPat@ObjRef
		\HyLang@afrikaans	4956, 4957, 4970, 9005, 10135, 11322
		3231	\hyper@@@anchor
		\HyLang@DeclareLang	4272, 4982, 4984, 5015, 5017, 5052, 5054, 5196, 6247, 6262, 6278, 7480, 7485, 7500, 7505,
		3447, 3476, 3477, 3478, 3479, 3480, 3481, 3482,	

7573, 7576, 7602, 7730,  
7733, 7750, 8066, 8121,  
8131, 8136, 8535, 8543,  
8553, 8586, 8594, 8604  
\hyper@link . 4842, 4900, 5005,  
5033, 5057, 7819, 7965,  
7966, 7967, 8015, 8017,  
8019, 8705, 8720, 8823  
\hyper@normalise . 4811, 4815,  
4819  
\hyper@anchor 5223, 6250, 6264,  
6328, 6341, 9281, 9774,  
9871, 10198, 10738, 10813,  
11325, 12263, 12543  
\hyper@anchorend . . . . .  
. . 4260, 4268, 4275, 6234,  
6252, 6266, 6281, 6887,  
7116, 7191, 7236, 7238,  
7262, 7288, 7437, 7813,  
7838, 7841, 7861, 7994,  
8258, 8284, 9288, 9799,  
9889, 10205, 10733, 10835,  
11347, 12287, 12566, 14367,  
14514, 14746, 14771, 14782,  
14812, 14864  
\hyper@anchorstart . . . . .  
. . 4274, 6234, 6251, 6265,  
6280, 6887, 7115, 7191,  
7230, 7262, 7288, 7434,  
7811, 7836, 7841, 7861,  
7994, 8258, 8284, 9284,  
9789, 9883, 10201, 10722,  
10826, 11339, 12277, 12557,  
14367, 14514, 14746, 14771,  
14782, 14812, 14864  
\hyper@chars . . . . .  
. . 4836, 9316, 9779, 9793,  
9813, 9835, 9849, 9863,  
9943, 9983, 10689, 10710,  
10726, 10743, 10818, 10830,  
10922, 11937, 12281, 12301,  
12327, 12341, 12355, 12561,  
12580, 12603, 12620, 12635  
\hyper@currentanchor . . . 11344,  
11353, 11376, 11393  
\hyper@currentlinktype . . 11377,  
11381, 11385  
\hyper@destlabel@hook . . 5239,  
5246  
\hyper@hash . 4788, 4789, 4837,  
5119, 5131, 5148, 5151,  
6201, 10683  
\hyper@image 4978, 4979, 9861,  
10980, 11466, 12353, 12633  
\hyper@last . . . . . 6348, 6353  
\hyper@link . . . . .  
. . 4273, 5066, 6248, 6249,  
6263, 6273, 6279, 9302,  
9857, 9905, 10372, 10679,  
10946, 11470, 12349, 12629  
\hyper@link@ . 4280, 5058, 5060,  
6246, 6260, 6286  
\hyper@linkend 4260, 4268, 4277,  
6254, 6268, 6283, 7525,  
7805, 7808, 8219, 8223,  
8227, 8229, 9301, 9819,  
9902, 10371, 10373, 10715,  
10893, 11379, 12309, 12586  
\hyper@linkfile 4279, 5144, 6256,  
6270, 6285, 9348, 9823,  
9981, 10375, 10699, 10897,  
11958, 12313, 12590  
\hyper@linkstart . . . . .  
. . 4276, 6253, 6267, 6282,  
7523, 7801, 7808, 8219,  
8223, 8227, 8229, 9292,  
9805, 9893, 10333, 10373,  
10702, 10841, 11358, 12293,  
12572  
\hyper@linkurl . . . . .  
. . 4278, 4977, 5119, 5126,  
5147, 5151, 6255, 6269,  
6284, 9313, 9824, 9826,  
9859, 9941, 10444, 10687,  
10700, 10919, 10981, 11467,  
11934, 12314, 12318, 12351,  
12591, 12593, 12631  
\hyper@livelink . . . . 6248, 6273  
\hyper@makecurrent 6883, 6974,  
7177, 7228, 7259, 7287,  
7379, 7410, 7520, 7706, 7760  
\hyper@normalise . . 4803, 4807  
\hyper@nat@current . . . . 7802  
\hyper@nat@anchorend . . . 7813  
\hyper@nat@anchorstart . . . 7810  
\hyper@nat@linkbreak . . . . 7807  
\hyper@nat@linkend . . . . . 7804  
\hyper@nat@linkstart . . . . . 7799  
\hyper@newdestlabel 5231, 5253,  
5292, 5297  
\hyper@normalise . . 4228, 4233,  
4780, 4890, 4893, 4974,  
4976, 4978, 4999, 5771  
\hyper@pageduration 9615, 9664,  
10621, 10641, 11146, 11163,  
11433, 11463  
\hyper@pagehidden . 9639, 9665,  
10632, 10642, 11156, 11164,  
11450, 11464  
\hyper@pagetransition 9591, 9663,  
10610, 10640, 11035, 11162,  
11416, 11462  
\hyper@quote 6203, 9781, 9795,  
9810, 9815, 9836, 9850,  
9864, 10683, 10693, 10706,  
10729, 10747, 12269, 12283,  
12298, 12304, 12328, 12342,  
12356, 12549, 12562, 12577,  
12582, 12605, 12621, 12636  
\hyper@readexternallink . 5068,  
5084  
\hyper@refstepcounter . . . 6863,  
6866, 6874  
\hyper@tilde . 4797, 4798, 4799,  
6202  
\hyperbaseurl . 3656, 3657, 6297  
\hypercalcbp . . . . . 486, 486  
\hypercalcbpdef . 488, 525, 4093,  
4103  
\hyperdef . . . . . 5007, 6299  
\HyperDestLabelReplace . 5283,  
5290, 5293  
\HyperDestNameFilter . . . . .  
. . 4209, 4876, 5290, 9231,  
9256, 9781, 9795, 9815,  
9859, 10144, 10346, 10683,  
10693, 10711, 10729, 10747,  
10819, 10831, 10880, 10963,  
11798, 11807, 12269, 12283,  
12304, 12351, 12549, 12562,  
12582, 12631, 14592, 14656,  
14672  
\HyperDestRename . 5263, 5281,  
5294  
\HyperFirstAtBeginDocument . .  
. 6325, 6327, 6349, 6352  
\hypergetpageref . . . . . 7109  
\hypergetref . . . . . 7108  
\HyperGlobalCurrentHref 6994,  
6996, 7004, 7005, 7009,  
7012, 7016, 7022, 7023, 7027  
\hyperimage . . 4978, 5299, 8340  
\hyperindexformat . . . . . 8347  
\hyperlink . . . 4841, 6300, 8486,  
8625, 8633, 8648, 8656,  
8666, 8674, 8681  
\hyperlinkfileprefix . 3659, 3660,  
3661, 12535  
\HyperLocalCurrentHref . . . . .  
. . 7012, 7014, 7020, 7021,  
7022, 7023, 7025  
\hyperpage . . 6306, 8348, 8349,  
8351, 8444  
\HyperRaiseLinkDefault . 2570,  
2597  
\HyperRaiseLinkHook 2569, 2598  
\HyperRaiseLinkLength . . 2596,  
2597, 2600  
\hyperref 4987, 5306, 5307, 6302,  
8780, 8784, 8794, 8808

\hypersetup . . . 2914, 2957, 3485, 3977, 4229, 6296	\HyPsd@@@UTFviii@four 2312, 2315	\HyPsd@babel@portuges . . 1061
\hypertarget . . . . . 4980, 6301	\HyPsd@@AppendItalcorr . 1868	\HyPsd@babel@russian . . . 1066
\HyPL@@@CheckThePage 6592, 6610	\HyPsd@@@autoref . . 1696, 1697	\HyPsd@babel@slovene . . . 1072
\HyPL@@CheckThePage . 6568, 6570	\HyPsd@@@autorefname . . 1717, 1720	\HyPsd@babel@spanish . . . 1077
\HyPL@Alph . . . . . 6487	\HyPsd@@CJKdigits 1561, 1563, 1566	\HyPsd@babel@swedish . . . 1087
\HyPL@alph . . . . . 6488	\HyPsd@@CJKnumber . . . . . 1462, 1464, 1467, 1520, 1535, 1548, 1550, 1554	\HyPsd@babel@ukrainian . 1093
\HyPL@arabic . . . . . 6484	\HyPsd@@ConvertToUnicode . . . . . 2191	\HyPsd@babel@usorbian . . 1099
\HyPL@CheckThePage . . 6519, 6567	\HyPsd@@@ding 2450, 2454, 2465	\HyPsd@BabelPatch . . 643, 975, 1010
\HyPL@Entry 6760, 6768, 6776, 6778	\HyPsd@@@GetNextTwoTokens . . . . . 2189	\HyPsd@CatcodeWarning 1899, 1923, 1926, 1929, 1932, 1990
\HyPL@EveryPage . 6507, 6631	\HyPsd@@@GlyphProcessWarning . . . . . 2049, 2052	\HyPsd@Char . . . . . 2193
\HyPL@Format 6583, 6584, 6585, 6586, 6587, 6599	\HyPsd@@@GreekNum 1124, 1133, 1232, 1236, 1240	\HyPsd@CharOctByte . . . 2213, 2215, 2218, 2227, 2232
\HyPL@found 6582, 6589, 6593, 6600, 6610, 6612	\HyPsd@@@hspace . . . 1617, 1618	\HyPsd@CharSurrogate . . 2207, 2224
\HyPL@Labels 6478, 6622, 6623, 6625, 6627, 6678, 6679, 6771, 6779, 6780	\HyPsd@@@LetCommand . 1741, 1762	\HyPsd@CharTwoByte . . 2205, 2212
\HyPL@LastNumber 6482, 6538, 6561	\HyPsd@@@nameref . . 1678, 1679	\HyPsd@CheckCatcodes . . 721, 1874
\HyPL@LastPrefix . . 6483, 6532, 6563	\HyPsd@@@pageref . . 1660, 1661	\HyPsd@CJK@Unicode . . 1344, 1348
\HyPL@LastType . . 6481, 6523, 6562	\HyPsd@@@ProtectSpacesFi 1790, 1794, 1812, 1818, 1823	\HyPsd@CJKActiveChars 1284, 1299
\HyPL@page . 6501, 6510, 6513, 6519, 6528	\HyPsd@@@ref . . . . . 1644, 1645	\HyPsd@CJKdigit . . 1573, 1583
\HyPL@Prefix . . . . . 6528, 6530, 6532, 6546, 6549, 6551, 6563, 6577, 6615	\HyPsd@@@RemoveBraces . . 1836	\HyPsd@CJKdigits . 1346, 1559
\HyPL@Roman . . . . . 6485	\HyPsd@@@RemoveBracesFi 1833, 1836	\HyPsd@CJKhook . . . 674, 1255, 1266
\HyPL@roman . . . . . 6486	\HyPsd@@@RemoveCmdPrefix . . . . . 2006, 2009	\HyPsd@CJKhook@bookmarks . . . . . 1261, 1295
\HyPL@SetPageLabels . . . 6621, 6686, 6774	\HyPsd@@@ReplaceFi 2076, 2082, 2087	\HyPsd@CJKhook@unicode 1263, 1343
\HyPL@SlidesOptionalPage 6494, 6498, 6503	\HyPsd@@@UTFviii@four . . 2296, 2301	\HyPsd@CJKnumber 1345, 1459
\HyPL@SlidesSetPage 6489, 6491, 6511, 6518	\HyPsd@add@accent . 548, 1606	\HyPsd@CJKnumberFour . . . . . 1477, 1481, 1485, 1498, 1502, 1506, 1512
\HyPL@storePageLabel . . 6546, 6548, 6618, 6676, 6755	\HyPsd@AfterCountRemove . . . . . 1883, 1963	\HyPsd@CJKnumberLarge 1490, 1497
\HyPL@thisLabel . . 6475, 6477, 6509, 6513, 6514	\HyPsd@AfterDimenRemove . . . . . 1889, 1966	\HyPsd@CJKnumberThree 1518, 1522, 1528
\HyPL@Type . 6516, 6523, 6527, 6545, 6553, 6562, 6576, 6614	\HyPsd@AfterSkipRemove 1895, 1978	\HyPsd@CJKnumberTwo 1533, 1537, 1543
\HyPL@Useless . . . . 6619, 6625	\HyPsd@AMScsfix . 657, 1627, 1629	\HyPsd@ConvertToUnicode 790, 2139
\HyPsd@@@autoref . 1699, 1701, 1704	\HyPsd@AppendItalcorr . 1852, 1859, 1868	\HyPsd@DecimalToOctal . 1276, 1307
\HyPsd@@@CJKdigits . . . 1569, 1572, 1580	\HyPsd@autoref . . . . . 667, 1696	\HyPsd@DecimalToOctalFirst . . . . . 1350, 1386
\HyPsd@@@nameref 1681, 1683, 1686	\HyPsd@autorefname 1708, 1714	\HyPsd@DecimalToOctalSecond . . . 1351, 1360, 1423, 2469, 2475, 2478
\HyPsd@@@pageref . 1663, 1665, 1668	\HyPsd@babel@danish . . . 1020	\HyPsd@DefCommand 704, 705, 706, 707, 1730
\HyPsd@@@ref . 1647, 1649, 1652	\HyPsd@babel@dutch . . . 1026	\HyPsd@DieFace . 621, 622, 623, 2390, 20456, 20457
	\HyPsd@babel@finnish . . . 1032	\HyPsd@DieFaceLarge 2398, 2407
	\HyPsd@babel@frenchb . . . 1037	\HyPsd@ding . . . . . 620, 2440
	\HyPsd@babel@german . . . 1042	
	\HyPsd@babel@macedonian 1049	
	\HyPsd@babel@ngerman . . 1055	

`\HyPsd@DisableCommands` 957, 959  
`\HyPsd@DoConvert` . 2141, 2151  
`\HyPsd@DoEscape` . . . . . 2165  
`\HyPsd@doxspace` . . . 762, 2112  
`\HyPsd@empty` . . 747, 749, 753, 754, 756, 764, 771  
`\HyPsd@end` . . . . . 721, 725, 1791, 1794, 1797, 1800, 1803, 1816, 1826, 1833, 1836, 1876, 1884, 1890, 1896, 1949, 1956, 1963, 1966, 1978  
`\HyPsd@endWithElse` 1596, 1605  
`\HyPsd@EscapeTeX` . . 801, 811, 2094  
`\HyPsd@fi` 1808, 1814, 1818, 1824  
`\HyPsd@GetNextTwoTokens` 2189  
`\HyPsd@GetOneBye` . . . . . 2184  
`\HyPsd@GetTwoBytes` . . . 2180  
`\HyPsd@GLYPHERR` 727, 1593, 1607, 1614  
`\HyPsd@GlyphProcess` 729, 2037, 2050  
`\HyPsd@GlyphProcessWarning` . . . . . 2044, 2048  
`\HyPsd@GobbleFiFi` 1598, 1604  
`\HyPsd@GreekNum` . 1113, 1116, 1118  
`\HyPsd@Greeknumeral` . . 1109, 1115  
`\HyPsd@greeknumeral` 1108, 1112  
`\HyPsd@GreekNumI` 1136, 1162, 1205, 1231  
`\HyPsd@GreekNumII` 1140, 1184, 1228, 1235  
`\HyPsd@GreekNumIII` . . 1143, 1207, 1239  
`\HyPsd@GreekNumIV` 1152, 1230  
`\HyPsd@GreekNumV` 1155, 1234  
`\HyPsd@GreekNumVI` 1157, 1238  
`\HyPsd@GreekPatch` . 640, 1105, 1107  
`\HyPsd@HighA` . . . . 1354, 1363  
`\HyPsd@HighB` . . . . 1364, 1369  
`\HyPsd@HighC` . . . . 1370, 1373  
`\HyPsd@HighD` . . . . 1366, 1378  
`\HyPsd@href` . . . . . 662, 1643  
`\HyPsd@hspace` . . . . . 658, 1617  
`\HyPsd@hspacetest` . 1620, 1622, 1625  
`\HyPsd@ifnextchar` 690, 691, 692, 1767  
`\HyPsd@ignorespaces` . 671, 966  
`\HyPsd@inmathwarn` . 547, 1590  
`\HyPsd@ITALCORR` . . 682, 686, 1614  
`\HyPsd@langshort@system` 981, 984  
`\HyPsd@LanguageShorthands` . . . . . 977, 982, 994  
`\HyPsd@LetCommand` 708, 709, 1730  
`\HyPsd@LetUnexpandableSpace` . 677, 678, 679, 680, 1610, 1613  
`\HyPsd@LoadStringEnc` . . 2918, 2938, 2940, 2944, 2946, 6697  
`\HyPsd@LoadUnicode` 925, 2877, 2883, 2885, 2892, 6691  
`\HyPsd@MoonPha` . . 2421, 2439, 20458  
`\HyPsd@nameref` . . . . 666, 1678  
`\HyPsd@pageref` . . . . 665, 1660  
`\HyPsd@pdfencoding` . . . . . 791, 2876, 2879, 2901, 2913, 2916, 2917, 2922, 2937, 6693, 6695, 6712, 6715  
`\HyPsd@pdfencoding@auto` 791, 2907, 2917, 2934, 6695, 6714  
`\HyPsd@pdfencoding@pdfdoc` . . . . 2900, 2922, 2935  
`\HyPsd@pdfencoding@unicode` . . . 2904, 2936, 6693, 6711  
`\HyPsd@PrerenderUnicode` . . . . . 3859, 3875, 3881, 3887, 3909, 3927, 3933, 4013  
`\HyPsd@protected@testopt` 693, 694, 1771  
`\HyPsd@ProtectSpaces` 714, 1788, 1809, 1858  
`\HyPsd@ref` . . . . . 664, 1644  
`\HyPsd@RemoveBraces` . . 716, 1830, 1847, 1855, 1861  
`\HyPsd@RemoveCmdPrefix` 1999, 2005  
`\HyPsd@RemoveMask` 724, 1797, 1803, 1816, 1826  
`\HyPsd@RemoveSpaceWarning` . . . . 1973, 1985, 2011  
`\HyPsd@ReplaceSpaceWarning` . . . . 1968, 1980, 2024  
`\HyPsd@Rest` . . . . . 1877, 1945, 1953, 1956, 1964, 1969, 1975, 1981, 1987  
`\HyPsd@RussianPatch` 642, 1248  
`\HyPsd@SanitizeForOutFile` . . . . . 14431, 14462  
`\HyPsd@SanitizeOut@BraceLeft` . . 14466, 14472, 14481  
`\HyPsd@SanitizeOut@BraceRight` . . 14469, 14484, 14493  
`\HyPsd@SPACEOPTI` . 718, 734, 735, 737, 739, 741, 742, 781, 783, 1919, 2123  
`\HyPsd@spaceopti` . . . 783, 2068  
`\HyPsd@SpanishPatch` 641, 1242  
`\HyPsd@String` 715, 717, 720, 722, 728, 730, 1841, 1842, 1852, 1907, 1909, 1913, 1914, 1918, 1919, 1934, 1935, 1967, 1979, 2038, 2039  
`\HyPsd@StringSubst` . . 731, 733, 739, 745, 748, 751, 754, 773, 776, 778, 2091  
`\HyPsd@Subst` . . . . . 727, 736, 740, 746, 752, 756, 760, 765, 766, 767, 768, 769, 770, 774, 777, 2075, 2092, 2107, 2108, 2109  
`\HyPsd@temp` . . . . . 794, 796, 797, 799, 800, 807, 809, 810, 2899, 2900, 2901, 2904, 2907, 2913, 2925, 2929, 6710, 6711, 6712, 6714, 6715, 6720  
`\HyPsd@ToBigChar` 851, 852, 861  
`\HyPsd@ToBigChars` . . 804, 843  
`\HyPsd@tocsection` . . . . . 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1638  
`\HyPsd@UnescapedString` . 796, 845, 846, 852  
`\HyPsd@UnexpandableSpace` . . . . 1613, 1799, 1823, 1969, 1981  
`\HyPsd@unichar` . . . 2254, 2321, 2327, 2332  
`\HyPsd@unichar@first@byte` 2340, 2360  
`\HyPsd@unichar@octtwo` . 2362, 2370, 2376  
`\HyPsd@unichar@second@byte` . . . . . 2348, 2368  
`\HyPsd@UnicodeReplacementCharacter` 2324, 2359, 2393, 2423, 2428, 2436, 2443, 2446, 2456, 2514  
`\HyPsd@utf@viii@undeferr` . 544, 2382  
`\HyPsd@UTFviii` 538, 2242, 2247  
`\HyPsd@UTFviii@@three` . 2277, 2286  
`\HyPsd@UTFviii@@two` . . 2262, 2268  
`\HyPsd@UTFviii@ccxliv@def` . . . . . 2252, 2258  
`\HyPsd@UTFviii@ccxliv@undef` . . . . . 2251, 2257  
`\HyPsd@UTFviii@four` 2250, 2295

\HyPsd@UTFviii@three .. 2249, 2276	11120, 11124, 11126, 11128, 14119	13550, 13570, 13701, 13761, 13860, 13885, 13914, 13939
\HyPsd@UTFviii@two 2248, 2261	\if@eqnstar ..... 7243, 7251	\ifFld@multiline ... 5592, 12869, 13135, 13356, 13689
\HyPsd@Warning .. 1775, 1991, 2012, 2025, 2054, 2060	\if@filesw 2525, 5045, 5251, 6318, 6362, 6756, 6766, 7058, 7848, 7863, 7879, 7891, 7921, 7944, 7971, 7976, 7995, 8396, 13267, 13291, 14432, 14619, 14701	\ifFld@multiselect ..... 5663
\HyPsd@XeTeXBigCharsfalse .. 818, 832, 837	\if@hyper@item .... 6848, 6861	\ifFld@password ... 5593, 13116
\HyPsd@XeTeXBigCharstrue 831, 840, 3874, 3880, 3886, 3908, 3926, 3932, 4012, 14071, 14429	\if@inlabel ..... 7423	\ifFld@popdown .. 5411, 12918, 13406, 13747
\HyPsd@XSPACE 684, 761, 1614	\if@Localurl ..... 10670, 10716	\ifFld@radio 12914, 12936, 13165, 13402, 13425, 13743, 13766
\HyPsd@xspace .. 759, 761, 762	\if@mid@expandable ..... 656	\ifFld@readonly .. 13137, 13147, 13231
\HyRef@@StarSetRef 8748, 8753	\if@minipage ..... 7718, 7790	\ifForm@html ..... 5765
\HyRef@autopageref 8805, 8807	\if@nmbrlist ..... 6833	\ifhmode 2573, 2577, 2630, 2639, 4882, 7330, 7356, 7389, 7517, 7526, 7676, 7678, 9226, 9234, 11719, 12648
\HyRef@autopagerefname 8804, 8808, 8810	\if@nobreak ..... 7442	\ifHy@activeanchor .. 384, 5220
\HyRef@autoref .... 8823, 8825	\if@skiphyperref ... 6849, 6859	\ifHy@backref . 385, 4391, 4763, 6181, 7972, 8008
\HyRef@autosetref .. 8828, 8831	\if@twocolumn ..... 14866	\ifHy@bookmarks ... 386, 4611
\HyRef@CaseStar .. 8892, 8898	\if@twoside ..... 14855	\ifHy@bookmarksnumbered 387, 8528, 8579, 14418
\HyRef@currentHtag 8844, 8862, 8865, 8871, 8878, 8884, 8899	\ifcase 333, 1169, 1191, 1214, 1308, 1357, 1379, 1382, 1388, 1424, 1468, 1584, 2290, 2422, 2904, 3590, 4560, 5487, 5592, 5721, 5798, 6957, 6966, 8215, 8373, 8410, 8640, 8833, 11182, 11684, 14177, 14204, 14271, 14306, 14341, 14539	\ifHy@bookmarksopen 388, 4601
\HyRef@MakeUppercaseFirstOf-Five ..... 8771, 8773	\ifcat 1878, 1905, 1912, 1917, 1922, 1925, 1928, 1931, 5207, 5209	\ifHy@breaklinks .... 389, 2839, 11360, 11401, 11695, 11718
\HyRef@name 8860, 8861, 8866, 8873, 8891, 8892, 8893, 8895	\ifdim .. 1625, 1967, 1971, 1979, 1983, 2612, 2631, 4214, 4586, 9683, 9687, 9692, 9696, 9703, 9706, 9710, 9713, 10650, 10651, 10656, 10657, 10789, 10792, 10796, 10799, 11713, 11727, 12088, 12089, 12094, 12095, 12904, 12942, 12943, 13392, 13431, 13432, 13733, 13772, 13773	\ifHy@CJKbookmarks 391, 1260
\HyRef@Ref ..... 8777, 8779	\ifetex@unexpanded ..... 1782	\ifHy@colorlinks 392, 4682, 6186, 12250
\HyRef@ShowKeysInit ... 8901, 8914, 8918	\iffalse ..... 838, 5810	\ifHy@destlabel ..... 393, 5230
\HyRef@ShowKeysRef 8832, 8900	\IfFileExists .. 232, 6357, 9071, 12663	\ifHy@draft ..... 394, 4271
\HyRef@StarSetRef . 8742, 8760, 8763, 8766, 8771	\ifFld@checked ... 5744, 13229, 14164	\ifHy@DviMode 2979, 2999, 3157
\HyRef@StripStar .. 8859, 8890	\ifFld@comb ..... 5591	\ifHy@DvipdfmxOutlineOpen .. 4584, 14674
\HyRef@testreftype . 8837, 8856	\ifFld@combo 5619, 5624, 12917, 12946, 13405, 13435, 13746, 13776	\ifHy@frenchlinks ... 400, 4698
\HyRef@thisref .... 8834, 8837	\ifFld@disabled .... 5745, 13230	\ifHy@href@ismap .. 4938, 9337, 10461, 10856, 10926, 11949
\HyTmp@found 5691, 5701, 5704	\ifFld@edit ..... 5625	\ifHy@hyperfigures .. 398, 4371, 6166, 8337
\HyTmp@key ..... 5685, 5686	\ifFld@fileselect ..... 5594	\ifHy@hyperfootnotes 401, 7449
\HyTmp@optitem .. 5641, 5657, 5684, 5689, 5695, 5716, 5727	\ifFld@hidden ... 12880, 12931, 13000, 13020, 13043, 13061, 13128, 13140, 13150, 13233, 13368, 13420, 13501, 13522,	\ifHy@hyperindex ... 402, 4381, 6176, 8344
\HyTmp@optlist ..... 5640, 5655, 5656, 5687, 5688, 5693, 5694, 5702, 5703, 5723, 5725, 5732, 5735		\ifHy@hypertexnames 403, 6980, 7062, 8119, 8533, 8584
\HyXeTeX@CheckUnicode 3845, 3856, 3873, 3879, 3885, 3907, 3925, 3931, 4011, 6725		\ifHy@implicit . 404, 4403, 14729
<b>I</b>		
\i ... 15051, 15215, 15218, 15221, 15224, 15455, 15626, 15629, 15632, 15635, 15764, 15769, 15774, 15779, 15783, 16019, 16084, 16090		\ifHy@linktocpage ... 405, 2796, 2806
\ibar ..... 16241, 20522		\ifHy@localanchorname ... 406, 7013, 7024
\if 1639, 2557, 6536, 6544, 7305, 7306, 11109, 11112, 11116,		\ifHy@naturalnames . 408, 6992, 8534, 8585
		\ifHy@nesting . 409, 4376, 4981, 5014, 5051, 5205, 6171, 7474, 7494, 7572, 7729
		\ifHy@next ... 1018, 4345, 8361
		\ifHy@ocgcolorlinks ..... 412, 3540, 4668, 4678,



6191, 9024, 9110, 9187, 9195, 10209, 10292, 10300	\ifHy@texht . . . . .	14803, 14818
\ifHy@pageanchor . . . 413, 7049, 7061, 7076, 8118	422, 4458, 4710, 4758, 5835, 5867, 6054, 6078, 6234, 8688	\ifodd . . . . . 2304, 2309, 8145
\ifHy@pdfa 432, 4295, 4670, 5107, 5424, 6034, 6083, 6196, 9260, 9332, 9370, 9407, 9741, 10355, 10387, 10421, 10452, 10481, 10862, 10883, 10906, 10932, 10966, 11000, 11019, 11822, 12838, 12990, 13036, 13320, 13491, 13543, 13659, 13849, 13907, 14121, 14167, 14331	\ifHy@typexml 383, 4396, 4685, 4729, 6319, 14623, 14705	\ifpdf 242, 2981, 3024, 4437, 4504
\ifHy@pdfcenterwindow . . . 390, 9516, 10092, 10554, 11220, 11580, 12435	\ifHy@unicode . . . 425, 534, 567, 570, 630, 732, 744, 772, 780, 789, 1119, 1279, 1993, 2014, 2027, 2056, 2062, 2322, 2391, 2441, 2875, 2915, 3847, 6700, 14067	\ifpdfstringunicode . . . 539, 542
\ifHy@pdfdisplaydoctitle . . 431, 9517, 10093, 10555, 11221, 11581, 12436	\ifHy@useHidKey . . . 3680, 9640, 10633, 11157, 11451	\ifportrait . . . . . 9682
\ifHy@pdfescapeform 397, 14015, 14045	\ifHy@verbose . 427, 4845, 4861, 4873, 5367, 8190, 9033	\ifthenelse . . . . . 7998
\ifHy@pdffitwindow . . 399, 9515, 10091, 10553, 11219, 11579, 12434	\ifHyField@NeedAppearances . . . . 5808, 5810, 5813, 12840, 13322, 13661	\iftrue . . . 841, 1789, 1811, 2086, 5813, 14787
\ifHy@pdfmarkerror 11627, 11635	\ifHyInfo@AddonUnsupported . . . . . 3989, 4003, 4038	\ifvmode . . . . . 2589, 2611, 2620
\ifHy@pdfmenubar . . . 407, 9513, 10089, 10551, 11217, 11577, 12432	\IfHyperBoolean . . . . . 2661	\ifvoid . . . . . 7184, 7188, 7427
\ifHy@pdfnewwindow 411, 4163, 10903	\IfHyperBooleanExists 2655, 2662	\ifvtex . . . . . 2987, 3083, 3112
\ifHy@pdfnewwindowset . . 410, 4161	\ifHyPsd@XeTeXBigChars . 836, 838, 841, 844	\ifvtexdvi . . . . . 2988
\ifHy@pdfpagehidden . 415, 3684, 9643, 10635, 11158, 11456	\ifin@ . . . . . 6916	\ifvtexhtml . . . . . 4479, 4510
\ifHy@pdfpagelabels . 414, 6463, 6676, 6754	\ifmeasuring@ . . . . . 6873, 6884	\ifvtexpdf . . . . . 4521
\ifHy@pdfstring . . 416, 942, 6853	\ifmmode . . . . . 11363, 11690	\ifvtexpss . . . . . 4524
\ifHy@pdftoolbar . . . . 424, 9512, 10088, 10550, 11216, 11576, 12431	\ifnum . . 244, 868, 871, 874, 877, 880, 995, 1120, 1123, 1134, 1135, 1139, 1147, 1151, 1154, 1164, 1186, 1209, 1349, 1460, 1476, 1480, 1500, 1513, 1516, 1529, 1531, 1544, 1546, 1552, 2201, 2204, 2280, 2323, 2326, 2338, 2392, 2395, 2408, 2442, 2445, 2448, 2452, 2467, 2471, 2474, 2578, 3084, 3087, 3113, 3591, 3592, 4595, 4602, 4915, 5646, 5717, 5728, 6493, 6517, 6538, 6554, 6656, 6936, 6939, 8068, 8078, 8642, 8680, 9025, 9030, 9044, 9048, 9053, 9070, 9090, 9432, 9439, 9445, 9453, 10321, 10326, 10903, 11033, 11169, 11177, 11179, 11180, 11190, 11193, 11291, 11293, 11413, 12112, 13304, 13468, 13802, 13807, 13818, 14066, 14147, 14177, 14182, 14204, 14210, 14238, 14271, 14277, 14296, 14306, 14311, 14341, 14346, 14375, 14391, 14535, 14605, 14608, 14635, 14638, 14676, 14785,	\ifxetex . . . . . 795, 828, 2984, 3057, 3846, 3889, 4463, 4507, 4585
\ifHy@pdfusetitle . . . . 426, 6372		\ignorespaces . . 671, 7144, 7325, 7608, 7714, 7725, 7728, 7786, 7794, 7856, 7871, 7887, 7896, 8006, 8513, 8565
\ifHy@pdfwindowui . . 430, 9514, 10090, 10552, 11218, 11578, 12433		\iiint . . . . . 18139, 19978
\ifHy@plainpages 417, 4386, 7063, 8120		\iinferior . . . . . 19794
\ifHy@psdextra . . 423, 629, 933		\iint . . . . . 18137, 19977
\ifHy@psize . . . . . 418		\IJ . . . . . 15047, 15785
\ifHy@raiselinks 419, 9828, 9908, 9945, 9985, 12320, 12595		\ij . . . . . 15258, 15787
\ifHy@seminarslides . . . . . 420		\Im . . . . . 17812, 19860
\ifHy@setpagesize . . . 421, 9671, 10647, 10786, 12085		\immediate . . 6320, 6321, 6322, 6324, 6364, 6669, 6759, 6767, 7073, 7101, 7851, 7866, 7882, 7892, 7922, 7945, 7971, 8001, 9112, 9127, 9142, 11296, 12109, 13246, 13268, 13310, 14525, 14591, 14622, 14624, 14704, 14706
\ifHy@setpdfversion . 2958, 9029		\in . . . . . 18072, 19948
\ifHy@stoppedearly . . . . . 382		\in@ . . . . . 6914
		\incr@eqnum . . . . . 7203, 7216
		\indent . . . . . 7335, 7363
		\index . . . . . 660
		\indexentry . . 8399, 8414, 8422, 8426, 8431
		\Info . . . . . 19450, 20448
		\infty . . . . . 18109, 19964
		\input . . . . . 919, 927, 936, 3503, 3511, 3518, 4559, 12027, 12110, 12201, 12370
		\InputIfFileExists . 4231, 14615, 14649, 14694, 14696
		\inputlineno . . . . . 4852, 5212
		\insert . . . . . 7587
		\int . . . . . 18135, 19976
		\IntCalcAdd . . . . . 2230
		\IntCalcDec . . . . . 1371, 2418
		\intcalcDec . . . . . 2400

\IntCalcDiv .. 1365, 1374, 1379, 1482, 1491, 1503, 1520, 1535, 1550, 2214, 2220, 2226	\jupiter ..... 18796, 20193	\lam ..... 19662
\intcalcDiv 1355, 2221, 2228, 2231	<b>K</b>	\Lambda ..... 16557, 19760
\IntCalcMod . 1367, 1376, 1382, 1486, 1492, 1507, 1523, 1538, 1552, 1554, 2216, 2221, 2222, 2228, 2231, 2233	\k .. 14928, 15275, 15277, 15282, 15284, 15329, 15358, 15385, 15400, 15680, 15682, 15726, 15728, 15776, 15778, 15779, 15916, 15918, 16045, 16047, 17038, 17080, 17083	\lambda ..... 16622, 19778
\intcalcMod ..... 1357	\kaf ..... 19660	\lambdabar ..... 15977, 20487
\intcalcNum .. 2422, 2450, 2454	\kappa ..... 16620, 19777	\lambdash ..... 15978, 20488
\IntCalcSub .. 2416, 2469, 2472, 2475, 2478	\kasra ..... 19686	\langle ..... 18525, 20147
\intcalcSub ..... 2208, 2398	\keepPDF@SetupDoc ... 12254, 12261	\language@group ..... 638
\interfootnotelinepenalty .. 7590	\kern ... 1887, 1968, 1973, 1985, 7428, 8140, 8141, 8142, 8144, 8145, 8150, 14744	\languageshorthands .. 976, 977, 1011
\interlinepenalty ..... 7590	\kernel@ifnextchar ..... 691	\LARGE ..... 607
\inva ..... 16154, 20498	\Keyboard ..... 18523, 20146	\Large ..... 608
\invamp ..... 17855	\kha ..... 19628	\large 611, 8645, 8653, 8663, 8671
\invbackneg ..... 18506, 20138	\kinferior ..... 19852	\lastbox ..... 7426
\inve ..... 16029, 19722	\KV@href@pdfnewwindow . 4936	\lastpage@putlabel ..... 7044
\invglotstop ..... 16397, 19756	\KV@href@pdfnewwindow@de- fault ..... 4937	\lastskip 2612, 2616, 2623, 2631, 2635, 2642
\invh ..... 16229, 20517	\KV@Hyp@draft ..... 2770	\LaTeX . 564, 566, 12669, 12670
\invlegr ..... 16303, 20540	\KV@Hyp@nolinks ..... 2770	\LaTeXe ..... 565, 12670
\invm ..... 16263, 20528	\KV@Hyp@pdfnewwindow . 4936	\latfric ..... 16253, 20525
\invneg ..... 19262, 20378	\KV@Hyp@pdfnewwindow@de- fault ..... 4937	\LayoutCheckField 6122, 13062, 13571, 13944
\invr ..... 16298, 20538	\kv@key 3997, 4000, 4007, 5644, 5647, 5649, 5653, 5657	\LayoutChoiceField 6119, 12935, 13424, 13765
\invscr ..... 16325, 19744	\kv@parse ..... 5643	\LayoutPushButtonField . 6125, 12994, 13001, 13495, 13502, 13853, 13862
\invscripita ..... 16162, 20500	\kv@parse@normalized 4022, 4029	\LayoutTextField . 6116, 12882, 13370, 13707
\invv ..... 16360, 20552	\kv@processor@default 4025, 4032	\lbrackdbl ..... 20316
\invw ..... 16364, 20554	\kv@set@family@handler .. 3990	\lccode ..... 351, 356, 867, 1289, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2245, 5994, 8358, 8359, 14449, 14450, 14451, 14452, 14453, 14454, 14455, 14456, 14457, 14458, 14459
\invy ..... 16368, 20556	\kvsetkeys 2957, 3011, 3131, 3853, 3970, 4296, 4534, 4552, 4669, 5742, 9026, 11634, 12857, 13101, 13114, 13163, 13206, 13227, 13301, 13644	\lcurvearrowdown . 19159, 20339
\iota ..... 16618, 19776	<b>L</b>	\lcurvearrowse ... 19151, 20336
\ipagamma ..... 16221, 19734	\L ..... 15040, 15816	\lcurvearrowsw ... 19154, 20337
\isuperior ..... 19818	\l ..... 15053, 15818	\ldots ..... 559
\item ... 6828, 6831, 7878, 7890, 7993	\l@slide . 8513, 8623, 8628, 8632, 8639	\le ..... 18227, 20018
\Itemautorefname ..... 8924	\l@subslide 8565, 8628, 8635, 8679	\leavevmode ..... 668, 2567, 4281, 4299, 4339, 5112, 6290, 7516, 7675, 7912, 8783, 8791, 8822, 9246, 9317, 9355, 9392, 9725, 9827, 9907, 9944, 9984, 10335, 10376, 10413, 10445, 10681, 10690, 10744, 10898, 10923, 10953, 10986, 11362, 11688, 11938, 11965, 11996, 12319, 12594, 12883, 12995, 13002, 13035, 13063, 13371, 13456, 13477, 13496, 13503, 13523, 13542, 13572, 13708, 13800, 13831, 13854,
\itemautorefname .. 3234, 3252, 3270, 3288, 3306, 3324, 3342, 3371, 3372, 3400, 3418, 8924, 8925, 8928	\labdentalsnas .... 16271, 20531	
\itemindent ..... 7428	\label ..... 659, 8163	
\itshape ..... 600	\label@@hyperref ... 5021, 5023	
<b>J</b>	\label@hook ..... 5280	
\j ..... 15792, 16049, 16140	\label@hyperdef .... 5007, 5037	
\JackStar ..... 18999, 20265	\label@hyperref 4988, 5020, 5303	
\JackStarBold .... 19001, 20266	\label@name .. 5245, 5255, 5281	
\jarr ..... 19680	\labelsep ..... 8005	
\jeem ..... 19624	\labelwidth ..... 8004	
\jeh ..... 19696	\Ladiesroom ..... 19437, 20444	
\jinferior ..... 20423		
\jobname .... 6321, 6357, 6364, 12663, 14524, 14615, 14622, 14649, 14694, 14696, 14704		
\Join ..... 19247, 20372		
\Jupiter ..... 18798, 20652		

13863, 13887, 13906, 13945, 14742	\literalps@out 2565, 11285, 11290, 11342, 11348, 11374, 11380, 11645, 11656, 11685, 11686, 11714, 11716, 11728, 11730, 12025, 12108, 12171, 12368	6020, 6021, 6022, 6023, 6024, 6025, 6026, 6027, 6028, 6029, 6435, 6436, 6437, 6440, 6452, 6461, 6478, 6483, 6489, 6498, 6518, 7235, 9046, 9066, 9069, 9767, 10671, 10758, 11366, 11672, 11693, 12024, 12107, 12365, 12529, 12536, 12859, 12865, 13076, 13111, 13158, 13252, 13349, 13352, 13669, 13685
\Leftarrow ..... 18011, 19921	\ll ..... 18242, 20025	\ltx@firstofone 3000, 5276, 5293, 6352, 14477, 14489
\leftarrow ..... 19873	\llcorner ..... 18515, 20142	\ltx@firstoftwo ..... 245, 338, 346, 2409, 2657, 2664, 4744, 5168, 7475, 7495
\leftarrowtail ..... 17928, 19889	\Lleftarrow ..... 18033, 19931	\ltx@GlobalAppendToMacro 960, 5280
\leftbarharpoon ... 19192, 20351	\lll ..... 18443, 20111	\ltx@gobble 273, 3006, 4257, 4266, 4617, 5272, 5274, 6250, 6251, 6262, 6264, 6265, 6637, 12643, 13264, 14475, 14487
\leftharpoondown . 17959, 19902	\lnapprox ..... 19300, 20394	\ltx@gobblefour ..... 315
\leftharpoonup ... 17956, 19901	\lneq ..... 19295, 20392	\ltx@gobblethree ..... 8100
\leftleftarrows .... 17988, 19912	\lneqq ..... 18238, 20023	\ltx@gobbletwo 5292, 6253, 6267
\leftleftharpoons .. 19180, 20347	\lnsim ..... 18471, 20123	\ltx@ifclassloaded .. 6490, 8061
\leftModels ..... 19355, 20696	\Longleftarrow ... 19123, 20323	\ltx@iffileloaded ..... 6449
\leftmodels ..... 19351, 20695	\longleftarrow .... 19117, 20320	\ltx@ifpackagelater .. 349, 9760
\leftmoon ..... 18776, 20188	\Longleftrightharrow 19127, 20325	\ltx@ifpackageloaded ..... 1256
\leftpointright .... 18755, 20639	\longleftrightharrow 19121, 20322	\ltx@ifUndefined ..... ..... 239, 279, 285, 314, 637, 681, 757, 792, 910, 911, 912, 1019, 1025, 1031, 1036, 1041, 1048, 1054, 1060, 1065, 1071, 1076, 1086, 1092, 1098, 1104, 1243, 1249, 1626, 1721, 1722, 2519, 2552, 4252, 4254, 4342, 4343, 4344, 4743, 4744, 4940, 5241, 5272, 6412, 6812, 6932, 6947, 7277, 7814, 8079, 8811, 8812, 8857, 8858, 8860, 8861, 9031, 9062, 9294, 9304, 9702, 10788, 10845, 10948, 11338, 11381, 11472, 11649, 14776, 14786
\leftrightarrow .... 17901, 19877	\longlegl ..... 19742	\ltx@ifundefined ..... .. 2466, 2656, 2657, 2700, 5284, 6910, 7435, 8095, 9091
\leftrightarrows ... 17986, 19911	\Longmapsfrom ... 19131, 20327	\ltx@leftbracechar .... 329, 353
\leftrightharpoon .. 19169, 20343	\Longmapsto ..... 19133, 20328	\ltx@LocalAppendToMacro 366, 369, 6902, 6917
\leftrightharpoons . 17997, 19916	\longmapsto ..... 19129, 20326	\ltx@one . 244, 6492, 6493, 6500, 8064, 8068, 8074, 8077,
\leftslice ..... 19314, 20400	\Longrightharrow .. 19125, 20324	
\leftspoon ..... 19106, 20315	\longrightharrow ... 19119, 20321	
\leftsquigarrow ... 18037, 19933	\looparrowleft .... 17938, 19894	
\lefttherefore ..... 17700, 19814	\looparrowright ... 17940, 19895	
\leftthreetimes .... 18415, 20099	\lower .. 9834, 9914, 9951, 9991, 11716, 12326, 12601	
\leftVdash ..... 19348, 20694	\lowercase ..... 352, 357, 887, 1290, 2105, 2246, 2672, 3178, 3208, 3937, 3973, 5316, 5317, 5320, 5325, 5349, 5359, 5413, 5469, 5789, 5862, 5865, 5995, 8360, 11412, 14460	
\leftvdash ..... 18355, 20615	\lozenge ..... 18721, 20165	
\legm ..... 16268, 20530	\lrcorner ..... 18517, 20143	
\legr ..... 16310, 20542	\lslide@flag .. 8640, 8643, 8661, 8680, 8684	
\Leo ..... 18825, 20661	\LT@array ..... 7169	
\leo ..... 18823, 20202	\LT@foot ..... 7184, 7188	
\leq ..... 18227, 20017	\LT@p@ftn 7548, 7551, 7555, 7565	
\leqclosed ..... 18388, 20623	\LT@p@ftntext .... 7546, 7553	
\leqq ..... 18234, 20021	\LT@start ..... 7186, 7196	
\leqslant ..... 19287, 20388	\ltimes ..... 18410, 20097	
\lessapprox ..... 19291, 20390	\ltx@backslashchar 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 331	
\lessclosed ..... 18382, 20621	\ltx@empty ..... 371, 372, 475, 1875, 2980, 3155, 3163, 3532, 3677, 4060, 4084, 4091, 4190, 4191, 4194, 4195, 4196, 4197, 4198, 4199, 4203, 4204, 4527, 4537, 4629, 5229, 5250, 5273, 5514, 5532, 5546, 5559, 5575, 5607, 5632, 5639, 5640, 5981, 6019,	
\lessdot ..... 18439, 20109		
\lesseqgtr ..... 18448, 20113		
\lesseqqgtr ..... 19305, 20396		
\lessgtr ..... 18261, 20034		
\lesssim ..... 18257, 20032		
\LetLtxMacro 6237, 6241, 6307, 6311		
\Letter ..... 18952, 20680		
\lhd ..... 18380, 20085		
\hooknwarrow ... 19139, 20331		
\hooksearrow .... 19143, 20333		
\Libra ..... 18831, 20663		
\libra ..... 18829, 20204		
\Lightning ..... 17946, 20593		
\lightning ..... 17944, 19897		
\limits ..... 4828		
\inferior ..... 19853		
\listofslides ..... 8614		
\listslidenam 8613, 8616, 8618, 8620		



8078, 8091, 9053  
`\ltx@onelevel@sanitize` 6895, 6912  
`\ltx@ReturnAfterElseFi` ... 4810  
`\ltx@ReturnAfterFi` .....  
499, 2043, 4814, 4830, 8453,  
8489, 8977, 8987, 14038  
`\ltx@rightbracechar` ... 330, 358  
`\ltx@secondoftwo` . 240, 247, 251,  
335, 2411, 2656, 2657, 2666,  
2668, 4743, 4744, 4746,  
5166, 7477, 7497  
`\ltx@space` ..... 332, 1777  
`\ltx@zero` 2099, 2100, 2101, 2102,  
2103, 2104, 9041, 9048  
`\luatexrevision` ..... 9476  
`\luatexversion` ..... 9468, 9473  
`\lz` ..... 16260, 20527

## M

`\m@ne` .. 4360, 4864, 4923, 5331,  
7089, 7297, 10330, 14696,  
14785, 14800  
`\make@df@tag@@` ... 8273, 8275  
`\make@df@tag@@@` . 8274, 8276  
`\make@stripped@name` .. 6878,  
7225, 7256, 7284, 7295  
`\makeatletter` . 3, 935, 956, 6356  
`\MakeButtonField` . 6132, 12996,  
13004, 13022, 13040, 13045,  
13497, 13506, 13530, 13547,  
13553, 13855, 13858, 13886,  
13911, 13915  
`\MakeCheckField` . 6129, 13065,  
13575, 13941  
`\MakeChoiceField` . 6131, 12980,  
13480, 13829  
`\MakeFieldObject` 13245, 13332,  
13342, 13345  
`\MakeLowercase` ..... 628  
`\MakeLowercaseUnsupportedIn-`  
`PdfStrings` ..... 628  
`\MakeRadioField` .. 6128, 12968,  
13467, 13793  
`\makeslideheading` ..... 8523  
`\makeslidesubheading` .... 8575  
`\maketag@@@` ..... 8262  
`\MakeTextField` ... 6130, 12885,  
13374, 13704  
`\maketitle` ..... 7625, 7626  
`\MakeUppercase` 627, 8618, 8620,  
8774  
`\MakeUppercaseUnsupportedIn-`  
`PdfStrings` ..... 627  
`\male` ..... 18792, 20192  
`\MaleMale` ..... 18908, 20228  
`\manstar` ..... 18902, 20225  
`\mapsto` ..... 17932, 19891

`\Mars` ..... 18795, 20651  
`\mars` ..... 18794, 20650  
`\MathBSuppress` .. 10691, 10695  
`\mathclose` ..... 7238  
`\mathdisplay` ..... 7206, 7215  
`\mathdisplay@push` . 7204, 7213  
`\mathdollar` ..... 15426, 20459  
`\mathellipsis` ..... 17671, 20588  
`\mathopen` ..... 7229, 7260  
`\mathparagraph` .. 15515, 20469  
`\mathsection` ..... 15483, 20467  
`\mathsterling` .... 15472, 20464  
`\mathunderscore` .. 15451, 20462  
`\mathversion` ..... 616  
`\maxdimen` ..... 3612, 13250  
`\MaybeStopEarly` 476, 3014, 3089,  
4407, 4512, 6787, 6790  
`\mbox` ... 669, 7925, 7948, 9197,  
10302  
`\mddefault` ... 7337, 7365, 7396  
`\mdseries` ..... 599  
`\meaning` ..... 62, 153,  
159, 2528, 6396, 7005, 7302,  
14660, 14668, 14683  
`\measuredangle` ... 18113, 19966  
`\measuring@false` ..... 6873  
`\mediaheight` .... 10782, 10784,  
10790, 10797  
`\mediawidth` ..... 10793, 10800  
`\meem` ..... 19664  
`\Mercury` ..... 18782, 20644  
`\mercury` ..... 18780, 20190  
`\merge` ..... 19276, 20693  
`\message` ..... 8641  
`\MessageBreak` .....  
281, 287, 301, 302, 341, 342,  
507, 1999, 2020, 2033, 2056,  
2061, 2063, 2694, 2695,  
2709, 2731, 2734, 2736,  
2814, 2815, 2841, 2842,  
2887, 2888, 2889, 2927,  
2928, 2948, 2962, 3003,  
3028, 3061, 3099, 3106,  
3117, 3123, 3200, 3542,  
3673, 3674, 3736, 3737,  
3755, 3756, 3850, 3892,  
3900, 3950, 4005, 4006,  
4116, 4117, 4219, 4441,  
4442, 4450, 4451, 4467,  
4468, 4483, 4484, 4492,  
4493, 4672, 4917, 4918,  
4942, 4943, 4959, 4960,  
5370, 5375, 5384, 5427,  
5473, 5597, 5710, 5782,  
5793, 5825, 5826, 5845,  
5953, 5954, 5955, 5956,  
6468, 6703, 6718, 6719,

7052, 8167, 8197, 8198,  
8199, 8200, 8201, 8332,  
9036, 9054, 9073, 9075,  
9081, 9083, 9086, 9093,  
9250, 10340, 10874, 10957,  
11251, 11257, 11481, 13258,  
13260, 14396, 14414, 14527  
`\MF` ..... 574, 12672  
`\mho` ..... 19864  
`\mid` ..... 18119, 19968  
`\mininferior` ..... 19854  
`\minusdot` ..... 19252, 20374  
`\minusinferior` ..... 19842  
`\minussuperior` ..... 19826  
`\models` ..... 18363, 20617  
`\MoonPha` ... 2425, 2430, 2433,  
2439, 20458  
`\Mountain` ..... 18930, 20234  
`\MP` ..... 575, 12673  
`\mp` ..... 18093, 19957  
`\mu` ..... 16624  
`\mugreek` ..... 19779  
`\multimap` ..... 18398, 20091  
`\multimapboth` ... 19237, 20367  
`\multimapdotbothA` 18394, 20089  
`\multimapdotbothB` 18396, 20090  
`\multiply` ... 9472, 11138, 11173  
`\Mundus` ..... 19427, 20439

## N

`\n` ..... 878  
`\nabla` ..... 18070, 19947  
`\name@of@eq` ..... 6846, 6876  
`\name@of@slide` .... 6847, 6857  
`\nameref` ..... 666, 4748, 4752  
`\nasb` ..... 19676  
`\natural` ..... 18878, 20214  
`\ncong` ..... 18179, 19995  
`\ne` ..... 18220, 20014  
`\Nearrow` ..... 18027, 19928  
`\nearrow` ..... 17907, 19880  
`\neg` ..... 20449  
`\Neptune` ..... 18807, 20655  
`\neptune` ..... 18805, 20196  
`\neq` ..... 18220, 20013  
`\nequiv` ..... 18225, 20016  
`\neswarrow` ..... 19137, 20330  
`\netscape` ..... 9870  
`\new@ifnextchar` ..... 692  
`\new@pdfink` .. 9225, 9282, 9285  
`\new@refstepcounter` 7198, 7232  
`\newblock` ..... 8009  
`\newcommand` ..... 4, 9,  
42, 2566, 5240, 5263, 6294,  
6298, 7745, 8300, 14497,  
14500, 14505, 19710, 20455  
`\newcount` ..... 477,  
478, 2571, 4908, 5748, 6479,

12976, 13474, 13675, 13825, 14532	\nless . . . . . 18248, 20028	\notowner . . . . . 18081, 19952
\newcounter . 6829, 7450, 10208, 14447	\nlessclosed . . . . . 18481, 20633	\notslash . . . . . 18531, 20150
\newdimen . . . . . 474, 5749, 5750	\nmid . . . . . 18121, 19969	\noway . . . . . 18928, 20233
\newif . . 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 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, 430, 431, 432, 836, 1018, 2958, 2979, 3680, 3989, 4584, 4938, 5323, 5411, 5744, 5745, 5765, 5808, 6848, 6849, 6873, 7243, 10670, 11627	\noboundary . . . . . 19706	\nparallel . . . . . 18125, 19971
\newlabel 2531, 5047, 6334, 6335, 6343, 6369, 7074, 7102	\nobreak 2613, 2621, 2632, 2640, 7517, 7676	\nprec . . . . . 18277, 20042
\newlabelxx . . . . . 6336, 6337	\nobreakspace . 680, 8786, 8815, 8818	\npreccurlyeq . . . . 18457, 20117
\newlength . . . . . 14735	\noexpand . 22, 93, 95, 108, 116, 169, 171, 172, 173, 176, 206, 856, 964, 1303, 1736, 1753, 1878, 1905, 2259, 2619, 2620, 2621, 2624, 2638, 2639, 2640, 2643, 3461, 3463, 3465, 3466, 3467, 3469, 3485, 3691, 3692, 3694, 4055, 4362, 4366, 4367, 4534, 4822, 4995, 5077, 5207, 5209, 5235, 5379, 5926, 5939, 6592, 6593, 6602, 6604, 6607, 6732, 6897, 6898, 6914, 7086, 7087, 7089, 7114, 7115, 7116, 7117, 7118, 7126, 7127, 7128, 7301, 7539, 7549, 7557, 7558, 7559, 7561, 7685, 7775, 7850, 7865, 7881, 8066, 8292, 8294, 8748, 8749, 8866, 8867, 8872, 8874, 8879, 8880, 8885, 8886, 9475, 10076, 11564, 11631, 12168, 12419, 12910, 12911, 12912, 12913, 13398, 13399, 13400, 13401, 13739, 13740, 13741, 13742, 14017	\nqsubseteq . . . . . 20119
\newline . . . . . 562, 6417	\noexpandQ . . . . . 1905	\nqsupseteq . . . . . 20120
\newname 6879, 7226, 7257, 7285, 7298, 7307	\nofrenchguillemets . . . 699, 701	\NR@gettitle . . . . . 7711
\newsavebox . . . . . 10138, 11664	\NoHy@OrgPageRef 6241, 6243, 6311, 6313	\nRrightarrow . . . . . 18008, 19920
\newtie . . . 14930, 14931, 15368, 15395, 15413	\NoHy@OrgRef 6237, 6239, 6307, 6309	\nrightarrow . . . . . 17917, 19884
\newtoks 90, 5836, 11499, 11739, 11740	\NoHyper . . . . . 6245	\nsim . . . . . 18172, 19992
\newwrite . . 6363, 14620, 14702	\nohyperpage 6289, 8443, 8445, 8447	\nsqsubseteq . . . . . 18461
\nexists . . . . . 18063, 19944	\nolinkurl . . . . . 4974	\nsqsupseteq . . . . . 18463
\next . . 7999, 8000, 8001, 11101, 11103, 11105	\nolinkurl@ . . . . . 4974, 4975	\nsubset . . . . . 18285, 20046
\nfss@text 8695, 8715, 8732, 8850	\NomFancyVerbLineautorefname . . . . . 3389	\nsubseteq . . . . . 18293, 20050
\NG . . . . . 15834	\Nomfootnoteautorefname . 3369	\nsucc . . . . . 18279, 20043
\ng . 15836, 15837, 15838, 20478, 20479	\Nomtheoremautorefname . 3393	\nsucccurlyeq . . . . 18459, 20118
\ngeq . . . . . 18255, 20031	\nonumber . . . . . 7272, 7275	\nsuperior . . . . . 19830
\ngtr . . . . . 18250, 20029	\normalfont 594, 7331, 7359, 7392	\nsupset . . . . . 18287, 20047
\ngtrclosed . . . . . 18484, 20634	\normalsize . . . . . 612, 7721, 7793	\nsupseteq . . . . . 18295, 20051
\ni . . . . . 18078, 19951	\notbackslash . . . . 18534, 20151	\ntriangleleft . . . . 18479, 20127
\NibRight . . . . . 18963, 20248	\note . . . . . 8109	\ntrianglelefteq . . . 18486, 20129
\NibSolidRight . . . 18965, 20249	\notin . . . . . 18074, 19949	\ntriangleright . . . . 18482, 20128
\niepsilon . . . . . 16193, 19729		\ntrianglerighteq . . . 18489, 20130
\niota . . . . . 16242, 19737		\nu . . . . . 16626, 19780
\nineinferior . . . . . 19840		\null . . . 7990, 7998, 8737, 8846
\ninesuperior . . . . . 19824		\number 1137, 1141, 1144, 1152, 1155, 1157, 1462, 1464, 1491, 1492, 2205, 2263, 2264, 2265, 2266, 2270, 2271, 2272, 2273, 2274, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2288, 2289, 2290, 2291, 2292, 2293, 2296, 2298, 2302, 2303, 2305, 2307, 2309, 2312, 2316, 2317, 2318, 2319, 2328, 2329, 2333, 2334, 2341, 2342, 2346, 2349, 2350, 2351, 2361, 2363, 2364, 2369, 2371, 2372, 2377, 2378, 4075, 4586, 4603, 5337, 6937, 6940, 6982, 6983, 6986, 6990, 9104, 9107, 9898, 9916, 9917, 9932, 9933, 9953, 9954, 9970, 9971, 9993, 9994, 10010, 10011
\ninferior . . . . . 19855		\numberline . 7714, 7786, 14419, 14424
\niphy . . . . . 16294, 19741		\numberwithin . . . . . 8297
\niupsilon . . . . . 16352, 19747		\numexpr 2270, 2271, 2272, 2274, 2280, 2288, 2289, 2290, 2291, 2292, 2293, 2297, 2299, 2303, 2305, 2307, 2309, 2313, 2316, 2317,
\nj . . . . . 16275, 20533		
\nLeftarrow . . . . . 18003, 19918		
\nleftarrow . . . . . 17915, 19883		
\nLeftrightarrow . . 18005, 19919		
\nleftrightarrow . . . 17942, 19896		
\nleq . . . . . 18253, 20030		

2319, 2328, 2333, 2350,  
2364, 2372, 2378, 4079

\nun ..... 19666

\nVDash ..... 18378, 20084

\nvDash ..... 18376, 20083

\nvdash ..... 18374, 20082

\Nwarrow ..... 18025, 19927

\nwarrow ..... 17905, 19879

\nwsearrow ..... 19135, 20329

## O

\O ..... 15173, 15584, 16065

\o ..... 15242, 15654, 16068

\oasterisk ..... 18339, 20613

\obackslash ..... 19215, 20685

\obar ..... 19209, 20357

\obeylines ..... 12167

\OBJ@acroform ... 13328, 13329

\OBJ@Helv 13307, 13316, 13634

\OBJ@OCG@print .. 9141, 9144,  
9152, 9178, 10226, 10228,  
10241, 10245, 10254, 10283

\OBJ@OCG@view .. 9126, 9144,  
9177, 10210, 10212, 10225,  
10245, 10282

\OBJ@OCGs . 9147, 9150, 9156,  
9161, 9166, 10242, 10244,  
10248, 10252, 10258, 10263,  
10268

\OBJ@pdfdocencoding ... 13305,  
13615, 13631

\OBJ@ZaDb 13306, 13315, 13624

\obot ..... 19218, 20359

\obslash ..... 19212, 20358

\ocirc ..... 18334, 20610

\OCIRCUMFLEX 19476, 19574,  
19575, 19576, 19577, 19578

\ocircumflex 19470, 19514, 19515,  
19516, 19517, 19518

\oddsidemargin ..... 8146

\odiv ..... 19260, 20377

\odot ..... 18329, 20066

\odplus ..... 19220, 20687

\OE ..... 15042, 15852

\oe ..... 15055, 15854

\offinterlineskip ..... 6443

\ogreaterthan .... 19224, 20361

\OHORN .. 19477, 19579, 19580,  
19581, 19582, 19583

\ohorn 3416, 3423, 19471, 19519,  
19520, 19521, 19522, 19523

\oiint ..... 18143, 19980

\oinferior ..... 19848

\oint ..... 18141, 19979

\ointclockwise .... 18146, 19981

\ointctrackwise .. 18148, 19982

\oldb ..... 910

\oldc ..... 911

\oldcontentsline 6329, 6332, 6342

\oldd ..... 912

\oldnewlabel .. 6334, 6339, 6343

\olessthan ..... 19221, 20360

\OMEGA ..... 12668

\Omega ..... 16584, 19767

\omega ..... 16650, 19791

\ominus ..... 18320, 20063

\on@line ..... 8194, 8195

\oneinferior ..... 19832

\onesuperior ..... 19714

\oo ..... 19393, 20426

\openbullet ..... 20166

\openo ..... 16169, 19725

\openout .... 6321, 6364, 14622,  
14704

\oplus ..... 18317, 20062

\OpMode 3084, 3087, 3100, 3113,  
3118, 11190, 11293, 12112

\or 336, 1171, 1172, 1173, 1174,  
1175, 1176, 1177, 1178,  
1179, 1193, 1194, 1195,  
1196, 1197, 1198, 1199,  
1200, 1201, 1216, 1217,  
1218, 1219, 1220, 1221,  
1222, 1223, 1224, 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, 1358,  
1380, 1383, 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, 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, 1469, 1470,  
1471, 1472, 1473, 1585,  
1586, 1587, 2424, 2427,  
2429, 2432, 5497, 5503,  
5508, 5722, 6957, 6958,  
6959, 6960, 6966, 6967,

6968, 6969, 8217, 8221,  
8660, 8669, 11183, 14540,  
14541, 14542, 14543, 14544,  
14545, 14546, 14547, 14548,  
14549, 14550, 14551, 14552,  
14553, 14554, 14555, 14556,  
14557, 14558, 14559, 14560,  
14561, 14562, 14563, 14564,  
14565, 14566, 14567, 14568,  
14569, 14570, 14571

\OrnamentDiamondSolid . 19092

\oslash ..... 18326, 20065

\otimes ..... 18323, 20064

\overlay ..... 8106

\owns ..... 18080, 20597

## P

\P ..... 558

\p@ 2329, 2334, 5751, 5757, 7339,  
7367, 7398, 9843, 9927,  
9965, 10005, 11137, 12335,  
12615, 12906, 13394, 13735,  
14860, 14861

\p@equation ..... 8269

\PackageError ..... 61

\PackageInfo . 9020, 9102, 13256

\PackageWarning .. 2961, 5708

\pageautorefname .....  
.. 3247, 3265, 3283, 3301,  
3319, 3337, 3355, 3395,  
3413, 3431, 8818, 8941

\pagename ..... 8815

\pageref .....  
665, 4417, 4739, 6241, 6242,  
6311, 6312, 7052, 8804, 8808

\paperheight .....  
.. 4212, 9687, 9689, 9692,  
9694, 9706, 9707, 10651,  
10652, 10789, 10790, 10792,  
12089, 12090

\paperwidth .....  
.. 9683, 9685, 9696, 9698,  
9703, 9704, 10650, 10652,  
10793, 12088, 12090

\par 7330, 7357, 7390, 7713, 7741,  
7784, 7794, 7992, 8012

\paragraphautorefname .....  
.. 3243, 3261, 3279, 3297,  
3315, 3333, 3351, 3384,  
3386, 3409, 3427, 8937

\parallel ..... 18123, 19970

\parenleftinferior ..... 19844

\parenleftsuperior ..... 19828

\parenrightinferior ..... 19845

\parenrightsuperior ..... 19829

\parr ..... 17858, 20590

\partautorefname .. 3237, 3255, 3273, 3291, 3309, 3327, 3345, 3375, 3403, 3421, 8931	\pdfcatalog .. 6639, 9148, 9497, 9539, 13329	11604, 11628, 11890, 11905, 11920, 11932, 11939, 11966, 11997, 12419, 12428, 12459, 12885, 12968, 12980, 13004, 13022, 13045, 13065, 14664
\partial ..... 18059, 19942	\PDFdefaults ..... 11750	\pdfmark@ ..... 11628, 11629
\partnumberline .. 14421, 14426	\pdfdest ..... 9240	\pdfmatch ..... 333
\PassOptionsToPackage .. 3132, 3189, 3193, 3215, 4246, 4553	\pdfdraftmode ..... 244	\pdfminorversion ..... 9017
\pdf@addtoks ... 11742, 11761, 11767, 11776, 11783, 11787, 11789, 11791, 11793, 11795, 11803, 11812, 11816, 11818, 11820, 11823, 11832, 11836, 11838, 11840, 11842, 11844, 11846, 11848, 11850, 11852, 11854, 11856, 11858, 11860, 11862, 11864, 11866, 11867, 11868, 11869, 11870, 11871, 11872, 11873, 11874, 11875, 11876, 11881	\pdfendlink . 9279, 13374, 13467, 13481, 13507, 13531, 13554, 13576	\PDFNextPage ..... 11903
\pdf@addtoksx .. 11736, 11746, 11759	\pdfescapestring ..... 14046	\PDFNextPage@ .. 11903, 11904
\pdf@box .. 11664, 11696, 11704, 11712, 11713, 11716, 11720, 11722, 11725	\pdfform ..... 9218	\pdfobj 9112, 9127, 9142, 13310, 13582, 13616, 13625
\pdf@defaulttoks . 11631, 11740, 11741, 11751	\PDFForm@@Name 14054, 14057, 14061, 14064	\pdfobjcompresslevel 9041, 9095
\pdf@docset ..... 11499	\PDFForm@Check 13064, 13066, 13573, 13574, 13946, 13950, 14138	\PDFOpen ..... 11931
\pdf@endanchor 9238, 9282, 9289	\PDFForm@List . 12979, 12981, 13478, 13479, 13832, 13837, 14196	\pdfoptionpdfminorversion 9014
\pdf@escapestring ..... 8996	\PDFForm@Name 13366, 13419, 13490, 13568, 13699, 13760, 13848, 13937, 14053	\pdfoutline ..... 14713
\PDF@FinishDoc ..... 3017, 3018, 3092, 3093, 4206, 4283, 4410, 4411, 4515, 4516, 6288, 6460, 6461, 9551, 9767, 10025, 10508, 10671, 11261, 11500, 12375, 12536	\PDFForm@Push . 13003, 13005, 13504, 13505, 13864, 13868, 14167	\pdfpageattr . 9595, 9599, 9600, 9610, 9619, 9623, 9624, 9634, 9642, 9645, 9646, 9656
\pdf@ifdraftmode .... 240, 243, 251, 6636, 9111, 9552, 9661, 13302, 14632	\PDFForm@Radio 12967, 12971, 13457, 13459, 13801, 13813, 14229	\pdfpageheight 9689, 9698, 9707, 9714
\pdf@linktype ... 11649, 11653, 11756, 11757	\PDFForm@Reset 13044, 13046, 13551, 13552, 13916, 13921, 14331	\pdfpageresources ..... 9175
\pdf@rect . 11641, 11655, 11668	\PDFForm@Submit 13021, 13024, 13524, 13526, 13888, 13893, 14298	\pdfpagesattr . 9486, 9488, 9490
\PDF@SetupDoc ..... 4205, 4282, 6208, 6209, 6287, 9482, 9768, 10056, 10548, 10672, 11198, 11551, 12256, 12406, 12537	\PDFForm@Text . 12884, 12886, 13372, 13373, 13709, 13712, 14263	\pdfpagewidth 9685, 9694, 9704, 9711
\PDF@SetupDox ..... 9482	\pdfhorigin ..... 9679	\PDFPreviousPage ..... 11916
\pdf@strcmp ..... 995	\pdfinfo ..... 9555	\PDFPreviousPage@ ..... 11917, 11919
\pdf@toks . 11631, 11646, 11657, 11739, 11743, 11747	\pdflastannot ..... 9061	\pdfrefform ..... 9220
\pdf@type . 11633, 11637, 11646, 11657, 11734, 11754	\pdflastform ..... 9219	\pdfrefobj . 13305, 13306, 13307
\pdfannotlink ..... 9216	\pdflastlink ..... 9064, 13286	\pdfrefxform ..... 9220, 13250
\pdfbookmark 2566, 6293, 6294, 14498, 14503, 14508, 14512	\pdflastobj 9058, 9126, 9141, 9147, 13328, 13615, 13624, 13634	\pdfstartlink ..... 9215, 9216, 9274, 9318, 9356, 9393, 9727, 13373, 13458, 13479, 13505, 13525, 13552, 13574
	\pdflastxform 9059, 9219, 13248, 13250	\pdfstringdef ..... 527, 823, 3876, 3882, 3888, 3910, 3915, 3921, 3928, 3934, 4014, 5669, 5674, 5700, 6420, 6528, 6530, 7067, 8092, 8128, 14072, 14430
	\pdflastximage ..... 9060	\pdfstringdefDisableCommands . 909, 954, 6291, 6415
	\pdfinkmargin 9214, 9217, 9222	\pdfstringdefPostHook . 819, 948
	\pdfliteral .... 9198, 9200, 9205	\pdfstringdefPreHook . 676, 948, 960, 6414, 6424
	\pdfm@box 10138, 13671, 13672, 13673, 13703, 13715, 13792, 13817, 13828, 13839, 13858, 13871, 13886, 13895, 13915, 13923, 13940, 13952	\pdfstringdefWarn 561, 562, 670, 963, 1744, 1749, 1768, 1772
	\pdfmark ... 6750, 10076, 10085, 10115, 11329, 11349, 11388, 11423, 11440, 11452, 11486, 11523, 11535, 11564, 11573,	\pdftexrevision 9442, 9450, 9461
		\pdftexversion 9437, 9439, 9442, 9445, 9448, 9449, 9453, 9459, 9460, 13304
		\pdfvorigin ..... 9680
		\pdfxform ..... 9218, 13246
		\Peace ..... 18953, 20243
		\peh ..... 19692

`\penalty` 1881, 2593, 4883, 7919, 7942  
`\PencilRight` . . . . . 18959, 20246  
`\PencilRightDown` . 18957, 20245  
`\PencilRightUp` . . . 18961, 20247  
`\perp` . . . . . 19100, 20312  
`\phantom` . . . . . 617  
`\phantomsection` . . . 4207, 6295, 8169, 14365, 14416, 14804  
`\Phi` . . . . . 16577, 19765  
`\phi` . . . . . 16644, 19788  
`\phiinferior` . . . . . 19801  
`\Phone` . . . . . 18737, 20172  
`\PhoneHandset` . . . 18944, 20239  
`\Pi` . . . . . 19762  
`\pi` . . . . . 16632, 19782  
`\pinferior` . . . . . 19856  
`\Pisces` . . . . . 18846, 20668  
`\pisces` . . . . . 18844, 20209  
`\pitchfork` . . . . . 18437, 20108  
`\planck` . . . . . 15759, 20477  
`\Plane` . . . . . 18948, 20241  
`\Plus` . . . . . 18980, 20256  
`\PlusCenterOpen` . 18984, 20258  
`\plusinferior` . . . . . 19841  
`\PlusOutline` . . . . 18978, 20255  
`\plussuperior` . . . . . 19825  
`\PlusThinCenterOpen` . . . 18982, 20257  
`\Pluto` . . . . . 18810, 20656  
`\pluto` . . . . . 18808, 20197  
`\pm` . . . . . 20452  
`\PointingHand` . . . . 18756, 20640  
`\pounds` . . . . . 15473, 20465  
`\Preamble` . . . . . 12664  
`\prec` . . . . . 18265, 20036  
`\precapprox` . . . . . 19334, 20410  
`\preccurlyeq` . . . . . 18269, 20038  
`\preceq` . . . . . 19318, 20402  
`\preceqq` . . . . . 19326, 20406  
`\precnapprox` . . . . . 19338, 20411  
`\precneq` . . . . . 19322, 20404  
`\precneqq` . . . . . 19330, 20408  
`\precnsim` . . . . . 18475, 20125  
`\precsim` . . . . . 18273, 20040  
`\PrerenderUnicode` . . . . . 3867  
`\prime` . . . . . 17676, 19810  
`\process@me` . 6394, 6406, 6407, 9485, 9494  
`\ProcessKeyvalOptions` . . . 4250  
`\prod` . . . . . 18085, 19954  
`\propto` . . . . . 18107, 19963  
`\protect` . 1879, 5025, 7714, 7786, 7850, 7865, 7881, 7997, 8004, 8005, 8207, 8238, 8513, 8565, 8694, 8714, 8720, 8731, 8849, 9778,

9875, 10742, 10817, 12267, 12547, 14437, 14737, 14860, 14861  
`\protected@edef` 5062, 6494, 6588, 7157, 7299, 7319, 8080, 8084, 9247, 10337, 10871, 10954, 11478  
`\protected@write` . . . 2530, 5046, 5252, 7977, 8398, 8413, 8421, 8425, 8430, 14436  
`\protected@xdef` . . . 7558, 7651  
`\providecommand` . . 2547, 2548, 3567, 3568, 3571, 3572, 4503, 4716, 4717, 4836, 4979, 5239, 5297, 6325, 6618, 6643, 6768, 6807, 6810, 6813, 6814, 6815, 6817, 6818, 6819, 6820, 6822, 6823, 6824, 6825, 6826, 6827, 6836, 6837, 6838, 6839, 6840, 6841, 7293, 7815, 7816, 7831, 7909, 8495, 8496, 8500, 8505, 8506, 8613, 8922, 8923, 8924, 8925, 8926, 8927, 8928, 8929, 8930, 8931, 8932, 8933, 8934, 8935, 8936, 8937, 8938, 8939, 8940, 8941, 9003, 9224, 9242, 9243, 9766, 9869, 9870, 10133, 10195, 10196, 10197, 10668, 10787, 10809, 10810, 10811, 11286, 11665, 11666, 12023, 12031, 12032, 12033, 12034, 12106, 12118, 12119, 12120, 12121, 12165, 12206, 12207, 12208, 12209, 12364, 12366, 12367, 12480, 12481, 12528, 13269  
`\psdaliasnames` . . . 20455, 20704  
`\psdmapshortnames` 19710, 20454  
`\Psi` . . . . . 16581, 19766  
`\psi` . . . . . 16648, 19790  
`\PushButton` . . . . . 6104  
`\put@me@back` 5202, 5215, 5225  
`\p wedge` . . . . . 16361, 20553  
`\pxfonts` . . . . . 19367

## Q

`\Q` . . . . . 1874, 1962  
`\qaf` . . . . . 19658  
`\quaternnote` . . . . 18867, 20210  
`\quotedblbase` . . . 15022, 15261, 17657, 19452  
`\quotesinglbase` . . 15032, 15263, 17651, 19454

## R

`\r` . . . 881, 14897, 14909, 14921, 15134, 15200, 15310, 15350, 15377, 15407, 15545, 15611, 15908, 15910, 17596, 17598  
`\ra` . . . . . 19634  
`\Radiation` . . . . . 18759, 20641  
`\Radioactivity` . . . . 18757, 20180  
`\raff` . . . . . 19678  
`\Rain` . . . . . 18926, 20232  
`\raise` . . . 2600, 9844, 9928, 9966, 10006, 11730, 12336, 12616  
`\rangle` . . . . . 18527, 20148  
`\rbrackdbl` . . . . . 20317  
`\rcurvearrowdown` . 19162, 20340  
`\rcurvearrowleft` . . 19164, 20341  
`\rcurvearrowne` . . . 19148, 20335  
`\rcurvearrowright` . 19167, 20342  
`\rcurvearrowse` . . . 19157, 20338  
`\Re` . . . . . 17823, 19863  
`\ReadBookmarks` . . . . . 4249, 4286, 4424, 4620, 4760, 14596, 14631  
`\real@setref` . . . . . 8691, 8757  
`\realfootnote` . . . . . 7648  
`\Rectangle` . . . . . 19096, 20310  
`\RectangleBold` . . . 19098, 20311  
`\RectangleThin` . . . 19094, 20309  
`\recycle` . . . . . 18882, 20216  
`\Ref` . . . . . 8776, 8780, 8785  
`\ref` 664, 4416, 4736, 5311, 6237, 6238, 6307, 6308, 7613, 7620, 8795, 12639  
`\ref@one` . . . . . 5001, 5002  
`\rEfLiNK` . . . . . 12640, 12641  
`\refstepcounter` . . . . . 6845, 6852, 6872, 7139, 7162, 7163, 7164, 7173, 7198, 7222, 7232, 7347, 7778  
`\rem@ptetc` . . . . . 11413, 11415  
`\renewcommand` . . . 2522, 8314, 14512  
`\Request` . . . . . 18552, 20158  
`\RequirePackage` . . . . 22, 233, 235, 236, 237, 255, 256, 257, 258, 259, 260, 261, 262, 263, 381, 1254, 1781, 2516, 2939, 3012, 4398, 4399, 4688, 4732, 4764, 4971, 5314, 6277, 6434, 6684, 9074, 10669, 12533, 14522  
`\RerunFileCheck` . . . . . 14524  
`\Reset` . . . . . 6113  
`\reset@font` . . 7925, 7948, 8695, 8715, 8732, 8850  
`\reve` . . . . . 16183, 19727  
`\reveject` . . . . . 16395, 20563



<code>\revepsilon</code> . . . . .	16197, 19730	<code>\saturn</code> . . . . .	18799, 20194	<code>\setpdfinkmargin</code> . .	4062, 4063, 9214
<code>\revglotstop</code> . . . . .	16393, 19755	<code>\sbox</code> . . . . .	3863, 6133, 9831, 9911, 9948, 9988, 11665, 11704, 12323, 12598, 13245	<code>\settowidth</code> . . . . .	12903, 13391, 13732
<code>\revtex@checking</code> . . . . .	7902	<code>\scd</code> . . . . .	17269, 19792	<code>\SetupKeyvalOptions</code> .	2651, 4240
<code>\rhd</code> . . . . .	18383, 20086	<code>\scg</code> . . . . .	16218, 19733	<code>\seveninferior</code> . . . . .	19838
<code>\rho</code> . . . . .	16634, 19783	<code>\schwa</code> . . . . .	16186, 19728	<code>\sevensuperior</code> . . . . .	19822
<code>\rhoinferior</code> . . . . .	19800	<code>\schwainferior</code> . . . . .	19850	<code>\sffamily</code> . . . . .	596
<code>\rhooknearrow</code> . . . . .	19141, 20332	<code>\sci</code> . . . . .	16245, 19738	<code>\shadda</code> . . . . .	19688
<code>\rhookrepsilon</code> . . . . .	19731	<code>\ScissorHollowRight</code> .	18942, 20238	<code>\sharp</code> . . . . .	18880, 20215
<code>\rhookswarrow</code> . . . . .	19145, 20334	<code>\ScissorRight</code> . . . . .	18937, 20236	<code>\sheen</code> . . . . .	19640
<code>\Rightarrow</code> . . . . .	8647, 18016, 19923	<code>\ScissorRightBrokenBottom</code> . . . . .	18934	<code>\shortciteN</code> . . . . .	8040
<code>\rightarrow</code> . . . . .	19875	<code>\ScissorRightBrokenTop</code> . .	18940, 20237	<code>\shuffle</code> . . . . .	19239, 20368
<code>\rightarrowtail</code> . . . . .	17930, 19890	<code>\scn</code> . . . . .	16281, 19739	<code>\Sigma</code> . . . . .	16571, 19763
<code>\rightbarharpoon</code> . . .	19198, 20353	<code>\Scorpio</code> . . . . .	18834, 20664	<code>\sigma</code> . . . . .	16638, 19785
<code>\rightharpoondown</code> . .	17971, 19906	<code>\scorpio</code> . . . . .	18832, 20205	<code>\sim</code> . . . . .	18165, 19989
<code>\rightharpoonup</code> . . .	17968, 19905	<code>\scr</code> . . . . .	16322, 19743	<code>\simeq</code> . . . . .	18174, 19993
<code>\rightleftarrows</code> . . .	17980, 19909	<code>\scr@LT@array</code> . . . . .	7172	<code>\sinferior</code> . . . . .	19857
<code>\rightleftharpoon</code> . .	19171, 20344	<code>\scripta</code> . . . . .	16156, 19724	<code>\SixFlowerAlternate</code> .	19048, 20289
<code>\rightleftharpoons</code> . .	18000, 19917	<code>\scriptg</code> . . . . .	16215, 19732	<code>\SixFlowerAltPetal</code> .	19058, 20294
<code>\rightModels</code> . . . . .	18373, 20620	<code>\scriptsize</code> . . . . .	613	<code>\SixFlowerOpenCenter</code> .	19044, 20287
<code>\rightmodels</code> . . . . .	18364, 20618	<code>\scriptstyle</code> . . . . .	7915	<code>\SixFlowerPetalRemoved</code> .	19041, 20286
<code>\rightmoon</code> . . . . .	18778, 20189	<code>\scriptv</code> . . . . .	16356, 19748	<code>\sixinferior</code> . . . . .	19837
<code>\rightpointleft</code> . . .	18752, 20638	<code>\scrollmode</code> . . . . .	1796, 1821, 1831, 1844, 1946, 2079	<code>\SixStar</code> . . . . .	19031, 20281
<code>\rightrightarrows</code> . .	17992, 19914	<code>\scshape</code> . . . . .	601, 7336, 7364	<code>\sixsuperior</code> . . . . .	19821
<code>\rightrightarpoons</code> .	19186, 20349	<code>\scu</code> . . . . .	17287, 19793	<code>\SixteenStarLight</code> . .	19039, 20285
<code>\Rightscissors</code> . . . .	18939, 20679	<code>\scy</code> . . . . .	16370, 19752	<code>\sixteenthnote</code> . . . .	18874, 20212
<code>\rightslice</code> . . . . .	19316, 20401	<code>\searrow</code> . . . . .	18029, 19929	<code>\SK@</code> . . . . .	8908
<code>\rightsquigarrow</code> . . .	18039, 19934	<code>\searrow</code> . . . . .	17910, 19881	<code>\SK@Cref</code> . . . . .	8908
<code>\rightthreetimes</code> . .	18417, 20100	<code>\Sech</code> . . . . .	19423, 20437	<code>\SK@Cref</code> . . . . .	8905
<code>\rightVdash</code> . . . . .	18367, 20619	<code>\second</code> . . . . .	17678, 19811	<code>\skip@</code> . . . . .	1896, 1979, 1980, 1983, 1985, 2616, 2622, 2635, 2641
<code>\rightvdash</code> . . . . .	18352, 20614	<code>\section</code> . . . . .	8615	<code>\slashc</code> . . . . .	16147, 19723
<code>\rinferior</code> . . . . .	19795	<code>\sectionautorefname</code> . .	3240, 3258, 3276, 3294, 3312, 3330, 3348, 3377, 3406, 3424, 8934	<code>\slashdiv</code> . . . . .	19370, 20424
<code>\riota</code> . . . . .	17835, 19865	<code>\seen</code> . . . . .	19638	<code>\slide</code> . . . . .	8103
<code>\risingdoteq</code> . . . . .	20006	<code>\selectfont</code> . . . . .	581, 4699, 13338	<code>\slide@ccline</code> . . . . .	8633, 8646, 8654, 8664, 8672
<code>\risingdotseq</code> . . . . .	18205	<code>\SePa</code> . . . . .	19409, 20431	<code>\Slide@contents</code> . . . . .	8638
<code>\rlap</code> . . . . .	9199, 10304	<code>\set@display@protect</code> . . . .	4351	<code>\slide@contents</code> . . . . .	8631
<code>\rm</code> . . . . .	605	<code>\setbox</code> . . . . .	1882, 1888, 1894, 3595, 3601, 5895, 6442, 7426, 9189, 9755, 10277, 10294, 13703, 13792, 13828, 13858, 13886, 13915, 13940	<code>\slide@heading</code> . . . . .	8509
<code>\rmfamily</code> . . . . .	595	<code>\setcounter</code> . . . . .	4914	<code>\slide@subheading</code> . . . . .	8562
<code>\Roman</code> . . . . .	6584	<code>\setkeys</code> . . . . .	4889, 4934	<code>\slide@undottedcline</code> . . . .	8624
<code>\roman</code> . . . . .	6585	<code>\setlength</code> . . . . .	511, 512, 2597, 5907, 9679, 9680, 9685, 9689, 9694, 9698, 9704, 9707, 9711, 9714, 10790, 10793, 10797, 10800, 11137, 14754, 14825	<code>\slidenumberline</code> . . . .	8625, 8633, 8647, 8655, 8665, 8673
<code>\romannumeral</code> . . . . .	970, 971	<code>\setminus</code> . . . . .	18097, 19959	<code>\SliTeX</code> . . . . .	573
<code>\rotm</code> . . . . .	16264, 20529			<code>\slshape</code> . . . . .	602
<code>\rotOmega</code> . . . . .	16354, 20551			<code>\small</code> . . . . .	614
<code>\rotr</code> . . . . .	16299, 20539			<code>\smallin</code> . . . . .	18076, 19950
<code>\rotrvar</code> . . . . .	16163, 20501			<code>\smallowns</code> . . . . .	18083, 19953
<code>\rotrw</code> . . . . .	16365, 20555			<code>\smash</code> . . . . .	2594
<code>\roty</code> . . . . .	16369, 20557			<code>\smile</code> . . . . .	18521, 20145
<code>\Rrightarrow</code> . . . . .	18035, 19932			<code>\Smiley</code> . . . . .	18771, 20643
<code>\rtaild</code> . . . . .	19726			<code>\smiley</code> . . . . .	18769, 20185
<code>\rtimes</code> . . . . .	18413, 20098			<code>\Snowflake</code> . . . . .	19062, 20296
<code>\rule</code> . . . . .	7598			<code>\SnowflakeChevron</code> . .	19060, 20295

## S

<code>\S</code> . . . . .	15484, 20468
<code>\sad</code> . . . . .	19642
<code>\Sagittarius</code> . . . . .	18837, 20665
<code>\sagittarius</code> . . . . .	18835, 20206
<code>\Saturn</code> . . . . .	18801, 20653

\SnowflakeChevronBold ..	19064, 20297	14161, 14224, 14252, 14291, 14340	T	
\sofpasuq .....	17203		\T .....	19618
\softsign .....	16846, 20574	\strip@pt@and@otherjunk	\t ..	14929, 15340, 15367, 15394, 15412
\spacefactor ..	2573, 2579, 7517, 7526, 7676, 7678, 9227, 9235	11348, 11380, 11415	\T@nameref .....	4753
\spadesuit ..	18847, 18849, 20669	\strutbox .....	\T@pageref ...	4723, 4740, 8793
\Sparkle .....	19066, 20298	7592	\T@ref .....	4718, 4737
\SparkleBold .....	19068, 20299	\sub@label .....	\T@temp .....	7903, 7906
\special@paper .....	4208	\subeqnarray .....	\Ta .....	19646
\SpecialDvipdfmxOutlineOpen ..	3051, 3053, 4588, 4595	\subequations .....	\taa .....	19620
\sphericalangle ...	18115, 19967	\subfig@oldlabel .....	\tableautorefname ..	3236, 3254, 3272, 3290, 3308, 3326, 3344, 3374, 3402, 3420, 8930
\splitmaxdepth .....	7592	\Submit .....	\tagform@ .....	8268
\splittopskip .....	7591	\SubmitObject .....	\taild .....	16177, 20506
\sqcap .....	18313, 20060	\SubmitPObject .....	\tailinvr .....	16307, 20541
\sqcup .....	18315, 20061	\Subparagraphautorefname ....	\taill .....	16257, 20526
\sqdoublecap .....	19264, 20379	.. 3244, 3262, 3280, 3298, 3316, 3334, 3352, 3385, 3387, 3410, 3428, 8938	\tailn .....	16280, 20535
\sqdoublecup .....	19269, 20381	\subpdfbookmark .....	\tailr .....	16313, 20543
\sqsubset .....	18305, 20056	14500	\tails .....	16329, 20546
\sqsubsest .....	18309, 20058	\subsection .....	\tailt .....	16347, 20549
\sqsubseteq .....	18465, 20121	\subsectionautorefname .....	\tailz .....	16375, 20558
\sqsupset .....	18307, 20057	.. 3241, 3259, 3277, 3295, 3313, 3331, 3349, 3382, 3407, 3425, 8935	\Tape .....	18946, 20240
\sqsupseteq .....	18311, 20059	\Subset .....	\tatweel .....	19654
\sqsupsetneq .....	18468, 20122	18281, 20044	\tau .....	16640, 19786
\SquareCastShadowBottomRight .....	19087, 20306	\subseteq .....	\Taurus .....	18816, 20658
\SquareCastShadowTopRight ..	19090, 20307	\subseteqq .....	\taurus .....	18814, 20199
\squaredots .....	18158, 19986	18289, 20048	\tcheh .....	19694
\SquareShadowBottomRight ...	19081, 20304	\subseteqeq .....	\Telefon .....	18739, 20637
\SquareShadowTopRight ..	19084	19342, 20413	\temp@online ....	8194, 8197
\SquareTopRight .....	20305	\subsetneq .....	\Tent .....	18932, 20235
\SS .....	15259, 19439	18297, 20052	\tesh .....	16447, 20571
\ss ...	3287, 15188, 15274, 15599	\subsubsectionautorefname ....	\TeX ..	563, 564, 571, 573, 12667, 12669, 12671
\slash .....	19365, 20422	.. 3242, 3260, 3278, 3296, 3314, 3332, 3350, 3383, 3408, 3426, 8936	\texorpdfstring .....	941, 6292
\st@rredfalse .....	7205, 7214	\succ .....	\textAcht .....	19422, 20436
\star .....	18404, 20094	18267, 20037	\textAcPa .....	19408, 20430
\stepcounter .....	6862, 7087, 7156, 7318, 7518, 7650, 10320, 14433	\succapprox .....	\textacute ..	14893, 14905, 14917, 15100, 15346, 15373, 15509
\stockheight ..	4212, 9713, 9714, 10657, 10658, 10796, 10797, 12095, 12096	\succcurlyeq .....	\textacutedbl .....	16495
\stockwidth ..	9710, 9711, 10656, 10658, 10799, 10800, 12094, 12096	19320, 20403	\textacutemacron ..	15343, 15370, 15397, 17375, 17378, 17479, 17482
\stop@hyper .....	6259	\succeq .....	\textainferior .....	17765, 19846
\StringEncodingConvertTest	797, 807	\succeqq .....	\textaleph .....	17844, 19867
\strip@period .....	2535	\succnapprox .....	\textAlpha ..	1171, 16521, 16538
\strip@prefix ..	62, 2528, 6396, 7005, 7302, 14660, 14668, 14683	\succneq .....	\textalpha ..	1171, 16592, 16603, 19768
\strip@pt .....	516, 523, 4224, 5927, 5940, 9685, 9689, 9694, 9698, 11140,	\succneqq .....	\textamalg .....	18088, 19955
		19332, 20409	\textampersand ....	555, 14964, 15430, 15431, 15432, 20460, 20461
		18477, 20126	\textangle .....	18112, 19965
		18275, 20041	\textangstrom .....	17838
		19690	\textAnkh .....	18763, 20182
		18089, 19956	\textaoilig ..	19390, 19392, 20701
		18774, 20187		
		20231		
		18924		
		19056, 20293		
		\Supset .....		
		18429, 20105		
		18283, 20045		
		18291, 20049		
		19344, 20414		
		18299, 20053		
		8655, 19962		
		18031, 19930		
		17913, 19882		

<code>\textAPLdownarrowbox</code> . 18548, 20156	<code>\textbarb</code> . . . . . 15947, 20481	<code>\textboxplus</code> . . . . . 18343, 20070
<code>\textAPLinput</code> . . . 18551, 20157	<code>\textbarc</code> . . . . . 16151, 20497	<code>\textboxslash</code> . . . . . 19228, 20362
<code>\textAPLinv</code> . . . . . 18530, 20149	<code>\textbard</code> . . . . . 15711, 20473	<code>\textboxtimes</code> . . . . . 18347, 20072
<code>\textAPLleftarrowbox</code> . . . 18540, 20153	<code>\textbardbl</code> 17644, 17645, 20584	<code>\textbraceleft</code> 549, 2386, 14989, 15458
<code>\textAPLrightarrowbox</code> . . 18543, 20154	<code>\textbardotlessj</code> . . 16208, 16209, 16210, 20513	<code>\textbraceright</code> 550, 2386, 14993, 15463
<code>\textAPLuparrowbox</code> . . . 18545, 20155	<code>\textbarglotstop</code> . . 16429, 16430	<code>\textbrokenbar</code> . . 15073, 15479, 15480, 20466
<code>\textapprox</code> . . . . . 18182, 19996	<code>\textbari</code> . . 16239, 16240, 16241, 19736, 20522	<code>\textbullet</code> . 14997, 17666, 19808
<code>\textapproxeq</code> . . . . . 18184, 19997	<code>\textbarin</code> . . . . . 18501, 20135	<code>\textbulletoperator</code> . . . . . 18104
<code>\textaquarius</code> . . . . . 18842, 18843, 20208, 20667	<code>\textbarl</code> . . 15969, 15970, 19721	<code>\textbullseye</code> . . . . . 16404, 16405, 16406, 16407, 20566, 20567
<code>\textaries</code> . . 18812, 18813, 20198, 20657	<code>\textbarlefttharpoon</code> 19196, 20352	<code>\textBumpeq</code> . . . . . 18192, 20001
<code>\textasciicute</code> . . . . . 15510	<code>\textbaro</code> . . 16285, 16286, 19740	<code>\textbumpeq</code> . . . . . 18194, 20002
<code>\textasciibreve</code> . . . 14940, 15354, 15381, 16484	<code>\textbarp</code> . . . . . 17311, 19804	<code>\textcancer</code> 18821, 18822, 20201, 20660
<code>\textasciicaron</code> . . . 14898, 14910, 14922, 14942, 15351, 15378, 16470	<code>\textbarrevglotstop</code> 16433, 16434	<code>\textCap</code> . . 18432, 18433, 20106, 20629
<code>\textasciicircum</code> . . 14894, 14906, 14918, 14980, 15347, 15374, 15448	<code>\textbarriightharpoon</code> . . . . 19202, 20354	<code>\textcap</code> . . . . . 18132, 19974
<code>\textasciidieresis</code> . 14896, 14908, 14920, 15077, 15349, 15376, 15486	<code>\textbarsci</code> . . . . . 17309, 19803	<code>\textcapdot</code> . . . . . 19268, 20380
<code>\textasciigrave</code> . . . 14892, 14904, 14916, 14985, 15345, 15372, 15453	<code>\textbarscu</code> . . . . . 17314, 19805	<code>\textcapricorn</code> . . . 18839, 18840, 20207, 20666
<code>\textasciimacron</code> . 14901, 14913, 14925, 15090, 15356, 15383, 15499	<code>\textbaru</code> . . 16349, 16350, 16351, 19746, 20550	<code>\textccnc</code> . . . . . 19443, 20445
<code>\textasciitilde</code> 556, 4799, 14995, 15465	<code>\textbarwedge</code> . . . . 18403, 20093	<code>\textccnd</code> . . . . . 19445
<code>\textast</code> . . . . . 18100, 19960	<code>\textbbslash</code> 18559, 18560, 20159, 20636	<code>\textccsa</code> . . . . . 19447, 20446
<code>\textAsterisk</code> . . . . . 19047, 20288	<code>\textbecause</code> 18154, 18155, 19984, 20600	<code>\textcdj</code> . . . . . 16418
<code>\textAsteriskBold</code> . 19024, 20277	<code>\textbeltl</code> . . 16251, 16252, 16253, 20525	<code>\textcdot</code> . . 15273, 19464, 20453
<code>\textasteriskcentered</code> . . . . 15440	<code>\textBeta</code> . . . . . 1172, 16540	<code>\textcdots</code> . . . . . 18495, 20132
<code>\textAsteriskCenterOpen</code> . 19026, 20278	<code>\textbeta</code> . . . 1172, 15274, 16605, 19769	<code>\textcedilla</code> 14900, 14912, 14924, 15108, 15353, 15380, 15519
<code>\textAsteriskRoundedEnds</code> 19071, 20300	<code>\textbetainferior</code> . . 17298, 19798	<code>\textcelsius</code> . . . . . 15260, 17809
<code>\textasympt</code> . . . . . 18190, 20000	<code>\textbeth</code> . . . . . 17846, 19868	<code>\textcent</code> . . . . . 15065, 15469
<code>\textbabygamma</code> . . 16226, 19735	<code>\textbetween</code> . . . . . 18247, 20027	<code>\textcentoldstyle</code> . . 16149, 20496
<code>\textbackcong</code> . . . . . 18188, 19999	<code>\textbf</code> . . . . . 588	<code>\textCheckedbox</code> . . 18741, 20173
<code>\textbackepsilon</code> . . . . . 16682	<code>\textBicycle</code> . . . . . 19434, 20442	<code>\textCheckmark</code> . 18968, 18969, 20250, 20681
<code>\textbackneg</code> . . . . . 18505, 20137	<code>\textbigcircle</code> . . . . 15369, 15396, 18729, 20168	<code>\textCheckmarkBold</code> . . . . 18971, 20251
<code>\textbackprime</code> . . . 17683, 19813	<code>\textbigdoublevee</code> . 19246, 20371	<code>\textChi</code> . . . . . 1221, 16580
<code>\textbacksim</code> . . . . . 18168, 19990	<code>\textbigdoublewedge</code> . . . . 19244, 20370	<code>\textchi</code> . . . . . 1221, 16647, 19789
<code>\textbacksimeq</code> . . . 18420, 20101	<code>\textbigtriangledown</code> . . . . 18715, 20162	<code>\textchiinferior</code> . . . 17306, 19802
<code>\textbackslash</code> . . 551, 731, 2385, 14976, 14978, 15446	<code>\textbigtriangleup</code> . 18709, 20160	<code>\textcirc</code> . . . . . 18102, 19961
<code>\textbaht</code> . . . . . 17266	<code>\textBiohazard</code> . . . 18761, 20181	<code>\textcirceq</code> . . . . . 18214, 20010
<code>\textbar</code> . . 14991, 15460, 15461, 20463	<code>\textblacksmiley</code> . . 18773, 20186	<code>\textcirclearrowleft</code> . . . . 19114, 20318
	<code>\textblank</code> . . . . . 18555	<code>\textcirclearrowright</code> . . . . 19116, 20319
	<code>\textbot</code> . . . . . 18360, 20077	<code>\textcircled</code> 15342, 15369, 15396, 18562, 18564, 18566, 18568, 18570, 18572, 18574, 18576, 18578, 18580, 18582, 18584, 18586, 18588, 18590, 18592, 18594, 18596, 18598, 18600, 18602, 18604, 18606, 18608, 18610, 18612, 18614, 18616, 18618, 18620, 18622, 18624, 18626, 18628, 18630, 18632,
	<code>\textbowtie</code> . . . . . 18409, 20096	
	<code>\textboxast</code> . . . . . 19232, 20364	
	<code>\textboxbackslash</code> . 18537, 20152	
	<code>\textboxbar</code> . . . . . 18727, 20167	
	<code>\textboxbox</code> . . . . . 19236, 20366	
	<code>\textboxbslash</code> . . . . 19230, 20363	
	<code>\textboxcircle</code> . . . . 19234, 20365	
	<code>\textboxdot</code> . . . . . 18349, 20073	
	<code>\textboxminus</code> . . . . 18345, 20071	



18634, 18636, 18638, 18640, 18642, 18644, 18646, 18648, 18650, 18652, 18654, 18656, 18658, 18660, 18662, 18664, 18666, 18668, 18670, 18672, 18674, 18676, 18678, 18680, 18682, 18684, 18686, 18688, 18690, 18692, 18694, 18696, 18698, 18700, 18702, 18704, 18706	<code>\textcrh</code> . . . . . 15757, 20475 <code>\textcrinvglotstop</code> . 15996, 15997 <code>\textcrlambda</code> . . . 15973, 15974, 15975, 15976, 15977, 15978, 20485, 20486, 20487, 20488 <code>\textCross</code> . . . . . 18987, 20259 <code>\textCrossedbox</code> . . 18743, 20174 <code>\textCrossMaltese</code> . 18993, 20262 <code>\textCrossOpenShadow</code> . . 18989, 20260 <code>\textCrossOutline</code> . 18991, 20261 <code>\textcrtwo</code> . . . . . 15993, 15994 <code>\textctc</code> . . . 16172, 16173, 16174, 20505 <code>\textctd</code> . . . . . 16115, 16116 <code>\textctesh</code> . 16338, 16339, 16340, 20547 <code>\textctj</code> . . . 16419, 16420, 20568 <code>\textctjvar</code> . . . . . 16420, 20568 <code>\textctn</code> . . . . . 16135, 16136 <code>\textctt</code> . . . . . 16137, 16138 <code>\textctyogh</code> 16383, 16384, 16385, 20560 <code>\textctz</code> . . . 16376, 16377, 16378, 20559 <code>\textCup</code> . . 18435, 18436, 20107, 20630 <code>\textcup</code> . . . . . 18134, 19975 <code>\textcupdot</code> . . . . . 18302, 20054 <code>\textcupplus</code> . . . . . 18304, 20055 <code>\textcurlyeqprec</code> . . 18454, 20115 <code>\textcurlyeqsucc</code> . . 18456, 20116 <code>\textcurlyvee</code> . . . 18422, 18423, 20102, 20627 <code>\textcurlywedge</code> . . 18425, 18426, 20103, 20628 <code>\textcurrency</code> . . . 15069, 15475 <code>\textcurvearrowleft</code> 17952, 19899 <code>\textcurvearrowright</code> . . . 17954, 19900 <code>\textdagger</code> 14999, 17659, 17660, 19807, 20585 <code>\textdaggerdbl</code> . . . 15001, 17662, 17663, 17664, 20586, 20587 <code>\textdaleth</code> . . . . . 17850, 19870 <code>\textdanger</code> . . . . . 18905, 20226 <code>\textdasheddownarrow</code> . . 18051, 19938 <code>\textdasheduparrow</code> 18046, 19936 <code>\textdashleftarrow</code> 18043, 18044, 19935, 20594 <code>\textdashrightarrow</code> . . . . . 18048, 18049, 19937, 20595 <code>\textDashV</code> 19354, 19355, 20417, 20696 <code>\textDashv</code> 19350, 19351, 20416, 20695	<code>\textdashV</code> 19347, 19348, 20415, 20694 <code>\textdashv</code> . 18354, 18355, 20075, 20615 <code>\textDavidStar</code> . . 18995, 18996, 20263, 20682 <code>\textdblig</code> . 16141, 16143, 20494 <code>\textdctzlig</code> . . . . . 16441, 16442 <code>\textddagger</code> . . . . . 15002 <code>\textddots</code> . . . . . 18499, 20134 <code>\textdegree</code> 15092, 15260, 15501 <code>\textDelta</code> . . 1174, 16544, 19758 <code>\textdelta</code> . . 1174, 16609, 19771 <code>\textDiamondSolid</code> 19093, 20308 <code>\textdiameter</code> . . . 18503, 20136 <code>\textdiamond</code> . . . 18720, 20164 <code>\textdiamonddots</code> . 17705, 19816 <code>\textdiamondsuitblack</code> . . . 2508, 18864 <code>\textdiamondsuitwhite</code> . . 18854, 18855, 20671 <code>\textDigammagreek</code> . . . . . 16668 <code>\textdigammagreek</code> 16670, 16671, 20572 <code>\textdiscount</code> . . . . . 17699 <code>\textdiv</code> . . . 15271, 19462, 20451 <code>\textdivide</code> 15240, 15271, 15652, 19462 <code>\textdivideontimes</code> 18407, 20095 <code>\textdivorced</code> . . . . . 18917 <code>\textdlsh</code> . . . . . 17949, 19898 <code>\textdollar</code> . . . 553, 14960, 15425, 15426, 20459 <code>\textdong</code> . . . . . 17801 <code>\textdotaccent</code> . . . 14899, 14911, 14923, 14946, 15352, 15379, 16486 <code>\textdotbelow</code> . . . 14903, 14915, 14927, 14970, 15366, 15393, 16511 <code>\textdotdiv</code> . . . . . 18162, 20601 <code>\textdoteq</code> . . . . . 18196, 20003 <code>\textdoteqdot</code> . . . 18199, 18200, 20004, 20603 <code>\textdotminus</code> . . . 18161, 18162, 19987, 20601 <code>\textdotplus</code> . . . . . 18096, 19958 <code>\textdottimes</code> . . . . . 19256, 20375 <code>\textdoublebarpipe</code> 16009, 16010, 16011, 20492 <code>\textdoublebarpipevar</code> . . . 16011, 20492 <code>\textdoublebarwedge</code> . . . . 19279, 20384 <code>\textdoublegrave</code> . 15355, 15382, 16507
--	---	---

<code>\textdoublepipe</code> . .	16005, 16006, 16007, 20491	<code>\textEpsilon</code> . . . . .	1175, 16523, 16546	<code>\textfivesuperior</code> . .	17713, 19820
<code>\textdoublepipevar</code>	16007, 20491	<code>\textepsilon</code> . . . . .	567, 570, 1175, 16594, 16611, 19772	<code>\textfl</code> . . . . .	768, 15038, 19400
<code>\textdoublevee</code> . . .	19275, 19276, 20383, 20693	<code>\texteqcirc</code> . . . . .	18212, 20009	<code>\textFlag</code> . . . . .	18887, 18888, 20218, 20674
<code>\textdoublevertline</code>	17645, 20584	<code>\texteqcolon</code> . . . . .	18164, 19988	<code>\textflat</code> . . . . .	18877, 20213
<code>\textdoublewedge</code> .	19273, 20382	<code>\texteqdot</code> . . . . .	19284, 20386	<code>\textflorin</code> . . . . .	15010, 15959
<code>\textDownarrow</code> . .	18019, 19924	<code>\texteqslantgtr</code> . . .	19313, 20399	<code>\textflq</code> . . . . .	654, 15267, 19458
<code>\textdownarrow</code> . . .	17900, 19876	<code>\texteqslantless</code> . . .	19311, 20398	<code>\textflqq</code> . . . . .	652, 15265, 19456
<code>\textdownarrowdownarrows</code> . . .	17995, 19915	<code>\textequalscolon</code> . .	18210, 20008	<code>\textforall</code> . . . . .	18056, 19940
<code>\textdownarrowdownharpoons</code> .	19190, 20350	<code>\textequalsinferior</code> .	17759, 19843	<code>\textFourAsterisk</code> .	18998, 20264
<code>\textdownharpoonleft</code> . . .	17978, 19908	<code>\textequalssuperior</code> .	17727, 19827	<code>\textfourfifths</code> . . . . .	17876
<code>\textdownharpoonright</code> . .	17975, 19907	<code>\textequiv</code> . . . . .	18224, 20015	<code>\textfourinferior</code> . .	17743, 19835
<code>\textdownmodels</code> . .	19357, 20418	<code>\textEreversed</code> . . . . .	15956	<code>\textFourStar</code> . . . . .	19006, 20268
<code>\textdownstep</code> . . . .	19379, 19380	<code>\textesh</code> . . . . .	16330, 16331, 19745	<code>\textFourStarOpen</code>	19008, 20269
<code>\textdownuparrows</code>	18054, 19939	<code>\textestimated</code> . . . . .	17840	<code>\textfoursuperior</code> . .	17711, 19819
<code>\textdownupharpoons</code> . . .	19208, 20356	<code>\textEta</code> . . . . .	1178, 16525, 16550	<code>\textfourth</code> . . . . .	17703, 19815
<code>\textdsbiological</code> . .	18899, 20223	<code>\texteta</code> . . . . .	1178, 16596, 16615, 19774	<code>\textfractionsolidus</code>	15012, 17693
<code>\textdschemical</code> . . .	18897, 20222	<code>\texteuro</code> . . . . .	15061, 17803	<code>\textfrown</code> . . . . .	18520, 20144
<code>\textdscommercial</code> .	18901, 20224	<code>\textexclamdown</code> . . . .	769, 1082, 15063, 15467	<code>\textfrownie</code>	18767, 18768, 20184, 20642
<code>\textdsjuridical</code> . . .	18895, 20221	<code>\textexists</code> . . . . .	18062, 19943	<code>\textfrq</code> . . . . .	655, 15268, 19459
<code>\textdsmedical</code> . . . .	18893, 20220	<code>\textfallingdoteq</code> . .	18203, 20005	<code>\textfrqq</code> . . . . .	653, 15266, 19457
<code>\textdsmilitary</code> . . .	18890, 18891, 20219, 20675	<code>\textfax</code> . . . . .	17852, 19871	<code>\textfullnote</code>	19414, 19415, 20433, 20702
<code>\textdtimes</code> . . . . .	19259, 20376	<code>\textfemale</code> . . . . .	18785, 20645	<code>\textGame</code> . . . . .	17854, 19872
<code>\textdyoghlig</code> . . . . .	16438, 16439	<code>\textFemaleFemale</code>	18907, 20227	<code>\textGamma</code>	1173, 16542, 19757
<code>\textdzlig</code> . . . . .	16435, 16436, 16437, 20570	<code>\textFemaleMale</code> . .	18911, 20229	<code>\textgamma</code> . . . . .	1173, 16607, 19770
<code>\textearth</code> . . . . .	18790, 18791, 20191, 20649	<code>\textfi</code> . . . . .	767, 15036, 19398	<code>\textgammainferior</code>	17300, 19799
<code>\textEightAsterisk</code> .	19077, 20302	<code>\textField</code> . . . . .	6095	<code>\textGaPa</code> . . . . .	19402, 20427
<code>\textEightFlowerPetal</code> . . .	19055, 20292	<code>\textFinv</code> . . . . .	17842, 19866	<code>\textge</code> . . . . .	18233, 20020
<code>\textEightFlowerPetalRemoved</code> .	. . . . . 19074, 20301	<code>\textFire</code> . . . . .	19432, 20441	<code>\textgemini</code>	18818, 18819, 20200, 20659
<code>\texteightinferior</code> . .	17751, 19839	<code>\textfishhookr</code> . . .	16315, 16316, 16317, 16318, 20544, 20545	<code>\textGentsroom</code> . . .	19436, 20443
<code>\textEightStar</code> . . . .	19034, 20282	<code>\textfivedots</code> . . . . .	19375, 20425	<code>\textgeq</code> . . . . .	18232, 20019
<code>\textEightStarBold</code>	19036, 20283	<code>\textfiveeighths</code> . . . . .	17886	<code>\textgeqq</code> . . . . .	18237, 20022
<code>\textEightStarConvex</code> . . .	19030, 20280	<code>\textFiveFlowerOpen</code> . . .	19053, 20291	<code>\textgeqslant</code> . . . . .	19290, 20389
<code>\textEightStarTaper</code>	19028, 20279	<code>\textFiveFlowerPetal</code> . . . .	19051, 20290	<code>\textgg</code> . . . . .	18245, 20026
<code>\texteightsuperior</code> .	17719, 19823	<code>\textfiveinferior</code> . . .	17745, 19836	<code>\textggg</code> . . . . .	18446, 20112
<code>\texteinferior</code> . . . . .	17767, 19847	<code>\textfivesixths</code> . . . . .	17880	<code>\textgimel</code> . . . . .	17848, 19869
<code>\textell</code> . . . . .	17815, 19861	<code>\textFiveStar</code> . . . . .	18734, 20170	<code>\textglobfall</code> . . . . .	17912, 20592
<code>\textellipsis</code> . . .	559, 560, 15004, 17670, 17671, 20588	<code>\textFiveStarCenterOpen</code>	19012, 20271	<code>\textglobrise</code> . . . . .	17909, 20591
<code>\textemdash</code> . . . . .	765, 15006, 17642	<code>\textFiveStarConvex</code> . . . .	19020, 20275	<code>\textglotstop</code> . . . .	16387, 16388, 16389, 16390, 19754, 20561, 20562
<code>\textemptyset</code> . . . .	18066, 18067, 19945, 20596	<code>\textFiveStarOpen</code>	18736, 20171	<code>\textglq</code> . . . . .	650, 15263, 19454
<code>\textendash</code> . . . . .	766, 15008, 17640	<code>\textFiveStarOpenCircled</code>	19010, 20270	<code>\textglqq</code> . . . . .	648, 15261, 19452
<code>\textEnvelope</code> . . . .	18951, 18952, 20242, 20680	<code>\textFiveStarOpenDotted</code>	19014, 20272	<code>\textgnapprox</code> . . . .	19303, 20395
		<code>\textFiveStarOutline</code> . . . .	19016, 20273	<code>\textgneq</code> . . . . .	19299, 20393
		<code>\textFiveStarOutlineHeavy</code>	19018, 20274	<code>\textgneqq</code> . . . . .	18241, 20024
		<code>\textFiveStarShadow</code> . . . .	19022, 20276	<code>\textgnsim</code> . . . . .	18474, 20124
				<code>\textgravedbl</code> . . . . .	16499
				<code>\textgravemacron</code>	15344, 15371, 15398, 17369, 17372, 17473, 17476
				<code>\textgreater</code> . . . . .	14974, 15444
				<code>\textgrq</code> . . . . .	651, 15264, 19455
				<code>\textgrqq</code> . . . . .	649, 15262, 19453

<code>\textGslash</code> . . . . .	16032	<code>\texthtt</code> . . . . .	15988, 15989	<code>\textlcurvearrowdown</code> . . .	19160, 20339
<code>\textgslash</code> 16034, 16035, 20493		<code>\texthungarumlaut</code> 14948, 15357, 15384, 16494, 16495		<code>\textlcurvearrowse</code> .	19152, 20336
<code>\textgtrapprox</code> . . . .	19294, 20391	<code>\texthvlig</code> . 15960, 15961, 15962, 20483		<code>\textlcurvearrowsw</code>	19155, 20337
<code>\textgtrdot</code> . . . . .	18442, 20110	<code>\textiiliint</code> . . . . .	18140, 19978	<code>\textle</code> . . . . .	18229, 20018
<code>\textgtreqless</code> . . . .	18452, 20114	<code>\textiinferior</code> . . . .	17290, 19794	<code>\textLeftarrow</code> . . . .	18012, 19921
<code>\textgtreqqless</code> . . .	19309, 20397	<code>\textiint</code> . . . . .	18138, 19977	<code>\textleftarrow</code> . . . .	17894, 19873
<code>\textgtrless</code> . . . . .	18264, 20035	<code>\textlm</code> . . . . .	17813, 19860	<code>\textleftarrowtail</code> . .	17929, 19889
<code>\textgtrsim</code> . . . . .	18260, 20033	<code>\textin</code> . . . . .	18073, 19948	<code>\textleftbarharpoon</code>	19193, 20351
<code>\textguarani</code> . . . . .	17807	<code>\textinfo</code> . . . . .	19451, 20448	<code>\textleftharpoondown</code> . . .	17960, 19902
<code>\texthalflength</code> . . .	16481, 16482	<code>\textinfty</code> . . . . .	18110, 19964	<code>\textleftharpoonup</code>	17957, 19901
<code>\texthalfnote</code> . . . .	19417, 19418, 20434, 20703	<code>\textint</code> . . . . .	18136, 19976	<code>\textleftleftarrows</code> .	17989, 19912
<code>\textHandCuffLeft</code> .	18747, 20176	<code>\textinterleave</code> . . . .	19364, 20421	<code>\textleftleftharpoons</code> . . . .	19181, 20347
<code>\textHandCuffRight</code>	18749, 20177	<code>\textinterrobang</code> . . . . .	17691	<code>\textleftmoon</code> . . . .	18777, 20188
<code>\textHandLeft</code> . . .	18751, 18752, 20178, 20638	<code>\textinterrobangdown</code> . . .	19372, 19373	<code>\textLeftrightarrow</code>	18022, 19925
<code>\textHandRight</code> . .	18754, 18755, 18756, 20179, 20639, 20640	<code>\textinvamp</code> 17856, 17857, 17858, 20589, 20590		<code>\textleftrightarrow</code> .	2512, 17902, 19877
<code>\textHaPa</code> . . . . .	19404, 20428	<code>\textinvbackneg</code> . . .	18507, 20138	<code>\textleftrightharpoons</code>	17987, 19911
<code>\texthateq</code> . 18216, 18217, 20011, 20604		<code>\textinvbreve</code> . . . .	15319, 15359, 15386, 16078, 16080, 16087, 16089, 16090, 16096, 16098, 16108, 16110	<code>\textleftrightharpoon</code> . . . .	19170, 20343
<code>\texthausaB</code> . . . . .	15950, 19718	<code>\textinvneq</code> . . . . .	19263, 20378	<code>\textleftrightharpoons</code> . . .	17998, 19916
<code>\texthausaD</code> . . . . .	15954, 19719	<code>\textinvneg</code> . . . . .	16325, 16326, 19744	<code>\textleftslice</code> . . . .	19315, 20400
<code>\texthausaK</code> . . . . .	15964, 19720	<code>\textinvscr</code> . . . . .	1193, 16527, 16554, 16588	<code>\textleftspoon</code> . . . .	19107, 20315
<code>\texthbar</code> . . 15756, 15757, 15758, 15759, 19717, 20475, 20476, 20477		<code>\textiota</code> . . . 1193, 16598, 16619, 16653, 19776		<code>\textleftsquigarrow</code>	18038, 19933
<code>\texthdotfor</code> . . . . .	17668, 19809	<code>\textlotadiesis</code> . .	16536, 16587	<code>\textlefttherefore</code> . .	17701, 19814
<code>\textheartsuitblack</code> .	2509, 18862	<code>\textipagamma</code> . .	16222, 16223, 19734, 20516	<code>\textlefthreetimes</code> .	18416, 20099
<code>\textheartsuitwhite</code>	18851, 18852, 20670	<code>\textisuperior</code> . . . .	17709, 19818	<code>\textlengthmark</code> . .	16478, 16479
<code>\textheng</code> . 19381, 19383, 20698		<code>\textit</code> . . . . .	590	<code>\textleo</code> . . . 18824, 18825, 20202, 20661	
<code>\textHermaphrodite</code>	18913, 20230	<code>\textJackStar</code> . . . .	19000, 20265	<code>\textleq</code> . . . . .	18228, 20017
<code>\texthinferior</code> . . . .	17775, 19851	<code>\textJackStarBold</code> .	19002, 20266	<code>\textleqq</code> . . . . .	18235, 20021
<code>\texthookleftarrow</code> .	17935, 19892	<code>\textjinferior</code> . . . .	19369, 20423	<code>\textleqslant</code> . . . .	19288, 20388
<code>\texthookrightarrow</code>	17937, 19893	<code>\textJoin</code> . . . . .	19249, 20372	<code>\textless</code> . . . . .	14972, 15442
<code>\textHslash</code> . . . . .	15754	<code>\textjupiter</code> 18797, 18798, 20193, 20652		<code>\textlessapprox</code> . . .	19292, 20390
<code>\texthslash</code> . . . . .	17811, 19859	<code>\textKappa</code> . . . . .	1194, 16556	<code>\textlessdot</code> . . . . .	18440, 20109
<code>\textHT</code> . . . . .	14934, 15415	<code>\textkappa</code> . 1194, 16621, 19777		<code>\textlesseqgtr</code> . . . .	18449, 20113
<code>\texthtb</code> . . 16164, 16165, 16166, 16167, 20502, 20503		<code>\textKeyboard</code> . . . .	18524, 20146	<code>\textlesseqqgtr</code> . . .	19306, 20396
<code>\texthtbardotlessj</code> .	16333, 16334	<code>\textkinferior</code> . . . .	17777, 19852	<code>\textlessgtr</code> . . . . .	18262, 20034
<code>\texthtc</code> . . . . .	15951, 15952	<code>\textKoppagreek</code> . . .	1201, 16673	<code>\textlessssim</code> . . . . .	18258, 20032
<code>\texthtd</code> . . 16178, 16179, 16180, 16181, 20507, 20508		<code>\textkoppagreek</code> . . .	1201, 16675	<code>\textLF</code> . . . . .	14936, 15417
<code>\texthtg</code> . . 16211, 16212, 16213, 20514		<code>\textkra</code> . . . . .	15798	<code>\textlhd</code> . . . 18381, 18382, 20085, 20621	
<code>\texthth</code> . . 16231, 16232, 16233, 16234, 20519, 20520		<code>\textLadiesroom</code> . .	19438, 20444	<code>\textlhookfour</code> . . .	19384, 19386, 20699
<code>\texththeng</code> 16235, 16236, 16237, 20521		<code>\textLambda</code> 1195, 16558, 19760		<code>\textlhooknarrow</code>	19140, 20331
<code>\texthtk</code> . . 15965, 15966, 15967, 20484		<code>\textlambda</code> 1195, 16623, 19778		<code>\textlhooksearrow</code> .	19144, 20333
<code>\texthtp</code> . . . . .	15983, 15984	<code>\textlangle</code> . . . . .	18526, 20147	<code>\textlhookt</code> . . . . .	15986, 15987
<code>\texthtq</code> . . . . .	16426, 16427	<code>\textlatin</code> . . . . .	636, 6993	<code>\textlhtlongi</code> . . . .	16320, 16321
<code>\texthtrtaild</code> 17318, 17319, 19806		<code>\textlbrackdbl</code> . . . .	19109, 20316	<code>\textlhtlongy</code> . . . .	16452, 16453
<code>\texhtscg</code> . . . . .	16414, 16415			<code>\textlibra</code> . . 18830, 18831, 20204, 20663	
				<code>\textlightning</code> . . .	17945, 17946, 19897, 20593
				<code>\textlinferior</code> . . . .	17779, 19853

<code>\textlira</code> . . . . .	17793	<code>\textminus</code> . . . . .	15018, 18092	<code>\textnLeftrightarrow</code> . . . .	18006, 19919
<code>\textll</code> . . . . .	18243, 20025	<code>\textminusdot</code> . . . .	19253, 19254, 20374, 20690	<code>\textnleftrightarrow</code>	17943, 19896
<code>\textLlcorner</code> . . . . .	18516, 20142	<code>\textminusinferior</code> .	17757, 19842	<code>\textnleq</code> . . . . .	18254, 20030
<code>\textLleftarrow</code> . . . .	18034, 19931	<code>\textminussuperior</code>	17725, 19826	<code>\textnless</code> . . . . .	18249, 20028
<code>\textlll</code> . . . . .	18444, 20111	<code>\textMountain</code> . . . .	18931, 20234	<code>\textnmid</code> . . . . .	18122, 19969
<code>\textlnapprox</code> . . . .	19301, 20394	<code>\textmp</code> . . . . .	18094, 19957	<code>\textnormal</code> . . . . .	584
<code>\textlnleq</code> . . . . .	19296, 20392	<code>\textMu</code> . . . . .	1196, 16560	<code>\textnotbackslash</code> .	18535, 20151
<code>\textlnleqq</code> . . . . .	18239, 20023	<code>\textmu</code> . . . . .	1196, 15102, 15512	<code>\textnotin</code> . . . . .	18075, 19949
<code>\textlnot</code> . . . . .	15086, 15495	<code>\textmugreek</code> . . . . .	16625, 19779	<code>\textnotowner</code> . . . .	18082, 19952
<code>\textlnsim</code> . . . . .	18472, 20123	<code>\textmultimap</code> . . . .	18399, 20091	<code>\textnotslash</code> . . . .	18532, 20150
<code>\textlogicalnot</code> . . .	15085, 15269, 15494, 19460	<code>\textmultimapboth</code>	19238, 20367	<code>\textnoway</code> . . . . .	18929, 20233
<code>\textLongleftarrow</code>	19124, 20323	<code>\textmultimapdotbothA</code> .	18395, 20089	<code>\textnparallel</code> . . . .	18126, 19971
<code>\textlongleftarrow</code> .	19118, 20320	<code>\textmultimapdotbothB</code> .	18397, 20090	<code>\textnprec</code> . . . . .	18278, 20042
<code>\textLongleftrightarrow</code> .	19128, 20325	<code>\textmultiply</code> . . . .	15171, 15270, 15581, 15582, 19461, 20470	<code>\textnpreccurlyeq</code> .	18458, 20117
<code>\textlongleftrightarrow</code> .	19122, 20322	<code>\textMundus</code> . . . . .	19428, 20439	<code>\textnqsubseteq</code> . . .	18462, 20119
<code>\textlonglegr</code> . . . .	16308, 16309, 16310, 19742, 20542	<code>\textmusicalnote</code> .	18869, 18870, 18871, 20673	<code>\textnqsupseteq</code> . . .	18464, 20120
<code>\textLongmapsfrom</code>	19132, 20327	<code>\textnabla</code> . . . . .	18071, 19947	<code>\textnrightarrow</code> . .	17918, 19884
<code>\textLongmapsto</code> . .	19134, 20328	<code>\textnaira</code> . . . . .	17795	<code>\textnrleg</code> .	15980, 15982, 20489
<code>\textlongmapsto</code> . .	19130, 20326	<code>\textnapostrophe</code> . . . . .	15832	<code>\textnsim</code> . . . . .	18173, 19992
<code>\textLongrightarrow</code>	19126, 20324	<code>\textnatural</code> . . . . .	18879, 20214	<code>\textnsubset</code> . . . . .	18286, 20046
<code>\textlongrightarrow</code>	19120, 20321	<code>\textncong</code> . . . . .	18180, 19995	<code>\textnsubseq</code> . . . . .	18294, 20050
<code>\textlongs</code> . . . . .	15942, 17600	<code>\textne</code> . . . . .	18222, 20014	<code>\textnsucc</code> . . . . .	18280, 20043
<code>\textlooparrowleft</code> .	17939, 19894	<code>\textNearrow</code> . . . . .	18028, 19928	<code>\textnsuccurlyeq</code> .	18460, 20118
<code>\textlooparrowright</code>	17941, 19895	<code>\textnearrow</code> . . . . .	17908, 17909, 19880, 20591	<code>\textnsuperior</code> . . . .	17733, 19830
<code>\textlozenge</code> . . . . .	18722, 20165	<code>\textneg</code> . .	15269, 19460, 20449	<code>\textnsupset</code> . . . . .	18288, 20047
<code>\textlptr</code> . . . . .	16464, 16465	<code>\textneptune</code> . . . .	18806, 18807, 20196, 20655	<code>\textnseteq</code> . . . . .	18296, 20051
<code>\textlquill</code> . . . . .	17695	<code>\textneq</code> . . . . .	18221, 20013	<code>\textntriangleleft</code> .	18480, 18481, 20127, 20633
<code>\textlrcorner</code> . . . .	18518, 20143	<code>\textnequiv</code> . . . . .	18226, 20016	<code>\textntrianglelefteq</code>	18487, 20129
<code>\textltailm</code> .	16269, 16270, 16271, 16272, 20531, 20532	<code>\textneswarrow</code> . . .	19138, 20330	<code>\textntriangleright</code>	18483, 18484, 20128, 20634
<code>\textltailn</code> .	16273, 16274, 16275, 16276, 20533, 20534	<code>\textnewtie</code>	15368, 15395, 16509	<code>\textntrianglerighteq</code> . . . .	18490, 18491, 20130
<code>\textltilde</code> .	16248, 16249, 16250, 20524	<code>\textnexists</code> . . . . .	18064, 19944	<code>\textNu</code> . . . . .	1197, 16562
<code>\textltimes</code> . . . . .	18411, 20097	<code>\textngeq</code> . . . . .	18256, 20031	<code>\textnu</code> . . . . .	1197, 16627, 19780
<code>\textlyoghlig</code>	16258, 16259, 16260, 20527	<code>\textngtr</code> . . . . .	18251, 20029	<code>\textnumbersign</code> . . .	552, 14958, 15423
<code>\textmacronbelow</code>	14902, 14914, 14926, 14983, 15365, 15392, 16513	<code>\textni</code> . . . . .	18079, 18080, 19951, 20597	<code>\textnumeralsigngreek</code> . . .	1148, 16517
<code>\textmale</code> .	18793, 18794, 18795, 20192, 20650, 20651	<code>\textNibRight</code> . . . .	18964, 20248	<code>\textnumeralsignlowergreek</code>	1165, 1187, 1210, 16519
<code>\textMaleMale</code> . . . .	18909, 20228	<code>\textNibSolidRight</code>	18966, 20249	<code>\textnumero</code> . . . . .	17817
<code>\textmanstar</code> . . . . .	18903, 20225	<code>\textniepsilon</code> . . . .	16194, 16195, 19729, 20510	<code>\textnVDash</code> . . . . .	18379, 20084
<code>\textmapsto</code> . . . . .	17933, 19891	<code>\textniiota</code> .	16243, 16244, 19737, 20523	<code>\textnvDash</code> . . . . .	18377, 20083
<code>\textmarried</code> . . . . .	18915	<code>\textnineinferior</code> . .	17753, 19840	<code>\textnvdash</code> . . . . .	18375, 20082
<code>\textmd</code> . . . . .	589	<code>\textninesuperior</code> . .	17721, 19824	<code>\textNwarrow</code> . . . . .	18026, 19927
<code>\textmeasuredangle</code>	18114, 19966	<code>\textninferior</code> . . . .	17783, 19855	<code>\textnwardow</code> . . . . .	17906, 19879
<code>\textmercury</code> . . . .	18781, 18782, 20190, 20644	<code>\textnippi</code> . . . . .	16295, 19741	<code>\textnwsearrow</code> . . .	19136, 20329
<code>\textmho</code> . . . . .	17834, 19864	<code>\textniupsilon</code> . . .	16353, 16354, 19747, 20551	<code>\textobar</code> . .	19210, 19211, 20357, 20683
<code>\textmid</code> . . . . .	18120, 19968	<code>\textnLeftarrow</code> . . . .	18004, 19918	<code>\textobot</code> . .	19219, 19220, 20359, 20687
<code>\textminferior</code> . . . .	17781, 19854	<code>\textnleftarrow</code> . . . .	17916, 19883	<code>\textobslash</code>	19213, 19214, 19215, 19216, 20358, 20684, 20685, 20686



<code>\textObullseye</code> . . . . .	16407, 20567	<code>\textparenleftsuperior</code> . . .	17729, 19828	<code>\textprecneqq</code> . . . . .	19331, 20408
<code>\textodiv</code> . . . . .	19261, 20377	<code>\textparenright</code> . . . . .	14968, 15438	<code>\textprecnsim</code> . . . . .	18476, 20125
<code>\textodot</code> . . . . .	18330, 18331, 20066, 20609	<code>\textparenrightinferior</code> . . .	17763, 19845	<code>\textprecsim</code> . . . . .	18274, 20040
<code>\textogonek</code> . . . . .	14950, 15358, 15385, 16490	<code>\textparenrightsuperior</code> . .	17731, 19829	<code>\textprime</code> . . . . .	17677, 19810
<code>\textogreaterthan</code> . . . . .	19225, 19226, 20361, 20689	<code>\textpartial</code> . . . . .	18060, 19942	<code>\textprimstress</code> . . . . .	16472, 16473
<code>\textohm</code> . . . . .	17832	<code>\textPeace</code> . . . . .	18954, 20243	<code>\textprod</code> . . . . .	18086, 19954
<code>\textoiint</code> . . . . .	18144, 19980	<code>\textPencilRight</code> . . . . .	18960, 20246	<code>\textpropto</code> . . . . .	18108, 19963
<code>\textoinferior</code> . . . . .	17769, 19848	<code>\textPencilRightDown</code> . . .	18958, 20245	<code>\textPsi</code> . . . . .	1222, 16582, 19766
<code>\textoint</code> . . . . .	18142, 19979	<code>\textPencilRightUp</code> . . . . .	18962, 20247	<code>\textpsi</code> . . . . .	1222, 16649, 19790
<code>\textointclockwise</code> . . . . .	18147, 19981	<code>\textpercent</code> . . . . .	554, 14962, 15428	<code>\textPUaolig</code> . . . . .	19391, 19392, 20701
<code>\textointctrclockwise</code> . . . . .	18149, 19982	<code>\textperiodcentered</code> . . . . .	15106, 15273, 15517, 19464	<code>\textPUdblig</code> . . . . .	16142, 16143, 20494
<code>\textolessthan</code> . . . . .	19222, 19223, 20360, 20688	<code>\textperp</code> . . . . .	19101, 20312	<code>\textPUfemale</code> . . . . .	18784, 18785, 18786, 18787, 18788, 20645, 20646, 20647, 20648
<code>\textOmega</code> . . . . .	1223, 16533, 16585, 19767	<code>\textpertenthousand</code> . . . . .	17675	<code>\textPUheng</code> . . . . .	19382, 19383, 20698
<code>\textomega</code> . . . . .	1223, 16651, 16662, 19791	<code>\textperthousand</code> . . . . .	15020, 17673	<code>\textPUhookfour</code> . . . . .	19385, 19386, 20699
<code>\textOmicron</code> . . . . .	1199, 16529, 16566	<code>\textpeseta</code> . . . . .	17797	<code>\textPUnrleg</code> . . . . .	15981, 15982, 20489
<code>\textomicron</code> . . . . .	1199, 16631, 16657	<code>\textpeso</code> . . . . .	17805	<code>\textPUqplig</code> . . . . .	16145, 16146, 20495
<code>\textominus</code> . . . . .	18321, 18322, 20063, 20606	<code>\textPhi</code> . . . . .	1220, 16578, 19765	<code>\textPUrevscr</code> . . . . .	17285, 17286, 20579
<code>\textoneeighth</code> . . . . .	17882	<code>\textphi</code> . . . . .	1220, 16645, 19788	<code>\textPUrhooka</code> . . . . .	17316, 17317, 20580
<code>\textonefifth</code> . . . . .	17870	<code>\textphiinferior</code> . . . . .	17304, 19801	<code>\textPUrhooko</code> . . . . .	17321, 17322, 20581
<code>\textonehalf</code> . . . . .	15118, 15529	<code>\textPhone</code> . . . . .	18738, 18739, 20172, 20637	<code>\textPUrhookepsilon</code> . . . . .	17325, 17326, 20582
<code>\textoneinferior</code> . . . . .	17737, 19832	<code>\textPhoneHandset</code> . . . . .	18945, 20239	<code>\textPUrhookopeno</code> . . . . .	17329, 17330, 20583
<code>\textoneninth</code> . . . . .	17862	<code>\textPi</code> . . . . .	1200, 16568, 19762	<code>\textPUscf</code> . . . . .	19388, 19389, 20700
<code>\textonequarter</code> . . . . .	15116, 15527	<code>\textpi</code> . . . . .	1200, 16633, 19782	<code>\textPUsc</code> . . . . .	17276, 17277, 20576
<code>\textoneseventh</code> . . . . .	17860	<code>\textpinferior</code> . . . . .	17785, 19856	<code>\textPUscm</code> . . . . .	17279, 17280, 20577
<code>\textonesixth</code> . . . . .	17878	<code>\textpipe</code> . . . . .	16001, 16002, 16003, 20490	<code>\textPUscp</code> . . . . .	17282, 17283, 20578
<code>\textonesuperior</code> . . . . .	15110, 15521, 19714	<code>\textpipevar</code> . . . . .	16003, 20490	<code>\textPUuncrfemale</code> . . . . .	18919, 18920, 20676
<code>\textonetenth</code> . . . . .	17864	<code>\textpisces</code> . . . . .	18845, 18846, 20209, 20668	<code>\texttqplig</code> . . . . .	16144, 16146, 20495
<code>\textonethird</code> . . . . .	17866	<code>\textpitchfork</code> . . . . .	18438, 20108	<code>\textquarternote</code> . . . . .	18868, 20210
<code>\textoo</code> . . . . .	19394, 20426	<code>\textPlane</code> . . . . .	18949, 20241	<code>\textquestiondown</code> . . . . .	770, 1083, 15122, 15533
<code>\textopenbullet</code> . . . . .	18724, 20166	<code>\textPlus</code> . . . . .	18981, 20256	<code>\textquotedbl</code> . . . . .	14956, 15421
<code>\textopencorner</code> . . . . .	16502, 16503	<code>\textPlusCenterOpen</code> . . . . .	18985, 20258	<code>\textquotedblleft</code> . . . . .	15024, 15262, 17653, 19453
<code>\textopeno</code> . . . . .	16169, 16170, 16171, 19725, 20504	<code>\textplusinferior</code> . . . . .	17755, 19841	<code>\textquotedblright</code> . . . . .	15026, 17655
<code>\textoplus</code> . . . . .	18318, 18319, 20062, 20605	<code>\textplusminus</code> . . . . .	15094, 15272, 15503, 19463	<code>\textquoteleft</code> . . . . .	15028, 15264, 17647, 19455
<code>\textordfeminine</code> . . . . .	15081, 15490	<code>\textPlusOutline</code> . . . . .	18979, 20255	<code>\textquoteright</code> . . . . .	15030, 17649
<code>\textordmasculine</code> . . . . .	15112, 15523	<code>\textplussuperior</code> . . . . .	17723, 19825	<code>\textquotesingle</code> . . . . .	15434
<code>\textoslash</code> . . . . .	18327, 18328, 20065, 20608	<code>\textPlusThinCenterOpen</code> . . . . .	18983, 20257	<code>\textRadioactivity</code> . . . . .	18758, 18759, 20180, 20641
<code>\textotimes</code> . . . . .	18324, 18325, 20064, 20607	<code>\textpluto</code> . . . . .	18809, 18810, 20197, 20656	<code>\textRain</code> . . . . .	18927, 20232
<code>\textparagraph</code> . . . . .	558, 15104, 15514, 15515, 20469	<code>\texttpm</code> . . . . .	15272, 19463, 20452	<code>\textraiseglotstop</code> . . . . .	16461, 16462
<code>\textparallel</code> . . . . .	18124, 19970	<code>\texttprec</code> . . . . .	18266, 20036	<code>\texttriangle</code> . . . . .	18528, 20148
<code>\textparenleft</code> . . . . .	773, 774, 14966, 15436	<code>\texttprecapprox</code> . . . . .	19335, 20410	<code>\texttrbrackdbl</code> . . . . .	19111, 20317
<code>\textparenleftinferior</code> . . . . .	17761, 19844	<code>\texttpreccurlyeq</code> . . . . .	18270, 20038	<code>\texttrcurvearrowdown</code> . . . . .	19163, 20340
		<code>\texttpreceq</code> . . . . .	19319, 20402	<code>\texttrcurvearrowleft</code> . . . . .	19165, 20341
		<code>\texttpreceqq</code> . . . . .	19327, 20406	<code>\texttrcurvearrowne</code> . . . . .	19149, 20335
		<code>\texttprecnapprox</code> . . . . .	19339, 20411		
		<code>\texttprecneq</code> . . . . .	19323, 20404		

<code>\texttrcurvearrowright</code> . . . 19168, 20342	<code>\textrightgtrharpoons</code> . . 19187, 20349	<code>\textscsk</code> . . . 17275, 17277, 20576
<code>\texttrcurvearrowse</code> 19158, 20338	<code>\textrightgtslice</code> . . . . 19317, 20401	<code>\textscsl</code> . . . . . 16424, 16425
<code>\textRe</code> . . . . . 17824, 19863	<code>\textrightgtsquigarrow</code> . . . . 18040, 19934	<code>\textscsm</code> . . . 17278, 17280, 20577
<code>\textrecipe</code> . . . . . 17826	<code>\textrightgthreetimes</code> 18418, 20100	<code>\textscsn</code> . . . 16281, 16282, 19739
<code>\textRectangle</code> . . . . 19097, 20310	<code>\textrinferior</code> . . . . . 17292, 19795	<code>\textscscoelig</code> . . . . . 16287, 16288
<code>\textRectangleBold</code> 19099, 20311	<code>\textring</code> . . 14897, 14909, 14921, 14952, 15350, 15377, 16488	<code>\textscscorpio</code> 18833, 18834, 20205, 20664
<code>\textRectangleThin</code> 19095, 20309	<code>\textringlow</code> 15361, 15388, 16497	<code>\textscscp</code> . . . 17281, 17283, 20578
<code>\textrecycle</code> . . . . . 18883, 20216	<code>\textriota</code> . . . . . 17836, 19865	<code>\textscr</code> . . . 16322, 16323, 19743
<code>\textreferencemark</code> . . . . . 17689	<code>\textringdoteq</code> . . . 18206, 20006	<code>\textscripta</code> 16156, 16157, 16158, 19724, 20499
<code>\textregistered</code> . . . . 15088, 15497	<code>\textrm</code> . . . . . 585	<code>\textscriptg</code> 16215, 16216, 16217, 19732, 20515
<code>\textRequest</code> . . . . . 18553, 20158	<code>\textrpitr</code> . . . . . 16467, 16468	<code>\textscriptv</code> 16356, 16357, 19748
<code>\textrevapostrophe</code> 16458, 16459	<code>\textrquill</code> . . . . . 17697	<code>\textscu</code> . . . 17287, 17288, 19793
<code>\textrevc</code> . . . . . 17890	<code>\textRrightarrow</code> . . 18036, 19932	<code>\textscy</code> . . . 16370, 16371, 19752
<code>\textrevE</code> . . . . . 15957	<code>\textrtaild</code> . 16175, 16176, 16177, 19726, 20506	<code>\textSearrow</code> . . . . 18030, 19929
<code>\textreve</code> . . 16183, 16184, 19727	<code>\textrtail</code> . 16255, 16256, 16257, 20526	<code>\textsearrow</code> 17911, 17912, 19881, 20592
<code>\textrevepsilon</code> . . 16197, 16198, 19730	<code>\textrtailn</code> . 16278, 16279, 16280, 20535	<code>\textSech</code> . . . . . 19424, 20437
<code>\textrevglotstop</code> . 16393, 16394, 16395, 19755, 20563	<code>\textrtailr</code> . 16311, 16312, 16313, 20543	<code>\textsecond</code> . . . . . 17679, 19811
<code>\textrevscr</code> 17284, 17286, 20579	<code>\textrtails</code> . 16327, 16328, 16329, 20546	<code>\textsecstress</code> . . . . 16475, 16476
<code>\textrevyogh</code> . . . . . 15991, 15992	<code>\textrtailt</code> . 16345, 16346, 16347, 20549	<code>\textsection</code> 15075, 15482, 15483, 15484, 20467, 20468
<code>\textrhd</code> . . 18384, 18385, 20086, 20622	<code>\textrtailz</code> . 16373, 16374, 16375, 20558	<code>\textSePa</code> . . . . . 19410, 20431
<code>\textRho</code> . . . . . 1216, 16570	<code>\textrtimes</code> . . . . . 18414, 20098	<code>\textservicemark</code> . . . . . 17828
<code>\textrho</code> . . . 1216, 16635, 19783	<code>\textxsagittarius</code> . . 18836, 18837, 20206, 20665	<code>\textsetminus</code> . . . 14978, 18098, 19959
<code>\textrhoinferior</code> . . . 17302, 19800	<code>\textSampigreek</code> . . . 1224, 16677	<code>\textsevenighths</code> . . . . . 17888
<code>\textrhooka</code> 17315, 17317, 20580	<code>\textxsampigreek</code> . . . 1224, 16679	<code>\textseveninferior</code> . 17749, 19838
<code>\textrhooko</code> 17320, 17322, 20581	<code>\textssaturn</code> 18800, 18801, 20194, 20653	<code>\textsevensuperior</code> . 17717, 19822
<code>\textrhookepsilon</code> 17324, 17326, 20582	<code>\textsc</code> . . . . . 591	<code>\textsf</code> . . . . . 586, 13343, 13346
<code>\textrhooknearrow</code> . 19142, 20332	<code>\textscsca</code> . . . . . 17267, 17268	<code>\textsharp</code> . . . . . 18881, 20215
<code>\textrhookopeno</code> . 17328, 17330, 20583	<code>\textscscb</code> . . . . . 16408, 16409	<code>\textshuffle</code> . . . . . 19240, 20368
<code>\textrhookrepsilon</code> . . . . 16200, 16201, 16202, 19731, 20511	<code>\textscscd</code> . . . . . 17270, 19792	<code>\textSigma</code> . 1217, 16572, 19763
<code>\textrhookschwa</code> . 16189, 16190, 16191, 20509	<code>\textscsce</code> . . . . . 17271, 17272	<code>\textsigma</code> . . 1217, 16639, 19785
<code>\textrhookswarrow</code> 19146, 20334	<code>\textscscf</code> . . . . . 19387, 19389, 20700	<code>\textsim</code> . . . . . 18166, 19989
<code>\textRightarrow</code> . . 18017, 19923	<code>\textscscg</code> . . . 16218, 16219, 19733	<code>\textsimeq</code> . . . . . 18175, 19993
<code>\textrightarrow</code> . . . 2511, 17898, 19875	<code>\textsch</code> . . . . . 16416, 16417	<code>\textsinferior</code> . . . . 17787, 19857
<code>\textrightarrowtail</code> . 17931, 19890	<code>\textschwa</code> . 16186, 16187, 19728	<code>\textSixFlowerAlternate</code> . 19049, 20289
<code>\textrightbarharpoon</code> . . . . 19199, 20353	<code>\textschwainferior</code> . 17773, 19850	<code>\textSixFlowerAltPetal</code> . . 19059, 20294
<code>\textrightharpoondown</code> . . 17972, 19906	<code>\textsci</code> . . . 16245, 16246, 19738	<code>\textSixFlowerOpenCenter</code> 19045, 20287
<code>\textrightharpoonup</code> 17969, 19905	<code>\textScissorHollowRight</code> . 18943, 20238	<code>\textSixFlowerPetalRemoved</code> . . . . . 19042, 20286
<code>\textrightleftarrows</code> 17981, 19909	<code>\textScissorRight</code> . 18938, 18939, 20236, 20679	<code>\textsixinferior</code> . . . 17747, 19837
<code>\textrightleftharpoon</code> . . . . 19172, 20344	<code>\textScissorRightBrokenBottom</code> . . 18935, 18936, 20678	<code>\textSixStar</code> . . . . . 19032, 20281
<code>\textrightleftharpoons</code> . . . 18001, 19917	<code>\textScissorRightBrokenTop</code> . . . . . 18941, 20237	<code>\textsixsuperior</code> . . . 17715, 19821
<code>\textrightmoon</code> . . . 18779, 20189	<code>\textscsj</code> . . . . . 17273, 17274	<code>\textSixteenStarLight</code> . . . 19040, 20285
<code>\textrightrightarrow</code> . . . . 17993, 19914		<code>\textsixteenthnote</code> . 18875, 20212

<code>\textsmallin</code> . . . . .	18077, 19950				
<code>\textsmallowns</code> . . .	18084, 19953				
<code>\textsmile</code> . . . . .	18522, 20145				
<code>\textsmiley</code> 18770, 18771, 20185,	20643				
<code>\textSnowflake</code> . . .	19063, 20296				
<code>\textSnowflakeChevron</code> . .	19061, 20295				
<code>\textSnowflakeChevronBold</code> . . .	19065, 20297				
<code>\textSoccerBall</code> . .	18922, 18923, 20677				
<code>\textspadesuitblack</code> 2510, 18848,	18849, 20669				
<code>\textspadesuitwhite</code> . . . . .	18860				
<code>\textSparkle</code> . . . . .	19067, 20298				
<code>\textSparkleBold</code> . .	19069, 20299				
<code>\textSphericalangle</code> 18116, 18117,	18118, 19967, 20598, 20599				
<code>\textsqcap</code> . . . . .	18314, 20060				
<code>\textsqcup</code> . . . . .	18316, 20061				
<code>\textsqdoublecap</code> .	19265, 19266, 20379, 20691				
<code>\textsqdoublecup</code> .	19270, 19271, 20381, 20692				
<code>\textsqsubset</code> . . . . .	18306, 20056				
<code>\textsqsubseq</code> . . .	18310, 20058				
<code>\textsqsubsetneq</code> .	18466, 18467, 20121, 20631				
<code>\textsqsupset</code> . . . . .	18308, 20057				
<code>\textsqsupseteq</code> . . .	18312, 20059				
<code>\textsqsupsetneq</code> .	18469, 18470, 20122, 20632				
<code>\textSquareCastShadowBottom-Right</code> . . . . .	19088, 20306				
<code>\textSquareCastShadowTopRight</code> . . . . .	19091, 20307				
<code>\textSquaredots</code> . . .	18159, 19986				
<code>\textSquareShadowBottomRight</code> . . . . .	19082, 20304				
<code>\textSquareTopRight</code> . . . .	19085, 20305				
<code>\textsslash</code> .	19366, 19367, 20422, 20697				
<code>\textstar</code> . . . . .	18405, 20094				
<code>\textsterling</code> 15067, 15471, 15472,	15473, 20464, 20465				
<code>\textStigmagreek</code> . . .	1176, 16664				
<code>\textstigmagreek</code> . . .	1176, 16666				
<code>\textstretchc</code> . . . .	16399, 16400, 16401, 16402, 20564, 20565				
<code>\textstretchcvar</code> . . .	16402, 20565				
<code>\textsubbreve</code> . . .	15334, 15363, 15390, 17412, 17414				
<code>\textsubcircum</code> . .	15331, 15332, 15362, 15389, 17364, 17366,				
	17380, 17382, 17440, 17442, 17468, 17470, 17524, 17526, 17536, 17538				
<code>\textsubring</code> 15324, 15325, 15361,	15388, 17332, 17334				
<code>\textSubset</code> . . . . .	18428, 20104				
<code>\textsubset</code> . . . . .	18282, 20044				
<code>\textsubseteq</code> . . . . .	18290, 20048				
<code>\textsubseteqq</code> . . . .	19343, 20413				
<code>\textsubsetneq</code> . . . .	18298, 20052				
<code>\textsubtilde</code> . . . .	15335, 15336, 15364, 15391, 17384, 17386, 17416, 17418, 17532, 17534				
<code>\textsubumlaut</code> . .	15322, 15323, 15360, 15387, 17528, 17530				
<code>\textsucc</code> . . . . .	18268, 20037				
<code>\textsuccapprox</code> . . . . .	19337				
<code>\textsucccurlyeq</code> . .	18272, 20039				
<code>\textsucceq</code> . . . . .	19321, 20403				
<code>\textsucceqq</code> . . . . .	19329, 20407				
<code>\textsuccnapprox</code> . .	19341, 20412				
<code>\textsuccneq</code> . . . . .	19325, 20405				
<code>\textsuccneqq</code> . . . .	19333, 20409				
<code>\textsuccnsim</code> . . . .	18478, 20126				
<code>\textsuccsim</code> . . . . .	18276, 20041				
<code>\textsum</code> . . . . .	18090, 19956				
<code>\textsun</code> . . . . .	18775, 20187				
<code>\textSunCloud</code> . . . .	18925, 20231				
<code>\textSunshineOpenCircled</code> 19057,	20293				
<code>\textSupset</code> . . . . .	18430, 20105				
<code>\textsupset</code> . . . . .	18284, 20045				
<code>\textsupseteq</code> . . . . .	18292, 20049				
<code>\textsupseteqq</code> . . . .	19345, 20414				
<code>\textsupsetneq</code> . . . .	18300, 20053				
<code>\textsurd</code> . . . . .	18106, 19962				
<code>\textSwarrow</code> . . . .	18032, 19930				
<code>\textswarrow</code> . . . . .	17914, 19882				
<code>\TextSymbolUnavailable</code> .	14928, 14929, 14931				
<code>\textTape</code> . . . . .	18947, 20240				
<code>\textTau</code> . . . . .	1218, 16574				
<code>\texttau</code> . . . . .	1218, 16641, 19786				
<code>\texttaurus</code> 18815, 18816, 20199,	20658				
<code>\texttctclig</code> . . . . .	16449, 16450				
<code>\textTent</code> . . . . .	18933, 20235				
<code>\texttreshlig</code> 16445, 16446, 16447,	20571				
<code>\texttherefore</code> . . .	18151, 18152, 19983				
<code>\textTheta</code> .	1179, 16552, 19759				
<code>\texttheta</code> . .	1179, 16617, 19775				
<code>\textthird</code> . . . . .	17681, 19812				
<code>\textThorn</code> 15186, 15597, 19715					
<code>\textthorn</code> .	15255, 15666, 15668, 19716				
<code>\textthreeeighths</code> . . . . .	17884				
<code>\textthreefifths</code> . . . . .	17874				
<code>\textthreeinferior</code> . .	17741, 19834				
<code>\textthreequarters</code> .	15120, 15531				
<code>\textthreesuperior</code> 15098, 15507,	19713				
<code>\texttie</code> . . .	15367, 15394, 16515				
<code>\texttilde</code> . . .	4346, 14895, 14907, 14919, 14954, 15348, 15375, 16492				
<code>\texttildelow</code> 15364, 15391, 16501					
<code>\texttimes</code> .	15270, 19461, 20450				
<code>\texttinferior</code> . . . .	17789, 19858				
<code>\texttop</code> . .	18357, 18358, 20076, 20616				
<code>\texttrademark</code> . . .	15034, 17830				
<code>\texttriangle</code> . . . . .	18069, 19946				
<code>\texttriangleleft</code> . . .	18219, 20012				
<code>\texttrianglelefteq</code> . . .	18718, 20163				
<code>\texttriangleright</code> . .	18712, 20161				
<code>\texttriplesim</code> . . . .	18186, 19998				
<code>\textTslash</code> . . . . .	15892				
<code>\texttslash</code> . . . . .	15894				
<code>\texttstlig</code> . . . . .	16443, 16444				
<code>\texttt</code> . . . . .	587				
<code>\textturna</code> .	16152, 16153, 16154, 20498				
<code>\textturnh</code> .	16227, 16228, 16229, 16230, 20517, 20518				
<code>\textturnk</code> .	16421, 16422, 16423, 20569				
<code>\textturnlongleg</code> .	16301, 16302, 16303, 20540				
<code>\textturnm</code> 16261, 16262, 16263,	16264, 20528, 20529				
<code>\textturnmrleg</code> . .	16266, 16267, 16268, 20530				
<code>\textturnr</code> .	16296, 16297, 16298, 16299, 20538, 20539				
<code>\textturnrrtail</code> . . .	16305, 16306, 16307, 20541				
<code>\textturnsck</code> . . . . .	16423, 20569				
<code>\textturnscripta</code> . .	16160, 16161, 16162, 16163, 20500, 20501				
<code>\textturnt</code> .	16341, 16342, 16343, 20548				
<code>\textturnv</code> .	16358, 16359, 16360, 16361, 19749, 20552, 20553				
<code>\textturnw</code> 16362, 16363, 16364,	16365, 19750, 20554, 20555				
<code>\textturny</code> .	16366, 16367, 16368, 16369, 19751, 20556, 20557				
<code>\textTwelveStar</code> . . .	19038, 20284				
<code>\texttwofifths</code> . . . . .	17872				
<code>\texttwoheaddownarrow</code> .	17927, 19888				

<code>\texttwoheadleftarrow</code> ... 17920, 19885	<code>\textVdash</code> 18366, 18367, 20079, 20619	<code>\theHchapter</code> . 6817, 6818, 6819, 6820, 6950
<code>\texttwoheadrightarrow</code> .. 17925, 19887	<code>\textvDash</code> 18362, 18363, 18364, 20078, 20617, 20618	<code>\theHenumi</code> ..... 6836
<code>\texttwoheaduparrow</code> ... 17922, 19886	<code>\textvdash</code> . 18351, 18352, 20074, 20614	<code>\theHenumii</code> ..... 6837
<code>\texttwoinferior</code> ... 17739, 19833	<code>\textvdotdot</code> ..... 18157, 19985	<code>\theHenumiii</code> ..... 6838
<code>\texttwonotes</code> .... 18873, 20211	<code>\textvdots</code> ..... 18493, 20131	<code>\theHenumiv</code> ..... 6839
<code>\texttwosuperior</code> . 15096, 15505, 19712	<code>\textvee</code> ..... 18130, 19973	<code>\theHequation</code> 6807, 6879, 7226, 7257, 7285, 7293, 7320, 7324
<code>\texttwothirds</code> ..... 17868	<code>\textveebar</code> ..... 18401, 20092	<code>\theHfigure</code> ..... 6814, 6818
<code>\textudots</code> ..... 18497, 20133	<code>\textveedot</code> ..... 19103, 20313	<code>\theHHfootnote</code> .... 6840, 6843
<code>\textuinferior</code> ..... 17294, 19796	<code>\textveedoublebar</code> . 19282, 20385	<code>\theHHmpfootnote</code> ..... 6843
<code>\textulcorner</code> ..... 18512, 20140	<code>\textvertline</code> ..... 15461, 20463	<code>\theHitem</code> ... 6830, 6836, 6837, 6838, 6839
<code>\textuncrfemale</code> .. 18918, 18920, 20676	<code>\textvibyi</code> ..... 16336, 16337	<code>\theHlisting</code> ..... 3571
<code>\textunderscore</code> 557, 4793, 4794, 4796, 14982, 15450, 15451, 20462	<code>\textvibyy</code> ..... 16455, 16456	<code>\theHlstlisting</code> ..... 3567
<code>\textunlhd</code> . 18387, 18388, 18389, 20087, 20623, 20624	<code>\textvier</code> ..... 19420, 20435	<code>\theHmpfootnote</code> ..... 6841
<code>\textunrhd</code> 18391, 18392, 18393, 20088, 20625, 20626	<code>\textvinferior</code> .... 17296, 19797	<code>\theHpage</code> ..... 8085
<code>\textup</code> ..... 593	<code>\textViPa</code> ..... 19406, 20429	<code>\theHparagraph</code> .... 6824, 6825
<code>\textUparrow</code> .... 18014, 19922	<code>\textvirgo</code> . 18827, 18828, 20203, 20662	<code>\theHparentequation</code> 7319, 7324
<code>\textUparrow</code> .... 17896, 19874	<code>\textvisiblespace</code> ..... 18557	<code>\theHpart</code> ..... 6810
<code>\textUpdownarrow</code> 18024, 19926	<code>\textVvdash</code> .... 18369, 20080	<code>\theHsection</code> . 6807, 6813, 6820, 6822, 6826, 6827, 6948
<code>\textupdownarrow</code> . 2513, 17904, 19878	<code>\textwedge</code> ..... 18128, 19972	<code>\theHslide</code> ..... 8500
<code>\textupdownarrows</code> 17984, 19910	<code>\textwedgedot</code> .... 19105, 20314	<code>\theHslidesection</code> ... 8505, 8507, 8543, 8547
<code>\textupdownharpoonleftright</code> ... 19178, 20346	<code>\textWheelchair</code> ... 18885, 20217	<code>\theHslidesubsection</code> 8506, 8594, 8598
<code>\textupdownharpoonrightleft</code> ... 19175, 20345	<code>\textWomanface</code> .. 19430, 20440	<code>\theHsubequation</code> ..... 7293
<code>\textupdownharpoons</code> ... 19205, 20355	<code>\textwon</code> ..... 17799	<code>\theHsubparagraph</code> ..... 6825
<code>\textupharpoonleft</code> 17966, 19904	<code>\textwp</code> ..... 17822, 19862	<code>\theHsubsection</code> ... 6822, 6823
<code>\textupharpoonright</code> .... 17963, 19903	<code>\textwrr</code> ... 18170, 18171, 19991, 20602	<code>\theHsubsection</code> . 6823, 6824
<code>\textuplus</code> ..... 19242, 20369	<code>\textWritinghand</code> . 18956, 20244	<code>\theHtable</code> ..... 6815, 6819
<code>\textupmodels</code> .... 19359, 20419	<code>\textwynn</code> ..... 15998, 15999	<code>\theHtheorem</code> ..... 6826
<code>\textUpsilon</code> 1219, 16531, 16576, 16590, 19764	<code>\textXi</code> .... 1198, 16564, 19761	<code>\theHthm</code> ..... 6827
<code>\textupsilon</code> . 1219, 16643, 16655, 16660, 19787	<code>\textxi</code> .... 1198, 16629, 19781	<code>\theHy@tempcnt</code> 4909, 4917, 4924
<code>\textupsilonacute</code> . 16601, 16659	<code>\textxinferior</code> .... 17771, 19849	<code>\thelisting</code> ..... 3571
<code>\textupspoon</code> ..... 19361, 20420	<code>\textXSolid</code> ..... 18973, 20252	<code>\thelstlisting</code> ..... 3567
<code>\textupstep</code> ..... 19376, 19377	<code>\textXSolidBold</code> .. 18975, 20253	<code>\thempfn</code> 7456, 7559, 7651, 7663
<code>\textupuparrows</code> .. 17991, 19913	<code>\textXSolidBrush</code> . 18977, 20254	<code>\theoremautorefname</code> 3246, 3264, 3282, 3300, 3318, 3336, 3354, 3392, 3412, 3430, 8940
<code>\textupupharpoons</code> 19184, 20348	<code>\textxswup</code> ..... 18891, 20675	<code>\thepage</code> 2533, 5027, 6469, 6495, 6510, 7067, 7075, 7102, 7928, 7951, 7980, 8081, 8128, 8207, 8238, 8399, 8416, 8422, 8426, 8433, 8697, 8717, 8734, 8852
<code>\texturanus</code> 18803, 18804, 20195, 20654	<code>\texttyen</code> ..... 15071, 15477	<code>\therefore</code> ..... 18150, 19983
<code>\texturcorner</code> ..... 18514, 20141	<code>\textYinyang</code> ..... 18765, 20183	<code>\theslideheading</code> ..... 8526
<code>\textvarobar</code> ..... 19211, 20683	<code>\textyogh</code> . 16380, 16381, 19753	<code>\theslidesection</code> 8514, 8521, 8529, 8535, 8537, 8539, 8545, 8555
<code>\textvarsigma</code> .... 16637, 19784	<code>\textzeroinferior</code> .. 17735, 19831	<code>\theslidesubheading</code> . 8527, 8578
<code>\textVDash</code> 18372, 18373, 20081, 20620	<code>\textzerosuperior</code> .. 17707, 19817	<code>\theslidesubsection</code> ..... 8566, 8573, 8580, 8586, 8588, 8590, 8596, 8606
	<code>\textzerthirds</code> ..... 17892	<code>\Theta</code> ..... 16551, 19759
	<code>\textZeta</code> ..... 1177, 16548	<code>\theta</code> ..... 16616, 19775
	<code>\textzeta</code> ... 1177, 16613, 19773	
	<code>\textZwdr</code> ..... 19426, 20438	
	<code>\textZwPa</code> ..... 19412, 20432	
	<code>\TH</code> . 15184, 15185, 15595, 15596	
	<code>\th</code> . 15253, 15254, 15666, 15667	
	<code>\thaa</code> ..... 19622	
	<code>\thebookmark@seq@number</code> ... 14440	
	<code>\theequation</code> . 6878, 7225, 7256, 7284, 7320	
	<code>\thefootnote</code> ..... 7467, 7670	



<code>\third</code> . . . . .	17680, 19812	<code>\toks@</code> . . . . .	171, 208, 490, 493, 496, 514, 515, 849, 856, 888, 889, 1268, 1291, 1294, 1296, 1804, 1805, 3442, 3443, 3445, 4042, 4046, 4047, 4055, 4354, 4355, 4532, 4534, 5181, 5186, 5190, 5194, 6590, 6592, 6678, 6680, 6730, 6742, 7084, 7088, 7124, 7129, 7537, 7540, 8269, 8270, 8476, 8481, 8483, 8486, 14756, 14762, 14827, 14833	<code>\u</code> . . . . .	15303, 15354, 15381, 15409, 15676, 15678, 15718, 15720, 15738, 15740, 15771, 15773, 15774, 15844, 15846, 15904, 15906
<code>\This@name</code> . . . . .	6856, 6857, 6875, 6876	<code>\top</code> . . . . .	18356, 20076	<code>\ubar</code> . . . . .	16351, 20550
<code>\thispdfpagelabel</code> . . . . .	6474	<code>\topmargin</code> . . . . .	8141	<code>\udesc</code> . . . . .	16230, 20518
<code>\ThisShouldNotHappen</code> . . . . .	14024	<code>\triangle</code> . . . . .	18068, 19946	<code>\udots</code> . . . . .	18496, 20133
<code>\thm@headfont</code> . . . . .	7336, 7364	<code>\triangleeq</code> . . . . .	18218, 20012	<code>\UHORN</code> . . . . .	19478, 19589, 19590, 19591, 19592, 19593
<code>\thm@headpunct</code> . . . . .	7338, 7366, 7397	<code>\triangleleft</code> . . . . .	18717, 20163	<code>\uhorn</code> . . . . .	3416, 3423, 19472, 19529, 19530, 19531, 19532, 19533
<code>\thm@headsep</code> . . . . .	7339, 7367, 7398	<code>\trianglelefteq</code> . . . . .	18389, 20624	<code>\uinferior</code> . . . . .	19796
<code>\thm@indent</code> . . . . .	7335, 7363	<code>\triangleright</code> . . . . .	18711, 20161	<code>\ulcorner</code> . . . . .	18511, 20140
<code>\thm@notefont</code> . . . . .	7337, 7365, 7396	<code>\trianglerighteq</code> . . . . .	18393, 20626	<code>\UnDef</code> . . . . .	12640
<code>\thm@postskip</code> . . . . .	7343, 7371, 7402	<code>\triplesim</code> . . . . .	18185, 19998	<code>\unhbox</code> . . . . .	7440, 11666, 13715, 13839, 13871, 13895, 13923, 13952
<code>\thm@preskip</code> . . . . .	7342, 7370, 7401	<code>\trivlist</code> . . . . .	7332, 7360, 7393	<code>\unhcopy</code> . . . . .	13817
<code>\thm@space@setup</code> . . . . .	7340, 7368, 7399	<code>\tryhyper@link</code> . . . . .	5002, 5004	<code>\unichar</code> . . . . .	2254
<code>\thm@swap</code> . . . . .	7334, 7362, 7395	<code>\ttfamily</code> . . . . .	597	<code>\Unicode</code> . . . . .	1344
<code>\thmheadnl</code> . . . . .	7333, 7361, 7394	<code>\ttl@b</code> . . . . .	7135, 7140	<code>\unlhd</code> . . . . .	18386, 20087
<code>\Thorn</code> . . . . .	15184, 15595, 19715	<code>\ttl@gobblecontents</code> . . . . .	7144	<code>\unrestored@protected@xdef</code> . . . . .	7456, 7467, 7613, 7620, 7663, 7670
<code>\thorn</code> . . . . .	15253, 15666, 19716	<code>\ttl@Hy@PatchSaveWrite</code> . . . . .	7118, 7122	<code>\unrhd</code> . . . . .	18390, 20088
<code>\threeinferior</code> . . . . .	19834	<code>\ttl@Hy@Refstepcounter</code> . . . . .	7134	<code>\unskip</code> . . . . .	7330, 7357, 7390, 7913, 8783, 8787, 8791, 8796
<code>\threesuperior</code> . . . . .	19713	<code>\ttl@Hy@saveanchor</code> . . . . .	7113, 7137	<code>\Uparrow</code> . . . . .	18013, 19922
<code>\tildel</code> . . . . .	16250, 20524	<code>\ttl@Hy@SavedCurrentHref</code> . . . . .	7117, 7128	<code>\uparrow</code> . . . . .	19874
<code>\times</code> . . . . .	20450	<code>\ttl@Hy@steplink</code> . . . . .	7111	<code>\Updownarrow</code> . . . . .	18023, 19926
<code>\tinferior</code> . . . . .	19858	<code>\ttl@savewrite</code> . . . . .	7124, 7126	<code>\updownarrow</code> . . . . .	17903, 19878
<code>\tiny</code> . . . . .	615	<code>\turnv</code> . . . . .	19749	<code>\updownarrows</code> . . . . .	17983, 19910
<code>\title</code> . . . . .	6373, 6375	<code>\turnw</code> . . . . .	19750	<code>\updownharpoonleftright</code> . . . . .	19177, 20346
<code>\TMP@EnsureCode</code> . . . . .	4630, 4637, 4638, 4639, 4640, 4641, 4642, 4643, 4644, 4645, 4646, 4647, 4648, 4649, 4650, 4651, 4652, 4653, 4654, 4655, 4656, 4657, 4658, 4659, 4660, 4661, 4662, 4663	<code>\turny</code> . . . . .	19751	<code>\updownharpoonrightleft</code> . . . . .	19174, 20345
<code>\tocappendix</code> . . . . .	1632	<code>\tw@</code> . . . . .	14757, 14762, 14828, 14833	<code>\updownharpoons</code> . . . . .	19204, 20355
<code>\tocchapter</code> . . . . .	1631	<code>\TwelveStar</code> . . . . .	19037, 20284	<code>\upharpoonleft</code> . . . . .	17965, 19904
<code>\toclevel@chapter</code> . . . . .	3558	<code>\twoheaddownarrow</code> . . . . .	17926, 19888	<code>\upharpoonright</code> . . . . .	17962, 19903
<code>\toclevel@figure</code> . . . . .	3564	<code>\twoheadleftarrow</code> . . . . .	17919, 19885	<code>\uplus</code> . . . . .	19241, 20369
<code>\toclevel@listing</code> . . . . .	3572	<code>\twoheadrightarrow</code> . . . . .	17924, 19887	<code>\upmodels</code> . . . . .	19358, 20419
<code>\toclevel@lstlisting</code> . . . . .	3568	<code>\twoheaduparrow</code> . . . . .	17921, 19886	<code>\upshape</code> . . . . .	603, 7337, 7365, 7396
<code>\toclevel@paragraph</code> . . . . .	3562	<code>\twoinferior</code> . . . . .	19833	<code>\Upsilon</code> . . . . .	16575, 19764
<code>\toclevel@part</code> . . . . .	3554, 3556	<code>\twonotes</code> . . . . .	18872, 20211	<code>\upsilon</code> . . . . .	16642, 19787
<code>\toclevel@section</code> . . . . .	3559	<code>\twosuperior</code> . . . . .	19712	<code>\upspoon</code> . . . . .	19360, 20420
<code>\toclevel@subfigure</code> . . . . .	2547	<code>\TX@endtabularx</code> . . . . .	7530, 7537, 7543	<code>\upuparrows</code> . . . . .	17990, 19913
<code>\toclevel@subparagraph</code> . . . . .	3563	<code>\typeout</code> . . . . .	5, 6, 7, 19, 26, 27, 36, 131, 155, 158, 159, 160, 5211, 14854, 20707	<code>\upupharpoons</code> . . . . .	19183, 20348
<code>\toclevel@subsection</code> . . . . .	3560			<code>\Uranus</code> . . . . .	18804, 20654
<code>\toclevel@subsubsection</code> . . . . .	3561			<code>\uranus</code> . . . . .	18802, 20195
<code>\toclevel@subtable</code> . . . . .	2548			<code>\urcorner</code> . . . . .	18513, 20141
<code>\toclevel@table</code> . . . . .	3565			<code>\Url</code> . . . . .	4973
<code>\tocparagraph</code> . . . . .	1636			<code>\url</code> . . . . .	4972, 4976
<code>\tocpart</code> . . . . .	1630			<code>\url@</code> . . . . .	4976, 4977
<code>\tocsection</code> . . . . .	1633			<code>\use@file</code> . . . . .	5142, 5144, 5151
<code>\tocsubsection</code> . . . . .	1634			<code>\usefont</code> . . . . .	582
<code>\tocsubsubsection</code> . . . . .	1635			<code>\utf@viii@undeferr</code> . . . . .	544
<code>\toks</code> . . . . .	5066, 5068, 5070, 5074, 5079, 8705, 8706, 8708, 14757, 14762, 14828, 14833			<code>\UTFviii@four@octets</code> . . . . .	2250, 2259

\UTFviii@three@octets . . . 2249  
 \UTFviii@two@octets . . . . 2248

## V

\v . . 14898, 14910, 14922, 15044,  
 15049, 15057, 15059, 15314,  
 15351, 15378, 15408, 15696,  
 15698, 15700, 15702, 15730,  
 15732, 15808, 15810, 15828,  
 15830, 15864, 15866, 15880,  
 15882, 15888, 15890, 15938,  
 15940, 16013, 16015, 16017,  
 16019, 16020, 16022, 16024,  
 16026, 16028, 16037, 16039,  
 16041, 16043, 16049, 16050,  
 16112, 16114  
 \V@@@footnotetext . . . . . 7600  
 \V@footnotetext . . . . . 7586  
 \value . . 6493, 6936, 6937, 6939,  
 6940, 7867, 7893, 8145,  
 8294, 10321, 10326  
 \vara . . . . . 16158, 20499  
 \varangle . . . . . 18117, 20598  
 \varcurlyvee . . . . . 18423, 20627  
 \varcurlywedge . . . 18426, 20628  
 \VarFlag . . . . . 18888, 20674  
 \varg . . . . . 16217, 20515  
 \vari . . . . . 16244, 20523  
 \varnothing 18065, 18067, 20596  
 \varoast . . . . . 18338, 20612  
 \varobslash . . . . . 19216, 20686  
 \varocircle . . . . . 18335, 20611  
 \varodot . . . . . 18331, 20609  
 \varogreaterthan . . 19226, 20689  
 \varolessthan . . . . 19223, 20688  
 \varomega . . . . . 16293, 20537  
 \varominus . . . . . 18322, 20606  
 \varopeno . . . . . 16171, 20504  
 \varoplus . . . . . 18319, 20605  
 \varoslash . . . . . 18328, 20608  
 \varotimes . . . . . 18325, 20607  
 \varparallel . . . . . 19367, 20697  
 \varparallelinv . . . . 18560, 20636  
 \varsigma . . . . . 19784  
 \varsqsubsetneq . . . 18467, 20631  
 \varsqsupsetneq . . . 18470, 20632  
 \vartimes . . . . . 15582, 20470  
 \vavyod . . . . . 17262  
 \vbox . . 6128, 6129, 6130, 6131,  
 6442, 8139  
 \VDash . . . . . 18371, 20081  
 \Vdash . . . . . 18365, 20079  
 \vDash . . . . . 18361, 20078  
 \vdash . . . . . 18350, 20074  
 \vdotdot . . . . . 18156, 19985  
 \vdots . . . . . 18492, 20131  
 \vee . . . . . 18129, 19973

\veebar . . . . . 18400, 20092  
 \veedot . . . . . 19102, 20313  
 \veedoublebar . . . . 19281, 20385  
 \Venus . . . . . 18788, 20648  
 \venus . . . . . 18787, 20647  
 \vfill . . . 6128, 6129, 6130, 6131  
 \Vier . . . . . 19419, 20435  
 \vinferior . . . . . 19797  
 \ViPa . . . . . 19405, 20429  
 \Virgo . . . . . 18828, 20662  
 \virgo . . . . . 18826, 20203  
 \vod . . . . . 16221, 16223, 20516  
 \voffset . . . . . 8140  
 \voicedh . . . . . 16234, 20520  
 \vpageref . . . . . 8796  
 \vphantom . . . . . 618  
 \Vr@f . . . . . 8782  
 \vr@f . . . . . 8790  
 \vref@pagenum . . . . . 7148  
 \vref@space . . . 8783, 8786, 8791  
 \vskip . . . . . 2622, 2623  
 \vss . . . . . 8154  
 \vtex@trans@special . . . . 11108,  
 11110, 11113, 11117, 11121,  
 11125, 11127, 11129, 11133,  
 11139, 11140, 11143  
 \VTeXInitMediaSize 10787, 10804  
 \VTeXOS . 11178, 11179, 11180,  
 11182  
 \VTeXversion 6645, 6648, 6651,  
 11170, 11174  
 \Vvdash . . . . . 18368, 20080

## W

\waw . . . . . 19670  
 \wawhamza . . . . . 19608  
 \wd 9916, 9932, 9953, 9970, 9993,  
 10010, 13672  
 \wedge . . . . . 18127, 19972  
 \wedgedot . . . . . 19104, 20314  
 \Wheelchair . . . . . 18884, 20217  
 \with . . . . . 15432, 20461  
 \Womanface . . . . . 19429, 20440  
 \wp . . . . . 17821, 19862  
 \wr . . . . . 18169, 19991  
 \wreath . . . . . 18171, 20602  
 \write . . 4864, 6322, 6324, 6759,  
 6767, 7073, 7101, 7851,  
 7866, 7882, 7892, 7922,  
 7945, 7971, 8001, 13268,  
 13292, 14624, 14706  
 \WriteBookmarks . . 4287, 4425,  
 4599, 4621, 14373, 14617,  
 14650, 14651, 14693, 14699  
 \Writinghand . . . . . 18955, 20244  
 \wwwbrowser . . 9870, 9955, 9972

## X

\x . . . . . 21, 25, 92, 98,  
 168, 169, 176, 178, 206, 209,  
 210, 211, 212, 213, 214, 215,  
 216, 217, 218, 219, 220, 221,  
 222, 223, 224, 225, 226, 227,  
 228, 291, 296, 297, 513, 518,  
 851, 854, 858, 863, 895, 968,  
 974, 1731, 1759, 2197, 2199,  
 2617, 2627, 2636, 2646,  
 2715, 2716, 2721, 2737,  
 3453, 3456, 3460, 3473,  
 3583, 3584, 3587, 3588,  
 3589, 3593, 3596, 3602,  
 4045, 4051, 4054, 4057,  
 4212, 4213, 4218, 4219,  
 4301, 4302, 4303, 4306,  
 4309, 4312, 4352, 4353,  
 4355, 4356, 4533, 4536,  
 4863, 4869, 5064, 5075,  
 5079, 5082, 5157, 5158,  
 5159, 5171, 5182, 5183,  
 5184, 5185, 5188, 5189,  
 5234, 5237, 5332, 5346,  
 5371, 5375, 5378, 5388,  
 5925, 5929, 5938, 5942,  
 6395, 6396, 6401, 7085,  
 7092, 7125, 7132, 7173,  
 7182, 7184, 7196, 8483,  
 8484, 8707, 8710, 8745,  
 8746, 8747, 8749, 8751,  
 9174, 9182, 9470, 9471,  
 9474, 9476, 9479, 10145,  
 10146, 10147, 10149, 10150,  
 10151, 10153, 10154, 10155,  
 10157, 10158, 10159, 10161,  
 10162, 10163, 10165, 10166,  
 10167, 10169, 10170, 10171,  
 10173, 10174, 10176, 10182,  
 10191, 11290, 11295, 11299,  
 11670, 11673, 11679, 11684,  
 11829, 11830, 12909, 12929,  
 13397, 13417, 13738, 13758,  
 14761, 14763, 14832, 14834  
 \XeTeXrevision . . . 4586, 10505  
 \XeTeXversion . . . 4586, 10505  
 \Xi . . . . . 16563, 19761  
 \xi . . . . . 16628, 19781  
 \xinferior . . . . . 19849  
 \XR@@dURL . . . . . 2554, 2555  
 \XR@addURL . . . . . 2554  
 \XR@ext . . . . . 2823, 2824, 5140,  
 5143, 6643, 9003, 9766,  
 9869, 10133, 10668, 12023,  
 12106, 12165, 12364, 12528  
 \XR@URL . . . . . 2559  
 \XSolid . . . . . 18972, 20252

<code>\XSolidBold</code>	18974, 20253	<code>\Yinyang</code>	18764, 20183	11413, 11713, 11727,
<code>\XSolidBrush</code>	18976, 20254	<code>\yogh</code>	16380, 19753	12089, 12094, 12095,
<code>\xspace</code>	682, 684			13387, 13676, 13728,
<code>\xspaceaddexceptions</code>	4259, 4268			14177, 14182, 14204,
		<b>Z</b>		14238, 14271, 14277,
		<code>\z</code>	297, 298, 303, 2719, 2720, 2721, 5163, 5171	14306, 14311, 14341,
		<code>\z@</code>	827, 867, 995, 1147, 1164, 1186, 1209, 1460, 1500, 1513, 1529, 1544, 1552, 1625, 1882, 1888, 1894, 1967, 1971, 1979, 1983, 2573, 2578, 2612, 2631, 2905, 2908, 3053, 3595, 3601, 4214, 4595, 6646, 6649, 7426, 7427, 7598, 9683, 9687, 9692, 9696, 9703, 9706, 9710, 9713, 10650, 10651, 10656, 10657, 11169, 11193,	14451, 14452, 14453, 14455, 14456, 14457, 14459, 14676, 14798
<b>Y</b>				<code>\z@skip</code>
<code>\y</code>	296, 298, 302, 866, 869, 872, 875, 878, 881, 890, 2717, 2722, 2727, 3589, 3590, 3591, 3592, 4304, 4307, 4310, 4313, 4315, 4321, 5160, 5161, 5162, 5163, 5171, 6396, 6404, 7169, 7171, 7172, 7175, 7182, 11675, 11676, 11677, 11678			<code>\za</code>
<code>\ya</code>	19674			<code>\zay</code>
<code>\yahamza</code>	19612			<code>\zeroinferior</code>
				<code>\zerosuperior</code>
				<code>\zeta</code>
				<code>\Zwdr</code>
				<code>\ZWNJ</code>
				<code>\ZwPa</code>