

# 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 gmail.com](mailto:heiko.oberdiek@gmail.com)

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## 1 Documentation overview for hyperref

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

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

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

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

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

[Bookmark talk, slides](#) Slides for the talk “PDF information and navigation elements with hyperref, pdfTeX and thumbpdf” at 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	Catcodes saving and restoring for <code>.def</code> files . . . . .	33
6.3.4	PD1 encoding . . . . .	34
6.3.5	PU encoding . . . . .	34
6.4	Additional user commands . . . . .	35
6.4.1	<code>\texorpdfstring</code> . . . . .	35
6.4.2	Hooks for <code>\pdfstringdef</code> . . . . .	35
6.5	Help macros for expansion . . . . .	36
6.5.1	<code>\ignorespaces</code> . . . . .	36
6.5.2	Babel languages . . . . .	36
6.5.3	CJK patch . . . . .	41
6.5.4	CJK bookmarks . . . . .	42
6.5.5	CJK unicode . . . . .	43
6.5.6	<code>\@inmathwarn-Patch</code> . . . . .	48
6.5.7	Unexpandable spaces . . . . .	49
6.5.8	Marker for commands . . . . .	49
6.5.9	<code>\hspace fix</code> . . . . .	50
6.5.10	Fix for AMS classes . . . . .	50
6.5.11	Reference commands . . . . .	50
6.5.12	Redefining the defining commands . . . . .	52
6.5.13	<code>\ifnextchar</code> . . . . .	54
6.5.14	<code>\@protected@testoptifnextchar</code> . . . . .	54
6.6	Help macros for postprocessing . . . . .	54
6.6.1	Generic warning. . . . .	54
6.6.2	Protecting spaces . . . . .	54
6.6.3	Remove grouping braces . . . . .	56

6.6.4	Catcode check . . . . .	57
6.6.5	Check for wrong glyphs . . . . .	61
6.6.6	Replacing tokens . . . . .	61
6.6.7	Support for package <code>xspace</code> . . . . .	62
6.6.8	Converting to Unicode . . . . .	63
6.6.9	Support for UTF-8 input encoding . . . . .	65
6.6.10	Support for die faces (ifsym et. al.) . . . . .	69
6.6.11	Support for moon phases of package <code>china2e</code> . . . . .	69
6.6.12	Support for package <code>pifont</code> . . . . .	70
<b>7</b>	<b>Support of other packages</b>	<b>71</b>
7.1	Class memoir . . . . .	71
7.2	Package subfigure . . . . .	71
7.3	Package xr and xr-hyper . . . . .	72
<b>8</b>	<b>Help macros for links</b>	<b>73</b>
<b>9</b>	<b>Options</b>	<b>74</b>
9.1	Help macros . . . . .	75
9.2	Defining the options . . . . .	77
<b>10</b>	<b>Options for different drivers</b>	<b>81</b>
<b>11</b>	<b>Options to add extra features</b>	<b>85</b>
<b>12</b>	<b>Language options</b>	<b>86</b>
<b>13</b>	<b>Options to change appearance of links</b>	<b>92</b>
<b>14</b>	<b>Bookmarking</b>	<b>93</b>
<b>15</b>	<b>PDF-specific options</b>	<b>95</b>
15.1	Package <code>xspace</code> support . . . . .	106
15.2	Option <code>draft</code> . . . . .	107
15.3	PDF/A . . . . .	107
15.4	Patch for babel's <code>\texttilde</code> . . . . .	108
15.4.1	Driver loading . . . . .	110
15.4.2	Bookmarks . . . . .	113
<b>16</b>	<b>User hypertext macros</b>	<b>116</b>
16.1	Link box support for XeTeX . . . . .	122
<b>17</b>	<b>Underlying basic hypertext macros</b>	<b>122</b>
<b>18</b>	<b>Option ‘destlabel’</b>	<b>126</b>
<b>19</b>	<b>Compatibility with the <i>L<sup>A</sup>T<sub>E</sub>X</i>2html package</b>	<b>128</b>
<b>20</b>	<b>Forms creation</b>	<b>129</b>
20.1	Field flags . . . . .	129
20.1.1	Declarations of field flags . . . . .	131
20.1.2	Set submit flags . . . . .	133
20.1.3	Set annot flags in fields . . . . .	134
20.1.4	Pushbutton field . . . . .	134
20.1.5	Check box field . . . . .	134

20.1.6	Radio button field . . . . .	135
20.1.7	Text fields . . . . .	135
20.1.8	Choice fields . . . . .	136
20.2	Choice field . . . . .	136
20.3	Forms . . . . .	138
<b>21</b>	<b>Setup</b>	<b>146</b>
<b>22</b>	<b>Low-level utility macros</b>	<b>146</b>
<b>23</b>	<b>Localized nullifying of package</b>	<b>147</b>
<b>24</b>	<b>Package nohyperref</b>	<b>148</b>
<b>25</b>	<b>The Mangling Of Aux and Toc Files</b>	<b>149</b>
<b>26</b>	<b>Title strings</b>	<b>150</b>
<b>27</b>	<b>Page numbers</b>	<b>152</b>
<b>28</b>	<b>Every page</b>	<b>152</b>
28.1	PDF /PageLabels . . . . .	152
28.1.1	pdfTeX and VTeX . . . . .	156
28.1.2	xetex . . . . .	158
28.1.3	pdfmarkbase, dvipdfm, xetex . . . . .	158
<b>29</b>	<b>Automated L<sup>A</sup>T<sub>E</sub>X hypertext cross-references</b>	<b>160</b>
<b>30</b>	<b>Package lastpage support</b>	<b>166</b>
<b>31</b>	<b>Package ifthen support</b>	<b>167</b>
<b>32</b>	<b>Package titlesec and titletoc support</b>	<b>167</b>
<b>33</b>	<b>Package varioref support</b>	<b>168</b>
<b>34</b>	<b>Package longtable support</b>	<b>168</b>
<b>35</b>	<b>Equations</b>	<b>169</b>
<b>36</b>	<b>Footnotes</b>	<b>174</b>
<b>37</b>	<b>Float captions</b>	<b>179</b>
<b>38</b>	<b>Bibliographic references</b>	<b>181</b>
38.1	Package harvard . . . . .	184
38.2	Package chicago . . . . .	186
<b>39</b>	<b>Page numbers</b>	<b>187</b>
<b>40</b>	<b>Table of contents</b>	<b>189</b>
<b>41</b>	<b>New counters</b>	<b>191</b>
<b>42</b>	<b>AMS L<sup>A</sup>T<sub>E</sub>X compatibility</b>	<b>191</b>
42.1	\@addtoreset and \numberwithin patches . . . . .	192

<b>43 Included figures</b>	<b>193</b>
<b>44 hyperindex entries</b>	<b>193</b>
<b>45 Compatibility with foiltex</b>	<b>196</b>
<b>46 Compatibility with seminar slide package</b>	<b>196</b>
<b>47 Configuration files</b>	<b>205</b>
47.1 PS/PDF strings . . . . .	205
47.2 pdftex . . . . .	206
47.2.1 Fix for problem with different nesting levels . . . . .	220
47.3 hypertex . . . . .	221
47.4 dviwindo . . . . .	223
47.5 dvipdfm/xetex dvi to PDF converter . . . . .	228
47.6 VTeX typesetting system . . . . .	238
47.7 Fix for Adobe bug number 466320 . . . . .	250
47.8 Direct pdfmark support . . . . .	251
47.9 Rokicki's dvips . . . . .	265
47.10 VTeX's vtexpdfmark driver . . . . .	267
47.11 Textures . . . . .	268
47.12 dvipsone . . . . .	272
47.13 TeX4ht . . . . .	276
<b>48 Driver-specific form support</b>	<b>278</b>
48.1 pdfmarks . . . . .	278
48.2 HyperTeX . . . . .	285
48.3 TeX4ht . . . . .	286
48.4 pdfTeX . . . . .	288
48.5 dvipdfm, xetex . . . . .	296
48.6 Common forms part . . . . .	303
<b>49 Bookmarks in the PDF file</b>	<b>310</b>
49.1 Bookmarks . . . . .	311
49.1.1 Rerun warning . . . . .	314
49.1.2 Driver stuff . . . . .	314
<b>50 Compatibility with koma-script classes</b>	<b>320</b>
<b>51 Encoding definition files for encodings of PDF strings</b>	<b>321</b>
51.1 PD1 encoding . . . . .	321
51.2 PU encoding . . . . .	329
51.2.1 NFSS2 accents . . . . .	329
51.2.2 Basic Latin: U+0000 to U+007F . . . . .	331
51.2.3 Latin-1 Supplement: U+0080 to U+00FF . . . . .	333
51.2.4 Latin Extended-A: U+0080 to U+017F . . . . .	337
51.2.5 Latin Extended-B: U+0180 to U+024F . . . . .	342
51.2.6 IPA Extensions: U+0250 to U+02AF . . . . .	346
51.2.7 Spacing Modifier Letters: U+02B0 to U+02FF . . . . .	352
51.2.8 Combining Diacritical Marks: U+0300 to U+036F . . . . .	353
51.2.9 Greek and Coptic: U+0370 to U+03FF . . . . .	353
51.2.10 Cyrillic: U+0400 to U+04FF . . . . .	356
51.2.11 Hebrew: U+0590 to U+05FF . . . . .	366
51.2.12 Thai: U+0E00 to U+0E7F . . . . .	368

51.2.13	Phonetic Extensions: U+1D00 to U+1D7F . . . . .	368
51.2.14	Phonetic Extensions Supplement: U+1D80 to U+1DBF . . . . .	369
51.2.15	Latin Extended Additional: U+1E00 to U+1EFF . . . . .	369
51.2.16	General Punctuation: U+2000 to U+206F . . . . .	375
51.2.17	Superscripts and Subscripts: U+2070 to U+209F . . . . .	376
51.2.18	Currency Symbols: U+20A0 to U+20CF . . . . .	377
51.2.19	Letterlike Symbols: U+2100 to U+214F . . . . .	378
51.2.20	Number Forms: U+2150 to U+218F . . . . .	379
51.2.21	Arrows: U+2190 to U+21FF . . . . .	380
51.2.22	Mathematical Operators: U+2200 to U+22FF . . . . .	383
51.2.23	Miscellaneous Technical: U+2300 to U+23FF . . . . .	393
51.2.24	Control Pictures: U+2400 to U+243F . . . . .	395
51.2.25	Optical Character Recognition: U+2440 to U+245F . . . . .	395
51.2.26	Enclosed Alphanumerics: U+2460 to U+24FF . . . . .	395
51.2.27	Box Drawing: U+2500 to 257F . . . . .	398
51.2.28	Geometric Shapes: U+25A0 to U+25FF . . . . .	398
51.2.29	Miscellaneous Symbols: U+2600 to U+26FF . . . . .	399
51.2.30	Dingbats: U+2700 to U+27BF . . . . .	403
51.2.31	Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF . . . . .	406
51.2.32	Supplemental Arrows-A: U+27F0 to U+27FF . . . . .	406
51.2.33	Supplemental Arrows-B: U+2900 to U+297F . . . . .	407
51.2.34	Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF . . . . .	409
51.2.35	Supplemental Mathematical Operators: U+2A00 to U+2AFF . . . . .	409
51.2.36	Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF . . . . .	412
51.2.37	Latin Extended-C: U+2C60 to U+2C7F . . . . .	413
51.2.38	Supplemental Punctuation: U+2E00 to U+2E7F . . . . .	413
51.2.39	Modifier Tone Letters: U+A700 to U+A71F . . . . .	413
51.2.40	Latin Extended-D: U+A720 to U+A7FF . . . . .	413
51.2.41	Alphabetic Presentation Forms: U+FB00 to U+FB4F . . . . .	413
51.2.42	Musical Symbols: U+1D100 to U+1D1FF . . . . .	413
51.2.43	Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF . . . . .	414
51.2.44	Transport and Map Symbols: U+1F680 to U+1F6FF . . . . .	414
51.2.45	Miscellaneous . . . . .	414
51.2.46	Aliases . . . . .	414
51.3	PU encoding, additions for VnT <sub>E</sub> X . . . . .	415
51.4	PU encoding, additions for Arabi . . . . .	417
<b>52</b>	<b>End of file hycheck.tex</b> . . . . .	<b>441</b>
<b>53</b>	<b>Index</b> . . . . .	<b>442</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      \cname ver@\HyC@package.sty\endcsname
39    }%
```

```

40 }%
41 }

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

`\HyC@noValue`

```

85 \def\HyC@noValue{NoValue}

```



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

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

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

```
90 \newtoks\HyC@Toks
```

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

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

`\HyC@nc@opt` This macro scans the first optional argument of a L<sup>A</sup>T<sub>E</sub>X definition (number of arguments).

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

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

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

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

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

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

`\HyC@edef`

```

125 \def\HyC@def#1#{%
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}[2010/11/12]
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@stoppedearly
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 these 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 un delimited 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 expandible commands would be very extensive and the result would be only an approximation. So here a cheaper solution follows in order to get rid of the error message at least:

```
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.ldb` 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 Catcodes saving and restoring for .def files

\Hy@SaveCatcodeSettings

```

918 \def\Hy@SaveCatcodeSettings#1{%
919 \expandafter\edef\csname Hy@cat@#1\endcsname{%
920 \endlinechar=\the\endlinechar\relax
921 \catcode32 \the\catcode32\relax % (space)
922 \catcode34 \the\catcode34\relax % "
923 \catcode35 \the\catcode35\relax % #
924 \catcode37 \the\catcode37\relax % (percent)
925 \catcode40 \the\catcode40\relax % (
926 \catcode41 \the\catcode41\relax % )
927 \catcode42 \the\catcode42\relax % *
928 \catcode46 \the\catcode46\relax % .
929 \catcode58 \the\catcode58\relax % :
930 \catcode60 \the\catcode60\relax % <
931 \catcode61 \the\catcode61\relax % =
932 \catcode62 \the\catcode62\relax % >
933 \catcode64 \the\catcode64\relax % @
934 \catcode91 \the\catcode91\relax % [
935 \catcode92 \the\catcode92\relax % \
936 \catcode93 \the\catcode93\relax % ]
937 \catcode123 \the\catcode123\relax % {
938 \catcode124 \the\catcode124\relax % |
939 \catcode125 \the\catcode125\relax % }
940 }%
941 \endlinechar=-1 %
942 \catcode32 10 % (space)
943 \catcode34 12 % "
944 \catcode35 6 % #
945 \catcode37 14 % (percent)
946 \catcode40 12 % (
947 \catcode41 12 % )
948 \catcode42 12 % *
949 \catcode46 12 % .
950 \catcode58 12 % :
951 \catcode60 12 % <
952 \catcode61 12 % =
953 \catcode62 12 % >
954 \catcode91 12 % [
955 \catcode92 0 % \
956 \catcode93 12 % ]
957 \catcode123 1 % {
958 \catcode124 12 % |

```

```

959 \catcode125 2 % }
960 \makeatletter
961 }

```

`\Hy@RestoreCatcodeSettings`

```

962 \def\Hy@RestoreCatcodeSettings#1{%
963   \csname Hy@cat@#1\endcsname
964   \expandafter\let\csname Hy@cat@#1\endcsname\relax
965 }

```

### 6.3.4 PD1 encoding

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

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

```

966 \@ifundefined{T@PD1}{%
967   \Hy@SaveCatcodeSettings{pd1}%
968   \input{pd1enc.def}%
969   \Hy@RestoreCatcodeSettings{pd1}%
970   \HyLinguex@Restore
971 }{}
972 \DeclareFontFamily{PD1}{pdf}{}
973 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
974 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

### 6.3.5 PU encoding

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

`\HyPsd@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`.

```

975 \def\HyPsd@LoadUnicode{%
976   \@ifundefined{T@PU}{%
977     \Hy@SaveCatcodeSettings{pu}%
978     \input{puenc.def}%
979     \Hy@RestoreCatcodeSettings{pu}%
980     \HyLinguex@Restore
981   }{}%
982   \DeclareFontFamily{PU}{pdf}{}%
983   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
984   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
985   \HyPsd@LoadExtra
986   \let\HyPsd@LoadUnicode\relax
987 }

```

`\HyPsd@LoadExtra`

```

988 \def\HyPsd@LoadExtra{%
989   \ifHy@psdextra
990     \ltx@iffileloaded{puenc.def}{%
991       \Hy@SaveCatcodeSettings{psdextra}%

```

```

992 \input{psdextra.def}%
993 \Hy@RestoreCatcodeSettings{psdextra}%
994 \let\HyPsd@LoadExtra\relax
995 }{}%
996 \fi
997 }

```

## 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.

```

998 \def\texorpdfstring{%
999 \ifHy@pdfstring
1000 \expandafter\@secondoftwo
1001 \else
1002 \expandafter\@firstoftwo
1003 \fi
1004 }

```

### 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`.

```

1005 \@ifundefined{pdfstringdefPreHook}{%
1006 \let\pdfstringdefPreHook\@empty
1007 }{}
1008 \@ifundefined{pdfstringdefPostHook}{%
1009 \let\pdfstringdefPostHook\@gobble
1010 }{}

```

`\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`.

```

1011 \def\pdfstringdefDisableCommands{%
1012 \begingroup
1013 \makeatletter
1014 \HyPsd@DisableCommands
1015 }

```

`\HyPsd@DisableCommands`

```
1016 \long\def\HyPsd@DisableCommands#1{%
1017   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
1018   \endgroup
1019 }
```

`\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`.

```
1020 \def\pdfstringdefWarn#1{%
1021   \expandafter\noexpand\csname<>-string#1\endcsname
1022 }
```

## 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.

```
1023 \begingroup
1024   \catcode0=12 %
1025   \def\x{\endgroup
1026     \def\HyPsd@ignorespaces{%
1027       \romannumeral\expandafter'\expandafter^^@%
1028       \romannumeral'^^@%
1029     }%
1030   }%
1031   \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`.

```
1032 \def\HyPsd@BabelPatch{%
1033   \let\HyOrg@languageshorthands\languageshorthands
1034   \let\languageshorthands\HyPsd@LanguageShorthands
1035 }
1036 \begingroup\expandafter\expandafter\expandafter\endgroup
1037 \expandafter\ifx\csname pdf@stricmp\endcsname\relax
```

```

1038 \let\HyPsd@langshort@system@empty
1039 \def\HyPsd@LanguageShorthands#1{%
1040   \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
1041     \HyPsd@langshort@system
1042   \expandafter\@gobble
1043   \else
1044     \expandafter\@firstofone
1045   \fi
1046   {%
1047     \HyOrg@languageshorthands{#1}%
1048   }%
1049 }%
1050 \else
1051 \def\HyPsd@LanguageShorthands#1{%
1052   \ifnum\pdf@stricmp{#1}{system}=\z@
1053     \expandafter\@gobble
1054   \else
1055     \expandafter\@firstofone
1056   \fi
1057   {%
1058     \HyOrg@languageshorthands{#1}%
1059   }%
1060 }%
1061 \fi
1062 \def\Hy@temp{%
1063   \@ifpackageloaded{babel}{%
1064     \@ifpackagelater{babel}{2008/03/16}{%
1065       \let\Hy@temp@empty
1066     }{%
1067       \def\HyPsd@BabelPatch{%
1068         \let\HyOrg@languageshorthands\languageshorthands
1069       }%
1070     }%
1071   }{}%
1072 }
1073 \Hy@temp
1074 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
1075 \newif\ifHy@next

  Nothing to do for english.
1076 \ltx@ifundefined{danish@sh@}{}{}%
1077 \def\HyPsd@babel@danish{%
1078   \declare@shorthand{danish}{"}{}%
1079   \declare@shorthand{danish}{"}~{}%
1080 }%
1081 }
1082 \ltx@ifundefined{dutch@sh@}{}{}%
1083 \def\HyPsd@babel@dutch{%
1084   \declare@shorthand{dutch}{"}{}%
1085   \declare@shorthand{dutch}{"}~{}%
1086 }%
1087 }
1088 \ltx@ifundefined{finnish@sh@}{}{}%
1089 \def\HyPsd@babel@finnish{%
1090   \declare@shorthand{finnish}{"}{}%
1091 }%
1092 }

```

```

1093 \ltx@ifundefined{french@sh@:@sel}{-}{-}%
1094 \def\HyPsd@babel@frenchb{%
1095   \def\guill@spacing{ }%
1096 }%
1097 }
1098 \ltx@ifundefined{german@sh@"@sel}{-}{-}%
1099 \def\HyPsd@babel@german{%
1100   \declare@shorthand{german}{"}{f}{f}%
1101   \declare@shorthand{german}{"}{|}{|}%
1102   \declare@shorthand{german}{"}~}{-}%
1103 }%
1104 }
1105 \ltx@ifundefined{macedonian@sh@"@sel}{-}{-}%
1106 \def\HyPsd@babel@macedonian{%
1107   \declare@shorthand{macedonian}{"}{|}{|}%
1108   \declare@shorthand{macedonian}{"}~}{-}%
1109 }%
1110 }{}
1111 \ltx@ifundefined{ngerman@sh@"@sel}{-}{-}%
1112 \def\HyPsd@babel@ngerman{%
1113   \declare@shorthand{ngerman}{"}{|}{|}%
1114   \declare@shorthand{ngerman}{"}~}{-}%
1115 }%
1116 }
1117 \ltx@ifundefined{portuges@sh@"@sel}{-}{-}%
1118 \def\HyPsd@babel@portuges{%
1119   \declare@shorthand{portuges}{"}{|}{|}%
1120 }%
1121 }
1122 \ltx@ifundefined{russian@sh@"@sel}{-}{-}%
1123 \def\HyPsd@babel@russian{%
1124   \declare@shorthand{russian}{"}{|}{|}%
1125   \declare@shorthand{russian}{"}~}{-}%
1126 }%
1127 }
1128 \ltx@ifundefined{slovene@sh@"@sel}{-}{-}%
1129 \def\HyPsd@babel@slovene{%
1130   \declare@shorthand{slovene}{"}{|}{|}%
1131 }%
1132 }

```

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

```

1133 \ltx@ifundefined{spanish@sh@>@sel}{-}{-}%
1134 \def\HyPsd@babel@spanish{%
1135   \declare@shorthand{spanish}{<<}{\guillemotleft}%
1136   \declare@shorthand{spanish}{>>}{\guillemotright}%
1137   \declare@shorthand{spanish}{"}={}{-}%
1138   \declare@shorthand{spanish}{"}~}{-}%
1139   \declare@shorthand{spanish}{"}!}{\textexclamdown}%
1140   \declare@shorthand{spanish}{"}?}{\textquestiondown}%
1141 }%
1142 }
1143 \ltx@ifundefined{swedish@sh@"@sel}{-}{-}%
1144 \def\HyPsd@babel@swedish{%
1145   \declare@shorthand{swedish}{"}{|}{|}%
1146   \declare@shorthand{swedish}{"}~}{-}%
1147 }%
1148 }

```

```

1149 \ltx@ifundefined{ukrainian@sh@"@sel}{-}{%
1150   \def\HyPsd@babel@ukrainian{%
1151     \declare@shorthand{ukrainian}{~}{-}%
1152     \declare@shorthand{ukrainian}{~}{-}%
1153   }%
1154 }
1155 \ltx@ifundefined{usorbian@sh@"@sel}{-}{%
1156   \def\HyPsd@babel@usorbian{%
1157     \declare@shorthand{usorbian}{f}{f}%
1158     \declare@shorthand{usorbian}{f}{f}%
1159   }%
1160 }

1161 \ltx@ifundefined{greek@sh@\string~@sel}{-}{%
1162   \let\HyPsd@GreekPatch\@empty
1163 }{%
1164   \def\HyPsd@GreekPatch{%
1165     \let\greeknumeral\HyPsd@greeknumeral
1166     \let\Greeknnumeral\HyPsd@Greeknnumeral
1167   }%
1168 }
1169 \def\HyPsd@greeknumeral#1{%
1170   \HyPsd@GreekNum\@firstoftwo{#1}%
1171 }
1172 \def\HyPsd@Greeknnumeral#1{%
1173   \HyPsd@GreekNum\@secondoftwo{#1}%
1174 }
1175 \def\HyPsd@GreekNum#1#2{%
1176   \ifHy@unicode
1177     \ifnum#2<\@one
1178       \@arabic{#2}%
1179     \else
1180       \ifnum#2<1000000 %
1181         \HyPsd@@GreekNum#1{#2}%
1182       \else
1183         \@arabic{#2}%
1184       \fi
1185     \fi
1186   \else
1187     \@arabic{#2}%
1188   \fi
1189 }
1190 \def\HyPsd@@GreekNum#1#2{%
1191   \ifnum#2<\@m
1192     \ifnum#2<10 %
1193       \expandafter\HyPsd@GreekNumI
1194       \expandafter\@gobble\expandafter#1\number#2%
1195     \else
1196       \ifnum#2<100 %
1197         \expandafter\HyPsd@GreekNumII
1198         \expandafter\@gobble\expandafter#1\number#2%
1199       \else
1200         \expandafter\HyPsd@GreekNumIII
1201         \expandafter\@gobble\expandafter#1\number#2%
1202       \fi
1203     \fi
1204   \ifnum#2>\z@
1205     \textnumeralsigngreek

```

```

1206 \fi
1207 \else
1208 \ifnum#2<\@M
1209 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1210 \else
1211 \ifnum#2<100000 %
1212 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1213 \else
1214 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1215 \fi
1216 \fi
1217 \fi
1218 }
1219 \def\HyPsd@GreekNumI#1#2#3{%
1220 #1{%
1221 \ifnum#3>\z@
1222 \textnumeralsignlowergreek
1223 \fi
1224 }%
1225 \expandafter#2%
1226 \ifcase#3 %
1227 {}{}%
1228 \or\textalpha\textAlpha
1229 \or\textbeta\textBeta
1230 \or\textgamma\textGamma
1231 \or\textdelta\textDelta
1232 \or\textepsilon\textEpsilon
1233 \or\textstigmagreek\textStigmagreek
1234 \or\textzeta\textZeta
1235 \or\texteta\textEta
1236 \or\texttheta\textTheta
1237 \else
1238 {}{}%
1239 \fi
1240 }
1241 \def\HyPsd@GreekNumII#1#2#3#4{%
1242 #1{%
1243 \ifnum#3>\z@
1244 \textnumeralsignlowergreek
1245 \fi
1246 }%
1247 \expandafter#2%
1248 \ifcase#3 %
1249 {}{}%
1250 \or\textiota\textIota
1251 \or\textkappa\textKappa
1252 \or\textlambda\textLambda
1253 \or\textmu\textMu
1254 \or\textnu\textNu
1255 \or\textxi\textXi
1256 \or\textomicron\textOmicron
1257 \or\textpi\textPi
1258 \or\textkoppagreek\textKoppagreek
1259 \else
1260 {}{}%
1261 \fi
1262 \HyPsd@GreekNumI#1#2#4%

```



```

1263 }
1264 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1265   #1{%
1266     \ifnum#3>\z@
1267       \textnumeralsignlowergreek
1268     \fi
1269   }%
1270   \expandafter#2%
1271   \ifcase#3 %
1272     {}{}%
1273   \or\textrho\textRho
1274   \or\textsigma\textSigma
1275   \or\texttau\textTau
1276   \or\textupsilon\textUpsilon
1277   \or\textphi\textPhi
1278   \or\textchi\textChi
1279   \or\textpsi\textPsi
1280   \or\textomega\textOmega
1281   \or\textsampigreek\textSampigreek
1282   \else
1283     {}{}%
1284   \fi
1285   \HyPsd@GreekNumII#1#2#4#5%
1286 }
1287 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1288   \HyPsd@GreekNumI\@firstofone#1#2%
1289   \HyPsd@@@GreekNum#1{#3#4#5}%
1290 }
1291 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1292   \HyPsd@GreekNumII\@firstofone#1#2#3%
1293   \HyPsd@@@GreekNum#1{#4#5#6}%
1294 }
1295 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1296   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1297   \HyPsd@@@GreekNum#1{#5#6#7}%
1298 }
1299 \def\HyPsd@SpanishPatch{%
1300   \ltx@ifundefined{es@save@dot}{%
1301     }{%
1302       \let\.\es@save@dot
1303     }%
1304 }

```

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

```

1305 \def\HyPsd@RussianPatch{%
1306   \ltx@ifundefined{russian@sh@"@-@}{%
1307     }{%
1308       \@namedef{russian@sh@"@-@}{-}%
1309     }%
1310 }

```

### 6.5.3 CJK patch

```

1311 \RequirePackage{intcalc}[2007/09/27]

```

\HyPsd@CJKhook

```

1312 \def\HyPsd@CJKhook{%
1313   \ltx@ifpackageloaded{CJK}{%
1314     \let\CJK@kern\relax
1315     \let\CJKkern\relax
1316     \let\CJK@CJK\relax
1317     \ifHy@CJKbookmarks
1318       \HyPsd@CJKhook@bookmarks
1319     \fi
1320     \HyPsd@CJKhook@unicode
1321   }{%
1322 }

```

#### 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 ( $\geq 0x40$ ).

```

1323 \begingroup
1324   \catcode"7F=\active
1325   \toks@{%
1326     \let\CJK@ignorespaces\empty
1327     \def\CJK@char#1{\@gobbletwo}%
1328     \let\CJK@charx\@gobblefour
1329     \let\CJK@punctchar\@gobblefour
1330     \def\CJK@punctcharx#1{\@gobblefour}%
1331     \catcode"7F=\active
1332     \def^^7f#1^^7f#2^^7f{%
1333       \string #1\HyPsd@DecimalToOctal{#2}%
1334     }%
1335     % ... ?
1336     \ifHy@unicode
1337       \def\Hy@cjkpu{\80}%
1338     \else
1339       \let\Hy@cjkpu\@empty
1340     \fi
1341     \HyPsd@CJKActiveChars
1342   }%
1343   \count@=127 %
1344   \@whilenum\count@<255 \do{%
1345     \advance\count@ by 1 %
1346     \lccode'\~=\count@
1347     \lowercase{%
1348       \toks@\expandafter{\the\toks@ ~}%
1349     }%
1350   }%
1351   \toks@\expandafter{\the\toks@ !}%
1352   \xdef\HyPsd@CJKhook@bookmarks{%
1353     \the\toks@
1354   }%
1355 \endgroup

```

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

```
1356 \def\HyPsd@CJKActiveChars#1{%
1357   \ifx#1!%
1358     \let\HyPsd@CJKActiveChars\relax
1359   \else
1360     \edef#1{\noexpand\Hy@cjkpu\string#1}%
1361   \fi
1362   \HyPsd@CJKActiveChars
1363 }
```

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

```
1364 \def\HyPsd@DecimalToOctal#1{%
1365   \ifcase #1 %
1366     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1367     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1368     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1369     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1370     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1371     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1372     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1373     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1374     \or @\or A\or B\or C\or D\or E\or F\or G%
1375     \or H\or I\or J\or K\or L\or M\or N\or O%
1376     \or P\or Q\or R\or S\or T\or U\or V\or W%
1377     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1378     \or \140\or a\or b\or c\or d\or e\or f\or g%
1379     \or h\or i\or j\or k\or l\or m\or n\or o%
1380     \or p\or q\or r\or s\or t\or u\or v\or w%
1381     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1382     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1383     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1384     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1385     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1386     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1387     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1388     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1389     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1390     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1391     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1392     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1393     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1394     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1395     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1396     \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1397     \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1398   \fi
1399 }
```

### 6.5.5 CJK unicode

`\HyPsd@CJKhook@unicode`

```
1400 \def\HyPsd@CJKhook@unicode{%
1401   \let\Unicode\HyPsd@CJK@Unicode
1402   \let\CJKnumber\HyPsd@CJKnumber
1403   \let\CJKdigits\HyPsd@CJKdigits
1404 }
```

\HyPsd@CJK@Unicode

```
1405 \def\HyPsd@CJK@Unicode#1#2{%
1406   \ifnum#1<256 %
1407     \HyPsd@DecimalToOctalFirst{#1}%
1408     \HyPsd@DecimalToOctalSecond{#2}%
1409   \else
1410     \933%
1411     \expandafter\expandafter\expandafter\HyPsd@HighA
1412     \intcalcDiv{#1}{4}!%
1413     \933%
1414     \ifcase\intcalcMod{#1}{4} %
1415       4\or 5\or 6\or 7%
1416     \fi
1417     \HyPsd@DecimalToOctalSecond{#2}%
1418   \fi
1419 }

1420 \def\HyPsd@HighA#1!{%
1421   \expandafter\expandafter\expandafter\HyPsd@HighB
1422   \IntCalcDiv#1!64!!%
1423   \expandafter\expandafter\expandafter\HyPsd@HighD
1424   \IntCalcMod#1!64!!%
1425 }

1426 \def\HyPsd@HighB#1!{%
1427   \expandafter\expandafter\expandafter\HyPsd@HighC
1428   \IntCalcDec#1!!%
1429 }

1430 \def\HyPsd@HighC#1!{%
1431   \IntCalcDiv#1!4!%
1432   \@backslashchar
1433   \IntCalcMod#1!4!%
1434 }

1435 \def\HyPsd@HighD#1!{%
1436   \ifcase\IntCalcDiv#1!8! %
1437     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1438   \fi
1439   \ifcase\IntCalcMod#1!8! %
1440     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1441   \fi
1442 }

1443 \def\HyPsd@DecimalToOctalFirst#1{%
1444   \9%
1445   \ifcase#1 %
1446     000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1447     \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1448     \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1449     \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1450     \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1451     \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1452     \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1453     \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1454     \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1455     \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1456     \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1457     \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1458     \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1459     \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1460     \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
```

```

1461 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1462 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1463 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1464 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1465 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1466 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1467 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1468 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1469 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1470 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1471 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1472 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1473 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1474 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1475 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1476 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1477 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1478 \fi
1479 }
1480 \def\HyPsd@DecimalToOctalSecond#1{%
1481 \ifcase #1 %
1482 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1483 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1484 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1485 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1486 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1487 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1488 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1489 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1490 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1491 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1492 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1493 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1494 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1495 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1496 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1497 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1498 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1499 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1500 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1501 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1502 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1503 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1504 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1505 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1506 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1507 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1508 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1509 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1510 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1511 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1512 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1513 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1514 \fi
1515 }
1516 \def\HyPsd@CJKnumber#1{%
1517 \ifnum#1<\z@

```

```

1518 \CJK@minus
1519 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1520 \else
1521 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1522 \fi
1523 }
1524 \def\HyPsd@@CJKnumber#1{%
1525 \ifcase#1 %
1526 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1527 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1528 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1529 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1530 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1531 \CJK@ten\CJK@nine
1532 \else
1533 \ifnum#1<10000 %
1534 \HyPsd@CJKnumberFour#1!\@empty{20}%
1535 \@empty
1536 \else
1537 \ifnum#1<100000000 %
1538 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1539 \IntCalcDiv#1!10000!%
1540 !\{20}%
1541 \CJK@tenthousand
1542 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1543 \IntCalcMod#1!10000!%
1544 !\CJK@zero{10}%
1545 \@empty
1546 \else
1547 \expandafter\HyPsd@CJKnumberLarge
1548 \number\IntCalcDiv#1!100000000!\expandafter!%
1549 \number\IntCalcMod#1!100000000!!%
1550 \fi
1551 \fi
1552 \fi
1553 }
1554 \def\HyPsd@CJKnumberLarge#1!#2!{%
1555 \HyPsd@CJKnumberFour#1!\{20}%
1556 \CJK@hundredmillion
1557 \ifnum#2=\z@
1558 \else
1559 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1560 \IntCalcDiv#2!10000!%
1561 !\CJK@zero{10}%
1562 \CJK@tenthousand
1563 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1564 \IntCalcMod#2!10000!%
1565 !\CJK@zero{10}%
1566 \@empty
1567 \fi
1568 }
1569 \def\HyPsd@CJKnumberFour#1!#2#3{%
1570 \ifnum#1=\z@
1571 \expandafter\@gobble
1572 \else
1573 \ifnum#1<1000 %
1574 #2%

```

```

1575 \HyPsd@CJKnumberThree#1!#{#3}%
1576 \else
1577 \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1578 \CJK@thousand
1579 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1580 \IntCalcMod#1!1000!%
1581 !\CJK@zero{10}%
1582 \fi
1583 \fi
1584 }
1585 \def\HyPsd@CJKnumberThree#1!#2#3{%
1586 \ifnum#1=\z@
1587 \else
1588 \ifnum#1<100 %
1589 #2%
1590 \HyPsd@CJKnumberTwo#1!#{#3}%
1591 \else
1592 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1593 \CJK@hundred
1594 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1595 \IntCalcMod#1!100!%
1596 !\CJK@zero{10}%
1597 \fi
1598 \fi
1599 }
1600 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1601 \ifnum#1=\z@
1602 \else
1603 \ifnum#1<#3 %
1604 #2%
1605 \HyPsd@@CJKnumber{#1}%
1606 \else
1607 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1608 \CJK@ten
1609 \ifnum\IntCalcMod#1!10!=\z@
1610 \else
1611 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1612 \fi
1613 \fi
1614 \fi
1615 }
1616 \def\HyPsd@CJKdigits#1{%
1617 \ifx*#1\relax
1618 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1619 \else
1620 \HyPsd@@CJKdigits\CJK@null{#1}%
1621 \fi
1622 }
1623 \def\HyPsd@@CJKdigits#1#2{%
1624 \ifx\#2\%
1625 \else
1626 \HyPsd@@@CJKdigits#1#2\@nil
1627 \fi
1628 }%
1629 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1630 \HyPsd@CJKdigit#1{#2}%
1631 \ifx\#3\%

```

```

1632 \expandafter\@gobble
1633 \else
1634 \expandafter\@firstofone
1635 \fi
1636 {%
1637 \HyPsd@@@CJKdigits#1#3\@nil
1638 }%
1639 }
1640 \def\HyPsd@CJKdigit#1#2{%
1641 \ifcase#2 %
1642 #1\or
1643 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1644 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1645 \fi
1646 }

```

### 6.5.6 \@inmathwarn-Patch

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

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

1647 \def\HyPsd@inmathwarn#1#2{%
1648   \ifx#2\expandafter
1649     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1650       \HyPsd@GLYPHERR
1651       \expandafter\@gobble\string#1%
1652       >%
1653       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1654       \else
1655       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1656       \fi
1657     \else
1658     \expandafter#2%
1659     \fi
1660 }
1661 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1662 \def\HyPsd@EndWithElse#1\else\else{}

\HyPsd@add@accent

1663 \def\HyPsd@add@accent#1#2{%
1664   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1665   #2%
1666 }%

```

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

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

```

1667 \def\HyPsd@LetUnexpandableSpace#1{%
1668   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1669 }

```

`\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.

```

1670 \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.

```

1671 \edef\HyPsd@XSPACE{\string#\string X}
1672 \edef\HyPsd@ITALCORR{\string#\string I}
1673 \edef\HyPsd@GLYPHERR{\string#\string G}

```

### 6.5.9 \hspace fix

\HyPsd@hspace

```
1674 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1675 \def\HyPsd@@hspace#1*#2\END{%
1676   \ifx\#2\%
1677     \HyPsd@hspacetest{#1}%
1678   \else
1679     \expandafter\HyPsd@hspacetest
1680   \fi
1681 }
```

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

```
1682 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

### 6.5.10 Fix for AMS classes

```
1683 \ltx@ifundefined{tocsection}{%
1684   \let\HyPsd@AMSclassfix\relax
1685 }{%
1686   \def\HyPsd@AMSclassfix{%
1687     \let\tocpart\HyPsd@tocsection
1688     \let\tocchapter\HyPsd@tocsection
1689     \let\tocappendix\HyPsd@tocsection
1690     \let\tocsection\HyPsd@tocsection
1691     \let\tocsubsection\HyPsd@tocsection
1692     \let\tocsubsubsection\HyPsd@tocsection
1693     \let\tocparagraph\HyPsd@tocsection
1694   }%
1695   \def\HyPsd@tocsection#1#2#3{%
1696     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1697     #3%
1698   }%
1699 }
```

### 6.5.11 Reference commands

\HyPsd@href

```
1700 \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.

```
1701 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1702 \def\HyPsd@@ref#1*#2\END{%
1703   \ifx\#2\%
1704     \HyPsd@@@ref{#1}%
1705   \else
1706     \expandafter\HyPsd@@@ref
1707   \fi
1708 }
```

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

```
1709 \def\HyPsd@@@ref#1{%
1710   \expandafter\ifx\csname r@#1\endcsname\relax
1711     ??%
1712   \else
1713     \expandafter\expandafter\expandafter
1714     \@car\csname r@#1\endcsname\@nil
1715   \fi
1716 }
```

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

```
1717 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```
1718 \def\HyPsd@@pageref#1*#2\END{%
1719   \ifx\#2\%
1720     \HyPsd@@@pageref{#1}%
1721   \else
1722     \expandafter\HyPsd@@@pageref
1723   \fi
1724 }
```

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

```
1725 \def\HyPsd@@@pageref#1{%
1726   \expandafter\ifx\csname r@#1\endcsname\relax
1727     ??%
1728   \else
1729     \expandafter\expandafter\expandafter\expandafter
1730     \expandafter\expandafter\expandafter\@car
1731     \expandafter\expandafter\expandafter\@gobble
1732     \csname r@#1\endcsname{}\@nil
1733   \fi
1734 }
```

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

```
1735 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```
1736 \def\HyPsd@@nameref#1*#2\END{%
1737   \ifx\#2\%
1738     \HyPsd@@@nameref{#1}%
1739   \else
1740     \expandafter\HyPsd@@@nameref
1741   \fi
1742 }
```

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

```
1743 \def\HyPsd@@@nameref#1{%
1744   \expandafter\ifx\csname r@#1\endcsname\relax
1745     ??%
1746   \else
1747     \expandafter\expandafter\expandafter\expandafter
1748     \expandafter\expandafter\expandafter\@car
1749     \expandafter\expandafter\expandafter\@gobbletwo
```

```

1750 \csname r@#1\endcsname{}\}\@nil
1751 \fi
1752 }

```

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

```

1753 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1754 \def\HyPsd@@autoref#1*#2\END{%
1755 \ifx\#2\%
1756 \HyPsd@@@autoref{#1}%
1757 \else
1758 \expandafter\HyPsd@@@autoref
1759 \fi
1760 }

```

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

```

1761 \def\HyPsd@@@autoref#1{%
1762 \expandafter\ifx\csname r@#1\endcsname\relax
1763 ??%
1764 \else
1765 \expandafter\expandafter\expandafter\HyPsd@autorefname
1766 \csname r@#1\endcsname{}\}\}\@nil
1767 \expandafter\expandafter\expandafter
1768 \@car\csname r@#1\endcsname\@nil
1769 \fi
1770 }

```

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

```

1771 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1772 \ifx\#4\%
1773 \else
1774 \HyPsd@@autorefname#4.\@nil
1775 \fi
1776 }

```

`\HyPsd@@autorefname`

```

1777 \def\HyPsd@@autorefname#1.#2\@nil{%
1778 \ltx@ifundefined{#1autorefname}{%
1779 \ltx@ifundefined{#1name}{%
1780 }{%
1781 \csname#1name\endcsname\space
1782 }%
1783 }{%
1784 \csname#1autorefname\endcsname\space
1785 }%
1786 }

```

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

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

```
\HyPsd@DefCommand
\HyPsd@LetCommand 1787 \begingroup
1788   \def\x#1#2{%
1789     \endgroup
1790     \let#1\def
1791     \def\HyPsd@DefCommand##1##2###{%
1792       #1%
1793       \expandafter\noexpand
1794       \csname\expandafter\@gobble\string##1\@empty\endcsname
1795       \@gobble
1796     }%
1797     \let#2\let
1798     \def\HyPsd@@LetCommand##1{%
1799       \expandafter\ifx\csname##1\expandafter\endcsname
1800         \csname iftrue\endcsname
1801         \pdfstringdefWarn\let
1802         \expandafter\@gobble
1803       \else
1804         \expandafter\ifx\csname##1\expandafter\endcsname
1805           \csname iffalse\endcsname
1806         \pdfstringdefWarn\let
1807         \expandafter\expandafter\expandafter\@gobble
1808       \else
1809         #2%
1810         \expandafter\noexpand
1811         \csname##1\expandafter\expandafter\expandafter\endcsname
1812       \fi
1813     \fi
1814   }%
1815 }%
1816 \expandafter\x\csname <def>-command\expandafter\endcsname
1817   \csname <let>-command\endcsname
```

```

1818 \def\HyPsd@LetCommand#1{%
1819   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1820   \expandafter\expandafter\expandafter{%
1821     \expandafter\@gobble\string#1\@empty
1822   }%
1823 }

```

### 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).

```

1824 \def\HyPsd@ifnextchar#1{%
1825   \pdfstringdefWarn#1%
1826   \expandafter\@gobbletwo\@gobble
1827 }

```

### 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`.

```

1828 \def\HyPsd@protected@testopt#1{%
1829   \pdfstringdefWarn#1%
1830   \@gobbletwo
1831 }

```

## 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:

```

1832 \def\HyPsd@Warning#1{%
1833   \begingroup
1834     \let\space\ltx@space
1835     \Hy@Warning{#1}%
1836   \endgroup
1837 }

```

### 6.6.2 Protecting spaces

```

1838 \RequirePackage{etexcmds}[2007/09/09]
1839 \ifetex@unexpanded
1840   \expandafter\@secondoftwo

```

```

1841 \else
1842 \expandafter\@firstoftwo
1843 \fi
1844 {%

```

`\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`.

```

1845 \def\HyPsd@ProtectSpaces#1{%
1846 \iftrue
1847 \expandafter\HyPsd@@ProtectSpacesFi
1848 \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1849 \fi
1850 }%

```

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

```

1851 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1852 \fi
1853 \ifx\scrollmode#2\scrollmode
1854 \HyPsd@RemoveMask#1\HyPsd@End#3%
1855 \else
1856 \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1857 \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1858 \fi
1859 }%

```

### 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.

```

1860 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1861 \toks@\expandafter{#1}%
1862 \xdef#2{\the\toks@}%
1863 }%

1864 }{%
1865 \let\HyPsd@fi\fi
1866 \def\HyPsd@ProtectSpaces#1{%
1867 \xdef#1{%
1868 \iftrue
1869 \expandafter\HyPsd@@ProtectSpacesFi
1870 \expandafter|\expandafter\@empty#1| %
1871 \HyPsd@fi
1872 }%
1873 \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1874 }%
1875 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1876 \fi
1877 \etex@unexpanded{#1}%
1878 \ifx\scrollmode#2\scrollmode
1879 \else
1880 \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1881 \HyPsd@fi

```

```

1882 }%
1883 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1884   \xdef#2{\etex@unexpanded\expandafter{#1}}%
1885 }%
1886 }

```

### 6.6.3 Remove grouping braces

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

```

1887 \def\HyPsd@RemoveBraces#1{%
1888   \ifx\scrollmode#1\scrollmode
1889   \else
1890     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1891   \fi
1892 }

```

`\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`.

```

1893 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1894   \fi
1895   \def\Hy@temp@A{#1#2}%
1896   \def\Hy@temp@B{#3}%
1897   \ifx\Hy@temp@A\Hy@temp@B
1898     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1899       \HyPsd@String#1%
1900     }%
1901     \ifx\scrollmode#2\scrollmode
1902     \else
1903       \Hy@ReturnAfterFiFiEnd{%
1904         \HyPsd@RemoveBraces{#2}%
1905       }%
1906     \fi
1907   \else
1908     \def\Hy@temp@A{#1}%
1909     \HyPsd@AppendItalcrr\HyPsd@String
1910     \ifx\Hy@temp@A\@empty
1911       \Hy@ReturnAfterElseFiFiEnd{%
1912         \HyPsd@RemoveBraces{#2}%
1913       }%
1914     \else
1915       \HyPsd@ProtectSpaces\Hy@temp@A
1916       \HyPsd@AppendItalcrr\Hy@temp@A
1917       \Hy@ReturnAfterFiFiEnd{%
1918         \expandafter\HyPsd@RemoveBraces\expandafter
1919         {\Hy@temp@A#2}%
1920       }%
1921     \fi

```



```

1922 \fi
1923 \Hy@ReturnEnd
1924 }

```

`\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`.

```

1925 \def\HyPsd@AppendItalcorr#1{%
1926 \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1}%
1927 }
1928 \def\HyPsd@@AppendItalcorr#1#2{%
1929 \expandafter\def\expandafter#2\expandafter{#2#1}%
1930 }

```

#### 6.6.4 Catcode check

**Workaround for LuaTeX.** `\HyPsd@CheckCatcodes` might trigger a bug of LuaTeX (0.60.2, 0.70.1, 0.70.2, ...) in the comparison with `\ifcat`, see <http://tracker.luatex.org/view.php?id=773>.

```

1931 \ltx@ifundefined{directlua}{%
1932 }{%
1933 \expandafter\ifx\csname\endcsname\relax\fi
1934 }

```

#### 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`.

```

1935 \begingroup
1936 \catcode'\Q=\active
1937 \let Q\ltx@empty
1938 \gdef\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1939 \global\let\HyPsd@Rest\relax
1940 \ifcat\relax\noexpand#1\relax
1941 \ifx#1\protect
1942 \else
1943 \ifx#1\penalty
1944 \setbox\z@=\hbox{%
1945 \afterassignment\HyPsd@AfterCountRemove
1946 \count@=#2\HyPsd@End
1947 }%
1948 \else
1949 \ifx#1\kern
1950 \setbox\z@=\hbox{%
1951 \afterassignment\HyPsd@AfterDimenRemove
1952 \dimen@=#2\HyPsd@End

```

```

1953      }%
1954      \else
1955      \ifx#1\hskip
1956      \setbox\z@=\hbox{%
1957      \afterassignment\HyPsd@AfterSkipRemove
1958      \skip@=#2\HyPsd@end
1959      }%
1960      \else
1961      \HyPsd@CatcodeWarning{#1}%
1962      \fi
1963      \fi
1964      \fi
1965      \fi
1966      \else
1967      \ifcat\noexpand#1\noexpandQ% active character
1968      \expandafter\expandafter\expandafter\def
1969      \expandafter\expandafter\expandafter\HyPsd@String
1970      \expandafter\expandafter\expandafter{%
1971      \expandafter\HyPsd@String\string#1%
1972      }%
1973      \else
1974      \ifcat#1A% letter
1975      \expandafter\def\expandafter\HyPsd@String\expandafter{%
1976      \HyPsd@String#1%
1977      }%
1978      \else
1979      \ifcat#1 % SPACE
1980      \expandafter\def\expandafter\HyPsd@String\expandafter{%
1981      \HyPsd@String\HyPsd@SPACEOPTI
1982      }%
1983      \else
1984      \ifcat$#1%
1985      \HyPsd@CatcodeWarning{math shift}%
1986      \else
1987      \ifcat&#1%
1988      \HyPsd@CatcodeWarning{alignment tab}%
1989      \else
1990      \ifcat^#1%
1991      \HyPsd@CatcodeWarning{superscript}%
1992      \else
1993      \ifcat_#1%
1994      \HyPsd@CatcodeWarning{subscript}%
1995      \else
1996      \expandafter\def\expandafter\HyPsd@String\expandafter{%
1997      \HyPsd@String#1%
1998      }%
1999      \fi
2000      \fi
2001      \fi
2002      \fi
2003      \fi
2004      \fi
2005      \fi
2006      \fi
2007      \ifx\HyPsd@Rest\relax
2008      \ifx\scrollmode#2\scrollmode
2009      \else

```

```

2010 \Hy@ReturnAfterFiFiEnd{%
2011 \HyPsd@CheckCatcodes#2\HyPsd@End
2012 }%
2013 \fi
2014 \else
2015 \ifx\HyPsd@Rest\@empty
2016 \else
2017 \Hy@ReturnAfterFiFiEnd{%
2018 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
2019 }%
2020 \fi
2021 \fi
2022 \Hy@ReturnEnd
2023 }%
2024 \endgroup

```

### Remove counts, dimens, skips.

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

```

2025 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
2026 \gdef\HyPsd@Rest{#1}%
2027 }

```

`\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.

```

2028 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
2029 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
2030 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
2031 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
2032 \else
2033 \ifdim\dimen@=\z@
2034 \else
2035 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
2036 \fi
2037 \gdef\HyPsd@Rest{#1}%
2038 \fi
2039 }

```

`\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).

```

2040 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
2041 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
2042 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
2043 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
2044 \else
2045 \ifdim\skip@=\z@
2046 \else
2047 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
2048 \fi
2049 \gdef\HyPsd@Rest{#1}%
2050 \fi
2051 }

```

## Catcode warnings.

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

```
2052 \def\HyPsd@CatcodeWarning#1{%
2053   \HyPsd@Warning{%
2054     Token not allowed in a PDF string (%)
2055     \ifHy@unicode
2056       Unicode%
2057     \else
2058       PDFDocEncoding%
2059     \fi
2060   }:%
2061   \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
2062 }%
2063 }
2064 \begingroup
2065   \catcode'\|=0 %
2066   \catcode'\|=12 %
2067   \gdef\HyPsd@RemoveCmdPrefix#1{%
2068     \expandafter\HyPsd@@RemoveCmdPrefix
2069     \string#1\@empty\<>-|\@empty|\@empty
2070   }%
2071   \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|\@empty#3|\@empty{#1#2}%
2072 \endgroup
```

\HyPsd@RemoveSpaceWarning

```
2073 \def\HyPsd@RemoveSpaceWarning#1{%
2074   \HyPsd@Warning{%
2075     Token not allowed in a PDF string (%)
2076     \ifHy@unicode
2077       Unicode%
2078     \else
2079       PDFDocEncoding%
2080     \fi
2081   }:%
2082   \MessageBreak #1\MessageBreak
2083   removed%
2084 }%
2085 }
```

\HyPsd@ReplaceSpaceWarning

```
2086 \def\HyPsd@ReplaceSpaceWarning#1{%
2087   \HyPsd@Warning{%
2088     Token not allowed in a PDF string (%)
2089     \ifHy@unicode
2090       Unicode%
2091     \else
2092       PDFDocEncoding%
2093     \fi
2094   }:%
2095   \MessageBreak #1\MessageBreak
2096   replaced by space%
2097 }%
2098 }
```

### 6.6.5 Check for wrong glyphs

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

```
2099 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2100   \expandafter\def\expandafter\HyPsd@String\expandafter{%
2101     \HyPsd@String#1%
2102   }%
2103   \ifx\\#2\\%
2104   \else
2105     \ltx@ReturnAfterFi{%
2106       \HyPsd@GlyphProcessWarning#2\@empty
2107     }%
2108   \fi
2109 }
2110 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2111   \HyPsd@@@GlyphProcessWarning#1++>%
2112   \HyPsd@GlyphProcess#2\@empty
2113 }
2114 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
2115   \ifx\\#2\\%
2116     \HyPsd@Warning{%
2117       Glyph not defined in %
2118       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2119       removing '@backslashchar#1'%
2120     }%
2121   \else
2122     \HyPsd@Warning{%
2123       Composite letter '@backslashchar#1+#2'\MessageBreak
2124       not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2125       \MessageBreak
2126       removing '@backslashchar#1'%
2127     }%
2128   \fi
2129 }
```

### 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`.

```
2130 \def\HyPsd@spaceopti#1{ % first space
2131   \ifx\HyPsd@spaceopti#1%
2132     \040%
2133   \else
2134     #1%
2135   \fi
2136 }
```

### 6.6.6 Replacing tokens

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

```

#1 Exact the tokens that should be replaced.
#2 The replacement (don't need to be expanded).
#3 Command with the string.
2137 \def\HyPsd@Subst#1#2#3{%
2138 \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
2139 \fi
2140 ##1%
2141 \ifx\scrollmode##2\scrollmode
2142 \else
2143 #2%
2144 \HyPsd@@ReplaceFi##2\END
2145 \fi
2146 }%
2147 \xdef#3{%
2148 \iftrue
2149 \expandafter\HyPsd@@ReplaceFi#3#1\END
2150 \fi
2151 }%
2152 }

```

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

```

2153 \def\HyPsd@StringSubst#1{%
2154 \expandafter\HyPsd@Subst\expandafter{\string#1}%
2155 }

```

`\HyPsd@EscapeTeX`

```

2156 \begingroup
2157 \lccode'\!='\%%
2158 \lccode'\|='\%%
2159 \lccode'\(='\{%
2160 \lccode'\)='\}%
2161 \lccode'0=\ltx@zero
2162 \lccode'1=\ltx@zero
2163 \lccode'3=\ltx@zero
2164 \lccode'4=\ltx@zero
2165 \lccode'5=\ltx@zero
2166 \lccode'7=\ltx@zero
2167 \lowercase{\endgroup
2168 \def\HyPsd@EscapeTeX#1{%
2169 \HyPsd@Subst!{|045}#1%
2170 \HyPsd@Subst({|173}#1%
2171 \HyPsd@Subst){|175}#1%
2172 }%
2173 }

```

### 6.6.7 Support for package `xspace`

`\HyPsd@doxspace` `\xspace` does not work, because it uses a `\futurelet` that cannot be executed in  $\text{\TeX}$ '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.

```

2174 \def\HyPsd@doxspace#1{%
2175 \ifx#1\relax\else
2176 \ifx#1.\else
2177 \ifx#1:\else

```

```

2178 \ifx#1,\else
2179 \ifx#1;\else
2180 \ifx#1!\else
2181 \ifx#1?\else
2182 \ifx#1/\else
2183 \ifx#1-\else
2184 \ifx#1'\else
2185 \HyPsd@SPACEOPTI
2186 \fi
2187 \fi
2188 \fi
2189 \fi
2190 \fi
2191 \fi
2192 \fi
2193 \fi
2194 \fi
2195 \fi
2196 #1%
2197 }%

```

### 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.

```

2198 \beginngroup
2199 \catcode'\|=0 %
2200 \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

2201 |gdef|HyPsd@ConvertToUnicode#1{%
2202 |xdef#1{%
2203 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
2204 }%
2205 |ifx#1|@empty
2206 |else
2207 |xdef#1{%
2208 \376\377%
2209 #1%
2210 }%
2211 |fi
2212 }%

```

\HyPsd@DoConvert

```

2213 |gdef|HyPsd@DoConvert#1{%
2214 |ifx#1|@empty
2215 |else
2216 |ltx@ReturnAfterFi{%
2217 |ifx#1\%%
2218 \%%
2219 |expandafter|HyPsd@DoEscape
2220 |else
2221 |HyPsd@Char{#1}%
2222 |expandafter|HyPsd@DoConvert
2223 |fi
2224 }%

```

```

2225     |fi
2226 }%

\HyPsd@DoEscape
2227 |gdef|HyPsd@DoEscape#1{%
2228     |ifx#19%
2229         |expandafter|HyPsd@GetTwoBytes
2230     |else
2231         |ltx@ReturnAfterFi{%
2232         |ifx#18%
2233             00%
2234         |expandafter|HyPsd@GetTwoBytes
2235     |else
2236         #1%
2237         |expandafter|HyPsd@GetOneByte
2238     |fi
2239 }%
2240 |fi
2241 }%

\HyPsd@GetTwoBytes
2242 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2243     #1\#2#3#4%
2244     |HyPsd@DoConvert
2245 }%

\HyPsd@GetOneByte
2246 |gdef|HyPsd@GetOneByte#1#2{%
2247     #1#2%
2248     |HyPsd@DoConvert
2249 }%
2250 |endgroup

\HyPsd@@GetNextTwoTokens TeX does only allow nine parameters, so we need another macro to get more
arguments.
2251 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2252     \xdef#4{#4#1#2}%
2253     \HyPsd@@ConvertToUnicode#3\END#4%
2254 }

\HyPsd@Char
2255 \begingroup
2256 \catcode0=9 %
2257 \catcode'\^=7 %
2258 \catcode'\^^=12 %
2259 \def\x{^^^^0000}%
2260 \expandafter\endgroup
2261 \ifx\x\@empty
2262     \def\HyPsd@Char#1{%
2263         \ifnum'#1<128 %
2264             \@backslashchar 000#1%
2265         \else
2266             \ifnum'#1<65536 %
2267                 \expandafter\HyPsd@CharTwoByte\number'#1!%
2268             \else
2269                 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2270                 \intcalcSub{'#1}{65536}!%

```



```

2271 \fi
2272 \fi
2273 }%
2274 \def\HyPsd@CharTwoByte#1!{%
2275 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2276 \IntCalcDiv#1!256!!%
2277 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2278 \IntCalcMod#1!256!!%
2279 }%
2280 \def\HyPsd@CharOctByte#1!{%
2281 \@backslashchar
2282 \IntCalcDiv#1!64!%
2283 \intcalcDiv{\IntCalcMod#1!64!}{8}%
2284 \IntCalcMod#1!8!%
2285 }%
2286 \def\HyPsd@CharSurrogate#1!{%
2287 \@backslashchar 33%
2288 \IntCalcDiv#1!262144!%
2289 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2290 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2291 \@backslashchar 33%
2292 \expandafter\expandafter\expandafter\IntCalcAdd
2293 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2294 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2295 \IntCalcMod#1!256!!%
2296 }%
2297 \else
2298 \def\HyPsd@Char#1{%
2299 \@backslashchar 000#1%
2300 }%
2301 \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`

```

2302 \begingroup\expandafter\expandafter\expandafter\endgroup
2303 \expandafter\ifx\csname numexpr\endcsname\relax
2304 \let\HyPsd@UTFviii\relax
2305 \else
2306 \begingroup
2307 \lccode'\~='^f4\relax
2308 \lowercase{\endgroup
2309 \def\HyPsd@UTFviii{%
2310 \let\UTFviii@two@octets\HyPsd@UTFviii@two
2311 \let\UTFviii@three@octets\HyPsd@UTFviii@three
2312 \let\UTFviii@four@octets\HyPsd@UTFviii@four
2313 \ifx~\HyPsd@UTFviii@ccxliv@undef

```

```

2314 \let~\HyPsd@UTFviii@ccxliv@def
2315 \fi
2316 \let\unichar\HyPsd@unichar
2317 }%
2318 }%
2319 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2320 \edef\HyPsd@UTFviii@ccxliv@def{%
2321 \noexpand\UTFviii@four@octets\string ^^f4%
2322 }%

```

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.

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

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

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

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

$$(5)$$

```

2323 \def\HyPsd@UTFviii@two#1#2{%
2324 \expandafter\HyPsd@UTFviii@@two
2325 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
2326 \number'#1\expandafter|
2327 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|
2328 \number'#2 \@nil
2329 }%
2330 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2331 \expandafter\8%
2332 \number\numexpr #1-48\expandafter\relax
2333 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2334 \number\numexpr #3-8*%
2335 \number\dimexpr.125\dimexpr'#3sp\relax\relax\expandafter\relax
2336 \number\numexpr #4-8*#3\relax
2337 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

2338 \def\HyPsd@UTFviii@three#1#2#3{%
2339 \expandafter\HyPsd@UTFviii@@three
2340 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
2341 \number'#1\expandafter|
2342 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|
2343 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|
2344 \number'#2\expandafter|
2345 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|

```

```

2346 \number'#3 \@nil
2347 }%
2348 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7@nil{%
2349 \expandafter\9%
2350 \number\numexpr #1-56\expandafter\relax
2351 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2352 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2353 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2354 \number\numexpr #6-16\expandafter\relax
2355 \number\numexpr #7-8*#6\relax
2356 }%

```

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

```

```

2357 \def\HyPsd@UTFviii@four#1#2{%
2358 \expandafter\HyPsd@@UTFviii@four\number
2359 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2360 \expandafter|\number
2361 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2362 }%
2363 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2364 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2365 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2366 \ifodd#2 %
2367 \number\numexpr(#2-1)/2\relax
2368 \else
2369 \number\numexpr#2/2\relax
2370 \fi
2371 \number\numexpr\ifodd#2 4+\fi
2372 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2373 \933%
2374 \expandafter\HyPsd@@@UTFviii@four\number
2375 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2376 }%
2377 \def\HyPsd@@@UTFviii@four#1|#2{%
2378 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2379 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2380 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2381 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2382 }%

```

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

```

2383 \def\HyPsd@unichar#1{%
2384 \ifHy@unicode
2385 \ifnum#1>"10FFFF %
2386 \HyPsd@UnicodeReplacementCharacter % illegal
2387 \else
2388 \ifnum#1>"FFFF %

```

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

```

2389 \expandafter\HyPsd@unichar\expandafter{%
2390 \number\numexpr 55296+%

```

```

2391         \dimexpr.0009765625\dimexpr\number#1sp-\p@
2392         \relax\relax\relax
2393     }%

```

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

```

2394     \expandafter\HyPsd@unichar\expandafter{%
2395     \number\numexpr#1-9216%
2396     -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2397     \relax\relax\relax
2398 }%
2399 \else
2400     \ifnum#1>"7FF %
2401     \9%
2402     \expandafter\HyPsd@unichar@first@byte\expandafter{%
2403     \number
2404     \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2405     }%
2406     \else
2407     \8%
2408     \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2409     \fi
2410     \expandafter\HyPsd@unichar@second@byte\expandafter{%
2411     \number
2412     \numexpr#1-256*\number
2413     \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2414     }%
2415     \fi
2416     \fi
2417     \else
2418     .% unsupported (Unicode -> PDF Doc Encoding)
2419     \fi
2420 }%
2421 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2422 \def\HyPsd@unichar@first@byte#1{%
2423     \number\dimexpr.015625\dimexpr#1sp\relax\relax
2424     \expandafter\HyPsd@unichar@octtwo\expandafter{%
2425     \number
2426     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2427     \relax\relax\relax
2428     }%
2429 }%
2430 \def\HyPsd@unichar@second@byte#1{%
2431     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2432     \expandafter\HyPsd@unichar@octtwo\expandafter{%
2433     \number
2434     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2435     \relax\relax\relax
2436     }%
2437 }%
2438 \def\HyPsd@unichar@octtwo#1{%
2439     \number\dimexpr.125\dimexpr#1sp\relax\relax
2440     \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2441     \relax\relax\relax
2442     }%
2443 \fi

```

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

```

2444 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2445   \ifx\@gobble#1%
2446   \else
2447     [Please insert \textbackslash PrerenderUnicode%
2448     \textbraceleft#1\textbraceright\space
2449     into preamble]%
2450   \fi
2451 }%

```

### 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.

```

2452 \def\HyPsd@DieFace#1{%
2453   \ifHy@unicode
2454     \ifnum#1<1 %
2455       \HyPsd@UnicodeReplacementCharacter
2456     \else
2457       \ifnum#1>6 %
2458         \9046\205%
2459         \expandafter\expandafter\expandafter
2460         \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2461       \else
2462         \9046\20\intcalcDec{#1}%
2463       \fi
2464     \fi
2465   \else
2466     .% Die faces are not part of PDFDocEncoding
2467   \fi
2468 }

```

\HyPsd@DieFaceLarge

```

2469 \def\HyPsd@DieFaceLarge#1!{%
2470   \ifnum#1>6 %
2471     \expandafter\ltx@firstoftwo
2472   \else
2473     \expandafter\ltx@secondoftwo
2474   \fi
2475   {%
2476     \9046\205%
2477     \expandafter\expandafter\expandafter
2478     \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2479   }{%
2480     \9046\20\IntCalcDec#1!%
2481   }%
2482 }

```

### 6.6.11 Support for moon phases of package china2e

```

2483 \def\HyPsd@MoonPha#1{%
2484   \ifcase\intcalcNum{#1} %
2485     \HyPsd@UnicodeReplacementCharacter
2486   \or % 1
2487   % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2488   \9330\074\9337\032%
2489   \or % 2
2490   \HyPsd@UnicodeReplacementCharacter
2491   \or % 3
2492   % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2493   \9330\074\9337\035%
2494   \or % 4
2495   % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2496   \9330\074\9337\034%
2497   \else
2498     \HyPsd@UnicodeReplacementCharacter
2499   \fi
2500 }
2501 %* \HyPsd@MoonPha -> \MoonPha

```

### 6.6.12 Support for package pifont

\HyPsd@ding

```

2502 \def\HyPsd@ding#1{%
2503   \ifHy@unicode
2504     \ifnum#1<32 %
2505       \HyPsd@UnicodeReplacementCharacter
2506     \else
2507       \ifnum#1>254 %
2508         \HyPsd@UnicodeReplacementCharacter
2509       \else
2510         \ifnum#1<127 %
2511           \expandafter\expandafter\expandafter
2512           \HyPsd@@ding\intcalcNum{#1}!%
2513         \else
2514           \ifnum#1>160 %
2515             \expandafter\expandafter\expandafter
2516             \HyPsd@@ding\intcalcNum{#1}!%
2517           \else
2518             \HyPsd@UnicodeReplacementCharacter
2519           \fi
2520         \fi
2521       \fi
2522     \fi
2523   \else
2524     .% Dingbats are not part of PDFDocEncoding
2525   \fi
2526 }

```

\HyPsd@@ding

```

2527 \def\HyPsd@@ding#1!{%
2528   \ltx@ifundefined{HyPsd@ding@#1}{%
2529     \ifnum#1<127 %
2530       \9047%
2531       \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2532     \else
2533       \ifnum#1<168 %
2534         \9047\14\IntCalcSub#1!160!%

```

```

2535 \else
2536 \ifnum#1>181 %
2537 \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2538 \else
2539 % 172..181 -> U+2460..U+2469
2540 \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2541 \fi
2542 \fi
2543 \fi
2544 }{%
2545 \csname HyPsd@ding@#1\endcsname
2546 }%
2547 }

2548 \@namedef{HyPsd@ding@32}{\space}
2549 % U+260E BLACK TELEPHONE
2550 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2551 % U+261B BLACK RIGHT POINTING INDEX
2552 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2553 % U+261E WHITE RIGHT POINTING INDEX
2554 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2555 % U+2605 BLACK STAR
2556 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2557 % U+25CF BLACK CIRCLE
2558 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2559 % U+25A0 BLACK SQUARE
2560 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2561 % U+25B2 BLACK UP-POINTING TRIANGLE
2562 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2563 % U+25BC BLACK DOWN-POINTING TRIANGLE
2564 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2565 % U+25C6 BLACK DIAMOND
2566 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2567 % U+25D7 RIGHT HALF BLACK CIRCLE
2568 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2569 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2570 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2571 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2572 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2573 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2574 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2575 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2576 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}

```

## 7 Support of other packages

### 7.1 Class memoir

```

2577 \@ifclassloaded{memoir}{%
2578 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}%
2579 }{}

```

### 7.2 Package subfigure

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

```

2580 \@ifpackageloaded{subfigure}{%
2581 \ltx@ifundefined{sub@label}{%

```

```

2582 \Hy@hypertextnamesfalse
2583 }{%
2584 \renewcommand*{\sub@label}[1]{%
2585 \@bsphack
2586 \subfig@oldlabel{#1}%
2587 \if@filesw
2588 \begingroup
2589 \edef\@currentlabstr{%
2590 \expandafter\strip@prefix\meaning\@currentlabelname
2591 }%
2592 \protected@write\@auxout{}\@auxout{%
2593 \string\newlabel{sub@#1}{%
2594 {\@nameuse{@@thesub\@capttype}}%
2595 {\thepage}%
2596 }%
2597 \expandafter\strip@period\@currentlabstr
2598 \relax.\relax\@@@%
2599 }%
2600 {\@currentHref}%
2601 {}%
2602 }%
2603 }%
2604 \endgroup
2605 \fi
2606 \@esphack
2607 }%
2608 \@ifpackagelater{subfigure}{2002/03/26}{\@auxout}{%
2609 \providecommand*\toclevel@subfigure{1}%
2610 \providecommand*\toclevel@subtable{1}%
2611 }%
2612 }%
2613 }{}

```

### 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:

```

2614 \ltx@ifundefined{XR@addURL}{%
2615 }{%

```

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.

```

2616 \def\xr@addURL#1{\xr@dURL#1}{\@auxout}{\@auxout}%
2617 \def\xr@dURL#1#2#3#4#5\@{
2618 {#1}{#2}%
2619 \if!#4!%
2620 \else
2621 {#3}{#4}{\xr@URL}%
2622 \fi
2623 }%
2624 }

2625 \def\Hy@true{true}
2626 \def\Hy@false{false}

```

Providing dummy definitions.

```

2627 \let\literalps@out\@gobble
2628 \newcommand\pdfbookmark[3]{}

```



```

2629 \def\Acrobatmenu#1#2{\leavevmode#2}
2630 \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

```

2631 \let\HyperRaiseLinkHook\@empty
2632 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2633 \newcount\Hy@SavedSpaceFactor
2634 \def\Hy@SaveSpaceFactor{%
2635   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@fi
2636 }
2637 \def\Hy@RestoreSpaceFactor{%
2638   \relax
2639   \ifhmode
2640     \ifnum\Hy@SavedSpaceFactor>\z@
2641       \spacefactor=\Hy@SavedSpaceFactor
2642     \fi
2643   \fi
2644 }
2645 \def\Hy@SaveSavedSpaceFactor{%
2646   \edef\Hy@RestoreSavedSpaceFactor{%
2647     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2648   }%
2649 }
2650 \def\Hy@raisedlink#1{%
2651   \ifvmode
2652     #1%
2653   \else
2654     \Hy@SaveSpaceFactor
2655     \penalty\@M
2656     \smash{%
2657       \begingroup
2658         \let\HyperRaiseLinkLength\@tempdima
2659         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2660         \HyperRaiseLinkHook
2661       \expandafter\endgroup
2662       \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2663         \Hy@RestoreSpaceFactor
2664         #1%
2665       \Hy@SaveSpaceFactor
2666     }%
2667   }%

```

```

2668 \Hy@RestoreSpaceFactor
2669 \fi
2670 }

```

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

```

2671 \def\Hy@SaveLastskip{%
2672 \let\Hy@RestoreLastskip\relax
2673 \ifvmode
2674 \ifdim\lastskip=\z@
2675 \let\Hy@RestoreLastskip\nobreak
2676 \else
2677 \begingroup
2678 \skip@=-\lastskip
2679 \edef\x{%
2680 \endgroup
2681 \def\noexpand\Hy@RestoreLastskip{%
2682 \noexpand\ifvmode
2683 \noexpand\nobreak
2684 \vskip\the\skip@
2685 \vskip\the\lastskip\relax
2686 \noexpand\fi
2687 }%
2688 }%
2689 \x
2690 \fi
2691 \else
2692 \ifhmode
2693 \ifdim\lastskip=\z@
2694 \let\Hy@RestoreLastskip\nobreak
2695 \else
2696 \begingroup
2697 \skip@=-\lastskip
2698 \edef\x{%
2699 \endgroup
2700 \def\noexpand\Hy@RestoreLastskip{%
2701 \noexpand\ifhmode
2702 \noexpand\nobreak
2703 \hskip\the\skip@
2704 \hskip\the\lastskip\relax
2705 \noexpand\fi
2706 }%
2707 }%
2708 \x
2709 \fi
2710 \fi
2711 \fi
2712 }%

```

## 9 Options

```

2713 \SetupKeyvalOptions{%
2714 family=Hyp,%
2715 prefix=HyOpt%
2716 }

```

## 9.1 Help macros

`\IfHyperBooleanExists`

```
2717 \def\IfHyperBooleanExists#1{%
2718   \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2719     \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2720   }%
2721 }

2722 \@namedef{KV@Hyp@stoppeearly@default}{}
```

`\IfHyperBoolean`

```
2723 \def\IfHyperBoolean#1{%
2724   \IfHyperBooleanExists{#1}{%
2725     \csname ifHy@#1\endcsname
2726     \expandafter\ltx@firstoftwo
2727   \else
2728     \expandafter\ltx@secondoftwo
2729   \fi
2730 } \ltx@secondoftwo
2731 }
```

`\Hy@boolkey`

```
2732 \def\Hy@boolkey#1#2{%
2733   \edef\Hy@tempa{#2}%
2734   \lowercase\expandafter{%
2735     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2736   }%
2737   \ifx\Hy@tempa\@empty
2738     \let\Hy@tempa\Hy@true
2739   \fi
2740   \ifx\Hy@tempa\Hy@true
2741     \else
2742     \ifx\Hy@tempa\Hy@false
2743     \else
2744       \let\Hy@tempa\relax
2745     \fi
2746   \fi
2747   \ifx\Hy@tempa\relax
2748     \Hy@WarnOptionValue{#2}{#1}{‘true’ or ‘false’}%
2749   \else
2750     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2751     \csname Hy@#1\Hy@tempa\endcsname
2752   \fi
2753 }
```

`\Hy@WarnOptionValue`

```
2754 \def\Hy@WarnOptionValue#1#2#3{%
2755   \Hy@Warning{%
2756     Unexpected value ‘#1’\MessageBreak
2757     of option ‘#2’ instead of\MessageBreak
2758     #3%
2759   }%
2760 }
```

`\Hy@DisableOption`

```
2761 \def\Hy@DisableOption#1{%
```

```

2762 \ltx@ifundefined{KV@Hyp@#1@default}{%
2763   \define@key{Hyp}{#1}%
2764 }{%
2765   \define@key{Hyp}{#1}[]%
2766 }%
2767 {\Hy@WarnOptionDisabled{#1}}%
2768 }

```

`\Hy@WarnOptionDisabled`

```

2769 \def\Hy@WarnOptionDisabled#1{%
2770   \Hy@Warning{%
2771     Option ‘#1’ has already been used,\MessageBreak
2772     setting the option has no effect%
2773   }%
2774 }

```

`\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`.

```

2775 \def\Hy@CheckOptionValue#1#2#3{%
2776   \begingroup
2777   \edef\x{#1}%
2778   \@onelevel@sanitize\x
2779   \let\y=y%
2780   \def\do##1##2{%
2781     \def\z{##1}%
2782     \@onelevel@sanitize\z
2783     \ifx\x\z
2784       \let\y=n%
2785       \let\do\@gobbletwo
2786     \fi
2787   }%
2788   #3%
2789   \ifx\y y%
2790     \def\do##1##2{%
2791       * ‘##1’%
2792       \ifx\##2\\\else\space(##2)\fi
2793       \MessageBreak
2794     }%
2795     \Hy@Warning{%
2796       Values of option ‘#2’:\MessageBreak
2797       #3%
2798       * An empty value disables the option.\MessageBreak
2799       Unknown value ‘\x’%
2800     }%
2801   \fi
2802   \endgroup
2803 }

```

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

```

2804 \def\Hy@DefNameKey#1{%
2805   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2806 }

```

```

\Hy@@DefNameKey #1: macro for value storage
#2: option name
#3: \do list with known values.
2807 \def\Hy@@DefNameKey#1#2#3{%
2808   \define@key{Hyp}{#2}{%
2809     \edef#1{##1}%
2810     \ifx#1\@empty
2811       \else
2812         \Hy@CheckOptionValue{##1}{#2}{#3}%
2813       \fi
2814     }%
2815   \let#1\@empty
2816 }

```

```

\Hy@UseNameKey
2817 \def\Hy@UseNameKey#1#2{%
2818   \ifx#2\@empty
2819     \else
2820       /#1/#2%
2821     \fi
2822 }

```

## 9.2 Defining the options

```

2823 \define@key{Hyp}{implicit}[true]{%
2824   \Hy@boolkey{implicit}{#1}%
2825 }
2826 \define@key{Hyp}{draft}[true]{%
2827   \Hy@boolkey{draft}{#1}%
2828 }
2829 \define@key{Hyp}{final}[true]{%
2830   \Hy@boolkey{final}{#1}%
2831 }
2832 \let\KV@Hyp@nolinks\KV@Hyp@draft
2833 \def\Hy@ObsoletePaperOption#1{%
2834   \Hy@WarningNoLine{%
2835     Option ‘#1’ is no longer used%
2836   }%
2837   \define@key{Hyp}{#1}[true]{}%
2838 }
2839 \def\Hy@temp#1{%
2840   \define@key{Hyp}{#1}[true]{%
2841     \Hy@ObsoletePaperOption{#1}%
2842   }%
2843 }
2844 \Hy@temp{a4paper}
2845 \Hy@temp{a5paper}
2846 \Hy@temp{b5paper}
2847 \Hy@temp{letterpaper}
2848 \Hy@temp{legalpaper}
2849 \Hy@temp{executivepaper}
2850 \define@key{Hyp}{setpagesize}[true]{%
2851   \Hy@boolkey{setpagesize}{#1}%
2852 }
2853 \define@key{Hyp}{debug}[true]{%
2854   \Hy@boolkey{debug}{#1}%

```

```

2855 }
2856 \define@key{Hyp}{linktocpage}[true]{%
2857   \Hy@boolkey{linktocpage}{#1}%
2858   \ifHy@linktocpage
2859     \let\Hy@linktoc\Hy@linktoc@page
2860   \else
2861     \let\Hy@linktoc\Hy@linktoc@section
2862   \fi
2863 }
2864 \chardef\Hy@linktoc@none=0 %
2865 \chardef\Hy@linktoc@section=1 %
2866 \chardef\Hy@linktoc@page=2 %
2867 \chardef\Hy@linktoc@all=3 %
2868 \ifHy@linktocpage
2869   \let\Hy@linktoc\Hy@linktoc@page
2870 \else
2871   \let\Hy@linktoc\Hy@linktoc@section
2872 \fi
2873 \define@key{Hyp}{linktoc}{%
2874   \@ifundefined{Hy@linktoc@#1}{%
2875     \Hy@Warning{%
2876       Unexpected value '#1' of\MessageBreak
2877       option 'linktoc' instead of 'none',\MessageBreak
2878       'section', 'page' or 'all'%
2879     }%
2880   }{%
2881     \expandafter\let\expandafter\Hy@linktoc
2882       \csname Hy@linktoc@#1\endcsname
2883   }%
2884 }
2885 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2886 \let\XR@ext\relax
2887 \define@key{Hyp}{verbose}[true]{%
2888   \Hy@boolkey{verbose}{#1}%
2889 }
2890 \define@key{Hyp}{typexml}[true]{%
2891   \Hy@boolkey{typexml}{#1}%
2892 }

```

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.

```

2893 \define@key{Hyp}{raiselinks}[true]{%
2894   \Hy@boolkey{raiselinks}{#1}%
2895 }

```

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

```

2896 \def\Hy@setbreaklinks#1{%
2897   \csname breaklinks#1\endcsname
2898 }
2899 \def\Hy@breaklinks@unsupported{%
2900   \ifx\Hy@setbreaklinks\@gobble
2901     \ifHy@breaklinks
2902       \Hy@WarningNoLine{%
2903         You have enabled option 'breaklinks'\MessageBreak
2904         But driver '\Hy@driver.def' does not support this.\MessageBreak
2905         Expect trouble with the link areas of broken links%

```

```

2906     }%
2907   \fi
2908 \fi
2909 }

2910 \define@key{Hyp}{breaklinks}[true]{%
2911   \Hy@boolkey{breaklinks}{#1}%
2912   \let\Hy@setbreaklinks\@gobble
2913 }

2914 \define@key{Hyp}{localanchorname}[true]{%
2915   \Hy@boolkey{localanchorname}{#1}%
2916 }

```

Determines whether an automatic anchor is put on each page

```

2917 \define@key{Hyp}{pageanchor}[true]{%
2918   \Hy@boolkey{pageanchor}{#1}%
2919 }

```

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.

```

2920 \define@key{Hyp}{plainpages}[true]{%
2921   \Hy@boolkey{plainpages}{#1}%
2922 }

```

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?

```

2923 \define@key{Hyp}{naturalnames}[true]{%
2924   \Hy@boolkey{naturalnames}{#1}%
2925 }

```

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

```

2926 \define@key{Hyp}{hypertextnames}[true]{%
2927   \Hy@boolkey{hypertextnames}{#1}%
2928 }

```

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

```

2929 \define@key{Hyp}{nesting}[true]{%
2930   \Hy@boolkey{nesting}{#1}%
2931 }

```

```

2932 \define@key{Hyp}{destlabel}[true]{%
2933   \Hy@boolkey{destlabel}{#1}%
2934 }

```

```

2935 \define@key{Hyp}{unicode}[true]{%
2936   \Hy@boolkey{unicode}{#1}%
2937   \ifHy@unicode
2938     \def\HyPsd@pdfencoding{unicode}%
2939     \HyPsd@LoadUnicode
2940   \else
2941     \def\HyPsd@pdfencoding{pdfdoc}%
2942   \fi
2943 }

```

```

2944 \Hy@AtBeginDocument{%
2945   \ifx\HyPsd@LoadUnicode\relax
2946   \else
2947     \def\HyPsd@LoadUnicode{%
2948       \Hy@Error{%
2949         Unicode support for bookmarks is not available.\MessageBreak
2950         Activate unicode support by using one of the options\MessageBreak

```

```

2951     'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2952     in the preamble%
2953 } \@ehc
2954 \global\let\HyPsd@LoadUnicode\relax
2955 \global\Hy@unicodedefalse
2956 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2957 }%
2958 \fi
2959 }

2960 \define@key{Hyp}{pdfencoding}{%
2961   \edef\HyPsd@temp{#1}%
2962   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2963     \let\HyPsd@pdfencoding\HyPsd@temp
2964     \Hy@unicodedefalse
2965   \else
2966     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2967       \z@
2968     \else
2969       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2970         \z@
2971       \else
2972         \@ne
2973       \fi
2974     \fi
2975     \let\HyPsd@pdfencoding\HyPsd@temp
2976     \hypersetup{unicode}%
2977     \ifHy@unicode
2978       \def\HyPsd@pdfencoding{#1}%
2979       \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2980         \HyPsd@LoadStringEncoding
2981       \fi
2982     \else
2983       \Hy@Warning{Cannot switch to unicode bookmarks}%
2984       \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2985     \fi
2986   \else
2987     \@onelevel@sanitize\HyPsd@temp
2988     \Hy@Warning{%
2989       Values of option 'pdfencoding':\MessageBreak
2990       'pdfdoc', 'unicode', 'auto'.\MessageBreak
2991       Ignoring unknown value '\HyPsd@temp'%
2992     }%
2993   \fi
2994 \fi
2995 }

2996 \def\HyPsd@pdfencoding@auto{auto}
2997 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2998 \def\HyPsd@pdfencoding@unicode{unicode}
2999 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
3000 \def\HyPsd@LoadStringEncoding{%
3001   \RequirePackage{stringenc}[2009/12/15]%
3002   \let\HyPsd@LoadStringEncoding\relax
3003 }

3004 \Hy@AtBeginDocument{%
3005   \@ifpackageloaded{stringenc}{%
3006     \let\HyPsd@LoadStringEncoding\relax
3007   }{%

```



```

3008 \def\HyPsd@LoadStringEnc{%
3009 \Hy@WarningNoLine{%
3010 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
3011 in the preamble or load the package there%
3012 }%
3013 }%
3014 }%
3015 }

3016 \define@key{Hyp}{psdextra}[true]{%
3017 \Hy@boolkey{psdextra}{#1}%
3018 \HyPsd@LoadExtra
3019 }

3020 \def\hypersetup{\kvsetkeys{Hyp}}

3021 \newif\ifHy@setpdfversion
3022 \define@key{Hyp}{pdfversion}{%
3023 \ifundefined{Hy@pdfversion@#1}{%
3024 \PackageWarning{hyperref}{%
3025 Unsupported PDF version '#1'.\MessageBreak
3026 Valid values: 1.2 until 1.9%
3027 }%
3028 }{%
3029 \Hy@setpdfversiontrue
3030 \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
3031 }%
3032 }
3033 \@namedef{Hy@pdfversion@1.2}{2}%
3034 \@namedef{Hy@pdfversion@1.3}{3}%
3035 \@namedef{Hy@pdfversion@1.4}{4}%
3036 \@namedef{Hy@pdfversion@1.5}{5}%
3037 \@namedef{Hy@pdfversion@1.6}{6}%
3038 \@namedef{Hy@pdfversion@1.7}{7}%
3039 \@namedef{Hy@pdfversion@1.8}{8}%
3040 \@namedef{Hy@pdfversion@1.9}{9}%
3041 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

3042 \newif\ifHy@DviMode
3043 \let\Hy@DviErrMsg\ltx@empty
3044 \ifpdf
3045 \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
3046 \else
3047 \ifxetex
3048 \def\Hy@DviErrMsg{XeTeX is running}%
3049 \else
3050 \ifvtex
3051 \ifvtexdvi
3052 \Hy@DviModetrue
3053 \else
3054 \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
3055 \fi
3056 \else
3057 \Hy@DviModetrue
3058 \fi
3059 \fi
3060 \fi

```

```

3061 \def\HyOpt@CheckDvi#1{%
3062   \ifHy@DviMode
3063     \expandafter\ltx@firstofone
3064   \else
3065     \Hy@Error{%
3066       Wrong DVI mode driver option '#1',\MessageBreak
3067       because \Hy@DviErrMsg
3068     }\@ehc
3069   \expandafter\ltx@gobble
3070 \fi
3071 }

3072 \DeclareVoidOption{tex4ht}{%
3073   \Hy@texhttrue
3074   \kvsetkeys{Hyp}{colorlinks=true}%
3075   \def\BeforeTeXIVht{\RequirePackage{color}}}%
3076   \def\Hy@driver{htex4ht}%
3077   \def\MaybeStopEarly{%
3078     \Hy@Message{Stopped early}%
3079   \Hy@AtBeginDocument{%
3080     \PDF@FinishDoc
3081     \gdef\PDF@FinishDoc{}}%
3082   }%
3083   \endinput
3084 }%
3085 }

3086 \DeclareVoidOption{pdftex}{%
3087   \ifpdf
3088     \def\Hy@driver{hpdftex}%
3089   \else
3090     \Hy@Error{%
3091       Wrong driver option 'pdftex',\MessageBreak
3092       because pdfTeX in PDF mode is not detected%
3093     }\@ehc
3094   \fi
3095 }

3096 \DeclareVoidOption{nativepdf}{%
3097   \HyOpt@CheckDvi{nativepdf}{%
3098     \def\Hy@driver{hdvips}%
3099   }%
3100 }

3101 \DeclareVoidOption{dvipdfm}{%
3102   \HyOpt@CheckDvi{dvipdfm}{%
3103     \def\Hy@driver{hdvipdfm}%
3104   }%
3105 }

3106 \DeclareVoidOption{dvipdfmx}{%
3107   \HyOpt@CheckDvi{dvipdfmx}{%
3108     \def\Hy@driver{hdvipdfm}%
3109   }%
3110 }

3111 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
3112   \expandafter\ifx\csname if#1\expandafter\endcsname
3113     \csname iftrue\endcsname
3114   \chardef\SpecialDvipdfmxOutlineOpen\@ne
3115 \else
3116   \chardef\SpecialDvipdfmxOutlineOpen\z@
3117 \fi

```

```

3118 }
3119 \DeclareVoidOption{xetex}{%
3120   \ifxetex
3121     \def\Hy@driver{hxtex}%
3122   \else
3123     \Hy@Error{%
3124       Wrong driver option 'xetex',\MessageBreak
3125       because XeTeX is not detected%
3126     }\@ehc
3127   \fi
3128 }
3129 \DeclareVoidOption{pdfmark}{%
3130   \HyOpt@CheckDvi{pdfmark}{%
3131     \def\Hy@driver{hdvips}%
3132   }%
3133 }
3134 \DeclareVoidOption{dvips}{%
3135   \HyOpt@CheckDvi{dvips}{%
3136     \def\Hy@driver{hdvips}%
3137   }%
3138 }
3139 \DeclareVoidOption{hypertex}{%
3140   \HyOpt@CheckDvi{hypertex}{%
3141     \def\Hy@driver{hypertex}%
3142   }%
3143 }
3144 \let\Hy@MaybeStopNow\relax
3145 \DeclareVoidOption{vtex}{%
3146   \ifvtex
3147     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3148     \def\Hy@driver{hvtex}%
3149   \else
3150     \ifnum\OpMode=10\relax
3151       \def\Hy@driver{hvtexhtm}%
3152       \def\MaybeStopEarly{%
3153         \Hy@Message{Stopped early}%
3154         \Hy@AtBeginDocument{%
3155           \PDF@FinishDoc
3156           \gdef\PDF@FinishDoc{}%
3157         }%
3158       \endinput
3159     }%
3160   \else
3161     \Hy@Error{%
3162       Wrong driver option 'vtex',\MessageBreak
3163       because of wrong OpMode (\the\OpMode)%
3164     }\@ehc
3165   \fi
3166 }
3167 \else
3168   \Hy@Error{%
3169     Wrong driver option 'vtex',\MessageBreak
3170     because VTeX is not running%
3171   }\@ehc
3172 }
3173 }
3174 \DeclareVoidOption{vtexpdfmark}{%

```

```

3175 \ifvtex
3176   \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3177   \def\Hy@driver{hvtexmrk}%
3178   \else
3179   \Hy@Error{%
3180     Wrong driver option 'vtexpdfmark',\MessageBreak
3181     because of wrong OpMode (\the\OpMode)%
3182   }\@ehc
3183   \fi
3184   \else
3185   \Hy@Error{%
3186     Wrong driver option 'vtexpdfmark',\MessageBreak
3187     because VTeX is not running%
3188   }\@ehc
3189   \fi
3190 }
3191 \DeclareVoidOption{dviwindo}{}%
3192 \HyOpt@CheckDvi{dviwindo}{}%
3193 \def\Hy@driver{hdviwind}%
3194 \kvsetkeys{Hyp}{colorlinks}%
3195 \PassOptionsToPackage{dviwindo}{color}%
3196 }%
3197 }
3198 \DeclareVoidOption{dvipsone}{}%
3199 \HyOpt@CheckDvi{dvipsone}{}%
3200 \def\Hy@driver{hdvipson}%
3201 }%
3202 }
3203 \DeclareVoidOption{textures}{}%
3204 \HyOpt@CheckDvi{textures}{}%
3205 \def\Hy@driver{htexture}%
3206 }%
3207 }
3208 \DeclareVoidOption{latex2html}{}%
3209 \HyOpt@CheckDvi{latex2html}{}%
3210 \Hy@AtBeginDocument{\@@@latextohtmlX}%
3211 }%
3212 }

```

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

```

3213 \DeclareVoidOption{ps2pdf}{}%
3214 \HyOpt@CheckDvi{ps2pdf}{}%
3215 \def\Hy@driver{hdvips}%
3216 }%
3217 }
3218 \let\HyOpt@DriverFallback\ltx@empty
3219 \define@key{Hyp}{driverfallback}{}%
3220 \ifHy@DviMode
3221   \def\HyOpt@DriverFallback{#1}%
3222   \Hy@Match\HyOpt@DriverFallback{%
3223     ~(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
3224     latex2html|tex4ht)$%
3225   }{}{%
3226     \let\HyOpt@DriverFallback\ltx@empty
3227   }%
3228 \fi
3229 }

```

## 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.

```
3230 \define@key{Hyp}{hyperfigures}[true]{%
3231   \Hy@boolkey{hyperfigures}{#1}%
3232 }
```

The automatic footnote linking can be disabled by option hyperfootnotes.

```
3233 \define@key{Hyp}{hyperfootnotes}[true]{%
3234   \Hy@boolkey{hyperfootnotes}{#1}%
3235 }
```

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

```
3236 \def\back@none{none}
3237 \def\back@section{section}
3238 \def\back@page{page}
3239 \def\back@slide{slide}
3240 \define@key{Hyp}{backref}[section]{%
3241   \lowercase{\def\Hy@tempa{#1}}%
3242   \ifx\Hy@tempa\@empty
3243     \let\Hy@tempa\back@section
3244   \fi
3245   \ifx\Hy@tempa\Hy@false
3246     \let\Hy@tempa\back@none
3247   \fi
3248   \ifx\Hy@tempa\back@slide
3249     \let\Hy@tempa\back@section
3250   \fi
3251   \ifx\Hy@tempa\back@page
3252     \PassOptionsToPackage{hyperpageref}{backref}%
3253     \Hy@backreftrue
3254   \else
3255     \ifx\Hy@tempa\back@section
3256       \PassOptionsToPackage{hyperref}{backref}%
3257       \Hy@backreftrue
3258     \else
3259       \ifx\Hy@tempa\back@none
3260         \Hy@backreffalse
3261       \else
3262         \Hy@WarnOptionValue{#1}{backref}{%
3263           'section', 'slide', 'page', 'none',\MessageBreak
3264           or 'false'}%
3265       \fi
3266     \fi
3267   \fi
3268 }
3269 \define@key{Hyp}{pagebackref}[true]{%
3270   \edef\Hy@tempa{#1}%
3271   \lowercase\expandafter{%
3272     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3273   }%
3274   \ifx\Hy@tempa\@empty
3275     \let\Hy@tempa\Hy@true
3276   \fi
3277   \ifx\Hy@tempa\Hy@true
3278     \PassOptionsToPackage{hyperpageref}{backref}%
3279     \Hy@backreftrue
```

```

3280 \else
3281   \ifx\Hy@tempa\Hy@false
3282     \Hy@backreffalse
3283   \else
3284     \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
3285   \fi
3286 \fi
3287 }

```

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

```

3288 \define@key{Hyp}{hyperindex}[true]{%
3289   \Hy@boolkey{hyperindex}{#1}%
3290 }

```

Configuration of encap char.

```

3291 \define@key{Hyp}{encap}[|]{%
3292   \def\HyInd@EncapChar{#1}%
3293 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

3294 \def\HyLang@afrikaans{%
3295   \def\equationautorefname{Vergelyking}%
3296   \def\footnoteautorefname{Voetnota}%
3297   \def\itemautorefname{Item}%
3298   \def\figureautorefname{Figuur}%
3299   \def\tableautorefname{Tabel}%
3300   \def\partautorefname{Deel}%
3301   \def\appendixautorefname{Bylae}%
3302   \def\chapterautorefname{Hoofstuk}%
3303   \def\sectionautorefname{Afdeling}%
3304   \def\subsectionautorefname{Subafdeling}%
3305   \def\subsubsectionautorefname{Subsubafdeling}%
3306   \def\paragraphautorefname{Paragraaf}%
3307   \def\subparagraphautorefname{Subparagraaf}%
3308   \def\FancyVerbLineautorefname{Lyn}%
3309   \def\theoremautorefname{Teorema}%
3310   \def\pageautorefname{Bladsy}%
3311 }
3312 \def\HyLang@english{%
3313   \def\equationautorefname{Equation}%
3314   \def\footnoteautorefname{footnote}%
3315   \def\itemautorefname{item}%
3316   \def\figureautorefname{Figure}%
3317   \def\tableautorefname{Table}%
3318   \def\partautorefname{Part}%
3319   \def\appendixautorefname{Appendix}%
3320   \def\chapterautorefname{chapter}%
3321   \def\sectionautorefname{section}%
3322   \def\subsectionautorefname{subsection}%
3323   \def\subsubsectionautorefname{subsubsection}%
3324   \def\paragraphautorefname{paragraph}%
3325   \def\subparagraphautorefname{subparagraph}%
3326   \def\FancyVerbLineautorefname{line}%
3327   \def\theoremautorefname{Theorem}%

```

```

3328 \def\pageautorefname{page}%
3329 }
3330 \def\HyLang@french{%
3331 \def\equationautorefname{'Equation}%
3332 \def\footnoteautorefname{note}%
3333 \def\itemautorefname{item}%
3334 \def\figureautorefname{Figure}%
3335 \def\tableautorefname{Tableau}%
3336 \def\partautorefname{Partie}%
3337 \def\appendixautorefname{Appendice}%
3338 \def\chapterautorefname{chapitre}%
3339 \def\sectionautorefname{section}%
3340 \def\subsectionautorefname{sous-section}%
3341 \def\subsubsectionautorefname{sous-sous-section}%
3342 \def\paragraphautorefname{paragraphe}%
3343 \def\subparagraphautorefname{sous-paragraphe}%
3344 \def\FancyVerbLineautorefname{ligne}%
3345 \def\theoremautorefname{Th\'eor\`eme}%
3346 \def\pageautorefname{page}%
3347 }
3348 \def\HyLang@german{%
3349 \def\equationautorefname{Gleichung}%
3350 \def\footnoteautorefname{Fu\ss note}%
3351 \def\itemautorefname{Punkt}%
3352 \def\figureautorefname{Abbildung}%
3353 \def\tableautorefname{Tabelle}%
3354 \def\partautorefname{Teil}%
3355 \def\appendixautorefname{Anhang}%
3356 \def\chapterautorefname{Kapitel}%
3357 \def\sectionautorefname{Abschnitt}%
3358 \def\subsectionautorefname{Unterabschnitt}%
3359 \def\subsubsectionautorefname{Unterunterabschnitt}%
3360 \def\paragraphautorefname{Absatz}%
3361 \def\subparagraphautorefname{Unterabsatz}%
3362 \def\FancyVerbLineautorefname{Zeile}%
3363 \def\theoremautorefname{Theorem}%
3364 \def\pageautorefname{Seite}%
3365 }
3366 \def\HyLang@italian{%
3367 \def\equationautorefname{Equazione}%
3368 \def\footnoteautorefname{nota}%
3369 \def\itemautorefname{punto}%
3370 \def\figureautorefname{Figura}%
3371 \def\tableautorefname{Tabella}%
3372 \def\partautorefname{Parte}%
3373 \def\appendixautorefname{Appendice}%
3374 \def\chapterautorefname{Capitolo}%
3375 \def\sectionautorefname{sezione}%
3376 \def\subsectionautorefname{sottosezione}%
3377 \def\subsubsectionautorefname{sottosottosezione}%
3378 \def\paragraphautorefname{paragrafo}%
3379 \def\subparagraphautorefname{sottoparagrafo}%
3380 \def\FancyVerbLineautorefname{linea}%
3381 \def\theoremautorefname{Teorema}%
3382 \def\pageautorefname{Pag.\@}%
3383 }
3384 \def\HyLang@magyar{%

```

```

3385 \def\equationautorefname{Egyenlet}%
3386 \def\footnoteautorefname{l\'abjegyzet}%
3387 \def\itemautorefname{Elem}%
3388 \def\figureautorefname{\'Abra}%
3389 \def\tableautorefname{T\'abl\'azat}%
3390 \def\partautorefname{R\'esz}%
3391 \def\appendixautorefname{F\'uggel\'ek}%
3392 \def\chapterautorefname{fejezet}%
3393 \def\sectionautorefname{szakasz}%
3394 \def\subsectionautorefname{alszakasz}%
3395 \def\subsubsectionautorefname{alalszakasz}%
3396 \def\paragraphautorefname{bekezd\'es}%
3397 \def\subparagraphautorefname{albekezd\'es}%
3398 \def\FancyVerbLineautorefname{sor}%
3399 \def\theoremautorefname{T\'etel}%
3400 \def\pageautorefname{oldal}%
3401 }
3402 \def\HyLang@portuges{%
3403 \def\equationautorefname{Equa\c c\~ao}%
3404 \def\footnoteautorefname{Nota de rodap\'e}%
3405 \def\itemautorefname{Item}%
3406 \def\figureautorefname{Figura}%
3407 \def\tableautorefname{Tabela}%
3408 \def\partautorefname{Parte}%
3409 \def\appendixautorefname{Ap\~endice}%
3410 \def\chapterautorefname{Cap\'itulo}%
3411 \def\sectionautorefname{Se\c c\~ao}%
3412 \def\subsectionautorefname{Subse\c c\~ao}%
3413 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3414 \def\paragraphautorefname{par\'agrafo}%
3415 \def\subparagraphautorefname{subpar\'agrafo}%
3416 \def\FancyVerbLineautorefname{linha}%
3417 \def\theoremautorefname{Teorema}%
3418 \def\pageautorefname{P\'agina}%
3419 }

```

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`.

```

3420 \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`?

```

3421 \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 `\auto\ref{auto}`” etc. The full name must follow full name of the `\theoremautorefname`.

```

3422 % \def\equationautorefname{%
3423 % \cyr\cyrv\cyrery\cyr\cyra\cyrzh\cyre\cyrn\cyri\cyre
3424 % }%

```

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



obsolete?).

```
3425 \def\footnoteautorefname{%  
3426 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%  
3427 }%
```

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}”

```
3428 % \def\footnoteautorefname{%  
3429 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %  
3430 % \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre  
3431 % }%
```

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

```
3432 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%  
3433 % \def\Accfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyru}%
```

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

```
3434 \def\itemautorefname{\cyr\cyrp.}%  
3435 % \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.

```
3436 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%  
3437 \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.

```
3438 \def\partautorefname{\cyr\cyrch.}%  
3439 \def\chapterautorefname{\cyr\cyrg\cyrl.}%  
3440 \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.

```
3441 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%  
3442 % \def\appendixautorefname{%  
3443 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre  
3444 % }%
```

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.

```
3445 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%  
3446 \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.

```
3447 \def\paragraphautorefname{\cyr\cyrp.}%  
3448 \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.

3449 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%  
 3450 % \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.

3451 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%

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

3452 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%  
 3453 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%

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

3454 % \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 ...

3455 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%

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

3456 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%  
 3457 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%

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

3458 \def\pageautorefname{\cyr\cyrs.}%  
 3459 }

3460 \def\HyLang@spanish{%  
 3461 \def\equationautorefname{Ecuaci'on}%  
 3462 \def\footnoteautorefname{Nota a pie de p'agina}%  
 3463 \def\itemautorefname{Elemento}%  
 3464 \def\figureautorefname{Figura}%  
 3465 \def\tableautorefname{Tabla}%  
 3466 \def\partautorefname{Parte}%  
 3467 \def\appendixautorefname{Ap'endice}%  
 3468 \def\chapterautorefname{Cap'itulo}%  
 3469 \def\sectionautorefname{Secci'on}%  
 3470 \def\subsectionautorefname{Subsecci'on}%  
 3471 \def\subsubsectionautorefname{Subsubsecci'on}%  
 3472 \def\paragraphautorefname{P'arrafo}%  
 3473 \def\subparagraphautorefname{Subp'arrafo}%  
 3474 \def\FancyVerbLineautorefname{L'inea}%  
 3475 \def\theoremautorefname{Teorema}%  
 3476 \def\pageautorefname{P'agina}%  
 3477 }

3478 \def\HyLang@vietnamese{%  
 3479 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr'inh}%  
 3480 \def\footnoteautorefname{Ch'u th'ich}%  
 3481 \def\itemautorefname{m\d{u}c}%  
 3482 \def\figureautorefname{H'inh}%  
 3483 \def\tableautorefname{B'h{a}ng}%  
 3484 \def\partautorefname{Ph'\acircumflex{}n}%  
 3485 \def\appendixautorefname{Ph\d{u} l\d{u}c}%  
 3486 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%  
 3487 \def\sectionautorefname{m\d{u}c}%  
 3488 \def\subsectionautorefname{m\d{u}c}%

```

3489 \def\subsubsectionautorefname{m\d{u}c}%
3490 \def\paragraphautorefname{dj{o\d{a}n}%
3491 \def\subparagraphautorefname{dj{o\d{a}n}%
3492 \def\FancyVerbLineautorefname{d'ong}%
3493 \def\theoremautorefname{DJ{d{i}nh l'y}%
3494 \def\pageautorefname{Trang}%
3495 }

```

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

```

3496 \def\HyLang@addto#1#2{%
3497   #2%
3498   \@temptokena{#2}%
3499   \ifx#1\relax
3500     \let#1\@empty
3501   \fi
3502   \ifx#1\@undefined
3503     \edef#1{\the\@temptokena}%
3504   \else
3505     \toks@\expandafter{#1}%
3506     \edef#1{\the\toks@\the\@temptokena}%
3507   \fi
3508   \@temptokena{}\toks@\@temptokena
3509 }

3510 \def\HyLang@DeclareLang#1#2#3{%
3511   \ifpackagewith{babel}{#1}{%
3512     \expandafter\HyLang@addto
3513       \csname extras#1\expandafter\endcsname
3514       \csname HyLang@#2\endcsname
3515     \begingroup
3516       \edef\x{\endgroup
3517         #3%
3518       }%
3519     \x
3520     \@namedef{HyLang@#1@done}{}%
3521   }{}%
3522   \begingroup
3523     \edef\x##1#2{%
3524       \noexpand\ifx##2\relax
3525         \errmessage{No definitions for language #2' found!}%
3526       \noexpand\fi
3527     \endgroup
3528     \noexpand\define@key{Hyp}{#1}[]{}%
3529     \noexpand\@ifundefined{HyLang@#1@done}{%
3530       \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3531       #3%
3532       \noexpand\@namedef{HyLang@#1@done}{}%
3533     }{}%
3534   }%
3535 }%
3536 \expandafter\x\csname extras#1\expandafter\endcsname
3537       \csname HyLang@#2\endcsname
3538 }

3539 \HyLang@DeclareLang{english}{english}{}
3540 \HyLang@DeclareLang{UKenglish}{english}{}
3541 \HyLang@DeclareLang{british}{english}{}
3542 \HyLang@DeclareLang{USenglish}{english}{}

```

```

3543 \HyLang@DeclareLang{american}{english}{}
3544 \HyLang@DeclareLang{german}{german}{}
3545 \HyLang@DeclareLang{austrian}{german}{}
3546 \HyLang@DeclareLang{ngerman}{german}{}
3547 \HyLang@DeclareLang{naustrian}{german}{}
3548 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3549 \HyLang@DeclareLang{brazil}{portuges}{}
3550 \HyLang@DeclareLang{brazilian}{portuges}{}
3551 \HyLang@DeclareLang{portuguese}{portuges}{}
3552 \HyLang@DeclareLang{spanish}{spanish}{}
3553 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3554 \HyLang@DeclareLang{french}{french}{}
3555 \HyLang@DeclareLang{frenchb}{french}{}
3556 \HyLang@DeclareLang{francais}{french}{}
3557 \HyLang@DeclareLang{acadian}{french}{}
3558 \HyLang@DeclareLang{canadien}{french}{}
3559 \HyLang@DeclareLang{italian}{italian}{}
3560 \HyLang@DeclareLang{magyar}{magyar}{}
3561 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3562 \DeclareVoidOption{vietnamese}{%
3563   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3564   \Hy@AtEndOfPackage{%
3565     \@ifundefined{T@PU}{}{}%
3566     \input{puvnenc.def}%
3567   }%
3568 }%
3569 }
3570 \DeclareVoidOption{vietnam}{%
3571   \HyLang@addto\extrasvietnam\HyLang@vietnamese
3572   \Hy@AtEndOfPackage{%
3573     \@ifundefined{T@PU}{}{}%
3574     \input{puvnenc.def}%
3575   }%
3576 }%
3577 }

```

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

```

3578 \DeclareVoidOption{arabic}{%
3579   \Hy@AtEndOfPackage{%
3580     \@ifundefined{T@PU}{}{}%
3581     \input{puarenc.def}%
3582   }%
3583 }%
3584 }

```

## 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.

```

3585 \define@key{Hyp}{colorlinks}[true]{%
3586   \Hy@boolkey{colorlinks}{#1}%
3587 }
3588 \DeclareVoidOption{hidelinks}{%
3589   \Hy@colorlinksfalse
3590   \Hy@ocgcolorlinksfalse
3591   \Hy@frenchlinksfalse

```

```

3592 \def\Hy@colorlink##1{\begingroup}%
3593 \def\Hy@endcolorlink{\endgroup}%
3594 \def\@pdfborder{0 0 0}%
3595 \let\@pdfborderstyle\ltx@empty
3596 }
3597 \define@key{Hyp}{ocgcolorlinks}[true]{%
3598 \Hy@boolkey{ocgcolorlinks}{#1}%
3599 }
3600 \Hy@AtBeginDocument{%
3601 \begingroup
3602 \@ifundefined{OBJ@OCG@view}{%
3603 \ifHy@ocgcolorlinks
3604 \Hy@Warning{%
3605 Driver does not support 'ocgcolorlinks',\MessageBreak
3606 using 'colorlinks' instead%
3607 }%
3608 \fi
3609 }{}%
3610 \endgroup
3611 }
3612 \define@key{Hyp}{frenchlinks}[true]{%
3613 \Hy@boolkey{frenchlinks}{#1}%
3614 }

```

## 14 Bookmarking

```

3615 \begingroup\expandafter\expandafter\expandafter\endgroup
3616 \expandafter\ifx\csname chapter\endcsname\relax
3617 \def\toclevel@part{0}%
3618 \else
3619 \def\toclevel@part{-1}%
3620 \fi
3621 \def\toclevel@chapter{0}
3622 \def\toclevel@section{1}
3623 \def\toclevel@subsection{2}
3624 \def\toclevel@subsubsection{3}
3625 \def\toclevel@paragraph{4}
3626 \def\toclevel@subparagraph{5}
3627 \def\toclevel@figure{0}
3628 \def\toclevel@table{0}
3629 \@ifpackageloaded{listings}{%
3630 \providecommand*\theHlstlisting{\thelstlisting}%
3631 \providecommand*\toclevel@lstlisting{0}%
3632 }{}
3633 \@ifpackageloaded{listing}{%
3634 \providecommand*\theHlisting{\thelisting}%
3635 \providecommand*\toclevel@listing{0}%
3636 }{}
3637 \define@key{Hyp}{bookmarks}[true]{%
3638 \Hy@boolkey{bookmarks}{#1}%
3639 }
3640 \define@key{Hyp}{bookmarksopen}[true]{%
3641 \Hy@boolkey{bookmarksopen}{#1}%
3642 }

```

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.

```

3643 \let\Hy@bookmarksdepth\c@tocdepth
3644 \define@key{Hyp}{bookmarksdepth}[]{}%
3645 \begingroup
3646   \edef\x{#1}%
3647   \ifx\x\empty
3648     \global\let\Hy@bookmarksdepth\c@tocdepth
3649   \else
3650     \@ifundefined{toclevel@\x}{}%
3651     \@onelevel@sanitize\x
3652     \edef\y{\expandafter\@car\x\@nil}%
3653     \ifcase 0\expandafter\ifx\y-1\fi
3654       \expandafter\ifnum\expandafter'\y>47 %
3655         \expandafter\ifnum\expandafter'\y<58 1\fi\fi relax
3656       \Hy@Warning{Unknown document division name (\x)}%
3657     \else
3658       \setbox\z@=\hbox{%
3659         \count@=\x
3660         \xdef\Hy@bookmarksdepth{\the\count@}%
3661       }%
3662     \fi
3663   }{}%
3664   \setbox\z@=\hbox{%
3665     \count@=\csname toclevel@\x\endcsname
3666     \xdef\Hy@bookmarksdepth{\the\count@}%
3667   }%
3668 }{}%
3669 \fi
3670 \endgroup
3671 }

```

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

```

3672 \define@key{Hyp}{bookmarksopenlevel}{}%
3673 \def\@bookmarksopenlevel{#1}%
3674 }
3675 \def\@bookmarksopenlevel{\maxdimen}
3676 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3677 \define@key{Hyp}{bookmarkstype}{}%
3678 \def\Hy@bookmarkstype{#1}%
3679 }
3680 \def\Hy@bookmarkstype{toc}

```

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

```

3681 \define@key{Hyp}{bookmarksnumbered}[true]{}%
3682 \Hy@boolkey{bookmarksnumbered}{#1}%
3683 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3684 \define@key{Hyp}{CJKbookmarks}[true]{%
3685   \Hy@boolkey{CJKbookmarks}{#1}%
3686 }

3687 \def\Hy@temp#1{%
3688   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3689 }
3690 \def\Hy@@temp#1#2#3{%
3691   \define@key{Hyp}{#2color}{%
3692     \HyColor@HyperrefColor{##1}#1%
3693   }%
3694   \def#1{#3}%
3695 }
3696 \Hy@temp{link}{red}
3697 \Hy@temp{anchor}{black}
3698 \Hy@temp{cite}{green}
3699 \Hy@temp{file}{cyan}
3700 \Hy@temp{url}{magenta}
3701 \Hy@temp{menu}{red}
3702 \Hy@temp{run}{\@filecolor}
3703 \define@key{Hyp}{pagecolor}{%
3704   \Hy@WarningPageColor
3705 }
3706 \def\Hy@WarningPageColor{%
3707   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
3708   \global\let\Hy@WarningPageColor\relax
3709 }
3710 \define@key{Hyp}{allcolors}{%
3711   \HyColor@HyperrefColor{#1}\@linkcolor
3712   \HyColor@HyperrefColor{#1}\@anchorcolor
3713   \HyColor@HyperrefColor{#1}\@citecolor
3714   \HyColor@HyperrefColor{#1}\@filecolor
3715   \HyColor@HyperrefColor{#1}\@urlcolor
3716   \HyColor@HyperrefColor{#1}\@menucolor
3717   \HyColor@HyperrefColor{#1}\@runcolor
3718 }

3719 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3720 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3721 \let\@baseurl\@empty
3722 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3723 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3724 \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.

```

3725 \let\@pdfpagetransition\relax
3726 \define@key{Hyp}{pdfpagetransition}{%
3727   \def\@pdfpagetransition{#1}%
3728 }

```

`\@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.

```

3729 \let\@pdfpageduration\relax
3730 \define@key{Hyp}{pdfpageduration}{%
3731   \def\@pdfpageduration{#1}%
3732   \Hy@Match\@pdfpageduration{%
3733     ^(|[0-9]+\.\?[0-9]*|[0-9]*\.\?[0-9]+)$%
3734   }{}{%
3735     \Hy@Warning{%
3736       Invalid value '\@pdfpageduration'\MessageBreak
3737       of option 'pdfpageduration'\MessageBreak
3738       is replaced by an empty value%
3739     }%
3740     \let\@pdfpageduration\ltx@empty
3741   }%
3742 }
```

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.

```

3743 \newif\ifHy@useHidKey
3744 \Hy@useHidKeyfalse
3745 \define@key{Hyp}{pdfpagehidden}[true]{%
3746   \Hy@boolkey{pdfpagehidden}{#1}%
3747   \ifHy@pdfpagehidden
3748     \global\Hy@useHidKeytrue
3749   \fi
3750 }
```

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).

```

3751 \def\Hy@ColorList{cite,file,link,menu,run,url}
3752 \@for\Hy@temp:=\Hy@ColorList\do{%
3753   \edef\Hy@temp{%
3754     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3755       \noexpand\Hy@Color@HyperrefBorderColor
3756       {##1}%
3757       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3758       {hyperref}%
3759       {\Hy@temp bordercolor}%
3760     }%
3761   }%
3762   \Hy@temp
3763 }
3764 \define@key{Hyp}{pagebordercolor}{%
3765   \Hy@WarningPageBorderColor
3766 }
3767 \def\Hy@WarningPageBorderColor{%
3768   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3769   \global\let\Hy@WarningPageBorderColor\relax
3770 }
3771 \define@key{Hyp}{allbordercolors}{%
```



```

3772 \def\Hy@temp##1##2{%
3773   \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3774 }%
3775 \Hy@temp\@citebordercolor{cite}%
3776 \Hy@temp\@filebordercolor{file}%
3777 \Hy@temp\@linkbordercolor{link}%
3778 \Hy@temp\@menubordercolor{menu}%
3779 \Hy@temp\@runbordercolor{run}%
3780 \Hy@temp\@urlbordercolor{url}%
3781 }

3782 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3783 \Hy@DefNameKey{pdfhighlight}{%
3784   \do{/I}{Invert}%
3785   \do{/N}{None}%
3786   \do{/O}{Outline}%
3787   \do{/P}{Push}%
3788 }
3789 \define@key{Hyp}{pdfborder}{%
3790   \let\Hy@temp\@pdfborder
3791   \def\@pdfborder{#1}%
3792   \Hy@Match\@pdfborder{%
3793     ~\HyPat@NonNegativeReal/ %
3794     \HyPat@NonNegativeReal/ %
3795     \HyPat@NonNegativeReal/%
3796     ( ?\[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*\])?}%
3797   }{}{%
3798     \Hy@Warning{%
3799       Invalid value '\@pdfborder'\MessageBreak
3800       for option 'pdfborder'.\MessageBreak
3801       Option setting is ignored%
3802     }%
3803     \let\@pdfborder\Hy@temp
3804   }%
3805 }
3806 \define@key{Hyp}{pdfborderstyle}{%
3807   \let\Hy@temp\@pdfborderstyle
3808   \def\@pdfborderstyle{#1}%
3809   \Hy@Match\@pdfborderstyle{%
3810     ~%
3811     ( */Type */Border%
3812     | */W +\HyPat@NonNegativeReal/%
3813     | */S */[SDBIU]%
3814     | */D *\[ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)?}%
3815     )* *$%
3816   }{}{%
3817     \Hy@Warning{%
3818       Invalid value '\@pdfborderstyle'\MessageBreak
3819       for option 'pdfborderstyle'.\MessageBreak
3820       Option setting is ignored%
3821     }%
3822     \let\@pdfborderstyle\Hy@temp
3823   }%
3824 }
3825 \def\Hy@setpdfborder{%
3826   \ifx\@pdfborder\@empty
3827   \else
3828     /Border[\@pdfborder]%

```

```

3829 \fi
3830 \ifx\@pdfborderstyle\@empty
3831 \else
3832 /BS<<\@pdfborderstyle>>%
3833 \fi
3834 }
3835 \Hy@DefNameKey{pdfpagemode}{%
3836 \do{UseNone}{}%
3837 \do{UseOutlines}{}%
3838 \do{UseThumbs}{}%
3839 \do{FullScreen}{}%
3840 \do{UseOC}{PDF 1.5}%
3841 \do{UseAttachments}{PDF 1.6}%
3842 }
3843 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3844 \do{UseNone}{}%
3845 \do{UseOutlines}{}%
3846 \do{UseThumbs}{}%
3847 \do{FullScreen}{}%
3848 \do{UseOC}{PDF 1.5}%
3849 \do{UseAttachments}{PDF 1.6}%
3850 }
3851 \Hy@DefNameKey{pdfdirection}{%
3852 \do{L2R}{Left to right}%
3853 \do{R2L}{Right to left}%
3854 }
3855 \Hy@DefNameKey{pdfviewarea}{%
3856 \do{MediaBox}{}%
3857 \do{CropBox}{}%
3858 \do{BleedBox}{}%
3859 \do{TrimBox}{}%
3860 \do{ArtBox}{}%
3861 }
3862 \Hy@DefNameKey{pdfviewclip}{%
3863 \do{MediaBox}{}%
3864 \do{CropBox}{}%
3865 \do{BleedBox}{}%
3866 \do{TrimBox}{}%
3867 \do{ArtBox}{}%
3868 }
3869 \Hy@DefNameKey{pdfprintarea}{%
3870 \do{MediaBox}{}%
3871 \do{CropBox}{}%
3872 \do{BleedBox}{}%
3873 \do{TrimBox}{}%
3874 \do{ArtBox}{}%
3875 }
3876 \Hy@DefNameKey{pdfprintclip}{%
3877 \do{MediaBox}{}%
3878 \do{CropBox}{}%
3879 \do{BleedBox}{}%
3880 \do{TrimBox}{}%
3881 \do{ArtBox}{}%
3882 }
3883 \Hy@DefNameKey{pdfprintsampling}{%
3884 \do{AppDefault}{}%
3885 \do{None}{}%

```

```

3886 }
3887 \Hy@DefNameKey{pdfduplex}{%
3888   \do{Simplex}{}%
3889   \do{DuplexFlipShortEdge}{}%
3890   \do{DuplexFlipLongEdge}{}%
3891 }
3892 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3893   \do{true}{}%
3894   \do{false}{}%
3895 }
3896 \define@key{Hyp}{pdfprintpagerange}{%
3897   \def\@pdfprintpagerange{#1}%
3898 }
3899 \Hy@DefNameKey{pdfnumcopies}{%
3900   \do{2}{two copies}%
3901   \do{3}{three copies}%
3902   \do{4}{four copies}%
3903   \do{5}{five copies}%
3904 }

3905 \define@key{Hyp}{pdfusetitle}[true]{%
3906   \Hy@boolkey{pdfusetitle}{#1}%
3907 }
3908 \def\HyXeTeX@CheckUnicode{%
3909   \ifxetex
3910     \ifHy@unicode
3911     \else
3912       \Hy@WarningNoLine{%
3913         XeTeX driver only supports unicode.\MessageBreak
3914         Enabling option 'unicode'%
3915       }%
3916       \kvsetkeys{Hyp}{unicode}%
3917     \fi
3918   \else
3919     \let\HyXeTeX@CheckUnicode\relax
3920   \fi
3921 }
3922 \def\HyPsd@PrerenderUnicode#1{%
3923   \begingroup
3924     \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3925     \else
3926       \sbox0{%
3927         \let\GenericInfo\@gobbletwo
3928         \let\GenericWarning\@gobbletwo
3929         \let\GenericError\@gobblefour
3930         \PrerenderUnicode{#1}%
3931       }%
3932     \fi
3933   \endgroup
3934 }
3935 \define@key{Hyp}{pdftitle}{%
3936   \HyXeTeX@CheckUnicode
3937   \HyPsd@XeTeXBigCharstrue
3938   \HyPsd@PrerenderUnicode{#1}%
3939   \pdfstringdef\@pdftitle{#1}%
3940 }
3941 \define@key{Hyp}{pdfauthor}{%
3942   \HyXeTeX@CheckUnicode

```

```

3943 \HyPsd@XeTeXBigCharstrue
3944 \HyPsd@PrerenderUnicode{#1}%
3945 \pdfstringdef\@pdfauthor{#1}%
3946 }
3947 \define@key{Hyp}{pdfproducer}{%
3948 \HyXeTeX@CheckUnicode
3949 \HyPsd@XeTeXBigCharstrue
3950 \HyPsd@PrerenderUnicode{#1}%
3951 \pdfstringdef\@pdfproducer{#1}%
3952 \ifxetex
3953 \Hy@Warning{%
3954 pdfproducer: %
3955 xdvipdfmx will use its own setting\MessageBreak
3956 instead of the value given%
3957 }%
3958 \else
3959 \def\Hy@temp{hdvipdfm}%
3960 \ifx\Hy@driver\Hy@temp
3961 \Hy@Warning{%
3962 pdfproducer: %
3963 dvipdfm(x) will use its own setting\MessageBreak
3964 instead of the value given%
3965 }%
3966 \fi
3967 \fi
3968 }
3969 \define@key{Hyp}{pdfcreator}{%
3970 \HyXeTeX@CheckUnicode
3971 \HyPsd@XeTeXBigCharstrue
3972 \HyPsd@PrerenderUnicode{#1}%
3973 \pdfstringdef\@pdfcreator{#1}%
3974 }
3975 \define@key{Hyp}{pdfcreationdate}{%
3976 \begingroup
3977 \Hy@unicodetfalse
3978 \pdfstringdef\@pdfcreationdate{#1}%
3979 \endgroup
3980 }
3981 \define@key{Hyp}{pdfmoddate}{%
3982 \begingroup
3983 \Hy@unicodetfalse
3984 \pdfstringdef\@pdfmoddate{#1}%
3985 \endgroup
3986 }
3987 \define@key{Hyp}{pdfsubject}{%
3988 \HyXeTeX@CheckUnicode
3989 \HyPsd@XeTeXBigCharstrue
3990 \HyPsd@PrerenderUnicode{#1}%
3991 \pdfstringdef\@pdfsubject{#1}%
3992 }
3993 \define@key{Hyp}{pdfkeywords}{%
3994 \HyXeTeX@CheckUnicode
3995 \HyPsd@XeTeXBigCharstrue
3996 \HyPsd@PrerenderUnicode{#1}%
3997 \pdfstringdef\@pdfkeywords{#1}%
3998 }
3999 \define@key{Hyp}{pdftrapped}{%

```

```

4000 \lowercase{\edef\Hy@temp{#1}}%
4001 \ifx\Hy@temp\HyInfo@trapped@true
4002 \def\@pdftrapped{True}%
4003 \else
4004 \ifx\Hy@temp\HyInfo@trapped@false
4005 \def\@pdftrapped{False}%
4006 \else
4007 \ifx\Hy@temp\HyInfo@trapped@unknown
4008 \def\@pdftrapped{Unknown}%
4009 \else
4010 \ifx\Hy@temp\@empty
4011 \else
4012 \Hy@Warning{%
4013     Unsupported value '#1'\MessageBreak
4014     for option 'pdftrapped'%
4015 }%
4016 \fi
4017 \def\@pdftrapped{}%
4018 \fi
4019 \fi
4020 \fi
4021 }
4022 \def\HyInfo@trapped@true{true}
4023 \def\HyInfo@trapped@false{false}
4024 \def\HyInfo@trapped@unknown{unknown}
4025 \def\HyInfo@TrappedUnsupported{%
4026 \ifx\@pdftrapped\@empty
4027 \else
4028 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
4029 \gdef\HyInfo@TrappedUnsupported{}%
4030 \fi
4031 }
4032 \define@key{Hyp}{pdfinfo}{%
4033 \kvsetkeys{pdfinfo}{#1}%
4034 }
4035 \def\Hy@temp#1{%
4036 \lowercase{\Hy@temp@A{#1}}{#1}%
4037 }
4038 \def\Hy@temp@A#1#2{%
4039 \define@key{pdfinfo}{#2}{%
4040 \hypersetup{pdf#1={##1}}%
4041 }%
4042 }
4043 \Hy@temp{Title}
4044 \Hy@temp{Author}
4045 \Hy@temp{Keywords}
4046 \Hy@temp{Subject}
4047 \Hy@temp{Creator}
4048 \Hy@temp{Producer}
4049 \Hy@temp{CreationDate}
4050 \Hy@temp{ModDate}
4051 \Hy@temp{Trapped}
4052 \newif\ifHyInfo@AddonUnsupported
4053 \kv@set@family@handler{pdfinfo}{%
4054 \HyInfo@AddonHandler{#1}{#2}%
4055 }
4056 \let\HyInfo@do\relax

```

```

4057 \def\HyInfo@AddonHandler#1#2{%
4058   \ifx\kv@value\relax
4059     \Hy@Warning{%
4060       Option 'pdfinfo': ignoring key '\kv@key' without value%
4061     }%
4062   \else
4063     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
4064     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
4065     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
4066     \ifHyInfo@AddonUnsupported
4067       \Hy@Warning{%
4068         This driver does not support additional\MessageBreak
4069         information entries, therefore\MessageBreak
4070         '\kv@key' is ignored%
4071       }%
4072     \else
4073       \define@key{pdfinfo}{\HyInfo@Key}{%
4074         \HyXeTeX@CheckUnicode
4075         \HyPsd@XeTeXBigCharstrue
4076         \HyPsd@PrerenderUnicode{##1}%
4077         \pdfstringdef\HyInfo@Value{##1}%
4078         \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
4079         \HyInfo@Value
4080       }%
4081     \edef\HyInfo@AddonList{%
4082       \HyInfo@AddonList
4083       \HyInfo@do{\HyInfo@Key}%
4084     }%
4085     \kv@parse@normalized{%
4086       \HyInfo@Key={##2}%
4087     }{%
4088       \kv@processor@default{pdfinfo}%
4089     }%
4090   \fi
4091 \else
4092   \kv@parse@normalized{%
4093     \HyInfo@Key={##2}%
4094   }{%
4095     \kv@processor@default{pdfinfo}%
4096   }%
4097 \fi
4098 \fi
4099 }
4100 \def\HyInfo@GenerateAddons{%
4101   \ifHyInfo@AddonUnsupported
4102     \def\HyInfo@Addons{%
4103       \else
4104         \begingroup
4105         \toks@{%
4106           \def\HyInfo@do##1{%
4107             \EdefEscapeName\HyInfo@Key{##1}%
4108             \edef\x{%
4109               \toks@{%
4110                 \the\toks@
4111                 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
4112               }%
4113             }%

```

```

4114 \x
4115 }%
4116 \HyInfo@AddonList
4117 \edef\x{\endgroup
4118 \def\noexpand\HyInfo@Addons{\the\toks@}%
4119 }%
4120 \x
4121 \fi
4122 }
4123 \let\HyInfo@AddonList\ltx@empty

4124 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
4125 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
4126 \let\setpdfinkmargin\gobble
4127 \def\calculate@pdfview#1 #2\{%
4128 \def\@pdfview{#1}%
4129 \ifx\#2\%
4130 \def\@pdfviewparams{-32768}%
4131 \else
4132 \def\@pdfviewparams{ #2}%
4133 \fi
4134 }
4135 \begingroup\expandafter\expandafter\expandafter\endgroup
4136 \expandafter\ifx\csname numexpr\endcsname\relax
4137 \def\Hy@number#1{%
4138 \expandafter\@firstofone\expandafter{\number#1}%
4139 }%
4140 \else
4141 \def\Hy@number#1{%
4142 \the\numexpr#1\relax
4143 }%
4144 \fi
4145 \define@key{Hyp}{pdfstartpage}{%
4146 \ifx\#1\%
4147 \let\@pdfstartpage\ltx@empty
4148 \else
4149 \edef\@pdfstartpage{\Hy@number{#1}}%
4150 \fi
4151 }%
4152 \define@key{Hyp}{pdfstartview}{%
4153 \ifx\#1\%
4154 \let\@pdfstartview\ltx@empty
4155 \else
4156 \hypercalcbpdef\@pdfstartview{/#1}%
4157 \fi
4158 }
4159 \def\HyPat@NonNegativeReal/{%
4160 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
4161 }
4162 \define@key{Hyp}{pdfremotestartview}{%
4163 \ifx\#1\%
4164 \def\@pdfremotestartview{/Fit}%
4165 \else
4166 \hypercalcbpdef\@pdfremotestartview{#1}%
4167 \edef\@pdfremotestartview{\@pdfremotestartview}%
4168 \Hy@Match\@pdfremotestartview{%
4169 ^{XYZ}?(null|\HyPat@NonNegativeReal/) %
4170 -(null|\HyPat@NonNegativeReal/) %

```

```

4171      (null|\HyPat@NonNegativeReal/)|%
4172      Fit(|B|)%
4173      (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)|%
4174      R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
4175      \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
4176      ))$%
4177      }-}{%
4178      \Hy@Warning{%
4179      Invalid value '\@pdfremotestartview'\MessageBreak
4180      of 'pdfremotestartview'\MessageBreak
4181      is replaced by 'Fit'%
4182      }%
4183      \let\@pdfremotestartview\@empty
4184      }%
4185      \ifx\@pdfremotestartview\@empty
4186      \def\@pdfremotestartview{/Fit}%
4187      \else
4188      \edef\@pdfremotestartview{/ \@pdfremotestartview}%
4189      \fi
4190      \fi
4191      }
4192      \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
4193      \define@key{Hyp}{pdftoolbar}[true]{%
4194      \Hy@boolkey{pdftoolbar}{#1}%
4195      }
4196      \define@key{Hyp}{pdfmenubar}[true]{%
4197      \Hy@boolkey{pdfmenubar}{#1}%
4198      }
4199      \define@key{Hyp}{pdfwindowui}[true]{%
4200      \Hy@boolkey{pdfwindowui}{#1}%
4201      }
4202      \define@key{Hyp}{pdffitwindow}[true]{%
4203      \Hy@boolkey{pdffitwindow}{#1}%
4204      }
4205      \define@key{Hyp}{pdfcenterwindow}[true]{%
4206      \Hy@boolkey{pdfcenterwindow}{#1}%
4207      }
4208      \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
4209      \Hy@boolkey{pdfdisplaydoctitle}{#1}%
4210      }
4211      \define@key{Hyp}{pdfa}[true]{%
4212      \Hy@boolkey{pdfa}{#1}%
4213      }
4214      \define@key{Hyp}{pdfnewwindow}[true]{%
4215      \def\Hy@temp{#1}%
4216      \ifx\Hy@temp\@empty
4217      \Hy@pdfnewwindowsetfalse
4218      \else
4219      \Hy@pdfnewwindowsettrue
4220      \Hy@boolkey{pdfnewwindow}{#1}%
4221      \fi
4222      }
4223      \def\Hy@SetNewWindow{%
4224      \ifHy@pdfnewwindowset
4225      /NewWindow %
4226      \ifHy@pdfnewwindow true\else false\fi
4227      \fi

```



```

4228 }
4229 \Hy@DefNameKey{pdfpagelayout}{%
4230   \do{SinglePage}{}%
4231   \do{OneColumn}{}%
4232   \do{TwoColumnLeft}{}%
4233   \do{TwoColumnRight}{}%
4234   \do{TwoPageLeft}{PDF 1.5}%
4235   \do{TwoPageRight}{PDF 1.5}%
4236 }
4237 \define@key{Hyp}{pdflang}{%
4238   \def\@pdflang{#1}%
4239 }
4240 \define@key{Hyp}{pdfpagelabels}[true]{%
4241   \Hy@boolkey{pdfpagelabels}{#1}%
4242 }
4243 \define@key{Hyp}{pdfescapeform}[true]{%
4244   \Hy@boolkey{pdfescapeform}{#1}%
4245 }

```

Default values:

```

4246 \def\@linkbordercolor{1 0 0}
4247 \def\@urlbordercolor{0 1 1}
4248 \def\@menubordercolor{1 0 0}
4249 \def\@filebordercolor{0 .5 .5}
4250 \def\@runbordercolor{0 .7 .7}
4251 \def\@citebordercolor{0 1 0}
4252 \def\@pdfhighlight{/I}
4253 \let\@pdftitle\ltx@empty
4254 \let\@pdfauthor\ltx@empty
4255 \let\@pdfproducer\relax
4256 \def\@pdfcreator{LaTeX with hyperref package}
4257 \let\@pdfcreationdate\ltx@empty
4258 \let\@pdfmoddate\ltx@empty
4259 \let\@pdfsubject\ltx@empty
4260 \let\@pdfkeywords\ltx@empty
4261 \let\@pdftrapped\ltx@empty
4262 \let\@pdfpagescrop\ltx@empty
4263 \def\@pdfstartview{/Fit}
4264 \def\@pdfremotestartview{/Fit}
4265 \def\@pdfstartpage{1}
4266 \let\@pdfprintpagerange\ltx@empty
4267 \let\@pdflang\ltx@empty
4268 \let\PDF@SetupDoc\@empty
4269 \let\PDF@FinishDoc\@empty
4270 \let\phantomsection\@empty
4271 \let\special@paper\@empty
4272 \def\HyperDestNameFilter#1{#1}
4273 \Hy@AtBeginDocument{%
4274   \begingroup
4275     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4276     \dimen@=\x\relax
4277     \ifdim\dimen@>\z@
4278       \else
4279         \dimen@=11in\relax
4280         \Hy@WarningNoLine{%
4281           Height of page (\expandafter\string\x) %
4282           is invalid (\the\x),\MessageBreak
4283           using 11in%

```

```

4284 }%
4285 \fi
4286 \dimen@=0.99626401\dimen@
4287 \xdef\Hy@pageheight{\strip@pt\dimen@}%
4288 \endgroup
4289 }
4290 \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.

```

4291 \let\hyper@normalise\ExecuteOptions
4292 \let\ExecuteOptions\hypersetup
4293 \Hy@RestoreCatcodes
4294 \InputIfFileExists{hyperref.cfg}{-}{-}
4295 \Hy@SetCatcodes
4296 \let\ExecuteOptions\hyper@normalise
4297 \ifx\Hy@MaybeStopNow\relax
4298 \else
4299 \Hy@stoppedearlytrue
4300 \expandafter\Hy@MaybeStopNow
4301 \fi
4302 \Hy@stoppedearlyfalse

```

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.

```

4303 \SetupKeyvalOptions{family=Hyp}
4304 \DeclareLocalOptions{%
4305   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4306 }

```

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

```

4307 \@ifpackageloaded{tex4ht}{%
4308   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
4309   \PassOptionsToPackage{tex4ht}{hyperref}%
4310 }%
4311 }{-}

4312 \let\ReadBookmarks\relax
4313 \ProcessKeyvalOptions{Hyp}

```

After processing options.

## 15.1 Package `xspace` support

```

4314 \def\Hy@xspace@end{}
4315 \ltx@ifundefined{xspaceaddexceptions}{-}%
4316 \Hy@AtBeginDocument{%
4317   \ltx@ifundefined{xspaceaddexceptions}{-}%
4318 }{-}%
4319 \def\Hy@xspace@end{%
4320   \ltx@gobble{end for xspace}%
4321 }%
4322 \xspaceaddexceptions{%
4323   \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4324 }%
4325 }%
4326 }%
4327 }{-}%

```

```

4328 \def\Hy@xspace@end{%
4329   \ltx@gobble{end for xspace}%
4330 }%
4331 \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4332 }

```

## 15.2 Option draft

```

4333 \Hy@AtBeginDocument{%
4334   \ifHy@draft
4335     \let\hyper@@anchor\@gobble
4336     \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4337     \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4338     \def\hyper@anchorend{\Hy@xspace@end}%
4339     \let\hyper@linkstart\@gobbletwo
4340     \def\hyper@linkend{\Hy@xspace@end}%
4341     \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4342     \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4343     \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4344     \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4345     \let\PDF@SetupDoc\@empty
4346     \let\PDF@FinishDoc\@empty
4347     \let\@fifthoffive\@secondoftwo
4348     \let\@secondoffive\@secondoftwo
4349     \let\ReadBookmarks\relax
4350     \let\WriteBookmarks\relax
4351     \Hy@WarningNoLine{Draft mode on}%
4352   \fi
4353   \Hy@DisableOption{draft}%
4354   \Hy@DisableOption{nolinks}%
4355   \Hy@DisableOption{final}%
4356 }

```

## 15.3 PDF/A

```

4357 \Hy@DisableOption{pdfa}
4358 \ifHy@pdfa
4359   \kvsetkeys{Hyp}{pdfversion=1.4}%
4360   \Hy@DisableOption{pdfversion}%
4361   \def\Hy@Acrobatmenu#1#2{%
4362     \leavevmode
4363     \begingroup
4364       \edef\x{#1}%
4365       \@onelevel@sanitize\x
4366       \ifx\x\Hy@NextPage
4367         \let\y=Y%
4368       \else
4369         \ifx\x\Hy@PrevPage
4370           \let\y=Y%
4371         \else
4372           \ifx\x\Hy@FirstPage
4373             \let\y=Y%
4374           \else
4375             \ifx\x\Hy@LastPage
4376               \let\y=Y%
4377             \else
4378               \let\y=N%
4379             \fi
4380           \fi

```

```

4381 \fi
4382 \fi
4383 \expandafter\endgroup
4384 \ifx\y Y%
4385 \else
4386 \Hy@Error{%
4387 PDF/A: Named action ‘#1’ is not permitted%
4388 }\@ehc
4389 {#2}%
4390 \expandafter\@gobble
4391 \fi
4392 }%
4393 \def\Hy@temp#1{%
4394 \expandafter\def\csname Hy@#1\endcsname{#1}%
4395 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4396 }%
4397 \Hy@temp{NextPage}%
4398 \Hy@temp{PrevPage}%
4399 \Hy@temp{FirstPage}%
4400 \Hy@temp{LastPage}%
4401 \else
4402 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4403 \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.

```

4404 \Hy@nextfalse
4405 \ltx@ifundefined{spanish@sh@}{}{\Hy@nexttrue}
4406 \ltx@ifundefined{galician@sh@}{}{\Hy@nexttrue}
4407 \ltx@ifundefined{estonian@sh@}{}{\Hy@nexttrue}
4408 \ifHy@next
4409 \let\texttilde\~%
4410 \fi

4411 \def\Hy@wrapper@babel#1#2{%
4412 \begingroup
4413 \Hy@safe@activetrue
4414 \set@display@protect
4415 \edef\x{#2}%
4416 \@onelevel@sanitize\x
4417 \toks@{#1}%
4418 \edef\x{\endgroup\the\toks@\x}}%
4419 \x
4420 }
4421 \def\Hy@WrapperDef#1{%
4422 \begingroup
4423 \escapechar=\m@ne
4424 \xdef\Hy@gtemp{%
4425 \expandafter\noexpand\csname HyWrap@string#1\endcsname
4426 }%
4427 \endgroup
4428 \edef#1{%
4429 \noexpand\Hy@wrapper@babel
4430 \expandafter\noexpand\Hy@gtemp
4431 }%

```

```

4432 \expandafter\def\Hy@gtemp
4433 }

4434 \ifHy@hyperfigures
4435 \Hy@Info{Hyper figures ON}%
4436 \else
4437 \Hy@Info{Hyper figures OFF}%
4438 \fi
4439 \ifHy@nesting
4440 \Hy@Info{Link nesting ON}%
4441 \else
4442 \Hy@Info{Link nesting OFF}%
4443 \fi
4444 \ifHy@hyperindex
4445 \Hy@Info{Hyper index ON}%
4446 \else
4447 \Hy@Info{Hyper index OFF}%
4448 \fi
4449 \ifHy@plainpages
4450 \Hy@Info{Plain pages ON}%
4451 \else
4452 \Hy@Info{Plain pages OFF}%
4453 \fi
4454 \ifHy@backref
4455 \Hy@Info{Backreferencing ON}%
4456 \else
4457 \Hy@Info{Backreferencing OFF}%
4458 \fi
4459 \ifHy@typexml
4460 \Hy@AtEndOfPackage{%
4461 \RequirePackage{color}%
4462 \RequirePackage{nameref}[2012/07/28]%
4463 }%
4464 \fi
4465 \Hy@DisableOption{typexml}
4466 \ifHy@implicit
4467 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4468 \else
4469 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4470 \def\MaybeStopEarly{%
4471 \Hy@Message{Stopped early}%
4472 \Hy@AtBeginDocument{%
4473 \PDF@FinishDoc
4474 \gdef\PDF@FinishDoc{}}%
4475 }%
4476 \endinput
4477 }%
4478 \Hy@AtBeginDocument{%
4479 \let\autoref\ref
4480 \let\autopageref\pageref
4481 \ifx\@pdfpagemode\@empty
4482 \gdef\@pdfpagemode{UseNone}%
4483 \fi
4484 \global\Hy@backreffalse
4485 }%
4486 \Hy@AtEndOfPackage{%
4487 \global\let\ReadBookmarks\relax
4488 \global\let\WriteBookmarks\relax

```

```

4489 }%
4490 \fi
4491 \Hy@DisableOption{implicit}

```

#### 15.4.1 Driver loading

```

4492 \Hy@AtEndOfPackage{%
4493   \@ifpackageloaded{tex4ht}{%
4494     \def\Hy@driver{htex4ht}%
4495     \Hy@texhttrue
4496   }%

```

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.

```

4497   \ifx\Hy@driver\@empty
4498   \else
4499     \def\Hy@temp{hpdfTeX}%
4500     \ifpdf
4501       \ifx\Hy@driver\Hy@temp
4502       \else
4503         \Hy@WarningNoLine{%
4504           Wrong driver ‘\Hy@driver.def’;\MessageBreak
4505           pdfTeX is running in PDF mode.\MessageBreak
4506           Forcing driver ‘\Hy@temp.def’%
4507         }%
4508         \let\Hy@driver\Hy@temp
4509       \fi
4510     \else
4511       \ifx\Hy@driver\Hy@temp
4512       \Hy@WarningNoLine{%
4513         Wrong driver ‘\Hy@driver.def’;\MessageBreak
4514         pdfTeX is not running in PDF mode.\MessageBreak
4515         Using default driver%
4516       }%
4517       \let\Hy@driver\@empty
4518     \fi
4519   \fi
4520 \fi
4521 \ifHy@texht
4522 \else
4523   \ifx\Hy@driver\@empty
4524   \else
4525     \def\Hy@temp{hXeTeX}%
4526     \ifXeTeX
4527       \ifx\Hy@driver\Hy@temp
4528       \else
4529         \Hy@WarningNoLine{%
4530           Wrong driver ‘\Hy@driver.def’;\MessageBreak
4531           XeTeX is running.\MessageBreak
4532           Forcing driver ‘\Hy@temp.def’ for XeTeX%
4533         }%
4534         \let\Hy@driver\Hy@temp
4535       \fi
4536     \fi
4537   \fi
4538 \fi
4539 \ifx\Hy@driver\@empty
4540 \else

```

```

4541 \def\Hy@temp{hvtexhtm}%
4542 \ifvtexhtml
4543 \ifx\Hy@driver\Hy@temp
4544 \else
4545 \Hy@WarningNoLine{%
4546   Wrong driver '\Hy@driver.def';\MessageBreak
4547   VTeX is running in HTML mode.\MessageBreak
4548   Forcing driver '\Hy@temp.def"%
4549 }%
4550 \let\Hy@driver\Hy@temp
4551 \fi
4552 \else
4553 \ifx\Hy@driver\Hy@temp
4554 \Hy@WarningNoLine{%
4555   Wrong driver '\Hy@driver.def';\MessageBreak
4556   VTeX is not running in HTML mode.\MessageBreak
4557   Using default driver%
4558 }%
4559 \let\Hy@driver\@empty
4560 \fi
4561 \fi
4562 \fi

```

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

```

4563 \def\HyOpt@DriverType{%
4564 \ifx\Hy@driver\@empty
4565 \def\HyOpt@DriverType{ (autodetected)}%
4566 \providecommand*\Hy@defaultdriver{hypertex}%
4567 \ifpdf
4568 \def\Hy@driver{hpdfTeX}%
4569 \else
4570 \ifxetex
4571 \def\Hy@driver{hxetex}%
4572 \else
4573 \ifvtexhtml
4574 \def\Hy@driver{hvtexhtm}%
4575 \def\MaybeStopEarly{%
4576 \Hy@Message{Stopped early}%
4577 \Hy@AtBeginDocument{%
4578 \PDF@FinishDoc
4579 \gdef\PDF@FinishDoc{}}%
4580 }%
4581 \endinput
4582 }%
4583 \else
4584 \ifvtexpdf
4585 \def\Hy@driver{hvtex}%
4586 \else
4587 \ifvtexps
4588 \def\Hy@driver{hvtex}%
4589 \else
4590 \ifx\HyOpt@DriverFallback\ltx@empty
4591 \let\Hy@driver\Hy@defaultdriver
4592 \def\HyOpt@DriverType{ (default)}%
4593 \else
4594 \begingroup
4595 \toks@\expandafter{\HyOpt@DriverFallback}%
4596 \edef\x{\endgroup

```

```

4597         \noexpand\kvsetkeys{Hyp}{\the\toks@}%
4598     }%
4599     \x
4600     \ifx\Hy@driver\ltx@empty
4601         \let\Hy@driver\Hy@defaultdriver
4602         \def\HyOpt@DriverType{ (default)}%
4603     \else
4604         \def\HyOpt@DriverType{ (fallback)}%
4605     \fi
4606 \fi
4607 \fi
4608 \fi
4609 \fi
4610 \fi
4611 \fi
4612 \ifx\Hy@driver\Hy@defaultdriver
4613     \def\Hy@temp{hdvwind}%
4614     \ifx\Hy@temp\Hy@driver
4615         \kvsetkeys{Hyp}{colorlinks}%
4616         \PassOptionsToPackage{dviwindo}{color}%
4617     \fi
4618 \fi
4619 \fi
4620 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4621 \chardef\Hy@VersionChecked=0 %
4622 \input{\Hy@driver.def}%
4623 \ifcase\Hy@VersionChecked
4624     \Hy@VersionCheck{\Hy@driver.def}%
4625 \fi
4626 \let\@unprocessedoptions\relax
4627 \Hy@RestoreCatcodes
4628 \Hy@DisableOption{tex4ht}%
4629 \Hy@DisableOption{pdftex}%
4630 \Hy@DisableOption{nativepdf}%
4631 \Hy@DisableOption{dvipdfm}%
4632 \Hy@DisableOption{dvipdfmx}%
4633 \Hy@DisableOption{dvipdfmx-outline-open}%
4634 \Hy@DisableOption{pdfmark}%
4635 \Hy@DisableOption{dvips}%
4636 \Hy@DisableOption{hypertext}%
4637 \Hy@DisableOption{vtex}%
4638 \Hy@DisableOption{vtxpdfmark}%
4639 \Hy@DisableOption{dviwindo}%
4640 \Hy@DisableOption{dvipsone}%
4641 \Hy@DisableOption{textures}%
4642 \Hy@DisableOption{latex2html}%
4643 \Hy@DisableOption{ps2pdf}%
4644 \Hy@DisableOption{xetex}%
4645 \Hy@DisableOption{pdfversion}%
4646 }

```

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.

```

4647 \newif\ifHy@DvipdfmxOutlineOpen
4648 \ifxetex
4649     \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4650     \else

```



```

4651 \chardef\SpecialDvipdfmxOutlineOpen\@ne
4652 \Hy@DvipdfmxOutlineOpenttrue
4653 \fi
4654 \fi
4655 \begingroup\expandafter\expandafter\expandafter\endgroup
4656 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4657 \else
4658 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4659 \Hy@DvipdfmxOutlineOpenttrue
4660 \fi
4661 \fi

```

### 15.4.2 Bookmarks

```

4662 \def\WriteBookmarks{0}
4663 \def\@bookmarkopenstatus#1{%
4664 \ifHy@bookmarksopen

```

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

```

4665 \ifnum#1<\expandafter\@firstofone\expandafter
4666 {\number\@bookmarkopenlevel} % explicit space
4667 \else
4668 -%
4669 \fi
4670 \else
4671 -%
4672 \fi
4673 }
4674 \ifHy@bookmarks
4675 \Hy@Info{Bookmarks ON}%
4676 \ifx\@pdfpagemode\@empty
4677 \def\@pdfpagemode{UseOutlines}%
4678 \fi
4679 \else
4680 \let\@bookmarkopenstatus\ltx@gobble
4681 \Hy@Info{Bookmarks OFF}%
4682 \Hy@AtEndOfPackage{%
4683 \global\let\ReadBookmarks\relax
4684 \global\let\WriteBookmarks\relax
4685 }%
4686 \ifx\@pdfpagemode\@empty
4687 \def\@pdfpagemode{UseNone}%
4688 \fi
4689 \fi
4690 \Hy@DisableOption{bookmarks}

```

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

```

4691 \def\Hy@CatcodeWrapper#1{%
4692 \let\Hy@endWrap\ltx@empty
4693 \def\TMP@EnsureCode##1##2{%
4694 \edef\Hy@endWrap{%
4695 \Hy@endWrap
4696 \catcode##1 \the\catcode##1\relax
4697 }%
4698 \catcode##1 ##2\relax
4699 }%
4700 \TMP@EnsureCode{10}{12}% ^^J
4701 \TMP@EnsureCode{33}{12}% !
4702 \TMP@EnsureCode{34}{12}% "

```

```

4703 \TMP@EnsureCode{36}{3}% $ (math)
4704 \TMP@EnsureCode{38}{4}% & (alignment)
4705 \TMP@EnsureCode{39}{12}% '
4706 \TMP@EnsureCode{40}{12}% (
4707 \TMP@EnsureCode{41}{12}% )
4708 \TMP@EnsureCode{42}{12}% *
4709 \TMP@EnsureCode{43}{12}% +
4710 \TMP@EnsureCode{44}{12}% ,
4711 \TMP@EnsureCode{45}{12}% -
4712 \TMP@EnsureCode{46}{12}% .
4713 \TMP@EnsureCode{47}{12}% /
4714 \TMP@EnsureCode{58}{12}% :
4715 \TMP@EnsureCode{59}{12}% ;
4716 \TMP@EnsureCode{60}{12}% <
4717 \TMP@EnsureCode{61}{12}% =
4718 \TMP@EnsureCode{62}{12}% >
4719 \TMP@EnsureCode{63}{12}% ?
4720 \TMP@EnsureCode{91}{12}% [
4721 \TMP@EnsureCode{93}{12}% ]
4722 \TMP@EnsureCode{94}{7}% ^ (superscript)
4723 \TMP@EnsureCode{95}{8}% _ (subscript)
4724 \TMP@EnsureCode{96}{12}% '
4725 \TMP@EnsureCode{124}{12}% |
4726 \TMP@EnsureCode{126}{13}% ~ (active)
4727 #1\relax
4728 \Hy@EndWrap
4729 }

```

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

```

4730 \Hy@AtBeginDocument{%
4731   \ifHy@ocgcolorlinks
4732     \kvsetkeys{Hyp}{colorlinks}%
4733     \ifHy@pdfa
4734       \Hy@Warning{%
4735         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4736         using 'colorlinks' instead of 'ocgcolorlinks'%
4737       }%
4738     \Hy@ocgcolorlinksfalse
4739   \fi
4740 \fi
4741 \ifHy@ocgcolorlinks
4742 \else
4743   \Hy@DisableOption{ocgcolorlinks}%
4744 \fi
4745 \ifHy@colorlinks
4746   \def\@pdfborder{0 0 0}%
4747   \let\@pdfborderstyle\@empty
4748   \ifHy@typexml
4749   \else
4750     \Hy@CatcodeWrapper{%
4751       \RequirePackage{color}%
4752     }%
4753   \fi
4754   \def\Hy@colorlink#1{%
4755     \begingroup
4756     \HyColor@UseColor#1%
4757   }%

```

```

4758 \def\Hy@endcolorlink{\endgroup}%
4759 \Hy@Info{Link coloring ON}%
4760 \else
4761 \ifHy@frenchlinks
4762 \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4763 \def\Hy@endcolorlink{\endgroup}%
4764 \Hy@Info{French linking ON}%
4765 \else
for grouping consistency:
4766 \def\Hy@colorlink#1{\begingroup}%
4767 \def\Hy@endcolorlink{\endgroup}%
4768 \Hy@Info{Link coloring OFF}%
4769 \fi
4770 \fi
4771 \Hy@DisableOption{colorlinks}%
4772 \Hy@DisableOption{frenchlinks}%
4773 \ifHy@texht
4774 \long\def\@firstoffive#1#2#3#4#5{#1}%
4775 \long\def\@secondoffive#1#2#3#4#5{#2}%
4776 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4777 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4778 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4779 \providecommand*\@safe@activetrue{}%
4780 \providecommand*\@safe@activesfalse{}%
4781 \def\T@ref#1{%
4782 \Hy@safe@activetrue
4783 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4784 \Hy@safe@activesfalse
4785 }%
4786 \def\T@pageref#1{%
4787 \Hy@safe@activetrue
4788 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4789 \Hy@safe@activesfalse
4790 }%
4791 \else
4792 \ifHy@typexml
4793 \else
4794 \Hy@CatcodeWrapper{%
4795 \RequirePackage{nameref}[2012/07/28]%
4796 }%
4797 \fi
4798 \fi
4799 \DeclareRobustCommand\ref{%
4800 \@ifstar\@refstar\T@ref
4801 }%
4802 \DeclareRobustCommand\pageref{%
4803 \@ifstar\@pagerefstar\T@pageref
4804 }%
4805 % \@ifclassloaded{memoir}{%
4806 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4807 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4808 % }%
4809 % }\ltx@secondoftwo
4810 % {%
4811 % \DeclareRobustCommand*{\nameref}{%
4812 % \@ifstar\@mem@titlerefno link\@mem@titleref
4813 % }%

```

```

4814 % }{%
4815   \DeclareRobustCommand*{\nameref}{%
4816     \@ifstar\@namerefstar\T@nameref
4817   }%
4818 % }%
4819 }
4820 \Hy@AtBeginDocument{%
4821   \ifHy@texht
4822   \else
4823     \Hy@CatcodeWrapper\ReadBookmarks
4824   \fi
4825 }
4826 \ifHy@backref
4827   \RequirePackage{backref}%
4828 \else
4829   \let\Hy@backout\@gobble
4830 \fi
4831 \Hy@DisableOption{backref}
4832 \Hy@DisableOption{pagebackref}
4833 \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`.

```

4834 \begingroup
4835   \endlinechar=-1 %
4836   \catcode'\^^A=14 %
4837   \catcode'\^^M\active
4838   \catcode'\%\active
4839   \catcode'\#\active
4840   \catcode'\_\active
4841   \catcode'\$\active
4842   \catcode'\&\active
4843   \gdef\hyper@normalise{^^A
4844     \begingroup
4845       \catcode'\^^M\active
4846       \def^^M{ }^^A
4847       \catcode'\%\active
4848       \let%\@percentchar
4849       \let\%\@percentchar
4850       \catcode'\#\active
4851       \def#{\hyper@hash}^^A
4852       \def\#{\hyper@hash}^^A
4853       \@makeother\&^^A
4854       \edef&{\string&}^^A
4855       \edef\&{\string&}^^A
4856       \edef\textunderscore{\string_}^^A
4857       \let\_ \textunderscore
4858       \catcode'\_\active
4859       \let\_ \textunderscore

```

```

4860 \let~\hyper@tilde
4861 \let\~\hyper@tilde
4862 \let\textasciitilde\hyper@tilde
4863 \let\\\@backslashchar
4864 \edef$\string$}^^A
4865 \Hy@safe@activetrue
4866 \hyper@n@rmalise
4867 }^^A
4868 \catcode'\#=6 ^^A
4869 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4870 \gdef\hyper@n@rmalise#1#2{^^A
4871 \def\Hy@tempa{#2}^^A
4872 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4873 \ltx@ReturnAfterElseFi{^^A
4874 \hyper@@normalise{#1}^^A
4875 }^^A
4876 \else
4877 \ltx@ReturnAfterFi{^^A
4878 \hyper@@normalise{#1}{#2}^^A
4879 }^^A
4880 \fi
4881 }^^A
4882 \gdef\hyper@@normalise#1#2{^^A
4883 \edef\Hy@tempa{^^A
4884 \endgroup
4885 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4886 }^^A
4887 \Hy@tempa
4888 }^^A
4889 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4890 #1^^A
4891 \ifx\limits#2\limits
4892 \else
4893 \ltx@ReturnAfterFi{^^A
4894 \Hy@RemovePercentCr #2\@nil
4895 }^^A
4896 \fi
4897 }^^A
4898 \endgroup
4899 \providecommand*\hyper@chars{%
4900 \let\#\hyper@hash
4901 \let\%\@percentchar
4902 \Hy@safe@activetrue
4903 }
4904 \def\hyperlink#1#2{%
4905 \hyper@@link{}{#1}{#2}%
4906 }
4907 \def\Hy@VerboseLinkStart#1#2{%
4908 \ifHy@verbose
4909 \begingroup
4910 \Hy@safe@activetrue
4911 \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4912 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4913 \xdef\Hy@VerboseGlobalTemp{%
4914 \Hy@VerboseGlobalTemp, %
4915 line \the\inputlineno
4916 }%

```

```

4917 \endgroup
4918 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4919 \@onelevel@sanitize\Hy@VerboseLinkInfo
4920 \fi
4921 }

4922 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4923 \def\Hy@VerboseLinkStop{%
4924 \ifHy@verbose
4925 \begingroup
4926 \edef\x{\endgroup
4927 \write\m@ne{%
4928 Package ‘hyperref’ Info: %
4929 End of reference \Hy@VerboseLinkInfo.%
4930 }%
4931 }%
4932 \x
4933 \fi
4934 }

4935 \def\Hy@VerboseAnchor#1{%
4936 \ifHy@verbose
4937 \begingroup
4938 \Hy@safe@activertrue
4939 \Hy@Info{Anchor ‘\HyperDestNameFilter{#1}’}%
4940 \endgroup
4941 \fi
4942 }

4943 \def\Hy@AllowHyphens{%
4944 \relax
4945 \ifhmode
4946 \penalty\@M
4947 \hskip\z@skip
4948 \fi
4949 }

4950 \DeclareRobustCommand*{\href}[1][]{%
4951 \begingroup
4952 \setkeys{href}{#1}%
4953 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4954 }
4955 \def\Hy@href#1{%
4956 \hyper@normalise\href@
4957 }
4958 \begingroup
4959 \catcode'\$=6 %
4960 \catcode'\#=12 %
4961 \gdef\href@\$1{\expandafter\href@split$1##\}%
4962 \gdef\href@split$1##$2##$3\\$4{%
4963 \hyper@@link{$1}{$2}{$3}{$4}%
4964 \endgroup
4965 }%
4966 \endgroup

```

Option ‘page’.

```

4967 \define@key{href}{page}{%
4968 \def\Hy@href@page{#1}%
4969 }
4970 \let\Hy@href@page\@empty

```

```

4971 \newcount\c@Hy@tempcnt
4972 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4973 \def\Hy@MakeRemoteAction{%
4974   \ifx\Hy@href@page\@empty
4975     \def\Hy@href@page{0}%
4976   \else
4977     \setcounter{Hy@tempcnt}{\Hy@href@page}%
4978     \ifnum\c@Hy@tempcnt<\@ne
4979       \Hy@Warning{%
4980         Invalid page number (\theHy@tempcnt)\MessageBreak
4981         for remote PDF file.\MessageBreak
4982         Using page 1%
4983       }%
4984     \def\Hy@href@page{0}%
4985   \else
4986     \global\advance\c@Hy@tempcnt\m@ne
4987     \edef\Hy@href@page{\theHy@tempcnt}%
4988   \fi
4989 \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.

```

4990 \ifx\Hy@href@nextactionraw\@empty
4991 \else
4992   \Hy@pdfnewwindowsettrue
4993   \Hy@pdfnewwindowtrue
4994 \fi
4995 }

```

Option ‘pdfremotestartview’.

```

4996 \define@key{href}{pdfremotestartview}{%
4997   \setkeys{Hyp}{pdfremotestartview={#1}}%
4998 }

```

Option ‘pdfnewwindow’.

```

4999 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
5000 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

5001 \newif\ifHy@href@ismap
5002 \define@key{href}{ismap}[true]{%
5003   \ltx@ifundefined{Hy@href@ismap#1}{%
5004     \Hy@Error{%
5005       Invalid value (#1) for key ‘ismap’.\MessageBreak
5006       Permitted values are ‘true’ or ‘false’.\MessageBreak
5007       Ignoring ‘ismap’%
5008     }\@ehc
5009   }{%
5010     \csname Hy@href@ismap#1\endcsname
5011   }%
5012 }

```

Option ‘nextactionraw’.

```

5013 \let\Hy@href@nextactionraw\@empty
5014 \define@key{href}{nextactionraw}{%
5015   \edef\Hy@href@nextactionraw{#1}%
5016   \ifx\Hy@href@nextactionraw\@empty
5017     \else
5018       \Hy@Match\Hy@href@nextactionraw{%

```

```

5019 ~(\HyPat@ObjRef/|<<.*[/S[ /.+>>|)%
5020 \[( ?\HyPat@ObjRef/|<<.*[/S[ /.+>>)+ ?)]$%
5021 }{}{%
5022 \Hy@Warning{Invalid value for ‘nextactionraw’:\MessageBreak
5023 \Hy@href@nextactionraw\MessageBreak
5024 The action is discarded%
5025 }%
5026 }%
5027 \ifx\Hy@href@nextactionraw\@empty
5028 \else
5029 \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
5030 \fi
5031 \fi
5032 }
5033 \def\HyPat@ObjRef/{.+}

```

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

```

5034 \RequirePackage{url}
5035 \let\HyOrg@url\url
5036 \def\Hurl{\begingroup \Url}
5037 \DeclareRobustCommand*{\nolinkurl}{\hyper@normalise\nolinkurl@}
5038 \def\nolinkurl@#1{\Hurl{#1}}
5039 \DeclareRobustCommand*{\url}{\hyper@normalise\url@}
5040 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
5041 \DeclareRobustCommand*{\hyperimage}{\hyper@normalise\hyper@image}
5042 \providecommand\hyper@image[2]{#2}
5043 \def\hypertarget#1#2{%
5044 \ifHy@nesting
5045 \hyper@@anchor{#1}{#2}%
5046 \else
5047 \hyper@@anchor{#1}{\relax}#2%
5048 \fi
5049 }

```

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

```

5050 \DeclareRobustCommand*{\hyperref}{%
5051 \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
5052 }
5053 \def\Hy@babelnormalise#1[#2]{%
5054 \begingroup
5055 \Hy@safe@activetrue
5056 \edef\Hy@tempa{%
5057 \endgroup
5058 \noexpand#1[{#2}]}%
5059 }%
5060 \Hy@tempa
5061 }
5062 \def\@hyperref{\hyper@normalise\@hyperref}
5063 \def\@hyperref#1#2#3{%
5064 \edef\ref@one{\ifx\\#2\\ \else#2.\fi#3}%
5065 \expandafter\tryhyper@link\ref@one\\{#1}%

```



```

5066 }
5067 \def\tryhyper@link#1\#2{%
5068   \hyper@@link{#2}{#1}%
5069 }

5070 \def\hyperdef{\@ifnextchar[{\label@hyperdef}{\@hyperdef}}
5071 \def\@hyperdef#1#2#3{% category, name, text
5072   \ifx\#1\%
5073     \def\Hy@AnchorName{#2}%
5074   \else
5075     \def\Hy@AnchorName{#1.#2}%
5076   \fi
5077   \ifHy@nesting
5078     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
5079   \else
5080     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
5081   \fi
5082 }

```

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.

```

5083 \def\label@hyperref[#1]{%
5084   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
5085 }%
5086 \def\label@@hyperref#1#2#3{%
5087   \ifx#1\relax
5088     \protect\G@refundefinedtrue
5089     \@latex@warning{%
5090       Hyper reference ‘#2’ on page \thepage \space undefined%
5091     }%
5092     \begingroup
5093       #3%
5094     \endgroup
5095   \else
5096     \hyper@@link{\expandafter\@fifthoffive#1}%
5097     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5098   \fi
5099 }
5100 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5101                               % anchor text
5102   \@bsphack
5103   \ifx\#2\%
5104     \def\Hy@AnchorName{#3}%
5105   \else
5106     \def\Hy@AnchorName{#2.#3}%
5107   \fi
5108   \if@filesw
5109     \protected@write\@auxout{}{%
5110       \string\newlabel{#1}{\Hy@AnchorName}{#3}%
5111     }%
5112   \fi
5113   \@esphack
5114   \ifHy@nesting
5115     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5116   \else
5117     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5118   \fi
5119 }

```

## 16.1 Link box support for XeTeX

```
5120 \newdimen\XeTeXLinkMargin
5121 \setlength{\XeTeXLinkMargin}{2pt}
5122 \ifxetex
5123   \font\XeTeXLink@font=pzdr at 1sp\relax
5124   \newcommand*\XeTeXLink@space{%
5125     \begingroup
5126       \XeTeXLink@font
5127       \@xxxii
5128     \endgroup
5129   }%
5130   \newcommand{\XeTeXLinkBox}[1]{%
5131     \begingroup
5132       \leavevmode
5133       \sbox\z@{#1}%
5134       \begingroup
5135         \dimen@=\dp\z@
5136         \advance\dimen@\XeTeXLinkMargin
5137         \setbox\tw@=\llap{%
5138           \hb@xt@\XeTeXLinkMargin{%
5139             \lower\dimen@\hbox{\XeTeXLink@space}%
5140             \hss
5141           }%
5142         }%
5143         \dp\tw@=\dp\z@
5144         \ht\tw@=\ht\z@
5145         \copy\tw@
5146       \endgroup
5147       \copy\z@
5148       \dimen@=\ht\z@
5149       \advance\dimen@\XeTeXLinkMargin
5150       \setbox\tw@=\rlap{%
5151         \hb@xt@\XeTeXLinkMargin{%
5152           \hss
5153           \raise\dimen@\hbox{\XeTeXLink@space}%
5154         }%
5155       }%
5156       \dp\tw@=\dp\z@
5157       \ht\tw@=\ht\z@
5158       \copy\tw@
5159     \endgroup
5160   }%
5161 \else
5162   \newcommand*\XeTeXLinkBox[1]{%
5163     \begingroup
5164       \leavevmode
5165       \sbox\z@{#1}%
5166       \copy\z@
5167     \endgroup
5168   }%
5169 \fi
```

## 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.

```

5170 \def\hyper@@link{\let\Hy@reserved@a\relax
5171 \ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
5172 }
5173 % #1: type
5174 % #2: URL
5175 % #3: destination name
5176 % #4: text
5177 \def\hyper@link@[#1]#2#3#4{%
5178 \ltx@ifempty{#4}{% link text
5179 \Hy@Warning{Suppressing empty link}%
5180 }{%
5181 \begingroup
5182 \protected@edef\Hy@tempa{#2}%
5183 \ifx\Hy@tempa\ltx@empty
5184 \toks@{%
5185 \endgroup
5186 \hyper@link{#1}%
5187 }%
5188 \else
5189 \toks@{%
5190 \endgroup
5191 \expandafter\hyper@readexternallink#2\{#1}%
5192 }%
5193 \fi
5194 \Hy@safe@activetrue
5195 \edef\Hy@tempa{#3}%
5196 \Hy@safe@activesfalse
5197 \toks@\expandafter{%
5198 \the\expandafter\toks@
5199 \expandafter{\Hy@tempa}{#4}%
5200 }%
5201 \the\toks@
5202 }%
5203 }

```

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.

```

5204 \def\hyper@readexternallink#1\{#2#3#4{%
5205 \begingroup
5206 \let\\\relax
5207 \expandafter\endgroup
5208 \expandafter\@hyper@@readexternallink#1\{#2}{#3}{#4}%
5209 }
5210 \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.

```
5211 \@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
5212 }
```

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

```
5213 \def\@pdftempwordfile{file}%
5214 \def\@pdftempwordrun{run}%
5215 \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:

```
5216 \ifx\\\#6\\\%
5217 \@hyper@linkfile file:#7\\\{#3}{#2}{#7}%
5218 \else
5219 \ifx\\\#4\\\%
5220 \@hyper@linkfile file:#7\\\{#3}{#2}{#7}%
5221 \else
```

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

```
5222 \def\@pdftempa{#4}%
5223 \ifx\@pdftempa\@pdftempwordfile
5224 \@hyper@linkfile#7\\\{#3}{#2}{#7}%
5225 \else
```

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

```
5226 \ifx\@pdftempa\@pdftempwordrun
5227 \ifHy@pdfa
5228 \Hy@Error{%
5229 PDF/A: Launch action is prohibited%
5230 }\@ehc
5231 \begingroup
5232 \leavevmode
5233 #2%
5234 \endgroup
5235 \else
5236 \@hyper@launch#7\\\{#3}{#2}%
5237 \fi
5238 \else
```

otherwise its a URL

```
5239 \hyper@linkurl{#3}{#7\ifx\\\#2\\\else\hyper@hash#2\fi}%
5240 \fi
5241 \fi
5242 \fi
5243 \fi
5244 }
```

By default, turn run: into file:

```
5245 \def\@hyper@launch run:#1\\\#2#3{% filename, anchor text, linkname
5246 \hyper@linkurl{#2}{%
5247 \Hy@linkfileprefix
5248 #1%
5249 \ifx\\\#3\\\%
5250 \else
```

```

5251 \hyper@hash
5252 #3%
5253 \fi
5254 }%
5255 }

```

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

```

5256 \def\@hyper@linkfile file:#1\|#2#3#4{%
5257 %file url,link string, name, original uri
5258 \filename@parse{#1}%
5259 \ifx\filename@ext\relax
5260 \edef\filename@ext{\XR@ext}%
5261 \fi
5262 \def\use@file{\filename@area\filename@base.\filename@ext}%
5263 \Hy@IfStringEndsWith\filename@ext\XR@ext{%
5264 \hyper@linkfile{#2}{\use@file}{#3}%
5265 }{%
5266 \ifx\@baseurl\@empty
5267 \hyper@linkurl{#2}{%
5268 #4\ifx\|#3\|else\hyper@hash#3\fi
5269 }%
5270 \else
5271 \hyper@linkurl{#2}{\use@file\ifx\|#3\|else\hyper@hash#3\fi}%
5272 \fi
5273 }%
5274 }

5275 \def\Hy@IfStringEndsWith#1#2{%
5276 \begingroup
5277 \edef\x{#1}%
5278 \@onelevel@sanitize\x
5279 \edef\x{.\x}%
5280 \edef\y{#2}%
5281 \@onelevel@sanitize\y
5282 \edef\y{.\y}%
5283 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5284 \endgroup
5285 \ifx\relax##2\relax
5286 \expandafter\ltx@secondoftwo
5287 \else
5288 \expandafter\ltx@firstoftwo
5289 \fi
5290 }%
5291 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5292 }

5293 \def\Hy@StringLocalhost{localhost}
5294 \@onelevel@sanitize\Hy@StringLocalhost
5295 \def\Hy@CleanupFile#1{%
5296 \edef#1{#1}%
5297 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5298 }
5299 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5300 \begingroup
5301 \toks@{\endgroup}%
5302 \def\x{#1}%
5303 \ifx\x\@empty
5304 \def\x{#2}%

```

```

5305 \ifx\x\@empty
5306 \toks@{\endgroup\def#5{/#3}}%
5307 \else
5308 \@onelevel@sanitize\x
5309 \ifx\x\Hy@StringLocalhost
5310 \toks@{\endgroup\def#5{/#3}}%
5311 \fi
5312 \fi
5313 \fi
5314 \the\toks@
5315 }

```

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.

```

5316 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5317 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5318 \ifx\#1\%
5319 #2\Hy@Warning{Ignoring empty anchor}%
5320 \else
5321 \def\anchor@spot{#2#3}%
5322 \let\put@me@back\@empty
5323 \ifx\relax#2\relax
5324 \else
5325 \ifHy@nesting
5326 \else
5327 \ifcat a\noexpand#2\relax
5328 \else
5329 \ifcat 0\noexpand#2 \relax
5330 \else
5331 % \typeout{Anchor start is not alphanumeric %
5332 % on input line\the\inputlineno%
5333 % }%
5334 \let\anchor@spot\@empty
5335 \def\put@me@back{#2#3}%
5336 \fi
5337 \fi
5338 \fi
5339 \fi
5340 \ifHy@activeanchor
5341 \anchor@spot
5342 \else
5343 \hyper@anchor{#1}%
5344 \fi
5345 \expandafter\put@me@back
5346 \fi
5347 \let\anchor@spot\@empty
5348 }
5349 \let\anchor@spot\ltx@empty

```

## 18 Option ‘destlabel’

```

5350 \ifHy@destlabel

\hyper@newdestlabel

5351 \def\hyper@newdestlabel#1#2{%
5352   \begingroup
5353   \Hy@safe@activetrue
5354   \edef\x{\endgroup
5355     \noexpand\@newl@bel{HyDL}{#1}{#2}%
5356   }%
5357   \x
5358 }%

\hyper@destlabel@hook

5359 \providecommand*\hyper@destlabel@hook{}%

\Hy@DestRename

5360 \newcommand*\Hy@DestRename[2]{%
5361   \ltx@ifundefined{HyDL!#1}{%
5362     \begingroup
5363     \Hy@safe@activetrue
5364     \edef\dest@name{#1}%
5365     \edef\label@name{#2}%
5366     \hyper@destlabel@hook
5367     \Hy@IsNotEmpty{dest@name}{%
5368       \Hy@IsNotEmpty{label@name}{%
5369         \global\expandafter
5370         \let\csname HyDL!#1\endcsname\ltx@empty
5371         \if@files
5372           \protected@write\@auxout{}{%
5373             \string\hyper@newdestlabel
5374             {#1}%
5375             {\label@name}%
5376           }%
5377         \fi
5378       }%
5379     }%
5380   \endgroup
5381 }{}%
5382 }%

\HyperDestRename

5383 \newcommand*\HyperDestRename[2]{%
5384   \AtBeginDocument{%
5385     \Hy@DestRename{#1}{#2}%
5386   }%
5387 }%
5388 \AtBeginDocument{%
5389   \let\HyperDestRename\Hy@DestRename
5390 }%

\Hy@IsNotEmpty

5391 \def\Hy@IsNotEmpty#1{%
5392   \ltx@ifundefined{#1}\ltx@gobble{%
5393     \expandafter\ifx\csname#1\endcsname\ltx@empty
5394     \expandafter\ltx@gobble
5395   \else
5396     \expandafter\ltx@firstofone

```

```

5397     \fi
5398   }%
5399 }%

5400 \ltx@GlobalAppendToMacro\label@hook{%
5401   \HyperDestRename\@currentHref\label@name
5402 }%

\HyperDestLabelReplace

5403 \def\HyperDestLabelReplace#1{%
5404   \ltx@ifundefined{HyDL@#1}{%
5405     #1%
5406   }{%
5407     \csname HyDL@#1\endcsname
5408   }%
5409 }%

\HyperDestNameFilter

5410 \let\HyperDestNameFilter\HyperDestLabelReplace

5411 \else

\hyper@newdestlabel

5412 \let\hyper@newdestlabel\ltx@gobbletwo

\HyperDestLabelReplace

5413 \let\HyperDestLabelReplace\ltx@firstofone

\HyperDestRename

@gobbletwo

5414 \fi

5415 \Hy@DisableOption{destlabel}

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

5416 \AddLineBeginAux{%
5417   \string\providecommand\string\hyper@newdestlabel[2]{}%
5418 }

```

## 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.

```

5419 \let\htmladding\hyperimage

5420 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5421 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5422 \def\htmlref#1#2{% anchor text, label
5423   \label@hyperref[#{#2}]{#1}%
5424 }

```



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.

```

5425 \def\@@latextohtmlX{%
5426   \let\hhyperref\hyperref
5427   \def\hyperref##1##2##3##4{% anchor text for HTML
5428     % text to print before label in print
5429     % label
5430     % post-label text in print
5431     ##2\ref{##4}##3%
5432   }%
5433 }
```

## 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.

```

5434 \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

```

5435 \def\HyField@NewFlag#1#2{%
5436   \lowercase{\HyField@NewOption{#2}}%
5437   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5438 }
```

`\HyField@NewFlagOnly`

```

5439 \def\HyField@NewFlagOnly#1#2{%
5440   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5441 }
```

`\HyField@NewOption` #1: option name

```

5442 \def\HyField@NewOption#1{%
5443   \expandafter\newif\csname ifFld@#1\endcsname
5444   \define@key{Field}{#1}[true]{%
5445     \lowercase{\Field@boolkey{##1}}{#1}%
5446   }%
5447 }
```

`\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

```
5448 \def\HyField@NewBitsetFlag#1#2#3#4{%
5449   \begingroup
5450   \count@=#4\relax
5451   \advance\count@\m@ne
5452   \def\x##1{%
5453     \endgroup
5454     \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5455     \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
5456       \expandafter\edef\csname HyField@#3@#1\endcsname{%
5457         (\number#4) #2%
5458       }%
5459     \else
5460       \expandafter\edef\csname HyField@#3@#1\endcsname{%
5461         \csname HyField@#3@#1\endcsname
5462         /#2%
5463       }%
5464     \fi
5465   }%
5466   \expandafter\x\expandafter{\the\count@}%
5467 }
```

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

```
5468 \def\HyField@UseFlag#1#2{%
5469   \lowercase{\HyField@@UseFlag{#2}}{#1}%
5470 }
```

\HyField@@UseFlag

```
5471 \def\HyField@@UseFlag#1#2{%
5472   \bitsetSetValue{HyField@#2}{%
5473     \csname HyField@#2@#1\endcsname
5474   }{%
5475     \csname ifFld@#1\endcsname 1\else 0\fi
5476   }%
5477 }
```

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

```
5478 \def\HyField@SetFlag#1#2{%
5479   \lowercase{\HyField@@SetFlag{#2}}{#1}%
5480 }
```

\HyField@@SetFlag

```
5481 \def\HyField@@SetFlag#1#2{%
5482   \bitsetSetValue{HyField@#2}{%
5483     \csname HyField@#2@#1\endcsname
5484   }{1}%
5485 }
```

\HyField@PrintFlags

```
5486 \def\HyField@PrintFlags#1#2{%
5487   \ifHy@verbose
5488     \begingroup
5489     \let\Hy@temp\@empty
5490     \let\MessageBreak\relax
```

```

5491 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5492 \bitsetGetSetBitList{HyField@#1}\do{%
5493 \edef\Hy@temp{%
5494 \Hy@temp
5495 \csname HyField@#1@\x\endcsname\MessageBreak
5496 }%
5497 }%
5498 \edef\x{\endgroup
5499 \noexpand\Hy@Info{%
5500 Field flags: %
5501 \expandafter\ifx\@car#1\@nil S\else/\fi
5502 #1 %
5503 \bitsetGetDec{HyField@#1} %
5504 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5505 \Hy@temp
5506 for #2%
5507 }%
5508 }\x
5509 \fi
5510 }

```

### 20.1.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5511 \HyField@NewFlag{Ff}{ReadOnly}{1}
5512 \HyField@NewFlag{Ff}{Required}{2}
5513 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5514 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5515 \HyField@NewFlag{Ff}{Radio}{16}
5516 \HyField@NewFlag{Ff}{Pushbutton}{17}
5517 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5518 \HyField@NewFlag{Ff}{Multiline}{13}
5519 \HyField@NewFlag{Ff}{Password}{14}
5520 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5521 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5522 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5523 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5524 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5525 \HyField@NewFlag{Ff}{Combo}{18}
5526 \HyField@NewFlag{Ff}{Edit}{19}
5527 \HyField@NewFlag{Ff}{Sort}{20}
5528 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5529 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5530 \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.

```

5531 \newif\ifFld@popdown
5532 \define@key{Field}{popdown}[true]{%
5533 \lowercase{\Field@boolkey{#1}}{popdown}%
5534 }

```

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.

```

5535 \HyField@NewFlag{F}{Invisible}{1}
5536 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5537 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5538 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5539 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5540 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5541 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5542 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5543 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7
5544 \ifHy@pdfa
5545   \def\HyField@PDFAFFlagWarning#1#2{%
5546     \Hy@Warning{%
5547       PDF/A: Annotation flag ‘#1’ must\MessageBreak
5548       be set to ‘#2’%
5549     }%
5550   }%
5551   \Fld@invisiblefalse
5552   \def\Fld@invisibletrue{%
5553     \HyField@PDFAFFlagWarning{invisible}{false}%
5554   }%
5555   \Fld@hiddenfalse
5556   \def\Fld@hiddenttrue{%
5557     \HyField@PDFAFFlagWarning{hidden}{false}%
5558   }%
5559   \Fld@printtrue
5560   \def\Fld@printfalse{%
5561     \HyField@PDFAFFlagWarning{print}{true}%
5562   }%
5563   \Fld@nozoomtrue
5564   \def\Fld@nozoomfalse{%
5565     \HyField@PDFAFFlagWarning{nozoom}{true}%
5566   }%
5567   \Fld@norotatetrue
5568   \def\Fld@norotatefalse{%
5569     \HyField@PDFAFFlagWarning{norotate}{true}%
5570   }%
5571   \Fld@noviewfalse
5572   \def\Fld@noviewtrue{%
5573     \HyField@PDFAFFlagWarning{noview}{false}%
5574   }%
5575 \fi

```

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

```

5576 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5577 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5578 \HyField@NewFlag{Submit}{GetMethod}{4}
5579 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5580 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5581 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5582 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5583 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}

```

```

5584 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5585 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5586 \HyField@NewFlag{Submit}{ExclFKey}{12}
5587 \HyField@NewFlag{Submit}{EmbedForm}{14}

5588 \define@key{Field}{export}{%
5589   \lowercase{\def\Hy@temp{#1}}%
5590   \@ifundefined{Fld@export@\Hy@temp}{%
5591     \@onelevel@sanitize\Hy@temp
5592     \Hy@Error{%
5593       Unknown export format '\Hy@temp'.\MessageBreak
5594       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5595     }}\@ehc
5596   }{%
5597     \let\Fld@export\Hy@temp
5598   }%
5599 }
5600 \def\Fld@export{fdf}
5601 \@namedef{Fld@export@fdf}{0}%
5602 \@namedef{Fld@export@html}{1}%
5603 \@namedef{Fld@export@xfdf}{2}%
5604 \@namedef{Fld@export@pdf}{3}%

```

### 20.1.2 Set submit flags

\HyField@FlagsSubmit

```

5605 \def\HyField@FlagsSubmit{%
5606   \bitsetReset{HyField@Submit}%
5607   \ifcase\@nameuse{Fld@export@\Fld@export} %
5608     % FDF
5609     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5610     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5611     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5612     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5613     \HyField@UseFlag{Submit}{CanonicalFormat}%
5614     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5615     \HyField@UseFlag{Submit}{ExclFKey}%
5616     \HyField@UseFlag{Submit}{EmbedForm}%
5617   \or % HTML
5618     \HyField@SetFlag{Submit}{ExportFormat}%
5619     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5620     \HyField@UseFlag{Submit}{GetMethod}%
5621     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5622     \HyField@UseFlag{Submit}{CanonicalFormat}%
5623   \or % XFDF
5624     \HyField@SetFlag{Submit}{XFDF}%
5625     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5626     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5627     \HyField@UseFlag{Submit}{CanonicalFormat}%
5628   \or % PDF
5629     \HyField@SetFlag{Submit}{SubmitPDF}%
5630     \HyField@UseFlag{Submit}{GetMethod}%
5631   \fi
5632   \HyField@PrintFlags{Submit}{submit button field}%
5633   \bitsetIsEmpty{HyField@Submit}{%
5634     \let\Fld@submitflags\ltx@empty
5635   }{%
5636     \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%

```

```

5637 }%
5638 }

```

### 20.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5639 \def\HyField@FlagsAnnot#1{%
5640   \bitsetReset{HyField@F}%
5641   \HyField@UseFlag{F}{Invisible}%
5642   \HyField@UseFlag{F}{Hidden}%
5643   \HyField@UseFlag{F}{Print}%
5644   \HyField@UseFlag{F}{NoZoom}%
5645   \HyField@UseFlag{F}{NoRotate}%
5646   \HyField@UseFlag{F}{NoView}%
5647   \HyField@UseFlag{F}{Locked}%
5648   \HyField@UseFlag{F}{ToggleNoView}%
5649   \HyField@UseFlag{F}{LockedContents}%
5650   \HyField@PrintFlags{F}{#1}%
5651   \bitsetIsEmpty{HyField@F}{%
5652     \let\Fld@annotflags\ltx@empty
5653   }{%
5654     \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5655   }%
5656 }

```

### 20.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5657 \def\HyField@FlagsPushButton{%
5658   \HyField@FlagsAnnot{push button field}%
5659   \bitsetReset{HyField@Ff}%
5660   \HyField@UseFlag{Ff}{ReadOnly}%
5661   \HyField@UseFlag{Ff}{Required}%
5662   \HyField@UseFlag{Ff}{NoExport}%
5663   \HyField@SetFlag{Ff}{Pushbutton}%
5664   \HyField@PrintFlags{Ff}{push button field}%
5665   \bitsetIsEmpty{HyField@Ff}{%
5666     \let\Fld@flags\ltx@empty
5667   }{%
5668     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5669   }%
5670 }

```

### 20.1.5 Check box field

\HyField@FlagsCheckBox

```

5671 \def\HyField@FlagsCheckBox{%
5672   \HyField@FlagsAnnot{check box field}%
5673   \bitsetReset{HyField@Ff}%
5674   \HyField@UseFlag{Ff}{ReadOnly}%
5675   \HyField@UseFlag{Ff}{Required}%
5676   \HyField@UseFlag{Ff}{NoExport}%
5677   \HyField@PrintFlags{Ff}{check box field}%
5678   \bitsetIsEmpty{HyField@Ff}{%
5679     \let\Fld@flags\ltx@empty
5680   }{%
5681     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%

```

```

5682 }%
5683 }

```

### 20.1.6 Radio button field

\HyField@FlagsRadioButton

```

5684 \def\HyField@FlagsRadioButton{%
5685   \HyField@FlagsAnnot{radio button field}%
5686   \bitsetReset{HyField@Ff}%
5687   \HyField@UseFlag{Ff}{ReadOnly}%
5688   \HyField@UseFlag{Ff}{Required}%
5689   \HyField@UseFlag{Ff}{NoExport}%
5690   \HyField@UseFlag{Ff}{NoToggleToOff}%
5691   \HyField@SetFlag{Ff}{Radio}%
5692   \HyField@UseFlag{Ff}{RadiosInUnison}%
5693   \HyField@PrintFlags{Ff}{radio button field}%
5694   \bitsetIsEmpty{HyField@Ff}{%
5695     \let\Fld@flags\ltx@empty
5696   }{%
5697     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5698   }%
5699 }

```

### 20.1.7 Text fields

\HyField@FlagsText

```

5700 \def\HyField@FlagsText{%
5701   \HyField@FlagsAnnot{text field}%
5702   \bitsetReset{HyField@Ff}%
5703   \HyField@UseFlag{Ff}{ReadOnly}%
5704   \HyField@UseFlag{Ff}{Required}%
5705   \HyField@UseFlag{Ff}{NoExport}%
5706   \HyField@UseFlag{Ff}{Multiline}%
5707   \HyField@UseFlag{Ff}{Password}%
5708   \HyField@UseFlag{Ff}{FileSelect}%
5709   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5710   \HyField@UseFlag{Ff}{DoNotScroll}%
5711   \ifFld@comb
5712     \ifcase0\ifFld@multiline
5713       \else\ifFld@password
5714       \else\ifFld@fileselect
5715       \else 1\fi\fi\fi\relax
5716     \Hy@Error{%
5717       Field option ‘comb’ cannot used together with\MessageBreak
5718       ‘multiline’, ‘password’, or ‘fileselect’%
5719     }\@ehc
5720   \else
5721     \HyField@UseFlag{Ff}{Comb}%
5722   \fi
5723 \fi
5724 \HyField@UseFlag{Ff}{RichText}%
5725 \HyField@PrintFlags{Ff}{text field}%
5726 \bitsetIsEmpty{HyField@Ff}{%
5727   \let\Fld@flags\ltx@empty
5728 }{%
5729   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5730 }%

```

5731 }

### 20.1.8 Choice fields

\HyField@FlagsChoice

```

5732 \def\HyField@FlagsChoice{%
5733   \HyField@FlagsAnnot{choice field}%
5734   \bitsetReset{HyField@Ff}%
5735   \HyField@UseFlag{Ff}{ReadOnly}%
5736   \HyField@UseFlag{Ff}{Required}%
5737   \HyField@UseFlag{Ff}{NoExport}%
5738   \HyField@UseFlag{Ff}{Combo}%
5739   \ifFld@combo
5740     \HyField@UseFlag{Ff}{Edit}%
5741   \fi
5742   \HyField@UseFlag{Ff}{Sort}%
5743   \HyField@UseFlag{Ff}{MultiSelect}%
5744   \ifFld@combo
5745     \ifFld@edit
5746       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5747     \fi
5748   \fi
5749   \HyField@UseFlag{Ff}{CommitOnSelChange}%
5750   \HyField@PrintFlags{Ff}{choice field}%
5751   \bitsetIsEmpty{HyField@Ff}{%
5752     \let\Fld@flags\ltx@empty
5753   }{%
5754     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5755   }%
5756 }
```

## 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.

```

5757 \def\HyField@PDFChoices#1{%
5758   \begingroup
5759   \global\let\Fld@choices\ltx@empty
5760   \let\HyTmp@optlist\ltx@empty
5761   \let\HyTmp@optitem\relax
5762   \count@=0 %
5763   \kv@parse{#1}{%
5764     \Hy@pdfstringdef\kv@key\kv@key
5765     \ifx\kv@value\relax
5766       \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5767         \xdef\Fld@choices{\Fld@choices(\kv@key)(\kv@key)}%
5768       \else
5769         \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5770       \fi
5771     \else
5772       \Hy@pdfstringdef\kv@value\kv@value
5773       \xdef\Fld@choices{\Fld@choices(\kv@value)(\kv@key)}%
5774     \fi
5775   \edef\HyTmp@optlist{%
```



```

5776 \HyTmp@optlist
5777 \HyTmp@optitem{\the\count@}{\kv@key}0%
5778 }%
5779 \advance\count@ by 1 %
5780 \@gobbletwo
5781 }%
5782 \xdef\Fld@choices{/Opt{\Fld@choices}}%
5783 \ifFld@multiselect
5784 \HyField@@PDFChoices{DV}\Fld@default
5785 \HyField@@PDFChoices{V}\Fld@value
5786 \else
5787 \ifx\Fld@default\relax
5788 \else
5789 \pdfstringdef\Hy@gtemp\Fld@default
5790 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5791 \fi
5792 \ifx\Fld@value\relax
5793 \else
5794 \pdfstringdef\Hy@gtemp\Fld@value
5795 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5796 \fi
5797 \fi
5798 \endgroup
5799 }

```

\HyField@@PDFChoices

```

5800 \def\HyField@@PDFChoices#1#2{%
5801 \ifx#2\relax
5802 \else
5803 \count@=0 %
5804 \def\HyTmp@optitem##1##2##3{%
5805 \def\HyTmp@key{##2}%
5806 \ifx\HyTmp@key\Hy@gtemp
5807 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5808 \HyTmp@optlist
5809 \HyTmp@optitem{##1}{##2}1%
5810 }%
5811 \let\HyTmp@found=Y%
5812 \else
5813 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5814 \HyTmp@optlist
5815 \HyTmp@optitem{##1}{##2}##3%
5816 }%
5817 \fi
5818 }%
5819 \expandafter\comma@parse\expandafter{#2}{%
5820 \pdfstringdef\Hy@gtemp\comma@entry
5821 \let\HyTmp@found=N %
5822 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5823 \HyTmp@optlist
5824 \ifx\HyTmp@found Y%
5825 \advance\count@ by 1 %
5826 \else
5827 \@onelevel@sanitize\comma@entry
5828 \PackageWarning{hyperref}{%
5829 \string\ChoiceBox: Ignoring value '\comma@entry',%
5830 \MessageBreak
5831 it cannot be found in the choices%

```

```

5832     }%
5833     \fi
5834     \@gobble
5835 }%
5836 \def\HyTmp@optitem##1##2##3{%
5837     \ifnum##3=1 %
5838         (##2)%
5839     \fi
5840 }%
5841 \ifcase\count@
5842 \or
5843     \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5844 \else
5845     \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5846     \ifx#1V%
5847         \def\HyTmp@optitem##1##2##3{%
5848             \ifnum##3=1 %
5849                 \@firstofone{ ##1}%
5850             \fi
5851         }%
5852         \edef\HyTmp@optlist{\HyTmp@optlist}%
5853         \xdef\Fld@choices{%
5854             \Fld@choices
5855             /I[\expandafter\@firstofone\HyTmp@optlist]%
5856         }%
5857     \fi
5858 \fi
5859 \fi
5860 }

```

## 20.3 Forms

\HyField@SetKeys

```

5861 \def\HyField@SetKeys{%
5862     \kvsetkeys{Field}%
5863 }

5864 \newif\ifFld@checked
5865 \newif\ifFld@disabled
5866 \Fld@checkedfalse
5867 \Fld@disabledfalse
5868 \newcount\Fld@menulength
5869 \newdimen\Field@Width
5870 \newdimen\Fld@charsize
5871 \Fld@charsize=10\p@
5872 \def\Fld@maxlen{0}
5873 \def\Fld@align{0}
5874 \def\Fld@color{0 0 0 rg}
5875 \def\Fld@bcolor{1 1 1}
5876 \def\Fld@bordercolor{1 0 0}
5877 \def\Fld@bordersep{1\p@}
5878 \def\Fld@borderwidth{1}
5879 \def\Fld@borderstyle{S}
5880 \def\Fld@cbsymbol{4}
5881 \def\Fld@radiosymbol{H}
5882 \def\Fld@rotation{0}
5883 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}

```

```

5884 \def\endForm{\@endForm}
5885 \newif\ifForm@html
5886 \Form@htmlfalse
5887 \def\Form@boolkey#1#2{%
5888   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5889 }
5890 \define@key{Form}{action}{%
5891   \hyper@normalise\Hy@DefFormAction{#1}%
5892 }
5893 \def\Hy@DefFormAction{\def\Form@action}
5894 \def\enc@@html{html}
5895 \define@key{Form}{encoding}{%
5896   \def\Hy@tempa{#1}%
5897   \ifx\Hy@tempa\enc@@html
5898     \Form@htmltrue
5899     \def\Fld@export{html}%
5900   \else
5901     \Hy@Warning{%
5902       Form 'encoding' key with \MessageBreak
5903       unknown value '#1'%
5904     }%
5905     \Form@htmlfalse
5906   \fi
5907 }
5908 \define@key{Form}{method}{%
5909   \lowercase{\def\Hy@temp{#1}}%
5910   \@ifundefined{Form@method@\Hy@temp}{%
5911     \@onelevel@sanitize\Hy@temp
5912     \Hy@Error{%
5913       Unknown method '\Hy@temp'.\MessageBreak
5914       Known values are 'post' and 'get'%
5915     }\@ehc
5916   }{%
5917     \let\Form@method\Hy@temp
5918     \ifcase\@nameuse{Form@method@\Hy@temp} %
5919       \Fld@getmethodfalse
5920     \else
5921       \Fld@getmethodtrue
5922     \fi
5923   }%
5924 }
5925 \def\Form@method{}
5926 \@namedef{Form@method@post}{0}
5927 \@namedef{Form@method@get}{1}
5928 \newif\ifHyField@NeedAppearances
5929 \def\HyField@NeedAppearancesfalse{%
5930   \global\let\ifHyField@NeedAppearances\iffalse
5931 }
5932 \def\HyField@NeedAppearancetrue{%
5933   \global\let\ifHyField@NeedAppearances\iftrue
5934 }
5935 \HyField@NeedAppearancetrue
5936 \define@key{Form}{NeedAppearances}[true]{%
5937   \edef\Hy@tempa{#1}%
5938   \ifx\Hy@tempa\Hy@true
5939     \HyField@NeedAppearancetrue
5940   \else

```

```

5941 \ifx\Hy@tempa\Hy@false
5942 \HyField@NeedAppearancesfalse
5943 \else
5944 \Hy@Error{%
5945 Unexpected value '\Hy@tempa'\MessageBreak
5946 of option 'NeedAppearances' instead of\MessageBreak
5947 'true' or 'false'%
5948 }\@ehc
5949 \fi
5950 \fi
5951 }
5952 \def\Field@boolkey#1#2{%
5953 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5954 }
5955 \ifHy@texht
5956 \newtoks\Field@toks
5957 \Field@toks={ }%
5958 \def\Field@addtoks#1#2{%
5959 \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5960 \@processme
5961 }%
5962 \else
5963 \def\Hy@WarnHTMLFieldOption#1{%
5964 \Hy@Warning{%
5965 HTML field option '#1'\MessageBreak
5966 is ignored%
5967 }%
5968 }%
5969 \fi
5970 \def\Fld@checkequals#1=#2=#3\\{%
5971 \def\@currDisplay{#1}%
5972 \ifx\\#2\\%
5973 \def\@currValue{#1}%
5974 \else
5975 \def\@currValue{#2}%
5976 \fi
5977 }
5978 \define@key{Field}{loc}{%
5979 \def\Fld@loc{#1}%
5980 }
5981 \define@key{Field}{checked}[true]{%
5982 \lowercase{\Field@boolkey{#1}}{checked}%
5983 }
5984 \define@key{Field}{disabled}[true]{%
5985 \lowercase{\Field@boolkey{#1}}{disabled}%
5986 }
5987 \ifHy@texht
5988 \define@key{Field}{accesskey}{%
5989 \Field@addtoks{accesskey}{#1}%
5990 }%
5991 \define@key{Field}{tabkey}{%
5992 \Field@addtoks{tabkey}{#1}%
5993 }%
5994 \else
5995 \define@key{Field}{accesskey}{%
5996 \Hy@WarnHTMLFieldOption{accesskey}%
5997 }%

```

```

5998 \define@key{Field}{tabkey}{%
5999   \Hy@WarnHTMLFieldOption{tabkey}%
6000 }%
6001 \fi
6002 \define@key{Field}{name}{%
6003   \def\Fld@name{#1}%
6004 }
6005 \let\Fld@altname\relax
6006 \define@key{Field}{altname}{%
6007   \def\Fld@altname{#1}%
6008 }
6009 \let\Fld@mappingname\relax
6010 \define@key{Field}{mappingname}{%
6011   \def\Fld@mappingname{#1}%
6012 }
6013 \define@key{Field}{width}{%
6014   \def\Fld@width{#1}%
6015   \Field@Width#1\setbox0=\hbox{m}%
6016 }
6017 \define@key{Field}{maxlen}{%
6018   \def\Fld@maxlen{#1}%
6019 }
6020 \define@key{Field}{menulength}{%
6021   \Fld@menulength=#1\relax
6022 }
6023 \define@key{Field}{height}{%
6024   \def\Fld@height{#1}%
6025 }
6026 \define@key{Field}{charsize}{%
6027   \setlength{\Fld@charsize}{#1}%
6028 }
6029 \define@key{Field}{borderwidth}{%
6030   \Hy@defaultbp\Fld@borderwidth{#1}%
6031 }
6032 \def\Hy@defaultbp#1#2{%
6033   \begingroup
6034   \afterassignment\Hy@defaultbpAux
6035   \dimen@=#2bp\relax{#1}{#2}%
6036 }
6037 \begingroup\expandafter\expandafter\expandafter\endgroup
6038 \expandafter\ifx\csname dimexpr\endcsname\relax
6039   \def\Hy@defaultbpAux#1\relax#2#3{%
6040     \ifx!#1!%
6041       \endgroup
6042       \def#2{#3}%
6043     \else
6044       \dimen@=.99626\dimen@
6045       \edef\x{\endgroup
6046         \def\noexpand#2{%
6047           \strip@pt\dimen@
6048         }%
6049       }\x
6050     \fi
6051   }%
6052 \else
6053   \def\Hy@defaultbpAux#1\relax#2#3{%
6054     \ifx!#1!%

```

```

6055 \endgroup
6056 \def#2{#3}%
6057 \else
6058 \edef\x{\endgroup
6059 \def\noexpand#2{%
6060 \strip@pt\dimexpr\dimen@*800/803\relax
6061 }%
6062 }\x
6063 \fi
6064 }%
6065 \fi
6066 \define@key{Field}{borderstyle}{%
6067 \let\Hy@temp\Fld@borderstyle
6068 \def\Fld@borderstyle{#1}%
6069 \Hy@Match\Fld@borderstyle{%
6070 ~[SDBIU]$%
6071 }~}{%
6072 \Hy@Warning{%
6073 Invalid value '\@pdfborderstyle'\MessageBreak
6074 for option 'pdfborderstyle'. Valid values:\MessageBreak
6075 \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
6076 \space\space I (Inset), U (Underline)\MessageBreak
6077 Option setting is ignored%
6078 }%
6079 \let\Fld@borderstyle\Hy@temp
6080 }%
6081 }
6082 \define@key{Field}{bordersep}{%
6083 \def\Fld@bordersep{#1}%
6084 }
6085 \define@key{Field}{default}{%
6086 \def\Fld@default{#1}%
6087 }
6088 \define@key{Field}{align}{%
6089 \def\Fld@align{#1}%
6090 }
6091 \define@key{Field}{value}{%
6092 \def\Fld@value{#1}%
6093 }
6094 \define@key{Field}{checkboxsymbol}{%
6095 \Fld@DingDef\Fld@cbsymbol{#1}%
6096 }
6097 \define@key{Field}{radiosymbol}{%
6098 \Fld@DingDef\Fld@radiosymbol{#1}%
6099 }
6100 \def\Fld@DingDef#1#2{%
6101 \let\Fld@temp\ltx@empty
6102 \Fld@@DingDef#2\ding{~}\@nil
6103 \let#1\Fld@temp
6104 }
6105 \def\Fld@@DingDef#1\ding#2#3\@nil{%
6106 \expandafter\def\expandafter\Fld@temp\expandafter{%
6107 \Fld@temp
6108 #1%
6109 }%
6110 \ifx\#3\%
6111 \expandafter\@gobble

```

```

6112 \else
6113 \begingroup
6114 \lccode'0=#2\relax
6115 \lowercase{\endgroup
6116 \expandafter\def\expandafter\Fld@temp\expandafter{%
6117 \Fld@temp
6118 0%
6119 }%
6120 }%
6121 \expandafter\@firstofone
6122 \fi
6123 {%
6124 \Fld@@DingDef#3\@nil
6125 }%
6126 }

6127 \define@key{Field}{rotation}{%
6128 \def\Fld@rotation{#1}%
6129 }

6130 \define@key{Field}{backgroundcolor}{%
6131 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6132 }
6133 \define@key{Field}{bordercolor}{%
6134 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6135 }
6136 \define@key{Field}{color}{%
6137 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6138 }

6139 \let\Fld@onclick@code\ltx@empty
6140 \let\Fld@format@code\ltx@empty
6141 \let\Fld@validate@code\ltx@empty
6142 \let\Fld@calculate@code\ltx@empty
6143 \let\Fld@keystroke@code\ltx@empty
6144 \let\Fld@onfocus@code\ltx@empty
6145 \let\Fld@onblur@code\ltx@empty
6146 \let\Fld@onmousedown@code\ltx@empty
6147 \let\Fld@onmouseup@code\ltx@empty
6148 \let\Fld@onenter@code\ltx@empty
6149 \let\Fld@onexit@code\ltx@empty
6150 \def\Hy@temp#1{%
6151 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
6152 }
6153 \def\Hy@@temp#1#2{%
6154 \ifHy@pdfa
6155 \define@key{Field}{#2}{%
6156 \Hy@Error{%
6157 PDF/A: Additional action '#2' is prohibited%
6158 } \@ehc
6159 }%
6160 \else
6161 \define@key{Field}{#2}{%
6162 \def#1{##1}%
6163 }%
6164 \fi
6165 }
6166 \Hy@temp{keystroke}
6167 \Hy@temp{format}

```

```

6168 \Hy@temp{validate}
6169 \Hy@temp{calculate}
6170 \Hy@temp{onfocus}
6171 \Hy@temp{onblur}
6172 \Hy@temp{onenter}
6173 \Hy@temp{onexit}
6174 \ifHy@texht
6175   \def\Hy@temp#1{%
6176     \define@key{Field}{#1}{%
6177       \Field@addtoks{#1}{##1}%
6178     }%
6179   }%
6180 \else
6181   \def\Hy@temp#1{%
6182     \define@key{Field}{#1}{%
6183       \Hy@WarnHTMLFieldOption{#1}%
6184     }%
6185   }%
6186 \fi
6187 \Hy@temp{ondblclick}
6188 \Hy@temp{onmousedown}
6189 \Hy@temp{onmouseup}
6190 \Hy@temp{onmouseover}
6191 \Hy@temp{onmousemove}
6192 \Hy@temp{onmouseout}
6193 \Hy@temp{onkeydown}
6194 \Hy@temp{onkeyup}
6195 \Hy@temp{onselect}
6196 \Hy@temp{onchange}
6197 \Hy@temp{onkeypress}
6198 \ifHy@texht
6199   \define@key{Field}{onclick}{%
6200     \Field@addtoks{onclick}{#1}%
6201   }%
6202 \else
6203   \ifHy@pdfa
6204     \define@key{Field}{onclick}{%
6205       \Hy@Error{%
6206         PDF/A: Action 'onclick' is prohibited%
6207       }\@ehc
6208     }%
6209   \else
6210     \define@key{Field}{onclick}{%
6211       \def\Fld@onclick@code{#1}%
6212     }%
6213   \fi
6214 \fi
6215 \DeclareRobustCommand\TextField{%
6216   \@ifnextchar[{\@TextField}{\@TextField[]}%
6217 }
6218 \DeclareRobustCommand\ChoiceMenu{%
6219   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6220 }
6221 \DeclareRobustCommand\CheckBox{%
6222   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6223 }
6224 \DeclareRobustCommand\PushButton{%

```



```

6225 \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6226 }
6227 \DeclareRobustCommand\Gauge{%
6228 \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6229 }
6230 \DeclareRobustCommand\Submit{%
6231 \@ifnextchar[{\@Submit}{\@Submit[]}%
6232 }
6233 \DeclareRobustCommand\Reset{%
6234 \@ifnextchar[{\@Reset}{\@Reset[]}%
6235 }
6236 \def\LayoutTextField#1#2{% label, field
6237 #1 #2%
6238 }
6239 \def\LayoutChoiceField#1#2{% label, field
6240 #1 #2%
6241 }
6242 \def\LayoutCheckField#1#2{% label, field
6243 #1 #2%
6244 }
6245 \def\LayoutPushButtonField#1{% button
6246 #1%
6247 }
6248 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6249 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6250 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6251 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6252 \def\MakeButtonField#1{%
6253 \sbox0{%
6254 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6255 }%
6256 \@tempdima\ht0 %
6257 \advance\@tempdima by \Fld@borderwidth bp %
6258 \advance\@tempdima by \Fld@borderwidth bp %
6259 \ht0\@tempdima
6260 \@tempdima\dp0 %
6261 \advance\@tempdima by \Fld@borderwidth bp %
6262 \advance\@tempdima by \Fld@borderwidth bp %
6263 \dp0\@tempdima
6264 \box0\relax
6265 }
6266 \def\DefaultHeightofSubmit{14pt}
6267 \def\DefaultWidthofSubmit{2cm}
6268 \def\DefaultHeightofReset{14pt}
6269 \def\DefaultWidthofReset{2cm}
6270 \def\DefaultHeightofCheckBox{\baselineskip}
6271 \def\DefaultWidthofCheckBox{\baselineskip}
6272 \def\DefaultHeightofChoiceMenu{\baselineskip}
6273 \def\DefaultWidthofChoiceMenu{\baselineskip}
6274 \def\DefaultHeightofText{\baselineskip}
6275 \def\DefaultHeightofTextMultiline{4\baselineskip}
6276 \def\DefaultWidthofText{3cm}
6277 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6278 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6279 \def\DefaultOptionsofPushButton{print}
6280 \def\DefaultOptionsofCheckBox{print}
6281 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```
6282 \def\DefaultOptionsofListBox{print}
6283 \def\DefaultOptionsofComboBox{print,edit,sort}
6284 \def\DefaultOptionsofPopdownBox{print}
6285 \def\DefaultOptionsofRadio{print,notoggletooff}
```

## 21 Setup

```
6286 \ifHy@hyperfigures
6287 \Hy@Info{Hyper figures ON}%
6288 \else
6289 \Hy@Info{Hyper figures OFF}%
6290 \fi
6291 \ifHy@nesting
6292 \Hy@Info{Link nesting ON}%
6293 \else
6294 \Hy@Info{Link nesting OFF}%
6295 \fi
6296 \ifHy@hyperindex
6297 \Hy@Info{Hyper index ON}%
6298 \else
6299 \Hy@Info{Hyper index OFF}%
6300 \fi
6301 \ifHy@backref
6302 \Hy@Info{backreferencing ON}%
6303 \else
6304 \Hy@Info{backreferencing OFF}%
6305 \fi
6306 \ifHy@colorlinks
6307 \Hy@Info{Link coloring ON}%
6308 \else
6309 \Hy@Info{Link coloring OFF}%
6310 \fi
6311 \ifHy@ocgcolorlinks
6312 \Hy@Info{Link coloring with OCG ON}%
6313 \else
6314 \Hy@Info{Link coloring with OCG OFF}%
6315 \fi
6316 \ifHy@pdfa
6317 \Hy@Info{PDF/A mode ON}%
6318 \else
6319 \Hy@Info{PDF/A mode OFF}%
6320 \fi
```

## 22 Low-level utility macros

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

```
6321 \edef\hyper@hash{\string#}
6322 \edef\hyper@tilde{\string~}
6323 \edef\hyper@quote{\string"}
```

Support \label before \begin{document}.

```
6324 \def\@currentHref{Doc-Start}
6325 \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.

```

6326 \Hy@AtBeginDocument{%
6327   \Hy@pdfstringtrue
6328   \PDF@SetupDoc
6329   \let\PDF@SetupDoc\@empty
6330   \Hy@DisableOption{pdfpagescrop}%
6331   \Hy@DisableOption{pdfpagemode}%
6332   \Hy@DisableOption{pdfnonfullscreenpagemode}%
6333   \Hy@DisableOption{pdfdirection}%
6334   \Hy@DisableOption{pdfviewarea}%
6335   \Hy@DisableOption{pdfviewclip}%
6336   \Hy@DisableOption{pdfprintarea}%
6337   \Hy@DisableOption{pdfprintclip}%
6338   \Hy@DisableOption{pdfprintsclaling}%
6339   \Hy@DisableOption{pdfduplex}%
6340   \Hy@DisableOption{pdfpicktraybypdfsize}%
6341   \Hy@DisableOption{pdfprintpagerange}%
6342   \Hy@DisableOption{pdfnumcopies}%
6343   \Hy@DisableOption{pdfstartview}%
6344   \Hy@DisableOption{pdfstartpage}%
6345   \Hy@DisableOption{pdftoolbar}%
6346   \Hy@DisableOption{pdfmenubar}%
6347   \Hy@DisableOption{pdfwindowui}%
6348   \Hy@DisableOption{pdfitwindow}%
6349   \Hy@DisableOption{pdfcenterwindow}%
6350   \Hy@DisableOption{pdfdisplaydoctitle}%
6351   \Hy@DisableOption{pdfpagelayout}%
6352   \Hy@DisableOption{pdflang}%
6353   \Hy@DisableOption{baseurl}%
6354   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
6355   \Hy@pdfstringfalse
6356 }

```

Ignore star from referencing macros:

```

6357 \LetLtxMacro\NoHy@OrgRef\ref
6358 \DeclareRobustCommand*{\ref}{%
6359   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6360 }
6361 \LetLtxMacro\NoHy@OrgPageRef\pageref
6362 \DeclareRobustCommand*{\pageref}{%
6363   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6364 }

```

## 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.

```

6365 \def\NoHyper{%
6366   \def\hyper@link@{##1}##2##3##4{##4\Hy@xspace@end}%
6367   \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6368   \global\let\hyper@livelink\hyper@link
6369   \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6370   \let\hyper@anchor\ltx@gobble

```

```

6371 \let\hyper@anchorstart\ltx@gobble
6372 \def\hyper@anchorend{\Hy@xspace@end}%
6373 \let\hyper@linkstart\ltx@gobbletwo
6374 \def\hyper@linkend{\Hy@xspace@end}%
6375 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6376 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6377 \let\Hy@backout\@gobble
6378 }
6379 \def\stop@hyper{%
6380 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6381 \let\Hy@backout\@gobble
6382 \let\hyper@@anchor\ltx@gobble
6383 \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6384 \let\hyper@anchor\ltx@gobble
6385 \let\hyper@anchorstart\ltx@gobble
6386 \def\hyper@anchorend{\Hy@xspace@end}%
6387 \let\hyper@linkstart\ltx@gobbletwo
6388 \def\hyper@linkend{\Hy@xspace@end}%
6389 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6390 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6391 }
6392 \def\endNoHyper{%
6393 \global\let\hyper@link\hyper@livelink
6394 }
6395 \end{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 commands, but it would also be useful with people using normal hyperref, who really do not want the package loaded at all.

Some low-level commands:

```

6396 \*nohyperref
6397 \RequirePackage{letltxmacro}[2008/06/13]
6398 \let\hyper@@anchor\@gobble
6399 \def\hyper@link##1##2##3{##3}%
6400 \let\hyper@anchorstart\@gobble
6401 \let\hyper@anchorend\@empty
6402 \let\hyper@linkstart\@gobbletwo
6403 \let\hyper@linkend\@empty
6404 \def\hyper@linkurl##1##2{##1}%
6405 \def\hyper@linkfile##1##2##3{##1}%
6406 \def\hyper@link@[##1]##2##3{##3}%
6407 \let\PDF@SetupDoc\@empty
6408 \let\PDF@FinishDoc\@empty
6409 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6410 \def\Acrobatmenu#1##2{\leavevmode#2}
6411 \let\pdfstringdefDisableCommands\@gobbletwo
6412 \let\texorpdfstring\@firstoftwo
6413 \let\pdfbookmark\@undefined
6414 \newcommand\pdfbookmark[3][]{ }
6415 \let\phantomsection\@empty

```

```

6416 \let\hypersetup\@gobble
6417 \let\hyperbaseurl\@gobble
6418 \newcommand*{\href}[3][{}]{#3}
6419 \let\hyperdef\@gobbletwo
6420 \let\hyperlink\@gobble
6421 \let\hypertarget\@gobble
6422 \def\hyperref{%
6423   \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6424 }
6425 \long\def\@gobbleopt[#1]{#1}
6426 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

6427 \LetLtxMacro\NoHy@OrgRef\ref
6428 \DeclareRobustCommand*{\ref}{%
6429   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6430 }
6431 \LetLtxMacro\NoHy@OrgPageRef\pageref
6432 \DeclareRobustCommand*{\pageref}{%
6433   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6434 }
6435 \</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}`

```

6436 \<{*package}
6437 \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.

```

6438 \if@filesw
6439   \ifHy@typexml
6440     \immediate\closeout\@mainaux
6441     \immediate\openout\@mainaux\jobname.aux\relax
6442     \immediate\write\@auxout{<relaxxml>\relax}%
6443   \fi
6444   \immediate\write\@auxout{%
6445     \string\providecommand\string\HyperFirstAtBeginDocument{%
6446       \string\AtBeginDocument}^^J%
6447     \string\HyperFirstAtBeginDocument{%
6448       \string\ifx\string\hyper@anchor\string\@undefined^^J%
6449       \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6450       \string\gdef\string\contentsline%
6451         \string#1\string#2\string#3\string#4{%
6452         \string\oldcontentsline%
6453         {\string#1}{\string#2}{\string#3}}^^J%
6454       \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6455       \string\gdef\string\newlabel\string#1\string#2{%
6456       \string\newlabelxx{\string#1}\string#2}^^J%
6457       \string\gdef\string\newlabelxx%
6458       \string#1\string#2\string#3\string#4\string#5\string#6{%
6459       \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.

```

6460      \string\AtEndDocument{%
6461      \string\ifx\string\hyper@anchor\string\@undefined^^J%
6462      \string\let\string\contentsline\string\oldcontentsline^^J%
6463      \string\let\string\newlabel\string\oldnewlabel^^J%
6464      \string\fi%
6465      }^^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.

```

6466      \string\fi%
6467      }^^J%
6468      \string\global\string\let\string\hyper@last\relax^^J%
6469      \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6470      }%
6471      \fi
6472      \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.

```

6473      \ifx\hyper@last\@undefined
6474      \def\@starttoc#1{%
6475      \begingroup
6476      \makeatletter
6477      \ltx@ifpackageloaded{parskip}{\parskip\z@}{}%
6478      \IfFileExists{\jobname.#1}{%
6479      \Hy@WarningNoLine{%
6480      old #1 file detected, not used; run LaTeX again%
6481      }%
6482      }{}%
6483      \if@filesw
6484      \expandafter\newwrite\csname tf@#1\endcsname
6485      \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
6486      \fi
6487      \@nobreakfalse
6488      \endgroup
6489      }%
6490      \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
6491      \fi
6492      }
```

## 26 Title strings

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

```

6493 \ifHy@pdfusetitle
6494 \let\HyOrg@title\title
6495 \let\HyOrg@author\author
6496 \def\title{\ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6497 \def\Hy@scanopttitle[#1]{%
6498 \gdef\Hy@title{#1}%
6499 \HyOrg@title{#1}}%
```

```

6500 }%
6501 \def\Hy@scantitle#1{%
6502   \gdef\Hy@title{#1}%
6503   \HyOrg@title{#1}%
6504 }%
6505 \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6506 \def\Hy@scanoptauthor[#1]{%
6507   \gdef\Hy@author{#1}%
6508   \HyOrg@author{#1}%
6509 }%
6510 \def\Hy@scanauthor#1{%
6511   \gdef\Hy@author{#1}%
6512   \HyOrg@author{#1}%
6513 }%

```

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.

```

6514 \begingroup
6515   \def\process@me#1\@nil#2{%
6516     \expandafter\let\expandafter\x\csname @#2\endcsname
6517     \edef\y{\expandafter\strip@prefix\meaning\x}%
6518     \def\c##1#1##2\@nil{%
6519       \ifx\\##1\\%
6520         \else
6521           \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6522             \expandafter{\x}%
6523         \fi
6524       }%
6525       \expandafter\c\y\relax#1\@nil
6526     }%
6527     \expandafter\process@me\string\@latex@\@nil{title}%
6528     \expandafter\process@me\string\@latex@\@nil{author}%
6529   \endgroup
6530 \fi
6531 \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.

```

6532 \def\Hy@UseMaketitleString#1{%
6533   \ltx@ifundefined{Hy@#1}{-}%
6534   \begingroup
6535     \let\Hy@saved@hook\pdfstringdefPreHook
6536     \pdfstringdefDisableCommands{%
6537       \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6538       \let\newline\\%
6539     }%
6540     \expandafter\ifx\csname @pdf#1\endcsname\@empty
6541       \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6542         \csname Hy@#1\endcsname\@empty

```

```

6543     }%
6544     \fi
6545     \global\let\pdfstringdefPreHook\Hy@saved@hook
6546   \endgroup
6547 }%
6548 }
6549 \def\Hy@newline@title#1{ #1}
6550 \def\Hy@newline@author#1{, #1}
6551 \def\Hy@UseMaketitleInfos{%
6552   \Hy@UseMaketitleString{title}%
6553   \Hy@UseMaketitleString{author}%
6554 }

```

## 27 Page numbers

This stuff is done by Heiko Oberdiek.

## 28 Every page

```

6555 \RequirePackage{atbegshi}[2007/09/09]
6556 \let\Hy@EveryPageHook\ltx@empty
6557 \let\Hy@EveryPageBoxHook\ltx@empty
6558 \let\Hy@FirstPageHook\ltx@empty
6559 \AtBeginShipout{%
6560   \Hy@EveryPageHook
6561   \ifx\Hy@EveryPageBoxHook\ltx@empty
6562   \else
6563     \setbox\AtBeginShipoutBox=\vbox{%
6564       \offinterlineskip
6565       \Hy@EveryPageBoxHook
6566       \box\AtBeginShipoutBox
6567     }%
6568   \fi
6569 }
6570 \ltx@iffileloaded{hpdfetex.def}{%
6571   \AtBeginShipout{%
6572     \Hy@FirstPageHook
6573     \global\let\Hy@FirstPageHook\ltx@empty
6574   }%
6575 }{%
6576   \AtBeginShipoutFirst{%
6577     \Hy@FirstPageHook
6578   }%
6579 }
6580 \g@addto@macro\Hy@FirstPageHook{%
6581   \PDF@FinishDoc
6582   \global\let\PDF@FinishDoc\ltx@empty
6583 }

```

### 28.1 PDF /PageLabels

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

```

6584 \ifHy@pdfpagelabels
6585   \begingroup\expandafter\expandafter\expandafter\endgroup
6586   \expandafter\ifx\csname thepage\endcsname\relax
6587     \Hy@pdfpagelabelsfalse

```



```

6588 \Hy@WarningNoLine{%
6589   Option 'pdfpagelabels' is turned off\MessageBreak
6590   because \string\thepage\space is undefined%
6591 }%
6592 \csname fi\endcsname
6593 \csname iffalse\expandafter\endcsname
6594 \fi

```

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

```

6595 \def\thispdfpagelabel#1{%
6596   \gdef\HyPL@thisLabel{#1}%
6597 }%
6598 \global\let\HyPL@thisLabel\relax

```

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

```

6599 \let\HyPL@Labels\ltx@empty

```

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

```

6600 \newcount\Hy@abspage
6601 \Hy@abspage=0 %

```

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

```

6602 \def\HyPL@LastType{init}%
6603 \def\HyPL@LastNumber{0}%
6604 \let\HyPL@LastPrefix\ltx@empty

```

Definitions for the PDF names of the  $\LaTeX$  pendants.

```

6605 \def\HyPL@arabic{D}%
6606 \def\HyPL@Roman{R}%
6607 \def\HyPL@roman{r}%
6608 \def\HyPL@Alph{A}%
6609 \def\HyPL@alph{a}%
6610 \let\HyPL@SlidesSetPage\ltx@empty
6611 \ltx@ifclassloaded{slides}{%
6612   \def\HyPL@SlidesSetPage{%
6613     \advance\c@page\ltx@one
6614     \ifnum\value{page}>\ltx@one
6615       \protected@edef\HyPL@SlidesOptionalPage{%
6616         \Hy@SlidesFormatOptionalPage{\thepage}%
6617       }%
6618     \else
6619       \let\HyPL@SlidesOptionalPage\ltx@empty
6620     \fi
6621     \advance\c@page-\ltx@one
6622     \def\HyPL@page{%
6623       \csname the\Hy@SlidesPage\endcsname
6624       \HyPL@SlidesOptionalPage
6625     }%
6626   }%
6627 }-%

```

`\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.

```

6628 \def\HyPL@EveryPage{%

```

```

6629 \begingroup
6630 \ifx\HyPL@thisLabel\relax
6631 \let\HyPL@page\thepage
6632 \HyPL@SlidesSetPage
6633 \else
6634 \let\HyPL@page\HyPL@thisLabel
6635 \global\let\HyPL@thisLabel\relax
6636 \fi
6637 \let\HyPL@Type\relax
6638 \ifnum\c@page>0 %
6639 \ifx\HyPL@SlidesSetPage\ltx@empty
6640 \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6641 \fi
6642 \fi
6643 \let\Hy@temp Y%
6644 \ifx\HyPL@Type\HyPL@LastType
6645 \else
6646 \let\Hy@temp N%
6647 \fi
6648 \ifx\HyPL@Type\relax
6649 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6650 \else
6651 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6652 \fi
6653 \ifx\HyPL@Prefix\HyPL@LastPrefix
6654 \else
6655 \let\Hy@temp N%
6656 \fi
6657 \if Y\Hy@temp
6658 \advance\c@page by -1 %
6659 \ifnum\HyPL@LastNumber=\the\c@page\relax
6660 \else
6661 \let\Hy@temp N%
6662 \fi
6663 \Hy@StepCount\c@page
6664 \fi
6665 \if N\Hy@temp
6666 \ifx\HyPL@Type\relax
6667 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6668 \else
6669 \HyPL@StorePageLabel{%
6670 \ifx\HyPL@Prefix\@empty
6671 \else
6672 /P(\HyPL@Prefix)%
6673 \fi
6674 /S/\csname HyPL\HyPL@Type\endcsname
6675 \ifnum\the\c@page=1 %
6676 \else
6677 \space/St \the\c@page
6678 \fi
6679 }%
6680 \fi
6681 \fi
6682 \xdef\HyPL@LastNumber{\the\c@page}%
6683 \global\let\HyPL@LastType\HyPL@Type
6684 \global\let\HyPL@LastPrefix\HyPL@Prefix
6685 \endgroup

```

```

6686 \Hy@GlobalStepCount\Hy@abspage
6687 }%

```

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

```

6688 \def\HyPL@CheckThePage#1\@nil{%
6689 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6690 }%

```

`\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`.

```

6691 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6692 \def\Hy@tempa{#4}%
6693 \def\Hy@tempb{\csname\endcsname\c@page}%
6694 \ifx\Hy@tempa\Hy@tempb
6695 \expandafter\ifx\csname HyPL#3\endcsname\relax
6696 \else
6697 \def\HyPL@Type{#3}%
6698 \def\HyPL@Prefix{#2}%
6699 \fi
6700 \else
6701 \begingroup
6702 \let\Hy@next\endgroup
6703 \let\HyPL@found\@undefined
6704 \def\arabic{\HyPL@Format{arabic}}%
6705 \def\Roman{\HyPL@Format{Roman}}%
6706 \def\roman{\HyPL@Format{roman}}%
6707 \def\Alph{\HyPL@Format{Alph}}%
6708 \def\alph{\HyPL@Format{alph}}%
6709 \protected@edef\Hy@temp{#1}%
6710 \ifx\HyPL@found\relax
6711 \toks@{\expandafter{\Hy@temp}}%
6712 \edef\Hy@next{\endgroup
6713 \noexpand\HyPL@@@CheckThePage\the\toks@
6714 \noexpand\HyPL@found\relax\noexpand\@nil
6715 }%
6716 \fi
6717 \Hy@next
6718 \fi
6719 }%

```

`\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`.

```

6720 \def\HyPL@Format#1#2{%
6721 \ifx\HyPL@found\@undefined
6722 \expandafter\ifx\csname c@#2\endcsname\c@page
6723 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6724 \else
6725 \expandafter\noexpand\csname#1\endcsname{#2}%
6726 \fi
6727 \else
6728 \expandafter\noexpand\csname#1\endcsname{#2}%
6729 \fi
6730 }%

```

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

```
6731 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6732   \def\Hy@tempa{#3}%
6733   \def\Hy@tempb{\HyPL@found\relax}%
6734   \ifx\Hy@tempa\Hy@tempb
6735     \def\HyPL@Type{#2}%
6736     \def\HyPL@Prefix{#1}%
6737   \fi
6738 }%
```

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

```
6739 \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`.

```
6740 \def\HyPL@Useless{0<</S/D>>}%
6741 \@onelevel@sanitize\HyPL@Useless
```

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

```
6742 \def\HyPL@SetPageLabels{%
6743   \@onelevel@sanitize\HyPL@Labels
6744   \ifx\HyPL@Labels\@empty
6745     \else
6746       \ifx\HyPL@Labels\HyPL@Useless
6747         \else
6748           \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6749         \fi
6750       \fi
6751 }%
```

```
6752 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6753 \fi
```

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

```
6754 \Hy@DisableOption{pdfpagelabels}
6755 </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`

```
6756 <*\pdfTeX>
6757 \pdf@ifdraftmode{%
6758   \let\Hy@PutCatalog\ltx@gobble
6759 }{%
6760   \let\Hy@PutCatalog\pdfcatalog
6761 }
6762 </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.

```

6763 <*vtex>
6764 \providecommand*\XR@ext}{pdf}
6765 \edef\Hy@VTeXversion{%
6766   \ifx\VTeXversion\@undefined
6767     \z@
6768   \else
6769     \ifx\VTeXversion\relax
6770       \z@
6771     \else
6772       \VTeXversion
6773     \fi
6774   \fi
6775 }
6776 \begingroup
6777   \ifnum\Hy@VTeXversion<660 %
6778     \gdef\Hy@PutCatalog#1{%
6779       \Hy@WarningNoLine{%
6780         VTeX 6.59g or above required for pdfpagelabels%
6781       }%
6782     }%
6783   \else
6784     \gdef\Hy@PutCatalog#1{%
6785       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6786     }%
6787     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6788       \ifx\#2\%
6789         \else
6790           \immediate\special{!pdfpagelabels #2}%
6791         \fi
6792       }%
6793     \fi
6794   \endgroup
6795 </vtex>

6796 <*pdftex|vtex>

```

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

```

6797 \ifHy@pdfpagelabels
6798   \def\HyPL@StorePageLabel#1{%
6799     \toks@\expandafter{\HyPL@Labels}%
6800     \xdef\HyPL@Labels{%
6801       \the\toks@
6802       \the\Hy@abspace<<#1>>%
6803     }%
6804   }%

```

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.

```

6805 \RequirePackage{atveryend}[2009/12/07]%
6806 \AtVeryEndDocument{%
6807   \HyPL@SetPageLabels

```

```

6808 }%
6809 \fi
6810 </pdfTeX | vTeX>

```

### 28.1.2 xetex

```

6811 (*xetex)
6812 \HyPsd@LoadUnicode
6813 \Hy@unicodetrue
6814 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6815 \else
6816   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6817 \fi
6818 \HyPsd@LoadStringEncoding
6819 \define@key{Hyp}{unicode}[true]{%
6820   \Hy@boolkey{unicode}{#1}%
6821   \ifHy@unicode
6822     \else
6823       \Hy@Warning{%
6824         XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6825         option setting 'unicode=false'%
6826       }%
6827       \Hy@unicodetrue
6828 \fi
6829 }
6830 \define@key{Hyp}{pdfencoding}{%
6831   \edef\HyPsd@temp{#1}%
6832   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6833     \let\HyPsd@pdfencoding\HyPsd@temp
6834   \else
6835     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6836       \let\HyPsd@pdfencoding\HyPsd@temp
6837     \else
6838       \Hy@Warning{%
6839         XeTeX driver only supports\MessageBreak
6840         'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6841         setting 'pdfencoding=\HyPsd@temp'%
6842       }%
6843     \fi
6844   \fi
6845 }
6846 \let\HyXeTeX@CheckUnicode\relax
6847 </xetex>

```

### 28.1.3 pdfmarkbase, dvipdfm, xetex

```

6848 (*pdfmarkbase)
6849 \begingroup
6850 \@ifundefined{headerps@out}{-}{%
6851   \toks@\expandafter{\Hy@FirstPageHook}%
6852   \xdef\Hy@FirstPageHook{%
6853     \noexpand\headerps@out{%
6854       systemdict /pdfmark known%
6855       {%
6856         userdict /?pdfmark systemdict /exec get put%
6857       }{%
6858         userdict /?pdfmark systemdict /pop get put %
6859         userdict /pdfmark systemdict /cleartomark get put%

```

```

6860     }%
6861     ifelse%
6862     }%
6863     \the\toks@
6864     }%
6865     }%
6866 \endgroup
6867 \pdfmarkbase>

```

\Hy@PutCatalog

```

6868 \dvipdfm | xetex\def\Hy@PutCatalog#1{\@pdfmark{docview << #1 >>}}
6869 \*pdfmarkbase>
6870 \def\Hy@PutCatalog#1{%
6871   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}}%
6872 }
6873 \pdfmarkbase>

6874 \*pdfmarkbase | dvipdfm | xetex>
6875 \ifHy@pdfpagelabels

```

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

```

6876 \def\HyPL@StorePageLabel#1{%
6877   \if@filesw
6878     \begingroup
6879     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6880     \immediate\write\@mainaux{%
6881       \string\HyPL@Entry{\Hy@tempa}%
6882     }%
6883   \endgroup
6884   \fi
6885 }%

```

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.

```

6886 \Hy@AtBeginDocument{%
6887   \if@filesw
6888     \immediate\write\@mainaux{%
6889       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6890     }%
6891   \fi
6892   \ifx\HyPL@Labels\@empty
6893     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6894   \else
6895     \HyPL@SetPageLabels
6896   \fi
6897   \let\HyPL@Entry\@gobble
6898 }%

```

\HyPL@Entry

```

6899 \def\HyPL@Entry#1{%
6900   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6901     \HyPL@Labels
6902     #1%
6903   }%
6904 }%

```

```

6905 \fi
6906 </pdfmarkbase | dvipdfm | xetex>
6907 (*package)
6908 \ifx\MaybeStopEarly\relax
6909 \else
6910 \Hy@stoppedearlytrue
6911 \expandafter\MaybeStopEarly
6912 \fi
6913 \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 its up to you to make sure these are legal PDF and HTML names. The ‘hypertextnames=false’ option just makes up arbitrary names.

All the shenanigans is to make sure section numbers etc are always arabic, separated by dots. Who knows how people will set up `\@currentlabel`? If they put spaces in, or brackets (quite legal) then the hypertext processors will get upset.

But this is flaky, and open to abuse. Styles like `subeqn` will mess it up, for starters. Appendices are an issue, too. We just hope to cover most situations. We can at least cope with the standard sectioning structure, allowing for `\part` and `\chapter`.

Start with a fallback for equations

```

6914 \def\Hy@CounterExists#1{%
6915 \begingroup\expandafter\expandafter\expandafter\endgroup
6916 \expandafter\ifx\csname c@#1\endcsname\relax
6917 \expandafter\@gobble
6918 \else
6919 \begingroup\expandafter\expandafter\expandafter\endgroup
6920 \expandafter\ifx\csname the#1\endcsname\relax
6921 \expandafter\expandafter\expandafter\@gobble
6922 \else
6923 \expandafter\expandafter\expandafter\@firstofone
6924 \fi
6925 \fi
6926 }
6927 \Hy@CounterExists{section}{%
6928 \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6929 }
6930 \Hy@CounterExists{part}{%
6931 \providecommand\theHpart{\arabic{part}}}%
6932 }
6933 \ltx@ifundefined{thechapter}{%
6934 \providecommand\theHsection {\arabic{section}}}%
6935 \providecommand\theHfigure {\arabic{figure}}}%
6936 \providecommand\theHtable {\arabic{table}}}%
6937 }{%

```



```

6938 \providecommand\theHchapter {\arabic{chapter}}%
6939 \providecommand\theHfigure {\theHchapter.\arabic{figure}}%
6940 \providecommand\theHtable {\theHchapter.\arabic{table}}%
6941 \providecommand\theHsection {\theHchapter.\arabic{section}}%
6942 }
6943 \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
6944 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6945 \providecommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
6946 \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6947 \providecommand\theHtheorem {\theHsection.\arabic{theorem}}
6948 \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.

```

6949 \let\H@item\item
6950 \newcounter{Item}
6951 \def\theHItem{\arabic{Item}}
6952 \def\item{%
6953   \@hyper@itemfalse
6954   \if@nmbrlist\@hyper@itemtrue\fi
6955   \H@item
6956 }

6957 \providecommand\theHenumi {\theHItem}
6958 \providecommand\theHenumii {\theHItem}
6959 \providecommand\theHenumiii {\theHItem}
6960 \providecommand\theHenumiv {\theHItem}
6961 \providecommand\theHHfootnote {\arabic{Hfootnote}}
6962 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6963 \@ifundefined{theHHmpfootnote}{%
6964   \let\theHHmpfootnote\theHHfootnote
6965 }{}

```

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.

```

6966 \let\H@refstepcounter\refstepcounter
6967 \edef\name@of@eq{equation}%
6968 \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.

```

6969 \newif\if@hyper@item
6970 \newif\if@skiphyperref
6971 \@hyper@itemfalse
6972 \@skiphyperreffalse
6973 \def\refstepcounter#1{%
6974   \ifHy@pdfstring
6975   \else
6976     \H@refstepcounter{#1}%
6977     \edef\This@name{#1}%
6978     \ifx\This@name\name@of@slide
6979     \else
6980       \if@skiphyperref
6981       \else
6982         \if@hyper@item
6983         \stepcounter{Item}%

```

```

6984     \hyper@refstepcounter{Item}%
6985     \@hyper@itemfalse
6986   \else
6987     \hyper@refstepcounter{#1}%
6988   \fi
6989 \fi
6990 \fi
6991 \fi
6992 }
6993 \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.

```

6994 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

6995 \def\hyper@refstepcounter#1{%
6996   \edef\This@name{#1}%
6997   \ifx\This@name\name@of@eq
6998     \@ifundefined{theHequation}{%
6999       \make@stripped@name{\theequation}%
7000       \let\theHequation\newname
7001     }{}%
7002   \fi
7003   \HyCnt@ProvideTheHCounter{#1}%
7004   \hyper@makecurrent{#1}%
7005   \ifmeasuring@
7006   \else
7007     \Hy@raisedlink{%
7008       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7009     }%
7010   \fi
7011 }

```

`\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`,  $\text{\LaTeX}$  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  $\text{\LaTeX}$ , substring search `\in@` can be used.

```

7012 \def\HyCnt@ProvideTheHCounter#1{%
7013   \@ifundefined{theH#1}{%
7014     \expandafter\def\csname theH#1\endcsname{}%
7015     \def\Hy@temp{\@elt{#1}}%
7016     \ltx@onelevel@sanitize\Hy@temp
7017     \let\HyOrg@elt\@elt
7018     \edef\@elt{%
7019       \noexpand\HyCnt@LookForParentCounter
7020       \expandafter\noexpand\csname theH#1\endcsname
7021     }%
7022     \cl@ckpt
7023     \let\@elt\HyOrg@elt
7024     \expandafter
7025     \ltx@LocalAppendToMacro\csname theH#1\endcsname\expandafter\endcsname
7026     \expandafter{%

```

```

7027 \expandafter\@arabic\csname c@#1\endcsname
7028 }%
7029 }{}%
7030 }

```

\Hy@LookForParentCounter

```

7031 \def\HyCnt@LookForParentCounter#1#2{%
7032 \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
7033 \ltx@ifundefined{cl@#2}{%
7034 }{%
7035 \ltx@onelevel@sanitize\Hy@temp@A
7036 \edef\Hy@temp@A{%
7037 \noexpand\in@{\Hy@temp@A}{\Hy@temp@A}%
7038 }\Hy@temp@A
7039 \ifin@
7040 \ltx@ifundefined{theH#2}{%
7041 \expandafter\ltx@localappendtomacro\expandafter#1%
7042 \expandafter{%
7043 \expandafter\@arabic\csname c@#2\endcsname.%
7044 }%
7045 }{%
7046 \expandafter\ltx@localappendtomacro\expandafter#1%
7047 \expandafter{%
7048 \csname theH#2\endcsname.%
7049 }%
7050 }%
7051 \fi
7052 }%
7053 }

```

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`.

```

7054 \begingroup\expandafter\expandafter\expandafter\endgroup
7055 \expandafter\ifx\csname chapter\endcsname\relax
7056 \def\Hy@chapterstring{section}%
7057 \else
7058 \def\Hy@chapterstring{chapter}%
7059 \fi
7060 \def\Hy@appendixstring{appendix}
7061 \def\Hy@chapapp{\Hy@chapterstring}
7062 \ltx@ifundefined{appendix}{%
7063 }{%
7064 \let\HyOrg@appendix\appendix
7065 \def\Hy@AlphNoErr#1{%
7066 \ifnum\value{#1}>26 %
7067 Alph\number\value{#1}%
7068 \else
7069 \ifnum\value{#1}<1 %
7070 Alph\number\value{#1}%
7071 \else
7072 \Alph{#1}%
7073 \fi
7074 \fi

```

```

7075 }%
7076 \def\appendix{%
7077   \ltx@ifundefined{chapter}{%
7078     \gdef\theHsection{\Hy@AlphNoErr{section}}}%
7079   }{%
7080     \gdef\theHchapter{\Hy@AlphNoErr{chapter}}}%
7081   }%
7082   \xdef\Hy@chapapp{\Hy@appendixstring}%
7083   \HyOrg@appendix
7084 }%
7085 }

```

\Hy@Test@alph

```

7086 \def\Hy@Test@alph#1{%
7087   \ifcase#1\or
7088     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
7089     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
7090     u\or v\or w\or x\or y\or z%
7091   \else
7092     \@ctrerr
7093   \fi
7094 }

```

\Hy@Test@Alph

```

7095 \def\Hy@Test@Alph#1{%
7096   \ifcase#1\or
7097     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
7098     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
7099     U\or V\or W\or X\or Y\or Z%
7100   \else
7101     \@ctrerr
7102   \fi
7103 }

```

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

```

7104 \def\hyper@makecurrent#1{%
7105   \begingroup
7106   \Hy@safe@activestruer
7107   \edef\Hy@param{#1}%
7108   \ifx\Hy@param\Hy@chapterstring
7109     \let\Hy@param\Hy@chapapp
7110   \fi
7111   \ifHy@hypertextnames
7112     \let\@number\@firstofone
7113     \def\@fnsymbol##1{fnsymbol\number##1}%
7114     \def\@arabic##1{\number##1}%
7115     \ifx\@alph\Hy@Test@alph
7116     \else
7117       \def\@alph{alph\number}%
7118     \fi
7119     \ifx\@Alph\Hy@Test@Alph
7120     \else
7121       \def\@Alph{Alph\number}%
7122     \fi
7123     \ifHy@naturalnames
7124       \let\textlatin\@firstofone

```

```

7125 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
7126 \else
7127 \xdef\HyperGlobalCurrentHref{%
7128 \csname
7129 the%
7130 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7131 #1%
7132 \endcsname
7133 }%
7134 \fi
7135 \xdef\HyperGlobalCurrentHref{%
7136 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7137 }%
7138 \else
7139 \Hy@GlobalStepCount\Hy@linkcounter
7140 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7141 \fi
7142 \endgroup
7143 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7144 \ifHy@localanchorname
7145 \let\@currentHref\HyperLocalCurrentHref
7146 \else
7147 \global\let\@currentHref\HyperGlobalCurrentHref
7148 \fi
7149 }

```

\Hy@MakeCurrentHref

```

7150 \def\Hy@MakeCurrentHref#1{%
7151 \edef\HyperLocalCurrentHref{#1}%
7152 \@onelevel@sanitize\HyperLocalCurrentHref
7153 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
7154 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7155 \ifHy@localanchorname
7156 \let\@currentHref\HyperLocalCurrentHref
7157 \else
7158 \global\let\@currentHref\HyperGlobalCurrentHref
7159 \fi
7160 }

```

\Hy@MakeCurrentHrefAuto

```

7161 \def\Hy@MakeCurrentHrefAuto#1{%
7162 \Hy@GlobalStepCount\Hy@linkcounter
7163 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
7164 }

```

\@currentHlabel \@currentHlabel is only defined for compatibility with package ‘hypdvips’.

```

7165 \def\@currentHlabel{\@currentHref}

7166 \@ifpackageloaded{fancyvrb}{%
7167 \@ifpackagelater{fancyvrb}{1998/05/20}{%
7168 \def\FV@StepLineNo{%
7169 \FV@SetLineNo
7170 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
7171 \FV@SetLineNo
7172 }%
7173 }%
7174 }{}

```

## 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 `hypertextnames` 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`

```

7175 \Hy@AtBeginDocument{%
7176   \ifclassloaded{revtex4}{%
7177     \@namedef{ver@lastpage.sty}{1994/06/25}%
7178   }{}%
7179   \@ifpackageloaded{lastpage}{%
7180     \ifHy@pageanchor
7181     \else
7182       \Hy@WarningNoLine{%
7183         The \string\pageref{LastPage} link doesn't work\MessageBreak
7184         with disabled option 'pageanchor'%
7185       }%
7186     \fi
7187     \def\lastpage@putlabel{%
7188       \addtocounter{page}{-1}%
7189       \if@filesw
7190         \begingroup
7191           \let\@number\@firstofone
7192           \ifHy@pageanchor
7193             \ifHy@hypertextnames
7194               \ifHy@plainpages
7195                 \def\Hy@temp{\arabic{page}}%
7196               \else
7197                 \Hy@unicodedefalse
7198                 \pdfstringdef\Hy@temp{\thepage}%
7199               \fi
7200             \else
7201               \def\Hy@temp{\the\Hy@pagecounter}%
7202             \fi
7203           \fi
7204           \immediate\write\@auxout{%
7205             \string\newlabel
7206             {LastPage}{{}{\thepage}}{}%
7207             \ifHy@pageanchor page.\Hy@temp\fi}}}%
7208         }%
7209       \endgroup
7210     \fi
7211     \addtocounter{page}{1}%
7212   }%
7213   \@ifclassloaded{revtex4}{%
7214     \begingroup
7215       \toks@\expandafter{\lastpage@putlabel}%
7216       \edef\x{\endgroup
7217         \def\noexpand\lastpage@putlabel{%
7218           \noexpand\stepcounter{page}%
7219           \the\toks@
7220           \noexpand\addtocounter{page}\noexpand\m@ne

```

```

7221     }%
7222     }%
7223     \x
7224     }{}%
7225     }{}%
7226 }
7227 \</package>
7228 \<*check>
7229 \checkpackage{lastpage}[1994/06/25]
7230 \checkcommand\def\lastpage@putlabel{%
7231   \addtocounter{page}{-1}%
7232   \immediate\write\@auxout{%
7233     \string\newlabel{LastPage}{\the\thepage}}%
7234   }%
7235   \addtocounter{page}{1}%
7236 }
7237 \</check>
7238 \<*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.

```

7239 \def\hypergetref#1{\getrefbykeydefault{#1}{-}{??}}
7240 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

## 32 Package titlesec and titletoc support

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

Package titlesec support:

```

7241 \@ifpackageloaded{titlesec}{%
7242   \def\ttl@Hy@steplink#1{%
7243     \Hy@MakeCurrentHrefAuto{#1*}%
7244     \edef\ttl@Hy@saveanchor{%
7245       \noexpand\Hy@raisedlink{%
7246         \noexpand\hyper@anchorstart{\@currentHref}%
7247         \noexpand\hyper@anchorend
7248       \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7249       \noexpand\ttl@Hy@PatchSaveWrite
7250     }%
7251   }%
7252 }%
7253 \def\ttl@Hy@PatchSaveWrite{%
7254   \begingroup
7255   \toks@\expandafter{\ttl@savewrite}%
7256   \edef\x{\endgroup
7257     \def\noexpand\ttl@savewrite{%
7258       \let\noexpand\@currentHref
7259       \noexpand\ttl@Hy@SavedCurrentHref
7260     \the\toks@
7261   }%
7262 }%
7263   \x
7264 }%

```

```

7265 \def\ttl@Hy@refstepcounter#1{%
7266   \let\ttl@b\Hy@raisedlink
7267   \def\Hy@raisedlink##1{%
7268     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7269   }%
7270   \refstepcounter{#1}%
7271   \let\Hy@raisedlink\ttl@b
7272 }%
7273 }{}

Package titletoc support:
7274 \@ifpackageloaded{titletoc}{%
7275   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
7276 }{}

```

### 33 Package varioref support

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

```

7277 \def\Hy@varioref@undefined{??}{??}{-}{-}{-}
7278 \@ifpackageloaded{varioref}{%
7279   \def\vref@pagenum#1#2{%
7280     \@ifundefined{r@#2}{%
7281       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7282     }{}%
7283     \edef#1{\getpagerefnumber{#2}}%
7284   }%
7285 }{}

```

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

```

7286 \def\Hy@varioref@refstepcounter#1{%
7287   \stepcounter{#1}%
7288   \protected@edef\@currentlabel{%
7289     \csname p@#1\expandafter\endcsname\csname the#1\endcsname
7290   }%
7291 }
7292 \AtBeginDocument{%
7293   \ifx\refstepcounter\Hy@varioref@refstepcounter
7294     \let\H@refstepcounter\refstepcounter
7295     \let\refstepcounter\Hy@saved@refstepcounter
7296   \fi
7297 }

```

### 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

```

7298 \@ifpackageloaded{longtable}{%
7299   \begingroup
7300   \def\y{\LT@array}%
7301   \@ifundefined{scr@LT@array}{%

```



```

7302 \ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
7303 }\def\y{\scr@LT@array}}%
7304 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7305 \expandafter\endgroup
7306 \expandafter\def\y[##1]##2{%
7307 \H@refstepcounter{#1}%
7308 \hyper@makecurrent{table}%
7309 \let\Hy@LT@currentHref\@currentHref
7310 #2\@sharp###4%
7311 }%
7312 }%
7313 \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil
Patch of \LT@start: add anchor before first line after \vskip\LTpre
7314 \begingroup
7315 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7316 \endgroup
7317 \def\LT@start{%
7318 #1%
7319 \ifvoid\LT@foot#2\fi
7320 \let\@currentHref\Hy@LT@currentHref
7321 \Hy@raisedlink{%
7322 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7323 }%
7324 #3%
7325 }%
7326 }%
7327 \expandafter\x\LT@start\@nil
7328 }{}

```

## 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.

```

7329 \let\new@refstepcounter\refstepcounter
7330 \let\H@equation\equation
7331 \let\H@endequation\endequation
7332 \ifpackageloaded{amsmath}{%
7333 \long\def\Hy@temp{%
7334 \incr@eqnum
7335 \mathdisplay@push
7336 \st@rredfalse \global\@eqnswtrue
7337 \mathdisplay{equation}%
7338 }%
7339 \ifx\Hy@temp\equation
7340 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
7341 \csname iftrue\endcsname
7342 \else
7343 \long\def\equation{%
7344 \mathdisplay@push
7345 \st@rredfalse \global\@eqnswtrue
7346 \mathdisplay{equation}%
7347 \incr@eqnum

```

```

7348 }%
7349 \fi
7350 \fi
7351 }{%
7352 \def\equation{%
7353 \let\refstepcounter\H@refstepcounter
7354 \H@equation
7355 \@ifundefined{theHequation}{%
7356 \make@stripped@name{\theequation}%
7357 \let\theHequation\newname
7358 }{}%
7359 \hyper@makecurrent{equation}%

```

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

```

7360 \mathopen{%
7361 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
7362 }%
7363 \let\refstepcounter\new@refstepcounter
7364 }%
7365 \def\endequation{%
7366 \ifx\Hy@raisedlink\ltx@empty
7367 \hyper@anchorend
7368 \else
7369 \mathclose{\Hy@raisedlink{\hyper@anchorend}}}%
7370 \fi
7371 \H@endequation
7372 }%
7373 }

```

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.

```

7374 \newif\if@eqnstar
7375 \@eqnstarfalse
7376 \let\H@eqnarray\eqnarray
7377 \let\H@endeqnarray\endeqnarray
7378 \def\eqnarray{%
7379 \let\Hy@reserved@a\relax
7380 \def\@currentHref{}%
7381 \H@eqnarray
7382 \if@eqnstar
7383 \else
7384 \ifx\\\@currentHref\\%
7385 \else
7386 \@ifundefined{theHequation}{%
7387 \make@stripped@name{\theequation}%
7388 \let\theHequation\newname
7389 }{}%
7390 \hyper@makecurrent{equation}%
7391 \mathopen{%
7392 \Hy@raisedlink{%
7393 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7394 }%
7395 }%
7396 \fi
7397 \fi

```

```

7398 }
7399 \def\endeqnarray{%
7400   \H@endeqnarray
7401 }

```

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.

```

7402 \@namedef{eqnarray*}{%
7403   \def\@eqncr{\nonumber\@seqncr}\@eqnstarttrue\eqnarray
7404 }
7405 \@namedef{endeqnarray*}{%
7406   \nonumber\endeqnarray\@eqnstarfalse
7407 }

```

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

```

7408 \ltx@ifundefined{subeqnarray}{}{%
7409   \let\H@subeqnarray\subeqnarray
7410   \let\H@endsubeqnarray\endsubeqnarray
7411   \def\subeqnarray{%
7412     \let\Hy@reserved@a\relax
7413     \H@subeqnarray
7414     \@ifundefined{theHequation}{%
7415       \make@stripped@name{\theequation}%
7416       \let\theHequation\newname
7417     }{}%
7418     \hyper@makecurrent{equation}%
7419     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
7420   }%
7421   \def\endsubeqnarray{%
7422     \H@endsubeqnarray
7423   }%
7424   \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7425 }

```

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

```

7426 \def\make@stripped@name#1{%
7427   \begingroup
7428     \escapechar\m@ne
7429     \global\let\newname\@empty
7430     \protected@edef\Hy@tempa{#1}%
7431     \edef\@tempb{%
7432       \noexpand\@tfor\noexpand\Hy@tempa:=%
7433       \expandafter\strip@prefix\meaning\Hy@tempa
7434     }%
7435     \@tempb\do{%
7436       \if{\Hy@tempa\else
7437         \if{\Hy@tempa\else
7438           \xdef\newname{\newname\Hy@tempa}%
7439         \fi
7440       \fi
7441     }%
7442   \endgroup
7443 }

```

Support for amsmath's subequations:

```

7444 \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

7445 \expandafter\ifx\csname subequations\endcsname\relax
7446 \else
7447 \let\HyOrg@subequations\subequations
7448 \def\subequations{%
7449 \stepcounter{equation}%
7450 \protected@edef\theHparentequation{%
7451 \ifundefined{theHequation}\theequation\theHequation
7452 }%
7453 \addtocounter{equation}{-1}%
7454 \HyOrg@subequations
7455 \def\theHequation{\theHparentequation\alph{equation}}%
7456 \ignorespaces
7457 }%
7458 \fi

```

Support for package `amsthm` (Daniel Müllner):

```

7459 \@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

7460 \def\Hy@temp#1#2#3{%
7461 \ifhmode\unskip\unskip\par\fi
7462 \normalfont
7463 \trivlist
7464 \let\thmheadnl\relax
7465 \let\thm@swap\@gobble
7466 \let\thm@indent\indent % indent
7467 \thm@headfont{\scshape}% heading font small caps
7468 \thm@notefont{\fontseries\mddefault\upshape}%
7469 \thm@headpunct{.}% add period after heading
7470 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7471 \thm@space@setup
7472 #1% style overrides
7473 \@topsep \thm@preskip % used by thm head
7474 \@topsepadd \thm@postskip % used by \@endparenv
7475 \def\@tempa{#2}\ifx\@empty\@tempa
7476 \def\@tempa{\@oparg{\@begintheorem{#3}{}}{}}%
7477 \else
7478 \refstepcounter{#2}%
7479 \def\@tempa{%
7480 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}}%
7481 }%
7482 \fi
7483 \@tempa
7484 }%
7485 \ifx\Hy@temp\@thm
7486 \def\@thm#1#2#3{%
7487 \ifhmode
7488 \unskip\unskip\par
7489 \fi
7490 \normalfont
7491 \trivlist
7492 \let\thmheadnl\relax
7493 \let\thm@swap\@gobble
7494 \let\thm@indent\indent % indent

```

```

7495 \thm@headfont{\scshape}% heading font small caps
7496 \thm@notefont{\fontseries\mddefault\upshape}%
7497 \thm@headpunct{.}% add period after heading
7498 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7499 \thm@space@setup
7500 #1% style overrides
7501 \@topsep \thm@preskip % used by thm head
7502 \@topsepadd \thm@postskip % used by \@endparenv
7503 \def\dth@counter{#2}%
7504 \ifx\@empty\dth@counter
7505 \def\@tempa{%
7506 \@oparg{\@begintheorem{#3}{}}{}%
7507 }%
7508 \else
7509 \H@refstepcounter{#2}%
7510 \hyper@makecurrent{#2}%
7511 \let\Hy@dth@currentHref\@currentHref
7512 \def\@tempa{%
7513 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7514 }%
7515 \fi
7516 \@tempa
7517 }%
7518 \else
7519 \def\@thm#1#2#3{%
7520 \ifhmode
7521 \unskip\unskip\par
7522 \fi
7523 \normalfont
7524 \trivlist
7525 \let\thmheadnl\relax
7526 \let\thm@swap\@gobble
7527 \thm@notefont{\fontseries\mddefault\upshape}%
7528 \thm@headpunct{.}% add period after heading
7529 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7530 \thm@space@setup
7531 #1% style overrides
7532 \@topsep \thm@preskip % used by thm head
7533 \@topsepadd \thm@postskip % used by \@endparenv
7534 \def\dth@counter{#2}%
7535 \ifx\@empty\dth@counter
7536 \def\@tempa{%
7537 \@oparg{\@begintheorem{#3}{}}{}%
7538 }%
7539 \else
7540 \H@refstepcounter{#2}%
7541 \hyper@makecurrent{#2}%
7542 \let\Hy@dth@currentHref\@currentHref
7543 \def\@tempa{%
7544 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7545 }%
7546 \fi
7547 \@tempa
7548 }%
7549 \fi
7550 \dth@everypar={%
7551 \@minipagefalse

```

```

7552 \global\@newlistfalse
7553 \@noparitemfalse
7554 \if@inlabel
7555 \global\@inlabelfalse
7556 \begingroup
7557 \setbox\z@\lastbox
7558 \ifvoid\z@
7559 \kern-\itemindent
7560 \fi
7561 \endgroup
7562 \ifx\@empty\dth@counter
7563 \else
7564 \Hy@raisedlink{%
7565 \hyper@anchorstart{%
7566 \itx@ifundefined{Hy@dth@currentHref}%
7567 \@currentHref\Hy@dth@currentHref
7568 }\hyper@anchorend
7569 }%
7570 \fi
7571 \unhbox\@labels
7572 \fi
7573 \if@nobreak
7574 \@nobreakfalse \clubpenalty\@M
7575 \else
7576 \clubpenalty\@clubpenalty \everypar{}%
7577 \fi
7578 }%
7579 }{}

```

## 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.

```

7580 \ifHy@hyperfootnotes
7581 \newcounter{Hfootnote}%
7582 \let\H@@footnotetext\@footnotetext
7583 \let\H@@footnotemark\@footnotemark
7584 \def\@xfootnotenext[#1]{%
7585 \begingroup
7586 \csname c@\@mpfn\endcsname #1\relax
7587 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7588 \endgroup
7589 \ifx\@footnotetext\@mpfootnotetext
7590 \expandafter\H@@mpfootnotetext
7591 \else
7592 \expandafter\H@@footnotetext
7593 \fi
7594 }%
7595 \def\@xfootnotemark[#1]{%
7596 \begingroup
7597 \c@footnote #1\relax
7598 \unrestored@protected@xdef\@thefnmark{\thefnmark}%
7599 \endgroup

```

```

7600 \H@@footnotemark
7601 }%
7602 \let\H@@mpfootnotetext\@mpfootnotetext
7603 \long\def\@mpfootnotetext#1{%
7604 \H@@mpfootnotetext{%
7605 \ifHy@nesting
7606 \expandafter\ltx@firstoftwo
7607 \else
7608 \expandafter\ltx@secondoftwo
7609 \fi
7610 {%
7611 \expandafter\hyper@@anchor\expandafter{%
7612 \Hy@footnote@currentHref
7613 }{#1}%
7614 }{%
7615 \Hy@raisedlink{%
7616 \expandafter\hyper@@anchor\expandafter{%
7617 \Hy@footnote@currentHref
7618 }{\relax}%
7619 }#1%
7620 }%
7621 }%
7622 }%
7623 \long\def\@footnotetext#1{%
7624 \H@@footnotetext{%
7625 \ifHy@nesting
7626 \expandafter\ltx@firstoftwo
7627 \else
7628 \expandafter\ltx@secondoftwo
7629 \fi
7630 {%
7631 \expandafter\hyper@@anchor\expandafter{%
7632 \Hy@footnote@currentHref
7633 }{#1}%
7634 }{%
7635 \Hy@raisedlink{%
7636 \expandafter\hyper@@anchor\expandafter{%
7637 \Hy@footnote@currentHref
7638 }{\relax}%
7639 }%
7640 \let\@currentHref\Hy@footnote@currentHref
7641 \let\@currentlabelname\@empty
7642 #1%
7643 }%
7644 }%
7645 }%

```

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.

```

7646 \def\@footnotemark{%
7647 \leavevmode
7648 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7649 \stepcounter{Hfootnote}%
7650 \global\let\Hy@saved@currentHref\@currentHref

```

```

7651 \hyper@makecurrent{Hfootnote}%
7652 \global\let\Hy@footnote@currentHref\@currentHref
7653 \global\let\@currentHref\Hy@saved@currentHref
7654 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7655 \@makefnmark
7656 \hyper@linkend
7657 \ifhmode\spacefactor\@x@sf\fi
7658 \relax
7659 }%

```

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

```

7660 \@ifpackageloaded{tabularx}{%
7661 \let\HyOrg@TX@endtabularx\TX@endtabularx
7662 \def\Hy@tabularx@hook{%
7663 \let\@footnotetext\H@@footnotetext
7664 \let\@footnotemark\H@@footnotemark
7665 \let\@mpfootnotetext\H@@mpfootnotetext
7666 }%
7667 \begingroup
7668 \toks@{\expandafter{\TX@endtabularx}}%
7669 \xdef\Hy@gtemp{%
7670 \noexpand\Hy@tabularx@hook
7671 \the\toks@
7672 }%
7673 \endgroup
7674 \let\TX@endtabularx\Hy@gtemp
7675 }-%

```

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

```

7676 \@ifpackageloaded{longtable}{%
7677 \CheckCommand*{\LT@p@ftntext}[1]{%
7678 \edef\@tempa{%
7679 \the\LT@p@ftn
7680 \noexpand\footnotetext[\the\c@footnote]%
7681 }%
7682 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7683 }%
7684 \long\def\LT@p@ftntext#1{%
7685 \edef\@tempa{%
7686 \the\LT@p@ftn
7687 \begingroup
7688 \noexpand\c@footnote=\the\c@footnote\relax
7689 \noexpand\protected\xdef\noexpand\@thefnmark{%
7690 \noexpand\thempfn
7691 }%
7692 \noexpand\Hy@LT@footnotetext{%
7693 \Hy@footnote@currentHref
7694 }%
7695 }%
7696 \global\LT@p@ftn\expandafter{%
7697 \@tempa{#1}%
7698 \endgroup
7699 }%
7700 }%

```



```

7701 \long\def\Hy@LT@footnotetext#1#2{%
7702   \H@@footnotetext{%
7703     \ifHy@nesting
7704       \hyper@@anchor{#1}{#2}%
7705     \else
7706       \Hy@raisedlink{%
7707         \hyper@@anchor{#1}{\relax}%
7708       }%
7709     \def\@currentHref{#1}%
7710     \let\@currentlabelname\@empty
7711     #2%
7712   \fi
7713 }%
7714 }%
7715 }{}%

```

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

```

7716 \@ifpackageloaded{fancyvrb}{%
7717   \def\V@@footnotetext{%
7718     \insert\footins\bgroup
7719     \csname reset@font\endcsname
7720     \footnotesize
7721     \interlinepenalty\interfootnotelinepenalty
7722     \splittopskip\footnotesep
7723     \splitmaxdepth\dp\strutbox
7724     \floatingpenalty \@MM
7725     \hsize\columnwidth
7726     \@parboxrestore
7727     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7728     \@makefntext{}%
7729     \rule{\z@}{\footnotesep}%
7730     \bgroup
7731     \aftergroup\V@@@footnotetext
7732     \Hy@raisedlink{%
7733       \expandafter\hyper@@anchor\expandafter{%
7734         \Hy@footnote@currentHref
7735       }\relax}%
7736     }%
7737     \let\@currentHref\Hy@footnote@currentHref
7738     \let\@currentlabelname\@empty
7739     \ignorespaces
7740   }%
7741 }{}%

```

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

```

7742 \def\Hy@temp#1{%
7743   \begingroup
7744   \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7745   \endgroup
7746   \@footnotemark
7747 }%
7748 \ifx\Hy@temp\footref
7749   \def\footref#1{%
7750     \begingroup
7751     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7752     \endgroup
7753     \H@@@footnotemark

```

```

7754 }%
7755 \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.

```

7756 \let\HyOrg@maketitle\maketitle
7757 \def\maketitle{%
7758   \let\Hy@saved@footnotemark\@footnotemark
7759   \let\Hy@saved@footnotetext\@footnotetext
7760   \let\@footnotemark\H@@footnotemark
7761   \let\@footnotetext\H@@footnotetext
7762   \@ifnextchar[\Hy@maketitle@optarg{% ]
7763     \HyOrg@maketitle
7764     \Hy@maketitle@end
7765   }%
7766 }%
7767 \def\Hy@maketitle@optarg[#1]{%
7768   \HyOrg@maketitle[{#1}]%
7769   \Hy@maketitle@end
7770 }%
7771 \def\Hy@maketitle@end{%
7772   \ifx\@footnotemark\H@@footnotemark
7773     \let\@footnotemark\Hy@saved@footnotemark
7774   \fi
7775   \ifx\@footnotetext\H@@footnotetext
7776     \let\@footnotetext\Hy@saved@footnotetext
7777   \fi
7778 }%

```

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

```

7779 \def\realfootnote{%
7780   \@ifnextchar[\@xfootnote{%
7781     \stepcounter{\@mpfn}%
7782     \protected@xdef\@thefnmark{\thempfn}%
7783     \H@@footnotemark\H@@footnotetext
7784   }%
7785 }%
7786 \fi
7787 \Hy@DisableOption{hyperfootnotes}

7788 \</package>
7789 \< *check>
7790 \checklatex
7791 \checkcommand\def\@xfootnotenext[#1]{%
7792   \begingroup
7793     \csname c@\@mpfn\endcsname #1\relax
7794     \unrestored@protected@xdef\@thefnmark{\thempfn}%
7795   \endgroup
7796   \@footnotetext
7797 }
7798 \checkcommand\def\@xfootnotemark[#1]{%
7799   \begingroup
7800     \c@footnote #1\relax
7801     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7802   \endgroup
7803   \@footnotemark

```

```

7804 }
7805 \checkcommand\def\@footnotemark{%
7806   \leavevmode
7807   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7808   \@makefnmark
7809   \ifhmode\spacefactor\@x@sf\fi
7810   \relax
7811 }
7812 \</check>
7813 \<*/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.

```

7814 \def\caption{%
7815   \ifx\@captive\@undefined
7816     \@latex@error{\noexpand\caption outside float}\@ehd
7817     \expandafter\@gobble
7818   \else
7819     \H@refstepcounter\@captive
7820     \let\Hy@tempa\@caption
7821     \ifundefined{float@caption}{%
7822       }{%
7823       \expandafter\ifx\csname @float@c@\@captive\endcsname
7824         \float@caption
7825         \let\Hy@tempa\Hy@float@caption
7826       \fi
7827     }%
7828     \expandafter\@firstofone
7829   \fi
7830   {\@dblarg{\Hy@tempa\@captive}}%
7831 }
7832 \long\def\@caption#1[#2]#3{%
7833   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7834     \csname iftrue\endcsname
7835     \global\let\@currentHref\hc@currentHref
7836   \else
7837     \hyper@makecurrent{\@captive}%
7838   \fi
7839   \ifundefined{NR@getttitle}{%
7840     \def\@currentlabelname{#2}%
7841   }{%
7842     \NR@getttitle{#2}%
7843   }%
7844   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7845     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7846   }%
7847   \begingroup
7848     \@parboxrestore
7849     \if@minipage
7850       \setminipage
7851     \fi
7852     \normalsize
7853     \expandafter\ifx\csname if@capstart\expandafter\endcsname
7854       \csname iftrue\endcsname

```

```

7855 \global\@capstartfalse
7856 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7857 \else
7858 \@makecaption{\csname fnum@#1\endcsname}{%
7859 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7860 \ifHy@nesting
7861 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7862 \else
7863 \Hy@raisedlink{%
7864 \expandafter\hyper@@anchor\expandafter{%
7865 \@currentHref
7866 }{\relax}%
7867 }%
7868 #3%
7869 \fi
7870 }%
7871 \fi
7872 \par
7873 \endgroup
7874 }

```

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’.

```

7875 \let\Hy@float@caption\@caption
7876 \newcommand{\HyNew@float@makebox}[1]{%
7877 \HyOrg@float@makebox{%
7878 #1\relax
7879 \ifx\Hy@float@currentHref\@undefined
7880 \else
7881 \expandafter\hyper@@anchor\expandafter{%
7882 \Hy@float@currentHref
7883 }{\relax}%
7884 \global\let\Hy@float@currentHref\@undefined
7885 \fi
7886 }%
7887 }%
7888 \ifpackageloaded{float}{%
7889 \def\Hy@float@caption{%
7890 \ifx\Hy@float@currentHref\@undefined
7891 \hyper@makecurrent{\@cuptype}%
7892 \global\let\Hy@float@currentHref\@currentHref
7893 \else
7894 \let\@currentHref\Hy@float@currentHref
7895 \fi
7896 \float@caption
7897 }%
7898 \let\HyOrg@float@makebox\float@makebox
7899 \let\float@makebox\HyNew@float@makebox
7900 }{}
7901 \</package>
7902 \<?check>
7903 \checklatex[1999/06/01 - 2000/06/01]
7904 \checkcommand\def\caption{%

```

```

7905 \ifx\@captive\@undefined
7906 \latex@error{\noexpand\caption outside float}\@ehd
7907 \expandafter\@gobble
7908 \else
7909 \refstepcounter\@captive
7910 \expandafter\@firstofone
7911 \fi
7912 {\@dblarg{\@caption\@captive}}}%
7913 }
7914 \checkcommand\long\def\@caption#1[#2]#3{%
7915 \par
7916 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7917 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7918 }%
7919 \begingroup
7920 \@parboxrestore
7921 \if@minipage
7922 \@setminipage
7923 \fi
7924 \normalsize
7925 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7926 \endgroup
7927 }
7928 \</check>
7929 \< *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 `\bibtex`; this still breaks some citation packages so we have to work around them. But this remains extremely dangerous. Any or all of *achemso* and *drftcite* may break.

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

```

7930 \def\hyper@natlinkstart#1{%
7931 \Hy@backout{#1}%
7932 \hyper@linkstart{cite}{cite.#1}%
7933 \def\hyper@nat@current{#1}%
7934 }
7935 \def\hyper@natlinkend{%
7936 \hyper@linkend
7937 }
7938 \def\hyper@natlinkbreak#1#2{%
7939 \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7940 }
7941 \def\hyper@natanchorstart#1{%
7942 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7943 }
7944 \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.

```

7945 \ltx@ifundefined{NAT@parse}{%
7946   \providecommand*\@extra@binfo{}%
7947   \providecommand*\@extra@b@citeb{}%
7948   \def\bibcite#1#2{%
7949     \@newl@bel{b}{#1\@extra@binfo}{%
7950       \hyper@link[cite]{}{cite.#1\@extra@b@citeb}{#2}%
7951     }%
7952   }%
7953   \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.”.

```

7954 \let\Hy@bibcite\bibcite
7955 \begingroup
7956   \@ifundefined{bbl@cite@choice}{}{%
7957     \g@addto@macro\bbl@cite@choice{%
7958       \let\bibcite\Hy@bibcite
7959     }%
7960   }%
7961 \endgroup

```

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

```

7962 \providecommand*\@BIBLABEL{\@biblabel}%
7963 \def\@bibitem[#1]#2{%
7964   \@skiphyperrtrue
7965   \H@item{%
7966     \ifx\Hy@raisedlink\@empty
7967       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7968       \@BIBLABEL{#1}%
7969       \hyper@anchorend
7970     \else
7971       \Hy@raisedlink{%
7972         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7973       }%
7974       \@BIBLABEL{#1}%
7975     \fi
7976     \hfill
7977   }%
7978   \@skiphyperrfalse
7979   \if@filesw
7980     \begingroup
7981       \let\protect\noexpand
7982       \immediate\write\@auxout{%
7983         \string\bibcite{#2}{#1}%
7984       }%
7985     \endgroup
7986   \fi
7987   \ignorespaces
7988 }%

```

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

```

7989 \def\@bibitem#1{%
7990   \@skiphyperrtrue\H@item\@skiphyperrfalse
7991   \Hy@raisedlink{%
7992     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7993   }%
7994   \if@filesw
7995     \begingroup

```

```

7996 \let\protect\noexpand
7997 \immediate\write\@auxout{%
7998 \string\bibcite{#1}{\the\value{\@listctr}}}%
7999 }%
8000 \endgroup
8001 \fi
8002 \ignorespaces
8003 }%
8004 }{}

8005 \</package>
8006 \< *check>
8007 \checklatex
8008 \checkcommand\def\@bibitem[#1]#2{%
8009 \item[\@biblabel{#1}]{\hfill}%
8010 \if@filesw
8011 {%
8012 \let\protect\noexpand
8013 \immediate\write\@auxout{%
8014 \string\bibcite{#2}{#1}%
8015 }%
8016 }%
8017 \fi
8018 \ignorespaces
8019 }
8020 \checkcommand\def\@bibitem#1{%
8021 \item
8022 \if@filesw
8023 \immediate\write\@auxout{%
8024 \string\bibcite{#1}{\the\value{\@listctr}}}%
8025 }%
8026 \fi
8027 \ignorespaces
8028 }
8029 \</check>
8030 \< *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.

```

8031 \ifclassloaded{revtex}{%
8032 \Hy@Info{*** compatibility with revtex **** }%
8033 \def\revtex@checking#1#2{%
8034 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
8035 \expandafter\def\csname b@#1\endcsname{#2}%
8036 \@SetMaxRnhfLabel{#1}%
8037 \expandafter\let\csname b@#1\endcsname\T@temp
8038 }%

```

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

```

8039 \@ifundefined{CITE}{\def\CITE{\@cite}}{}%
8040 \providecommand*\@extra@b@citeb{}%
8041 \def\CITEX[#1]#2{%
8042 \let\@citea\@empty
8043 \leavevmode
8044 \unskip
8045 $\{ %

```

```

8046 \scriptstyle
8047 \@CITE{%
8048   \@for\@citeb:=#2\do{%
8049     \@citea
8050     \def\@citea{,\penalty\@m\ }%
8051     \edef\@citeb{\expandafter\@firstofone\@citeb}%
8052     \if@filesw
8053       \immediate\write\@auxout{\string\citation{\@citeb}}%
8054     \fi
8055     \@ifundefined{b@\@citeb\extra@b@citeb}{%
8056       \mbox{\reset@font\bfseries ?}%
8057       \G@refundefinedtrue
8058       \@latex@warning{%
8059         Citation '\@citeb' on page \thepage \space undefined%
8060       }%
8061     }{%
8062       {\csname b@\@citeb\extra@b@citeb\endcsname}%
8063     }%
8064   }%
8065 }{#1}%
8066 }$%
8067 }%

```

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.

```

8068 \def\@citex[#1]#2{%
8069   \let\@citea\@empty
8070   \@cite{%
8071     \@for\@citeb:=#2\do{%
8072       \@citea
8073       \def\@citea{,\penalty\@m\ }%
8074       \edef\@citeb{\expandafter\@firstofone\@citeb}%
8075       \if@filesw
8076         \immediate\write\@auxout{\string\citation{\@citeb}}%
8077       \fi
8078       \@ifundefined{b@\@citeb\extra@b@citeb}{%
8079         \mbox{\reset@font\bfseries ?}%
8080         \G@refundefinedtrue
8081         \@latex@warning{%
8082           Citation '\@citeb' on page \thepage \space undefined%
8083         }%
8084       }{%
8085         \hbox{\csname b@\@citeb\extra@b@citeb\endcsname}%
8086       }%
8087     }%
8088   }{#1}%
8089 }%
8090 }{}

```

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



error messages.

```

8091 \ifpackageloaded{harvard}{%
8092 \Hy@AtBeginDocument{%
8093 \Hy@Info{*** compatibility with harvard **** }%
8094 \Hy@raiselinksfalse
8095 \def\harvardcite#1#2#3#4{%
8096 \global\@namedef{HAR@fn@#1}{\hyper@@link[cite]{}{cite.#1}{#2}}%
8097 \global\@namedef{HAR@an@#1}{\hyper@@link[cite]{}{cite.#1}{#3}}%
8098 \global\@namedef{HAR@yr@#1}{\hyper@@link[cite]{}{cite.#1}{#4}}%
8099 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
8100 }%
8101 \def\HAR@citetoaux#1{%
8102 \iffilesw\immediate\write\@auxout{\string\citation{#1}}\fi%
8103 \ifHy@backref
8104 \ifx\@empty\@currentlabel
8105 \else
8106 \@bsphack
8107 \iffilesw
8108 \protected@write\@auxout{}{%
8109 \string\@writefile{brf}{%
8110 \string\backcite{#1}{%
8111 {\thepage}{\@currentlabel}{\@currentHref}%
8112 }%
8113 }%
8114 }%
8115 \fi
8116 \@esphack
8117 \fi
8118 \fi
8119 }%
8120 \def\harvarditem{%
8121 \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}}%
8122 }%
8123 \def\@harvarditem[#1]#2#3#4#5\par{%
8124 \item[]%
8125 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
8126 \iffilesw
8127 \begingroup
8128 \def\protect##1{\string ##1\space}%
8129 \ifthenelse{\equal{#1}{\null}}{%
8130 {\def\next{{#4}{#2}{#2}{#3}}}%
8131 {\def\next{{#4}{#2}{#1}{#3}}}%
8132 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
8133 \endgroup
8134 \fi
8135 \protect\hspace*{-\labelwidth}%
8136 \protect\hspace*{-\labelsep}%
8137 \ignorespaces
8138 #5%
8139 \ifHy@backref
8140 \newblock
8141 \backref{\csname br@#4\endcsname}%
8142 \fi
8143 \par
8144 }%

```

\HAR@checkcitations Package hyperref has added \hyper@@link, so the original test \HAR@checkci-

tations will fail every time and always will appear the “Changed labels” warning. So we have to redefine `\Har@checkcitations`:

```

8145 \long\def\HAR@checkcitations#1#2#3#4{%
8146   \def\HAR@tempa{\hyper@link[cite]{\cite.#1}{#2}}%
8147   \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
8148     \def\HAR@tempa{\hyper@link[cite]{\cite.#1}{#3}}%
8149     \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
8150       \def\HAR@tempa{\hyper@link[cite]{\cite.#1}{#4}}%
8151       \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
8152         \else
8153           \@tempswatrue
8154         \fi
8155       \else
8156         \@tempswatrue
8157       \fi
8158     \else
8159       \@tempswatrue
8160     \fi
8161   }%
8162 }%

8163 }{}

```

## 38.2 Package chicago

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

```

8164 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

8165 \def\citeN{%
8166   \def\@citesep{-1000}%
8167   \def\@cite##1##2{##1}%
8168   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
8169   \@citedata@opt
8170 }%

```

`\shortciteN`

```

8171 \def\shortciteN{%
8172   \def\@citesep{-1000}%
8173   \def\@cite##1##2{##1}%
8174   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
8175   \@citedata@opt
8176 }%

```

`\@citedata@opt`

```

8177 \def\@citedata@opt{%
8178   \let\@cite@opt\@empty
8179   \@ifnextchar [{%
8180     \@tempswatrue
8181     \@citedatax@opt
8182   }{%
8183     \@tempswafalse
8184     \@citedatax[]%
8185   }%
8186 }%

```

\@citedatax@opt

```

8187 \def\@citedatax@opt[#1]{%
8188   \def\@cite@opt{, #1}%
8189   \@citedatax[{#1}]%
8190 }%

8191 }{}

```

## 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.

```

8192 \ltx@ifclassloaded{slides}{%
8193   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
8194   \def\Hy@PageAnchorSlidesPlain{%
8195     \advance\c@page\ltx@one
8196     \edef\Hy@TempPageAnchor{%
8197       \noexpand\hyper@@anchor{%
8198         page.\the\c@slide.\the\c@overlay.\the\c@note%
8199         \ifnum\c@page=\ltx@one
8200           \else
8201             .\the\c@page
8202           \fi
8203         }%
8204       }%
8205       \advance\c@page-\ltx@one
8206     }%
8207     \def\Hy@PageAnchorSlide{%
8208       \advance\c@page\ltx@one
8209       \ifnum\c@page>\ltx@one
8210         \ltx@ifundefined{theHpage}{%
8211           \protected@edef\Hy@TheSlideOptionalPage{%
8212             \Hy@SlidesFormatOptionalPage{\theHpage}%
8213           }%
8214         }{%
8215           \protected@edef\Hy@TheSlideOptionalPage{%
8216             \Hy@SlidesFormatOptionalPage{\theHpage}%
8217           }%
8218         }%
8219       \else
8220         \def\Hy@TheSlideOptionalPage{}%
8221       \fi
8222       \advance\c@page-\ltx@one
8223       \pdfstringdef\@the@H@page{%
8224         \csname
8225           the%
8226           \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
8227           \Hy@SlidesPage
8228         \endcsname
8229       \Hy@TheSlideOptionalPage
8230     }%
8231     \ltx@gobblethree

```

```

8232 }%
8233 \def\Hy@SlidesPage{slide}%
8234 \g@addto@macro\slide{%
8235   \def\Hy@SlidesPage{slide}%
8236 }%
8237 \g@addto@macro\overlay{%
8238   \def\Hy@SlidesPage{overlay}%
8239 }%
8240 \g@addto@macro\note{%
8241   \def\Hy@SlidesPage{note}%
8242 }%
8243 }{%
8244   \def\Hy@PageAnchorSlidesPlain{}%
8245   \def\Hy@PageAnchorSlide{}%
8246 }
8247 \def\Hy@EveryPageAnchor{%
8248   \Hy@DistillerDestFix
8249   \ifHy@pageanchor
8250     \ifHy@hypertextnames
8251       \ifHy@plainpages
8252         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
8253         \Hy@PageAnchorSlidesPlain
8254       \else
8255         \begingroup
8256           \let\@number\@firstofone
8257           \Hy@unicodedefalse
8258           \Hy@PageAnchorSlide
8259           \pdfstringdef\@the@H@page{\thepage}%
8260         \endgroup
8261         \EdefUnescapeString\@the@H@page{\@the@H@page}%
8262         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
8263       \fi
8264     \else
8265       \Hy@GlobalStepCount\Hy@pagecounter
8266       \def\Hy@TempPageAnchor{%
8267         \hyper@@anchor{page.\the\Hy@pagecounter}%
8268       }%
8269     \fi
8270   \vbox to 0pt{%
8271     \kern\voffset
8272     \kern\topmargin
8273     \kern-1bp\relax
8274     \hbox to 0pt{%
8275       \kern\hoffset
8276       \kern@ifodd\value{page}%
8277         \oddsidemargin
8278       \else
8279         \evensidemargin
8280       \fi
8281       \kern-1bp\relax
8282       \Hy@TempPageAnchor\relax
8283       \hss
8284     }%
8285   \vss
8286 }%
8287 \fi
8288 }

```

```

8289 \g@addto@macro\Hy@EveryPageBoxHook{%
8290   \Hy@EveryPageAnchor
8291 }

```

## 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.

```

8292 \def\addcontentsline#1#2#3{% toc extension, type, tag
8293   \begingroup
8294   \let\label\@gobble
8295   \ifx\@currentHref\@empty
8296     \Hy@Warning{%
8297       No destination for bookmark of \string\addcontentsline,%
8298       \MessageBreak destination is added%
8299     }%
8300     \phantomsection
8301   \fi
8302   \expandafter\ifx\csname toclevel@#2\endcsname\relax
8303     \begingroup
8304     \def\Hy@tempa{#1}%
8305     \ifx\Hy@tempa\Hy@bookmarkstype
8306       \Hy@WarningNoLine{%
8307         bookmark level for unknown #2 defaults to 0%
8308       }%
8309     \else
8310       \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8311     \fi
8312   \endgroup
8313   \expandafter\gdef\csname toclevel@#2\endcsname{0}%
8314   \fi
8315   \edef\Hy@toclevel{\csname toclevel@#2\endcsname}%
8316   \Hy@writebookmark{\csname the#2\endcsname}%
8317     {#3}%
8318     {\@currentHref}%
8319     {\Hy@toclevel}%
8320     {#1}%
8321   \ifHy@verbose
8322     \begingroup
8323     \def\Hy@tempa{#3}%
8324     \@onelevel@sanitize\Hy@tempa
8325     \let\temp@online\on@line
8326     \let\on@line\@empty
8327     \Hy@Info{%
8328       bookmark\temp@online:\MessageBreak
8329       thecounter {\csname the#2\endcsname}\MessageBreak
8330       text {\Hy@tempa}\MessageBreak
8331       reference {\@currentHref}\MessageBreak
8332       toclevel {\Hy@toclevel}\MessageBreak
8333       type {#1}%
8334     }%
8335   \endgroup
8336   \fi
8337   \addtocontents{#1}{%
8338     \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%

```

```

8339 }%
8340 \endgroup
8341 }

```

\contentsline The page number might be empty. In this case the link for the page number is suppressed to avoid little link boxes.

```

8342 \def\contentsline#1#2#3#4{%
8343   \begingroup
8344     \Hy@safe@activetrue
8345   \edef\x{\endgroup
8346     \def\noexpand\Hy@tocdestname{#4}%
8347   }\x
8348   \ifx\Hy@tocdestname\ltx@empty
8349     \csname l@#1\endcsname{#2}{#3}%
8350   \else
8351     \ifcase\Hy@linktoc % none
8352       \csname l@#1\endcsname{#2}{#3}%
8353     \or % section
8354       \csname l@#1\endcsname{%
8355         \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8356       }{#3}%
8357     \or % page
8358       \def\Hy@temp{#3}%
8359       \ifx\Hy@temp\ltx@empty
8360         \csname l@#1\endcsname{#2}{#3}%
8361       \else
8362         \csname l@#1\endcsname{#2}{#3}%
8363         \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8364       }%
8365     \fi
8366   \else % all
8367     \def\Hy@temp{#3}%
8368     \ifx\Hy@temp\ltx@empty
8369       \csname l@#1\endcsname{%
8370         \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8371       }{}%
8372     \else
8373       \csname l@#1\endcsname{%
8374         \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8375       }{%
8376         \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8377       }%
8378     \fi
8379   \fi
8380 \fi
8381 }

8382 \endpackage
8383 \if*check
8384 \checklatex
8385 \checkcommand\def\addcontentsline#1#2#3{%
8386   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
8387 }
8388 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8389 \endcheck
8390 \if*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.

```
8391 \let\H@definecounter\@definecounter
8392 \def\@definecounter#1{%
8393   \H@definecounter{#1}%
8394   \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8395 }
```

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.

```
8396 \let\H@newctr\@newctr
8397 \def\@newctr#1[#2]{%
8398   \H@newctr#1[{#2}]%
8399   \expandafter\gdef\csname theH#1\endcsname{%
8400     \csname the\@ifundefined{theH#2}{-}{H}#2\endcsname.\arabic{#1}%
8401   }%
8402 }
```

## 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.

```
8403 \@ifpackageloaded{amsmath}{%
8404   \def\Hy@make@anchor{%
8405     \Hy@MakeCurrentHrefAuto{AMS}%
8406     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8407   }%
8408   \def\Hy@make@df@tag@@#1{%
8409     \gdef\df@tag{%
8410       \maketag@@@{\Hy@make@anchor#1}%
8411       \def\@currentlabel{#1}%
8412     }%
8413   }%
8414   \def\Hy@make@df@tag@@@#1{%
8415     \gdef\df@tag{%
8416       \tagform@{\Hy@make@anchor#1}%
8417       \toks@{\xp{p@equation{#1}}}%
8418       \edef\@currentlabel{\the\toks@}%
8419     }%
8420   }%
8421   \let\HyOrg@make@df@tag@@\make@df@tag@@
8422   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8423   \let\make@df@tag@@\Hy@make@df@tag@@
8424   \let\make@df@tag@@@\Hy@make@df@tag@@@
8425 }
```

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

```
8426 \@ifpackagewith{hyperref}{pdf $\TeX$ }{%
8427   \let\H@seteqlabel\@seteqlabel
```

```

8428 \def\@seteqlabel#1{%
8429   \H@seteqlabel{#1}%
8430   \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
8431   \Hy@raisedlink{%
8432     \hyper@anchorstart{\@currentHref}\hyper@anchorend
8433   }%
8434 }%
8435 }{}

```

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.

```

8436 \let\HyOrg@addtoreset\@addtoreset
8437 \def\@addtoreset#1#2{%
8438   \HyOrg@addtoreset{#1}{#2}%
8439   \expandafter\xdef\csname theH#1\endcsname{%
8440     \expandafter\noexpand
8441       \csname the\@ifundefined{theH#2}{}H#2\endcsname
8442     .\noexpand\the\noexpand\value{#1}%
8443   }%
8444 }

```

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

```

8445 \</package>
8446 \<{*check>
8447 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8448 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8449   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8450     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8451       \@addtoreset{#2}{#3}%
8452       \@xp\xdef\csname the#2\endcsname{%
8453         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8454       }%
8455     }%
8456   }%
8457 }%
8458 \</check>
8459 \<{*package>
8460 \@ifpackageloaded{amsmath}{%
8461   \@ifpackagelater{amsmath}{1999/12/14}{%
8462     \renewcommand*\numberwithin[3][\arabic]{%
8463       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8464         \@ifundefined{c@#3}{\@nocnterr{#3}}{%

```



```

8465 \HyOrg@addtoreset{#2}{#3}%
8466 \@xp\xdef\csname the#2\endcsname{%
8467 \xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8468 }%
8469 \@xp\xdef\csname theH#2\endcsname{%
8470 \@xp\@nx
8471 \csname the\@ifundefined{theH#3}{H#3\endcsname
8472 .\@nx#1{#2}%
8473 }%
8474 }%
8475 }%
8476 }%
8477 }{%
8478 \Hy@WarningNoLine{%
8479 \string\numberwithin\space of package 'amsmath' %
8480 only fixed\MessageBreak
8481 for version 2000/06/06 v2.12 or newer%
8482 }%
8483 }%
8484 }{}

```

## 43 Included figures

Simply intercept the low level graphics package macro.

```

8485 \ifHy@hyperfigures
8486 \let\Hy@Gin@setfile\Gin@setfile
8487 \def\Gin@setfile#1#2#3{%
8488 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8489 }%
8490 \fi
8491 \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.

```

8492 \ifHy@hyperindex
8493 \def\HyInd@ParenLeft{({}%
8494 \def\HyInd@ParenRight{)}}%
8495 \def\hyperindexformat#1#2{%
8496 \let\HyOrg@hyperpage\hyperpage
8497 \let\hyperpage\@firstofone
8498 #1{\HyOrg@hyperpage{#2}}%
8499 \let\hyperpage\HyOrg@hyperpage
8500 }%
8501 \Hy@nextfalse
8502 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%

```

```

8503 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8504 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8505 \begingroup
8506 \lccode'\|=\expandafter'\HyInd@EncapChar\relax
8507 \lccode'\|/='\|\\relax
8508 \lowercase{\endgroup
8509 \ifHy@next
8510 \let\HyInd@org@wrindex\@wrindex
8511 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
8512 \def\HyInd@@wrindex#1#2|#3|#4\{\%
8513 \ifx\|#3\%
8514 \HyInd@org@wrindex{#1}{#2|hyperpage}%
8515 \else
8516 \HyInd@@@wrindex{#1}{#2}#3\%
8517 \fi
8518 }%
8519 \def\HyInd@@@wrindex#1#2#3#4\{\%
8520 \def\Hy@temp@A{#3}%
8521 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8522 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8523 \relax
8524 \HyInd@org@wrindex{#1}{%
8525 #2|hyperindexformat{/#3#4}%
8526 }%
8527 \else
8528 \ifx\|#4\%
8529 \ifx\Hy@temp@A\HyInd@ParenRight
8530 \HyInd@org@wrindex{#1}{#2|#3}%
8531 \else
8532 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8533 \fi
8534 \else
8535 \HyInd@org@wrindex{#1}{%
8536 #2|#3hyperindexformat{/#4}%
8537 }%
8538 \fi
8539 \fi
8540 }%
8541 \else
8542 \def\@wrindex#1{\@wrindex#1||\}%
8543 \def\@wrindex#1|#2|#3\{\%
8544 \if@filesw
8545 \ifx\|#2\%
8546 \protected@write\@indexfile{\%
8547 \string\indexentry{#1|hyperpage}{\thepage}%
8548 }%
8549 \else
8550 \HyInd@@@wrindex{#1}#2\%
8551 \fi
8552 \fi
8553 \endgroup
8554 \@esphack
8555 }%
8556 \def\HyInd@@@wrindex#1#2#3\{\%
8557 \def\Hy@temp@A{#2}%
8558 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8559 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi

```

```

8560         \relax
8561         \protected@write\@indexfile{}\{%
8562         \string\indexentry{%
8563         #1|hyperindexformat{/#2#3}%
8564         }\the page}%
8565     }%
8566 \else
8567     \ifx\#3\%
8568     \ifx\Hy@temp@A\HyInd@ParenRight
8569     \protected@write\@indexfile{}\{%
8570     \string\indexentry{#1|#2}\the page}%
8571     }%
8572 \else
8573     \protected@write\@indexfile{}\{%
8574     \string\indexentry{#1|#2hyperpage}\the page}%
8575     }%
8576 \fi
8577 \else
8578     \protected@write\@indexfile{}\{%
8579     \string\indexentry{%
8580     #1|#2hyperindexformat{/#3}%
8581     }\the page}%
8582     }%
8583 \fi
8584 \fi
8585 }%
8586 \fi
8587 }%
8588 \fi
8589 \Hy@DisableOption{hyperindex}
8590 \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.

```

8591 \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.

```

8592 \def\hyperpage#1{%
8593     \HyInd@hyperpage#1\nohyperpage{}\@nil
8594 }
8595 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8596     \HyInd@@hyperpage{#1}%
8597     #2%
8598     \def\Hy@temp{#3}%
8599     \ifx\Hy@temp\@empty
8600     \else
8601     \ltx@ReturnAfterFi{%
8602     \HyInd@hyperpage#3\@nil
8603     }%
8604     \fi
8605 }
8606 \def\HyInd@@hyperpage#1{\@hyperpage#1---\}
8607 \def\@hyperpage#1--#2--#3\{%
8608     \ifx\#2\%
8609     \@commahyperpage{#1}%
8610     \else

```

```

8611 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8612 \fi
8613 }
8614 \def\@commahyperpage#1{\@commahyperpage#1, \\\}
8615 \def\@commahyperpage#1, #2, #3\\{\%
8616 \ifx\\#2\\%
8617 \HyInd@pagelink{#1}%
8618 \else
8619 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8620 \fi
8621 }

```

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

```

8622 \def\HyInd@pagelink#1{%
8623 \begingroup
8624 \toks@={}%
8625 \HyInd@removespaces#1 \@nil
8626 \endgroup
8627 }
8628 \def\HyInd@removespaces#1 #2\@nil{%
8629 \toks@=\expandafter{\the\toks@#1}%
8630 \ifx\\#2\\%
8631 \edef\x{\the\toks@}%
8632 \ifx\x\@empty
8633 \else
8634 \hyperlink{page.\the\toks@}{\the\toks@}%
8635 \fi
8636 \else
8637 \ltx@ReturnAfterFi{%
8638 \HyInd@removespaces#2\@nil
8639 }%
8640 \fi
8641 }

```

## 45 Compatibility with foiltex

```

8642 \@ifclassloaded{foils}{%
8643 \providecommand*\ext@table{lot}%
8644 \providecommand*\ext@figure{lof}%
8645 }{}

```

## 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)).

```

8646 \@ifclassloaded{seminar}{%
8647 \Hy@seminarslides true
8648 \providecommand\theHslide{\arabic{slide}}%
8649 }{%
8650 \Hy@seminarslides false
8651 }
8652 \@ifpackageloaded{slidesec}{%
8653 \providecommand\theHslide section {\arabic{slide section}}%
8654 \providecommand\theHslidesubsection{%
8655 \theHslide section.\arabic{slide subsection}}%

```

```

8656 }%
8657 \def\slide@heading[#1]#2{%
8658   \H@refstepcounter{slidesection}%
8659   \@addtoreset{slidesubsection}{slidesection}%
8660   \addtocontents{los}{%
8661     \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
8662     {\@SCTR}{slideheading.\theslidesection}%
8663   }%
8664   \def\Hy@tempa{#2}%
8665   \ifx\Hy@tempa\@empty
8666   \else
8667   {%
8668     \edef\@currentlabel{%
8669       \csname p@slidesection\endcsname\theslidesection
8670     }%
8671     \makeslideheading{#2}%
8672   }%
8673   \fi
8674   \gdef\theslideheading{#1}%
8675   \gdef\theslidesubheading{}%
8676   \ifHy@bookmarksnumbered
8677     \def\Hy@slidetitle{\theslidesection\space #1}%
8678   \else
8679     \def\Hy@slidetitle{#1}%
8680   \fi
8681   \ifHy@hypertextnames
8682     \ifHy@naturalnames
8683       \hyper@@anchor{slideheading.\theslidesection}{\relax}%
8684       \Hy@writebookmark
8685         {\theslidesection}%
8686         {\Hy@slidetitle}%
8687         {slideheading.\theslidesection}%
8688         {1}%
8689         {toc}%
8690     \else
8691       \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8692       \Hy@writebookmark
8693         {\theslidesection}%
8694         {\Hy@slidetitle}%
8695         {slideheading.\theHslidesection}%
8696         {1}%
8697         {toc}%
8698     \fi
8699   \else
8700     \Hy@GlobalStepCount\Hy@linkcounter
8701     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8702     \Hy@writebookmark
8703       {\theslidesection}%
8704       {\Hy@slidetitle}%
8705       {slideheading.\the\Hy@linkcounter}%
8706       {1}%
8707       {toc}%
8708   \fi
8709 }%
8710 \def\slide@subheading[#1]#2{%
8711   \H@refstepcounter{slidesubsection}%
8712   \addtocontents{los}{%

```

```

8713 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8714 {\@SCTR}{slideheading.\theslidesubsection}%
8715 }%
8716 \def\Hy@tempa{#2}%
8717 \ifx\Hy@tempa\@empty
8718 \else
8719 {%
8720 \edef\@currentlabel{%
8721 \csname p@slidesubsection\endcsname\theslidesubsection
8722 }%
8723 \makeslidesubheading{#2}%
8724 }%
8725 \fi
8726 \gdef\theslidesubheading{#1}%
8727 \ifHy@bookmarksnumbered
8728 \def\Hy@slidetitle{\theslidesubsection\space #1}%
8729 \else
8730 \def\Hy@slidetitle{#1}%
8731 \fi
8732 \ifHy@hypertexnames
8733 \ifHy@naturalnames
8734 \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8735 \Hy@writebookmark
8736 {\theslidesubsection}%
8737 {\Hy@slidetitle}%
8738 {slideheading.\theslidesubsection}%
8739 {2}%
8740 {toc}%
8741 \else
8742 \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8743 \Hy@writebookmark
8744 {\theslidesubsection}%
8745 {\Hy@slidetitle}%
8746 {slideheading.\theHslidesubsection}%
8747 {2}%
8748 {toc}%
8749 \fi
8750 \else
8751 \Hy@GlobalStepCount\Hy@linkcounter
8752 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8753 \Hy@writebookmark
8754 {\theslidesubsection}%
8755 {\Hy@slidetitle}%
8756 {slideheading.\the\Hy@linkcounter}%
8757 {1}%
8758 {toc}%
8759 \fi
8760 }%
8761 \providecommand*\listslidenamelist{List of Slides}%
8762 \def\listofslides{%
8763 \section*{
8764 \listslidenamelist
8765 \@mkboth{
8766 \expandafter\MakeUppercase\listslidenamelist
8767 }{
8768 \expandafter\MakeUppercase\listslidenamelist
8769 }%

```

```

8770 }%
8771 \def\l@slide###1##2##3##4{%
8772   \slide@undottedcline{%
8773     \slidenumberline{##3}{\hyperlink{##4}{##2}}%
8774   }{}%
8775 }%
8776 \let\l@subslide\l@slide
8777 \@startlos
8778 }%
8779 \def\slide@contents{%
8780   \def\l@slide###1##2##3##4{%
8781     \slide@cline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8782   }%
8783   \let\l@subslide\@gobblefour
8784   \@startlos
8785 }%
8786 \def\Slide@contents{%
8787   \def\l@slide###1##2##3##4{%
8788     \ifcase\lslide@flag
8789       \message{##1 ** \the\c@slidesection}%
8790       \ifnum##1>\c@slidesection
8791         \def\lslide@flag{1}%
8792         {%
8793           \large
8794           \slide@cline{%
8795             \slidenumberline{$\rightarrow\bullet$}%
8796             {\hyperlink{##4}{##2}}%
8797           }{##3}%
8798         }%
8799       \else
8800         {%
8801           \large
8802           \slide@cline{%
8803             \slidenumberline{$\surd\;\bullet$}%
8804             {\hyperlink{##4}{##2}}%
8805           }{##3}%
8806         }%
8807       \fi
8808     \or
8809     \def\lslide@flag{2}%
8810     {%
8811       \large
8812       \slide@cline{%
8813         \slidenumberline{$\bullet$}%
8814         {\hyperlink{##4}{##2}}%
8815       }{##3}%
8816     }%
8817     \or
8818     {%
8819       \large
8820       \slide@cline{%
8821         \slidenumberline{$\bullet$}%
8822         {\hyperlink{##4}{##2}}%
8823       }{##3}%
8824     }%
8825     \fi
8826   }%

```

```

8827 \def\l@subslide##1##2##3##4{%
8828 \ifnum\lslide@flag=1 %
8829 \@undottedtoctline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}}%
8830 \fi
8831 }%
8832 \def\lslide@flag{0}%
8833 \@startlos
8834 }%
8835 }{}

```

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.)

```

8836 \ifHy@texht
8837 \expandafter\endinput
8838 \fi
8839 \let\real@setref\@setref
8840 \def\@setref#1#2#3{% csname, extract group, refname
8841 \ifx#1\relax
8842 \protect\G@refundefinedtrue
8843 \nfss@text{\reset@font\bfseries ??}%
8844 \@latex@warning{%
8845 Reference ‘#3’ on page \thepage \space undefined%
8846 }%
8847 \else
8848 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8849 \fi
8850 }

```

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

```

8851 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8852 \begingroup
8853 \toks0={\hyper@@link{#5}{#4}}%
8854 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8855 \edef\x{\endgroup
8856 \the\toks0 {\the\toks1 }}%
8857 }%
8858 \x
8859 }
8860 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8861 \ifx#1\relax
8862 \protect\G@refundefinedtrue
8863 \nfss@text{\reset@font\bfseries ??}%
8864 \@latex@warning{%
8865 Reference ‘#3’ on page \thepage \space undefined%
8866 }%
8867 \else
8868 \protect\hyper@@link
8869 {\expandafter\@fifthoffive#1}%
8870 {page.\expandafter\@secondoffive#1}%
8871 {\expandafter\@secondoffive#1}%
8872 \fi
8873 }
8874 \</package>
8875 \< *check>
8876 \checklatex
8877 \checkcommand\def\@setref#1#2#3{%

```



```

8878 \ifx#1\relax
8879 \protect\G@refundefinedtrue
8880 \nfss@text{\reset@font\bfseries ??}%
8881 \@latex@warning{%
8882   Reference ‘#3’ on page \thepage\space undefined%
8883 }%
8884 \else
8885 \expandafter#2#1\null
8886 \fi
8887 }
8888 </check>
8889 <*package>

```

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

```

8890 \def\HyRef@StarSetRef#1{%
8891 \begingroup
8892 \Hy@safe@activetrue
8893 \edef\x{#1}%
8894 \@onelevel@sanitize\x
8895 \edef\x{\endgroup
8896   \noexpand\HyRef@@StarSetRef
8897   \expandafter\noexpand\csname r@\x\endcsname{\x}%
8898 }%
8899 \x
8900 }
8901 \def\HyRef@@StarSetRef#1#2#3{%
8902 \ifx#1\@undefined
8903 \let#1\relax
8904 \fi
8905 \real@setref#1#3{#2}%
8906 }
8907 \def\@refstar#1{%
8908 \HyRef@StarSetRef{#1}\@firstoffive
8909 }
8910 \def\@pagerefstar#1{%
8911 \HyRef@StarSetRef{#1}\@secondoffive
8912 }
8913 \def\@namerefstar#1{%
8914 \HyRef@StarSetRef{#1}\@thirdoffive
8915 }
8916 \Hy@AtBeginDocument{%
8917 \@ifpackageloaded{varioref}{%
8918 \def\@Refstar#1{%
8919 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8920 }%
8921 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8922 \MakeUppercase#1%
8923 }%
8924 \DeclareRobustCommand*\Ref}{%
8925 \@ifstar\@Refstar\HyRef@Ref
8926 }%
8927 \def\HyRef@Ref#1{%
8928 \hyperref[{#1}]{\Ref*{#1}}%
8929 }%
8930 \def\Vr@f#1{%
8931 \leavevmode\unskip\vref@space
8932 \hyperref[{#1}]{%

```

```

8933 \Ref*{#1}%
8934 \let\vref@space\nobreakspace
8935 \@vpageref[\unskip]{#1}%
8936 }%
8937 }%
8938 \def\vr@f#1{%
8939 \leavevmode\unskip\vref@space
8940 \begingroup
8941 \let\T@pageref\@pagerefstar
8942 \hyperref[{#1}]{%
8943 \ref*{#1}%
8944 \vpageref[\unskip]{#1}%
8945 }%
8946 \endgroup
8947 }%
8948 }{}%
8949 }
8950 \DeclareRobustCommand*\autopageref{%
8951 \ifstar%
8952 \HyRef@autopagerefname\pageref*%
8953 }\HyRef@autopageref
8954 }
8955 \def\HyRef@autopageref#1{%
8956 \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8957 }
8958 \def\HyRef@autopagerefname{%
8959 \ltx@ifundefined{pageautorefname}{%
8960 \ltx@ifundefined{pagename}{%
8961 \Hy@Warning{No autoref name for 'page'}%
8962 }{%
8963 \pagename\nobreakspace
8964 }%
8965 }{%
8966 \pageautorefname\nobreakspace
8967 }%
8968 }

```

\leavevmode is added to make package wrapfigure happy, if \autoref starts a paragraph.

```

8969 \DeclareRobustCommand*\autoref{%
8970 \leavevmode
8971 \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@link}%
8972 }
8973 \def\HyRef@autoref#1#2{%
8974 \begingroup
8975 \Hy@safe@activetrue
8976 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8977 \endgroup
8978 }
8979 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8980 \HyRef@ShowKeysRef{#2}%
8981 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8982 \edef\HyRef@thisref{%
8983 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8984 }%
8985 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8986 \Hy@safe@activesfalse
8987 #3%

```

```

8988 \expandafter\@fifthoffive#1\@empty\@empty\@empty
8989 }{%
8990 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8991 }{%
8992 \HyRef@currentHtag
8993 \expandafter\@firstoffive#1\@empty\@empty\@empty
8994 \null
8995 }%
8996 \else
8997 \protect\G@refundefinedtrue
8998 \nfss@text{\reset@font\bfseries ??}%
8999 \@latex@warning{%
9000 Reference '#2' on page \thepage\space undefined%
9001 }%
9002 \fi
9003 }
9004 \def\HyRef@testreftype#1.#2\{\%
9005 \ltx@ifundefined{#1autorefname}{%
9006 \ltx@ifundefined{#1name}{%
9007 \HyRef@StripStar#1\*\@nil{#1}%
9008 \ltx@ifundefined{\HyRef@name autorefname}{%
9009 \ltx@ifundefined{\HyRef@name name}{%
9010 \def\HyRef@currentHtag{%
9011 \Hy@Warning{No autoref name for '#1'}%
9012 }{%
9013 \edef\HyRef@currentHtag{%
9014 \expandafter\noexpand\csname\HyRef@name name\endcsname
9015 \noexpand~%
9016 }%
9017 }%
9018 }{%
9019 \edef\HyRef@currentHtag{%
9020 \expandafter\noexpand
9021 \csname\HyRef@name autorefname\endcsname
9022 \noexpand~%
9023 }%
9024 }%
9025 }{%
9026 \edef\HyRef@currentHtag{%
9027 \expandafter\noexpand\csname#1name\endcsname
9028 \noexpand~%
9029 }%
9030 }%
9031 }{%
9032 \edef\HyRef@currentHtag{%
9033 \expandafter\noexpand\csname#1autorefname\endcsname
9034 \noexpand~%
9035 }%
9036 }%
9037 }
9038 \def\HyRef@StripStar#1*\@nil#3{%
9039 \def\HyRef@name{#2}%
9040 \ifx\HyRef@name\HyRef@CaseStar
9041 \def\HyRef@name{#1}%
9042 \else
9043 \def\HyRef@name{#3}%
9044 \fi

```

```

9045 }
9046 \def\HyRef@CaseStar{*\\}
9047 \def\HyRef@currentHtag{}

Support for package showkeys.

```

\HyRef@showkeysRef

```

9048 \let\HyRef@showkeysRef\@gobble
9049 \def\HyRef@showkeysInit{%
9050   \begingroup\expandafter\expandafter\expandafter\endgroup
9051   \expandafter\ifx\csname SK@@label\endcsname\relax
9052   \else
9053     \ifx\SK@ref\@empty
9054     \else
9055       \def\HyRef@showkeysRef{%
9056         \SK@\SK@@ref
9057       }%
9058     \fi
9059   \fi
9060 }
9061 \@ifpackageloaded{showkeys}{%
9062   \HyRef@showkeysInit
9063 }{%
9064   \Hy@AtBeginDocument{%
9065     \@ifpackageloaded{showkeys}{%
9066       \HyRef@showkeysInit
9067     }{}%
9068   }%
9069 }

```

Defaults for the names that \autoref uses.

```

9070 \providecommand*\AMSautorefname{\equationautorefname}
9071 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
9072 \providecommand*\Itemautorefname{\itemautorefname}
9073 \providecommand*\itemautorefname{item}
9074 \providecommand*\equationautorefname{Equation}
9075 \providecommand*\footnoteautorefname{footnote}
9076 \providecommand*\itemautorefname{item}
9077 \providecommand*\figureautorefname{Figure}
9078 \providecommand*\tableautorefname{Table}
9079 \providecommand*\partautorefname{Part}
9080 \providecommand*\appendixautorefname{Appendix}
9081 \providecommand*\chapterautorefname{chapter}
9082 \providecommand*\sectionautorefname{section}
9083 \providecommand*\subsectionautorefname{subsection}
9084 \providecommand*\subsubsectionautorefname{subsubsection}
9085 \providecommand*\paragraphautorefname{paragraph}
9086 \providecommand*\subparagraphautorefname{subparagraph}
9087 \providecommand*\FancyVerbLineautorefname{line}
9088 \providecommand*\theoremautorefname{Theorem}
9089 \providecommand*\pageautorefname{page}
9090 </package>

```

## 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 pdf<sub>T</sub><sub>E</sub>X offers `\pdfescapestring`.

```
9091 \<*pdfTEX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
9092 \begingroup\expandafter\expandafter\expandafter\endgroup
9093 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
9094 \begingroup
9095 \catcode'\=0 %
9096 \@makeother\%
9097 |@firstofone{|endgroup
9098 |def|Hy@pstringdef#1#2{%
9099 |begingroup
9100 |edef~{|string~}%
9101 |xdef|Hy@gtemp{#2}%
9102 |endgroup
9103 |let#1|Hy@gtemp
9104 |@onelevel@sanitize#1%
9105 |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
9106 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
9107 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
9108 }%
9109 |def|Hy@ExchangeBackslash#1|#2|@nil{%
9110 #1%
9111 |ifx|\#2|\%
9112 |else
9113 \\\%
9114 |ltx@ReturnAfterFi{%
9115 |Hy@ExchangeBackslash#2|@nil
9116 }%
9117 |fi
9118 }%
9119 }%
9120 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
9121 #1%
9122 \ifx\#2\%
9123 \else
9124 \@backslashchar(%
9125 \ltx@ReturnAfterFi{%
9126 \Hy@ExchangeLeftParenthesis#2\@nil
9127 }%
9128 \fi
9129 }%
9130 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
9131 #1%
9132 \ifx\#2\%
9133 \else
9134 \@backslashchar)%
9135 \ltx@ReturnAfterFi{%
9136 \Hy@ExchangeRightParenthesis#2\@nil
```

```

9137 }%
9138 \fi
9139 }%
9140 \else
9141 \def\Hy@pstringdef#1#2{%
9142 \begingroup
9143 \edef~{\string~}%
9144 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
9145 \endgroup
9146 \let#1\Hy@gtemp
9147 }%
9148 \fi
9149 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 47.2 pdfTeX

```

9150 <*pdfTeX>
9151 \providecommand*\XR@ext}{pdf}
9152 \Hy@setbreaklinks{true}
9153 \def\HyPat@ObjRef{%
9154 [0-9]*[1-9][0-9]* 0 R%
9155 }

```

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

```

9156 \let\Hy@pdfminorversion\relax
9157 \begingroup\expandafter\expandafter\expandafter\endgroup
9158 \expandafter\ifx\csname pdfminorversion\endcsname\relax
9159 \begingroup\expandafter\expandafter\expandafter\endgroup
9160 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
9161 \else
9162 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
9163 \fi
9164 \else
9165 \def\Hy@pdfminorversion{\pdfminorversion}%
9166 \fi
9167 \@ifundefined{Hy@pdfminorversion}{%
9168 \PackageInfo{hyperref}{%
9169 PDF version is not set, because pdfTeX is too old (<1.10a)%
9170 }%
9171 }{%
9172 \ifHy@ocgcolorlinks
9173 \ifnum\Hy@pdfminorversion<5 %
9174 \kvsetkeys{Hyp}{pdfversion=1.5}%
9175 \fi
9176 \fi
9177 \ifHy@setpdfversion
9178 \ifnum\Hy@pdfversion<5 %
9179 \ltx@ifundefined{pdfobjcompresslevel}{%
9180 }{%
9181 \ifHy@verbose
9182 \Hy@InfoNoLine{%

```

```

9183         PDF object streams are disabled, because they are%
9184         \MessageBreak
9185         not supported in requested PDF version %
9186         1.\Hy@pdfversion
9187     }%
9188 \fi
9189 \pdfobjcompresslevel=\ltx@zero
9190 }%
9191 \fi
9192 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
9193 \else
9194     \let\Hy@temp\ltx@empty
9195     \def\Hy@temp@A#1#2{%
9196         \ifnum#1>\ltx@zero
9197             \edef\Hy@temp{%
9198                 \Hy@temp
9199                 \space\space
9200                 \the#1\space #2%
9201                 \ifnum#1=\ltx@one\else s\fi
9202                 \MessageBreak
9203             }%
9204         \fi
9205     }%
9206     \Hy@temp@A\pdflastobj{PDF object}%
9207     \Hy@temp@A\pdflastxform{form XObject}%
9208     \Hy@temp@A\pdflastximage{image XObject}%
9209     \Hy@temp@A\pdflastannot{annotation}%
9210     \ltx@ifundefined{pdflastlink}{%
9211     }{%
9212         \Hy@temp@A\pdflastlink{link}%
9213     }%
9214     \ifx\Hy@temp\ltx@empty
9215         \Hy@pdfminorversion=\Hy@pdfversion\relax
9216     \else
9217         \let\Hy@temp@A\ltx@empty
9218         \ifnum\Hy@pdfversion=4 %
9219             \IfFileExists{pdf14.sty}{%
9220                 \def\Hy@temp@A{%
9221                     \MessageBreak
9222                     Or \string\RequirePackage{pdf14} can be used%
9223                     \MessageBreak
9224                     before \string\documentclass\space as shortcut%
9225                 }%
9226             }{}%
9227         \fi
9228         \Hy@WarningNoLine{%
9229             The PDF version number could not be set,\MessageBreak
9230             because some PDF objects are already written:%
9231             \MessageBreak
9232             \Hy@temp
9233             The version should be set as early as possible:%
9234             \MessageBreak
9235             \space\space
9236             \expandafter\string\Hy@pdfminorversion=\Hy@pdfversion
9237             \string\relax
9238             \ifnum\Hy@pdfversion<5 %
9239                 \ltx@ifundefined{pdfobjcompresslevel}{%

```

```

9240      }{%
9241      \MessageBreak
9242      \space\space
9243      \string\pdfobjcompresslevel=0\string\relax
9244      }%
9245      \fi
9246      \Hy@temp@A
9247      }%
9248      \fi
9249      \fi
9250      \PackageInfo{hyperref}{%
9251      \expandafter\string\Hy@pdfminorversion
9252      :=\number\Hy@pdfversion\space
9253      }%
9254      \fi
9255      \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
9256      }
9257      \Hy@DisableOption{pdfversion}%
9258      \ifHy@ocgcolorlinks
9259      \pdf@ifdraftmode{}{%
9260      \immediate\pdfobj{%
9261      <<%
9262      /Type/OCG%
9263      /Name(View)%
9264      /Usage<<%
9265      /Print<<%
9266      /PrintState/OFF%
9267      >>%
9268      /View<<%
9269      /ViewState/ON%
9270      >>%
9271      >>%
9272      >>%
9273      }%
9274      \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
9275      \immediate\pdfobj{%
9276      <<%
9277      /Type/OCG%
9278      /Name(Print)%
9279      /Usage<<%
9280      /Print<<%
9281      /PrintState/ON%
9282      >>%
9283      /View<<%
9284      /ViewState/OFF%
9285      >>%
9286      >>%
9287      >>%
9288      }%
9289      \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
9290      \immediate\pdfobj{%
9291      [%
9292      \OBJ@OCG@view\space\OBJ@OCG@print
9293      ]%
9294      }%
9295      \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
9296      \pdfcatalog{%

```



```

9297 /OCProperties<<%
9298 /OCGs \OBJ@OCGs
9299 /D<<%
9300 /OFF[\OBJ@OCG@print]%
9301 /AS[%
9302 <<%
9303 /Event/View%
9304 /OCGs \OBJ@OCGs
9305 /Category[/View]%
9306 >>%
9307 <<%
9308 /Event/Print%
9309 /OCGs \OBJ@OCGs
9310 /Category[/Print]%
9311 >>%
9312 <<%
9313 /Event/Export%
9314 /OCGs \OBJ@OCGs
9315 /Category[/Print]%
9316 >>%
9317 ]%
9318 >>%
9319 >>%
9320 }%
9321 \begingroup
9322 \edef\x{\endgroup
9323 \pdfpageresources{%
9324 \the\pdfpageresources
9325 /Properties<<%
9326 /OCView \OBJ@OCG@view
9327 /OCPrint \OBJ@OCG@print
9328 >>%
9329 }%
9330 }%
9331 \x
9332 }%
9333 \Hy@AtBeginDocument{%
9334 \def\Hy@colorlink#1{%
9335 \begingroup
9336 \ifHy@ocgcolorlinks
9337 \def\Hy@ocgcolor{#1}%
9338 \setbox0=\hbox\bgroup\color@begingroup
9339 \else
9340 \HyColor@UseColor#1%
9341 \fi
9342 }%
9343 \def\Hy@endcolorlink{%
9344 \ifHy@ocgcolorlinks
9345 \color@endgroup\egroup
9346 \mbox{%
9347 \pdfliteral page{/OC/OCPrint BDC}%
9348 \rlap{\copy0}%
9349 \pdfliteral page{EMC/OC/OCView BDC}%
9350 \begingroup
9351 \expandafter\HyColor@UseColor\Hy@ocgcolor
9352 \box0 %
9353 \endgroup

```

```

9354      \pdfliteral page{EMC}%
9355      }%
9356      \fi
9357      \endgroup
9358      }%
9359      }%
9360 \else
9361 \Hy@DisableOption{ocgcolorlinks}%
9362 \fi

```

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

```

9363 \def\setpdfinkmargin#1{\pdfinkmargin#1}
9364 \ifx\pdfstartlink\@undefined% less than version 14
9365 \let\pdfstartlink\pdfannotlink
9366 \let\pdfinkmargin\@tempdima
9367 \let\pdfxform\pdfform
9368 \let\pdflastxform\pdfastform
9369 \let\pdfrefxform\pdfrefform
9370 \else
9371 \pdfinkmargin1pt %
9372 \fi

```

First set up the default linking

```

9373 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

9374 \Hy@WrapperDef\new@pdfink#1{%
9375 \ifhmode
9376 \@savsf\spacefactor
9377 \fi
9378 \Hy@SaveLastskip
9379 \Hy@VerboseAnchor{#1}%
9380 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9381 \Hy@DestName\Hy@pstringDest\@pdfview
9382 \Hy@RestoreLastskip
9383 \ifhmode
9384 \spacefactor\@savsf
9385 \fi
9386 }
9387 \let\pdf@endanchor\@empty

```

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

```

9388 \def\Hy@DestName#1#2{%
9389 \pdfdest name{#1}#2\relax
9390 }

```

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.

```

9391 \providecommand*\@pdfborder{0 0 1}
9392 \providecommand*\@pdfborderstyle{}
9393 \def\Hy@undefinedname{UNDEFINED}
9394 \def\find@pdfink#1#2{%
9395 \leavevmode
9396 \protected@edef\Hy@testname{#2}%
9397 \ifx\Hy@testname\@empty

```

```

9398 \Hy@Warning{%
9399     Empty destination name,\MessageBreak
9400     using '\Hy@undefinedname'%
9401 }%
9402 \let\Hy@testname\Hy@undefinedname
9403 \else
9404 \Hy@pstringdef\Hy@testname{%
9405     \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
9406 }%
9407 \fi
9408 \Hy@StartlinkName{%
9409     \ifHy@pdfa /F 4\fi
9410     \Hy@setpdfborder
9411     \ifx\@pdfhighlight\@empty
9412     \else
9413         /H\@pdfhighlight
9414     \fi
9415     \ifx\CurrentBorderColor\relax
9416     \else
9417         /C[\CurrentBorderColor]%
9418     \fi
9419 } \Hy@testname
9420 \expandafter\Hy@colorlink\csname @#1color\endcsname
9421 }
9422 \def\Hy@StartlinkName#1#2{%
9423     \pdfstartlink attr{#1}goto name{#2}\relax
9424 }
9425 \def\close@pdfink{%
9426     \Hy@endcolorlink
9427     \Hy@VerboseLinkStop
9428     \pdfendlink
9429 }
9430 \def\hyper@anchor#1{%
9431     \new@pdfink{#1}\anchor@spot\pdf@endanchor
9432 }
9433 \def\hyper@anchorstart#1{%
9434     \new@pdfink{#1}%
9435     \Hy@activeanchortrue
9436 }
9437 \def\hyper@anchorend{%
9438     \pdf@endanchor
9439     \Hy@activeanchorfalse
9440 }
9441 \def\hyper@linkstart#1#2{%
9442     \Hy@VerboseLinkStart{#1}{#2}%
9443     \ltx@ifundefined{@#1bordercolor}{%
9444         \let\CurrentBorderColor\relax
9445     }{%
9446         \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9447     }%
9448     \find@pdfink{#1}{#2}%
9449 }
9450 \def\hyper@linkend{\close@pdfink}
9451 \def\hyper@link#1#2#3{%
9452     \Hy@VerboseLinkStart{#1}{#2}%
9453     \ltx@ifundefined{@#1bordercolor}{%
9454         \let\CurrentBorderColor\relax

```

```

9455 }{%
9456   \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9457 }%
9458 \find@pdfink{#1}{#2}#3\Hy@xspace@end
9459 \close@pdfink
9460 }
9461 \let\CurrentBorderColor\@linkbordercolor
9462 \def\hyper@linkurl#1#2{%
9463   \begingroup
9464     \Hy@pstringdef\Hy@pstringURI{#2}%
9465     \hyper@chars
9466     \leavevmode
9467     \pdfstartlink
9468     attr{%
9469       \Hy@setpdfborder
9470       \ifx\@pdfhighlight\@empty
9471       \else
9472         /H\@pdfhighlight
9473       \fi
9474       \ifx\@urlbordercolor\relax
9475       \else
9476         /C[\@urlbordercolor]%
9477       \fi
9478     }%
9479     user{%
9480       /Subtype/Link%
9481       \ifHy@pdfa /F 4\fi
9482       /A<<%
9483       /Type/Action%
9484       /S/URI%
9485       /URI(\Hy@pstringURI)%
9486       \ifHy@href@ismap
9487         /IsMap true%
9488       \fi
9489       \Hy@href@nextactionraw
9490     >>%
9491   }%
9492   \relax
9493   \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9494   \close@pdfink
9495 \endgroup
9496 }
9497 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9498   \begingroup
9499     \def\Hy@pstringF{#2}%
9500     \Hy@CleanupFile\Hy@pstringF
9501     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9502     \Hy@pstringdef\Hy@pstringD{#3}%
9503     \Hy@MakeRemoteAction
9504     \leavevmode
9505     \pdfstartlink
9506     attr{%
9507       \Hy@setpdfborder
9508       \ifx\@pdfhighlight\@empty
9509       \else
9510         /H\@pdfhighlight
9511       \fi

```

```

9512     \ifx\@filebordercolor\relax
9513     \else
9514     /C[\@filebordercolor]%
9515     \fi
9516 }%
9517 user {%
9518 /Subtype/Link%
9519 \ifHy@pdfa /F 4\fi
9520 /A<<%
9521 /F(\Hy@pstringF)%
9522 /S/GoToR%
9523 \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}

```

```

9524     \ifx\#3\%
9525     /D[\Hy@href@page\@pdfremotestartview]%
9526     \else
9527     /D(\Hy@pstringD)%
9528     \fi
9529     \Hy@href@nextactionraw
9530     >>%
9531     }%
9532     \relax
9533     \Hy@colorlink\@filecolor#1\Hy@xspace@end
9534     \close@pdfink
9535 \endgroup
9536 }
9537 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9538 \begingroup
9539 \Hy@pstringdef\Hy@pstringF{#1}%
9540 \Hy@pstringdef\Hy@pstringP{#3}%
9541 \leavevmode
9542 \pdfstartlink
9543 attr{%
9544 \Hy@setpdfborder
9545 \ifx\@pdfhighlight\@empty
9546 \else
9547 /H\@pdfhighlight
9548 \fi
9549 \ifx\@runbordercolor\relax
9550 \else
9551 /C[\@runbordercolor]%
9552 \fi
9553 }%
9554 user {%
9555 /Subtype/Link%
9556 \ifHy@pdfa /F 4\fi

```

```

9557 /A<<%
9558 /F(\Hy@pstringF)%
9559 /S/Launch%
9560 \Hy@SetNewWindow
9561 \ifx\#3\%
9562 \else
9563 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9564 \fi
9565 \Hy@href@nextactionraw
9566 >>%
9567 }%
9568 \relax
9569 \Hy@colorlink\@runcolor#2\Hy@xspace@end
9570 \close@pdflink
9571 \endgroup
9572 }

```

\@pdfproducer

```

9573 \ifx\@pdfproducer\relax
9574 \begingroup\expandafter\expandafter\expandafter\endgroup
9575 \expandafter\ifx\csname luatexversion\endcsname\relax
9576 \def\@pdfproducer{pdfTeX}%
9577 \ifx\eTeXversion\@undefined
9578 \else
9579 \ifx\eTeXversion\relax
9580 \else
9581 \ifnum\eTeXversion>0 %
9582 \def\@pdfproducer{pdfeTeX}%
9583 \fi
9584 \fi
9585 \fi
9586 \ifx\pdfTeXversion\@undefined
9587 \else
9588 \ifnum\pdfTeXversion<100 %
9589 \edef\@pdfproducer{%
9590 \@pdfproducer
9591 \the\pdfTeXversion.\pdfTeXrevision
9592 }%
9593 \else
9594 \ifnum\pdfTeXversion<130 %
9595 \edef\@pdfproducer{%
9596 \@pdfproducer-%
9597 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9598 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
9599 \pdfTeXrevision
9600 }%
9601 \else
9602 \ifnum\pdfTeXversion<140 %
9603 \else
9604 \def\@pdfproducer{pdfTeX}%
9605 \fi
9606 \edef\@pdfproducer{%
9607 \@pdfproducer-%
9608 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9609 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9610 \pdfTeXrevision
9611 }%

```

```

9612     \fi
9613     \fi
9614     \fi
9615   \else
9616     \begingroup
9617       \count@=\luatexversion
9618       \divide\count@ by 100 %
9619       \edef\x{\the\count@}%
9620       \count@=-\x\relax
9621       \multiply\count@ by 100 %
9622       \advance\count@ by \luatexversion
9623       \edef\x{\endgroup
9624         \def\noexpand\@pdfproducer{%
9625           LuaTeX-\x.\the\count@.\luatexrevision
9626         }%
9627       }%
9628     \x
9629   \fi
9630 \fi

```

\PDF@SetupDox

```

9631 \def\PDF@SetupDoc{%
9632   \ifx\@pdfpagescrop\@empty
9633   \else
9634     \edef\process@me{%
9635       \pdfpagesattr={%
9636         /CropBox[\@pdfpagescrop]%
9637         \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
9638         \else
9639           ^^J\the\pdfpagesattr
9640         \fi
9641       }%
9642     }%
9643     \process@me
9644   \fi
9645   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9646   \pdfcatalog{%
9647     /PageMode/\@pdfpagemode
9648     \ifx\@baseurl\@empty
9649     \else
9650       /URI<</Base(\Hy@pstringB)>>%
9651     \fi
9652   }%
9653   \ifx\@pdfstartpage\@empty
9654   \else
9655     \ifx\@pdfstartview\@empty
9656     \else
9657       openaction goto page\@pdfstartpage{\@pdfstartview}%
9658     \fi
9659   \fi
9660   \edef\Hy@temp{%
9661     \ifHy@pdftoolbar\else /HideToolbar true\fi
9662     \ifHy@pdfmenubar\else /HideMenubar true\fi
9663     \ifHy@pdfwindowui\else /HideWindowUI true\fi
9664     \ifHy@pdffitwindow /FitWindow true\fi
9665     \ifHy@pdfcenterwindow /CenterWindow true\fi
9666     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9667     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode

```

```

9668 \Hy@UseNameKey{Direction}\@pdfdirection
9669 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9670 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9671 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9672 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9673 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9674 \Hy@UseNameKey{Duplex}\@pdfduplex
9675 \ifx\@pdfpicktraybypdfsize\@empty
9676 \else
9677 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9678 \fi
9679 \ifx\@pdfprintpagerange\@empty
9680 \else
9681 /PrintPageRange[\@pdfprintpagerange]%
9682 \fi
9683 \ifx\@pdfnumcopies\@empty
9684 \else
9685 /NumCopies \@pdfnumcopies
9686 \fi
9687 }%
9688 \pdfcatalog{%
9689 \ifx\Hy@temp\@empty
9690 \else
9691 /ViewerPreferences<<\Hy@temp>>%
9692 \fi
9693 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9694 \ifx\@pdflang\@empty
9695 \else
9696 /Lang(\@pdflang)%
9697 \fi
9698 }%
9699 }

```

\PDF@FinishDoc

```

9700 \def\PDF@FinishDoc{%
9701 \pdf@ifdraftmode{ }{%
9702 \Hy@UseMaketitleInfos
9703 \HyInfo@GenerateAddons
9704 \pdfinfo{%
9705 /Author(\@pdfauthor)%
9706 /Title(\@pdftitle)%
9707 /Subject(\@pdfsubject)%
9708 /Creator(\@pdfcreator)%
9709 \ifx\@pdfcreationdate\@empty
9710 \else
9711 /CreationDate(\@pdfcreationdate)%
9712 \fi
9713 \ifx\@pdfmoddate\@empty
9714 \else
9715 /ModDate(\@pdfmoddate)%
9716 \fi
9717 \ifx\@pdfproducer\relax
9718 \else
9719 /Producer(\@pdfproducer)%
9720 \fi
9721 /Keywords(\@pdfkeywords)%
9722 \ifx\@pdftrapped\@empty
9723 \else

```



```

9724      /Trapped/\@pdftrapped
9725      \fi
9726      \HyInfo@Addons
9727    }%
9728  }%
9729  \Hy@DisableOption{pdfauthor}%
9730  \Hy@DisableOption{pdftitle}%
9731  \Hy@DisableOption{pdfsubject}%
9732  \Hy@DisableOption{pdfcreator}%
9733  \Hy@DisableOption{pdfcreationdate}%
9734  \Hy@DisableOption{pdfmoddate}%
9735  \Hy@DisableOption{pdfproducer}%
9736  \Hy@DisableOption{pdfkeywords}%
9737  \Hy@DisableOption{pdftrapped}%
9738  \Hy@DisableOption{pdfinfo}%
9739 }

```

`\hyper@pagetransition` `\@pdfpagetransition` is initialized with `\relax`. So it indicates, if option `pdfpagetransition` is used. First previous `/Trans` entries are removed. If a new `/Trans` key exists, it is appended to `\pdfpageattr`.

```

9740 \def\hyper@pagetransition{%
9741   \ifx\@pdfpagetransition\relax
9742   \else
9743     \expandafter\Hy@RemoveTransPageAttr
9744     \the\pdfpageattr^^J/Trans{}>>\END
9745     \ifx\@pdfpagetransition\@empty
9746     \else
9747       \edef\@processme{%
9748         \global\pdfpageattr{%
9749           \the\pdfpageattr
9750             ^^J/Trans << /S /\@pdfpagetransition\space >>%
9751         }%
9752       }%
9753       \@processme
9754     \fi
9755   \fi
9756 }

```

`\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.

```

9757 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9758   \ifx\\#2\\%
9759     \global\pdfpageattr{#1}%
9760   \else
9761     \Hy@RemoveTransPageAttr#1#4\END
9762   \fi
9763 }

```

`\hyper@pageduration` `\@pdfpageduration` is initialized with `\relax`. So it indicates, if option `pdfpageduration` is used. First previous `/Dur` entries are removed. If a new `/Dur` key exists, it is appended to `\pdfpageattr`.

```

9764 \def\hyper@pageduration{%
9765   \ifx\@pdfpageduration\relax

```

```

9766 \else
9767 \expandafter
9768 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9769 \ifx\@pdfpageduration\@empty
9770 \else
9771 \edef\@processme{%
9772 \global\pdfpageattr{%
9773 \the\pdfpageattr
9774 ^^J/Dur \@pdfpageduration\space
9775 }%
9776 }%
9777 \@processme
9778 \fi
9779 \fi
9780 }

```

**\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.

```

9781 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9782 \ifx\|#2\|
9783 \global\pdfpageattr{#1}%
9784 \else
9785 \Hy@RemoveDurPageAttr#1#4\END
9786 \fi
9787 }

```

**\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).

```

9788 \def\hyper@pagehidden{%
9789 \ifHy@useHidKey
9790 \expandafter
9791 \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9792 \ifHy@pdfpagehidden
9793 \edef\@processme{%
9794 \global\pdfpageattr{%
9795 \the\pdfpageattr
9796 ^^J/Hid true % SPACE
9797 }%
9798 }%
9799 \@processme
9800 \fi
9801 \fi
9802 }

```

**\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.

```

9803 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9804 \ifx\|#2\|
9805 \global\pdfpageattr{#1}%
9806 \else
9807 \Hy@RemoveHidPageAttr#1#4\END

```

```

9808 \fi
9809 }

9810 \pdf@ifdraftmode{}{%
9811 \g@addto@macro\Hy@EveryPageHook{%
9812 \hyper@pagetransition
9813 \hyper@pageduration
9814 \hyper@pagehidden
9815 }%
9816 }

```

Also XeTeX support \pdfpagewidth and \pdfpageheight, but it does not provide \pdfhorigin and \pdfvorigin.

```

9817 </pdftex>
9818 <*pdftex | xetex>
9819 \Hy@AtBeginDocument{%
9820 \ifHy@setpagesize
9821 \expandafter\@firstofone
9822 \else
9823 \expandafter\@gobble
9824 \fi
9825 {%
9826 \@ifclassloaded{seminar}{%
9827 *pdftex>
9828 \setlength{\pdfhorigin}{1truein}%
9829 \setlength{\pdfvorigin}{1truein}%
9830 </pdftex>
9831 \ifportrait
9832 \ifdim\paperwidth=\z@
9833 \else
9834 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9835 \fi
9836 \ifdim\paperheight=\z@
9837 \else
9838 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9839 \fi
9840 \else
9841 \ifdim\paperheight=\z@
9842 \else
9843 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9844 \fi
9845 \ifdim\paperwidth=\z@
9846 \else
9847 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9848 \fi
9849 \fi
9850 }{%
9851 \ltx@ifundefined{stockwidth}{%
9852 \ifdim\paperwidth>\z@
9853 \setlength{\pdfpagewidth}{\paperwidth}%
9854 \fi
9855 \ifdim\paperheight>\z@
9856 \setlength{\pdfpageheight}{\paperheight}%
9857 \fi
9858 }{%
9859 \ifdim\stockwidth>\z@
9860 \setlength{\pdfpagewidth}{\stockwidth}%
9861 \fi

```

```

9862 \ifdim\stockheight>\z@
9863 \setlength{\pdfpageheight}{\stockheight}%
9864 \fi
9865 }%
9866 }%
9867 }%
9868 \Hy@DisableOption{setpagesize}%
9869 }
9870 </pdfTeX | xetex>
9871 <*pdfTeX>
9872 \def\Acrobatmenu#1#2{%
9873 \Hy@Acrobatmenu{#1}{#2}{%
9874 \leavevmode
9875 \EdefEscapeName\Hy@temp@menu{#1}%
9876 \pdfstartlink
9877 attr{%
9878 \Hy@setpdfborder
9879 \ifx\@pdfhighlight\@empty
9880 \else
9881 /H\@pdfhighlight
9882 \fi
9883 \ifx\@menubordercolor\relax
9884 \else
9885 /C[\@menubordercolor]%
9886 \fi
9887 }%
9888 user{%
9889 /Subtype/Link%
9890 \ifHy@pdfa /F 4\fi
9891 /A<<%
9892 /S/Named%
9893 /N/\Hy@temp@menu
9894 \Hy@href@nextactionraw
9895 >>%
9896 }%
9897 \relax
9898 \Hy@colorlink\@menucolor#2%
9899 \close@pdflink
9900 }%
9901 }

```

#### 47.2.1 Fix for problem with different nesting levels

`\AtBeginShipoutFirst` adds an additional box layer around the first output page. This disturbs pdfTeX's low level link commands `\pdfstartlink` and `\pdfendlink`, if a link is broken across the first and second output page.

The problem could be fixed by replacing `\AtBeginShipoutFirst`, because the box layer is not necessary for pdfTeX—no `\specials` need to be inserted. However it's easier to add an additional box level for the pages after the first one. Also `\AtBeginShipoutFirst` could be invoked independently from `hyperref`.

Since version 2011/10/05 v1.16 of package 'atbegshi' `\AtBeginShipoutFirst` does not add a additional box layer.

```

9902 \def\Hy@FixNotFirstPage{%
9903 \gdef\Hy@FixNotFirstPage{%
9904 \setbox\AtBeginShipoutBox=\hbox{%
9905 \copy\AtBeginShipoutBox

```

```

9906 }%
9907 }%
9908 }
9909 \ltx@ifpackagelater{atbegshi}{2011/10/05}{%
9910 }{%
9911 \AtBeginShipout{\Hy@FixNotFirstPage}%
9912 }
9913 </pdfTeX>

```

### 47.3 hypertex

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

**href:** html:<a href = "href\_string">

**name:** html:<a name = "name\_string">

**end:** html:</a>

**image:** html:<img src = "href\_string">

**base\_name:** html:<base href = "href\_string">

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

The *href* and *name* commands must be paired with an *end* command later in the TeX file — the TeX commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href\_string*. The *anchor* associated with a name command represents a possible location to which other hypertext links may refer, either as local references (of the form href="#name\_string" with the *name\_string* identical to the one in the name command) or as part of a URL (of the form URL#name\_string). Here *href\_string* is a valid URL or local identifier, while *name\_string* could be any string at all: the only caveat is that “'” characters should be escaped with a backslash (\), and if it looks like a URL name it may cause problems.

```

9914 (*hypertex)
9915 \providecommand*\XR@ext}{dvi}
9916 \let\PDF@FinishDoc\ltx@empty
9917 \def\PDF@SetupDoc{%
9918 \ifx\@baseurl\@empty
9919 \else
9920 \special{html:<base href="\@baseurl">}%
9921 \fi
9922 }
9923 \Hy@WrapperDef\hyper@anchor#1{%
9924 \Hy@SaveLastskip
9925 \Hy@VerboseAnchor{#1}%
9926 \begingroup

```

```

9927 \let\protect=\string
9928 \hyper@chars
9929 \special{html:<a name=%
9930     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
9931 \endgroup
9932 \Hy@activeanchortrue
9933 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9934 \special{html:</a>}}%
9935 \Hy@activeanchorfalse
9936 \Hy@RestoreLastskip
9937 }
9938 \Hy@WrapperDef\hyper@anchorstart#1{%
9939 \Hy@SaveLastskip
9940 \Hy@VerboseAnchor{#1}%
9941 \begingroup
9942 \hyper@chars
9943 \special{html:<a name=%
9944     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
9945 \endgroup
9946 \Hy@activeanchortrue
9947 }
9948 \def\hyper@anchorend{%
9949 \special{html:</a>}}%
9950 \Hy@activeanchorfalse
9951 \Hy@RestoreLastskip
9952 }
9953 \def\@urltype{url}
9954 \def\hyper@linkstart#1#2{%
9955 \Hy@VerboseLinkStart{#1}{#2}%
9956 \expandafter\Hy@colorlink\csname @#1color\endcsname
9957 \def\Hy@tempa{#1}%
9958 \ifx\Hy@tempa\@urltype
9959 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9960 \else
9961 \begingroup
9962 \hyper@chars
9963 \special{html:<a href=%
9964     \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}}%
9965 \endgroup
9966 \fi
9967 }
9968 \def\hyper@linkend{%
9969 \special{html:</a>}}%
9970 \Hy@endcolorlink
9971 }
9972 \def\hyper@linkfile#1#2#3{%
9973 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
9974 }
9975 \def\hyper@linkurl#1#2{%

```

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

```

9976 \leavevmode
9977 \ifHy@raiselinks
9978 \Hy@SaveSpaceFactor
9979 \Hy@SaveSavedSpaceFactor
9980 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%

```

```

9981 \Hy@RestoreSavedSpaceFactor
9982 \@linkdim\dp\@tempboxa
9983 \lower\@linkdim\hbox{%
9984   \hyper@chars
9985   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9986 }%
9987 \Hy@colorlink\@urlcolor
9988 \Hy@RestoreSpaceFactor
9989 #1%
9990 \Hy@SaveSpaceFactor
9991 \@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).

```

9992 \advance\@linkdim by -6.5\p@
9993 \raise\@linkdim\hbox{\special{html:</a>}}%
9994 \Hy@endcolorlink
9995 \Hy@RestoreSpaceFactor
9996 \else
9997 \begingroup
9998   \hyper@chars
9999   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
10000 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
10001 \special{html:</a>}}%
10002 \Hy@endcolorlink
10003 \endgroup
10004 \fi
10005 }

```

Very poor implementation of \hyper@link without considering #1.

```

10006 \def\hyper@link#1#2#3{%
10007   \Hy@VerboseLinkStart{#1}{#2}%
10008   \hyper@linkurl{#3}{\# \Hy@HyperDestNameFilter{#2}}}%
10009 }
10010 \def\hyper@image#1#2{%
10011   \begingroup
10012     \hyper@chars
10013     \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
10014   \endgroup
10015 }
10016 </hypertex>
10017 <*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, L<sup>A</sup>T<sub>E</sub>X 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.

```

10018 \providecommand*\XR@ext}{dvi}
10019 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
10020 \Hy@WrapperDef\hyper@anchor#1{%
10021   \Hy@SaveLastskip
10022   \Hy@VerboseAnchor{#1}%
10023   \begingroup
10024     \let\protect=\string
10025     \special{mark: #1}%
10026   \endgroup
10027   \Hy@activeanchortrue
10028   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10029   \Hy@activeanchorfalse
10030   \Hy@RestoreLastskip
10031 }
10032 \Hy@WrapperDef\hyper@anchorstart#1{%
10033   \Hy@SaveLastskip
10034   \Hy@VerboseAnchor{#1}%
10035   \special{mark: #1}%
10036   \Hy@activeanchortrue
10037 }
10038 \def\hyper@anchorend{%
10039   \Hy@activeanchorfalse
10040   \Hy@RestoreLastskip
10041 }
10042 \def\hyper@linkstart#1#2{%
10043   \Hy@VerboseLinkStart{#1}{#2}%
10044   \expandafter\Hy@colorlink\csname @#1color\endcsname
10045   \special{button: %
10046     10000000 %
10047     \number\baselineskip\space
10048     #2%
10049   }%
10050 }
10051 \def\hyper@linkend{%
10052   \Hy@endcolorlink
10053 }
10054 \def\hyper@link#1#2#3{%
10055   \Hy@VerboseLinkStart{#1}{#2}%
10056   \leavevmode
10057   \ifHy@raiselinks
10058     \Hy@SaveSpaceFactor
10059     \Hy@SaveSavedSpaceFactor
10060     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
10061     \Hy@RestoreSavedSpaceFactor
10062     \@linkdim\dp\@tempboxa
10063     \lower\@linkdim\hbox{%
10064       \special{button: %
10065         \number\wd\@tempboxa\space
10066         \number\ht\@tempboxa\space
10067         #2%
10068       }%
10069       \expandafter\Hy@colorlink\csname @#1color\endcsname
10070       \Hy@RestoreSpaceFactor
10071       #3\Hy@xspace@end
10072       \Hy@SaveSpaceFactor
10073       \Hy@endcolorlink
10074     }%

```



```

10075 \@linkdim\ht\@tempboxa
10076 \advance\@linkdim by -6.5\p@
10077 \raise\@linkdim\hbox{}%
10078 \Hy@RestoreSpaceFactor
10079 \else
10080 \special{button: %
10081 \number\wd\@tempboxa\space
10082 \number\ht\@tempboxa\space
10083 #2%
10084 }%
10085 \expandafter\Hy@colorlink\csname @#1color\endcsname
10086 #3\Hy@xspace@end
10087 \Hy@endcolorlink
10088 \fi
10089 }
10090 \def\hyper@linkurl#1#2{%
10091 \begingroup
10092 \hyper@chars
10093 \leavevmode
10094 \ifHy@raiselinks
10095 \Hy@SaveSpaceFactor
10096 \Hy@SaveSavedSpaceFactor
10097 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10098 \Hy@RestoreSavedSpaceFactor
10099 \@linkdim\dp\@tempboxa
10100 \lower\@linkdim\hbox{%
10101 \special{button: %
10102 \number\wd\@tempboxa\space
10103 \number\ht\@tempboxa\space
10104 launch: \wwwbrowser\space
10105 #2%
10106 }%
10107 \Hy@colorlink\@urlcolor
10108 \Hy@RestoreSpaceFactor
10109 #1\Hy@xspace@end
10110 \Hy@SaveSpaceFactor
10111 \Hy@endcolorlink
10112 }%
10113 \@linkdim\ht\@tempboxa
10114 \advance\@linkdim by -6.5\p@
10115 \raise\@linkdim\hbox{}%
10116 \Hy@RestoreSpaceFactor
10117 \else
10118 \special{button: %
10119 \number\wd\@tempboxa\space
10120 \number\ht\@tempboxa\space
10121 launch: \wwwbrowser\space
10122 #2%
10123 }%
10124 \Hy@colorlink\@urlcolor
10125 #1\Hy@xspace@end
10126 \Hy@endcolorlink
10127 \fi
10128 \endgroup
10129 }
10130 \def\hyper@linkfile#1#2#3{%
10131 \begingroup

```

```

10132 \hyper@chars
10133 \leavevmode
10134 \ifHy@raiselinks
10135 \Hy@SaveSpaceFactor
10136 \Hy@SaveSavedSpaceFactor
10137 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10138 \Hy@RestoreSavedSpaceFactor
10139 \@linkdim\dp\@tempboxa
10140 \lower\@linkdim\hbox{%
10141 \special{button: %
10142 \number\wd\@tempboxa\space
10143 \number\ht\@tempboxa\space
10144 #3,%
10145 file: #2%
10146 }%
10147 \Hy@colorlink\@filecolor
10148 \Hy@RestoreSpaceFactor
10149 #1\Hy@xspace@end
10150 \Hy@SaveSpaceFactor
10151 \Hy@endcolorlink
10152 }%
10153 \@linkdim\ht\@tempboxa
10154 \advance\@linkdim by -6.5\p@
10155 \raise\@linkdim\hbox{}%
10156 \Hy@RestoreSpaceFactor
10157 \else
10158 \special{button: %
10159 \number\wd\@tempboxa\space
10160 \number\ht\@tempboxa\space
10161 #3,%
10162 file: #2%
10163 }%
10164 \Hy@colorlink\@filecolor
10165 #1\Hy@xspace@end
10166 \Hy@endcolorlink
10167 \fi
10168 \endgroup
10169 }
10170 \ifx\@pdfproducer\relax
10171 \def\@pdfproducer{dviwindo + Distiller}%
10172 \fi
10173 \HyInfo@AddonUnsupportedtrue
10174 \def\PDF@FinishDoc{%
10175 \Hy@UseMaketitleInfos
10176 \HyInfo@TrappedUnsupported
10177 \special{PDF: Keywords \@pdfkeywords}%
10178 \special{PDF: Title \@pdftitle}%
10179 \special{PDF: Creator \@pdfcreator}%
10180 \ifx\@pdfcreationdate\@empty
10181 \else
10182 \special{PDF: CreationDate \@pdfcreationdate}%
10183 \fi
10184 \ifx\@pdfmoddate\@empty
10185 \else
10186 \special{PDF: ModDate \@pdfmoddate}%
10187 \fi
10188 \special{PDF: Author \@pdfauthor}%

```

```

10189 \ifx\@pdfproducer\relax
10190 \else
10191   \special{PDF: Producer \@pdfproducer}%
10192 \fi
10193 \special{PDF: Subject \@pdfsubject}%
10194 \Hy@DisableOption{pdfauthor}%
10195 \Hy@DisableOption{pdftitle}%
10196 \Hy@DisableOption{pdfsubject}%
10197 \Hy@DisableOption{pdfcreator}%
10198 \Hy@DisableOption{pdfcreationdate}%
10199 \Hy@DisableOption{pdfmoddate}%
10200 \Hy@DisableOption{pdfproducer}%
10201 \Hy@DisableOption{pdfkeywords}%
10202 \Hy@DisableOption{pdftrapped}%
10203 \Hy@DisableOption{pdfinfo}%
10204 }
10205 \def\PDF@SetupDoc{%
10206   \ifx\@baseurl\@empty
10207   \else
10208     \special{PDF: Base \@baseurl}%
10209   \fi
10210   \ifx\@pdfpagescrop\@empty\else
10211     \special{PDF: BBox \@pdfpagescrop}%
10212   \fi
10213   \def\Hy@temp{}%
10214   \ifx\@pdfstartpage\@empty
10215   \else
10216     \ifx\@pdfstartview\@empty
10217     \else
10218       \edef\Hy@temp{%
10219         ,Page=\@pdfstartpage
10220         ,View=\@pdfstartview
10221       }%
10222     \fi
10223   \fi
10224   \edef\Hy@temp{%
10225     \noexpand\pdfmark{%
10226       pdfmark=/DOCVIEW,%
10227       PageMode=/\@pdfpagemode
10228       \Hy@temp
10229     }%
10230   }%
10231   \Hy@temp
10232   \ifx\@pdfpagescrop\@empty
10233   \else
10234     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10235   \fi
10236   \edef\Hy@temp{%
10237     \ifHy@pdftoolbar\else /HideToolbar true\fi
10238     \ifHy@pdfmenubar\else /HideMenubar true\fi
10239     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10240     \ifHy@pdffitwindow /FitWindow true\fi
10241     \ifHy@pdfcenterwindow /CenterWindow true\fi
10242     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10243     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10244     \Hy@UseNameKey{Direction}\@pdfdirection
10245     \Hy@UseNameKey{ViewArea}\@pdfviewarea

```

```

10246 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10247 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10248 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10249 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10250 \Hy@UseNameKey{Duplex}\@pdfduplex
10251 \ifx\@pdfpicktraybypdfsize\@empty
10252 \else
10253 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10254 \fi
10255 \ifx\@pdfprintpagerange\@empty
10256 \else
10257 /PrintPageRange[\@pdfprintpagerange]%
10258 \fi
10259 \ifx\@pdfnumcopies\@empty
10260 \else
10261 /NumCopies \@pdfnumcopies
10262 \fi
10263 }%
10264 \pdfmark{pdfmark=/PUT,%
10265 Raw={%
10266 \string{Catalog\string}<<%
10267 \ifx\Hy@temp\@empty
10268 \else
10269 /ViewerPreferences<<\Hy@temp>>%
10270 \fi
10271 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10272 \ifx\@pdflang\@empty
10273 \else
10274 /Lang(\@pdflang)%
10275 \fi
10276 >>%
10277 }%
10278 }%
10279 }
10280 </dviwindo>
10281 <*dvipdfm | xetex>

```

## 47.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

10282 \providecommand*\XR@ext}{pdf}
10283 \Hy@setbreaklinks{true}
10284 \def\HyPat@ObjRef{%
10285   @[\^ ]+}%
10286 }
10287 \newsavebox{\pdfm@box}
10288 \def\@pdfm@mark#1{\special{pdf:#1}}
10289 \Hy@WrapperDef\@pdfm@dest#1{%
10290   \Hy@SaveLastskip
10291   \Hy@VerboseAnchor{#1}%
10292   \begingroup
10293     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10294     \def\x{XYZ}%
10295     \ifx\x\@pdfview
10296       \def\x{XYZ @xpos @ypos null}%
10297     \else
10298       \def\x{FitH}%

```

```

10299 \ifx\x\@pdfview
10300 \def\x{FitH @ypos}%
10301 \else
10302 \def\x{FitBH}%
10303 \ifx\x\@pdfview
10304 \def\x{FitBH @ypos}%
10305 \else
10306 \def\x{FitV}%
10307 \ifx\x\@pdfview
10308 \def\x{FitV @xpos}%
10309 \else
10310 \def\x{FitBV}%
10311 \ifx\x\@pdfview
10312 \def\x{FitBV @xpos}%
10313 \else
10314 \def\x{Fit}%
10315 \ifx\x\@pdfview
10316 \let\x\@pdfview
10317 \else
10318 \def\x{FitB}%
10319 \ifx\x\@pdfview
10320 \let\x\@pdfview
10321 \else
10322 \def\x{FitR}%
10323 \ifx\x\@pdfview
10324 \Hy@Warning{'pdfview=FitR' is not supported}%
10325 \def\x{XYZ @xpos @ypos null}%
10326 \else
10327 \@onelevel@sanitize\@pdfview
10328 \Hy@Warning{%
10329 Unknown value '\@pdfview' for pdfview%
10330 }%
10331 \def\x{XYZ @xpos @ypos null}%
10332 \fi
10333 \fi
10334 \fi
10335 \fi
10336 \fi
10337 \fi
10338 \fi
10339 \fi
10340 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
10341 \endgroup
10342 \Hy@RestoreLastskip
10343 }
10344 \providecommand*\@pdfview{XYZ}
10345 \providecommand*\@pdfborder{0 0 1}
10346 \providecommand*\@pdfborderstyle{}
10347 \def\hyper@anchor#1{%
10348 \@pdfm@dest{#1}%
10349 }
10350 \def\hyper@anchorstart#1{%
10351 \Hy@activeanchortrue
10352 \@pdfm@dest{#1}%
10353 }
10354 \def\hyper@anchorend{%
10355 \Hy@activeanchorfalse

```

```

10356 }
10357 \newcounter{Hy@AnnotLevel}
10358 \ifHy@ocgcolorlinks
10359 \def\OBJ@OCG@view{@OCG@view}%
10360 \@pdfm@mark{%
10361   obj \OBJ@OCG@view <<%
10362     /Type/OCG%
10363     /Name(View)%
10364     /Usage<<%
10365     /Print<<%
10366     /PrintState/OFF%
10367     >>%
10368     /View<<%
10369     /ViewState/ON%
10370     >>%
10371     >>%
10372     >>%
10373 }%
10374 \@pdfm@mark{close \OBJ@OCG@view}%
10375 \def\OBJ@OCG@print{@OCG@print}%
10376 \@pdfm@mark{%
10377   obj \OBJ@OCG@print <<%
10378     /Type/OCG%
10379     /Name(Print)%
10380     /Usage<<%
10381     /Print<<%
10382     /PrintState/ON%
10383     >>%
10384     /View<<%
10385     /ViewState/OFF%
10386     >>%
10387     >>%
10388     >>%
10389 }%
10390 \@pdfm@mark{close \OBJ@OCG@print}%
10391 \def\OBJ@OCGs{@OCGs}%
10392 \@pdfm@mark{%
10393   obj \OBJ@OCGs [%
10394     \OBJ@OCG@view\space\OBJ@OCG@print
10395   ]%
10396 }%
10397 \@pdfm@mark{close \OBJ@OCGs}%
10398 \@pdfm@mark{%
10399   put @catalog <<%
10400     /OCProperties<<%
10401     /OCGs \OBJ@OCGs
10402     /D<<%
10403     /OFF[\OBJ@OCG@print]%
10404     /AS[%
10405       <<%
10406         /Event/View%
10407         /OCGs \OBJ@OCGs
10408         /Category[/View]%
10409       >>%
10410       <<%
10411         /Event/Print%
10412         /OCGs \OBJ@OCGs

```

```

10413         /Category[/Print]%
10414     >>%
10415     <<%
10416         /Event/Export%
10417         /OCGs \OBJ@OCGs
10418         /Category[/Print]%
10419     >>%
10420     ]%
10421     >>%
10422     >>%
10423     >>%
10424     }%
10425     \AtBeginShipout{%
10426         \setbox\AtBeginShipoutBox=\hbox{%
10427             \copy\AtBeginShipoutBox
10428             \@pdfm@mark{%
10429                 put @resources <<%
10430                     /Properties<<%
10431                     /OCView \OBJ@OCG@view
10432                     /OCPrint \OBJ@OCG@print
10433                 >>%
10434                 >>%
10435             }%
10436         }%
10437     }%
10438     \Hy@AtBeginDocument{%
10439         \def\Hy@colorlink#1{%
10440             \begingroup
10441             \ifHy@ocgcolorlinks
10442                 \def\Hy@ocgcolor{#1}%
10443                 \setbox0=\hbox\bgroup\color@begingroup
10444             \else
10445                 \HyColor@UseColor#1%
10446             \fi
10447         }%
10448         \def\Hy@endcolorlink{%
10449             \ifHy@ocgcolorlinks
10450                 \color@endgroup\egroup
10451                 \mbox{%
10452                     \@pdfm@mark{content /OC/OCPrint BDC}%
10453                     \rlap{\copy0}%
10454                     \@pdfm@mark{content EMC/OC/OCView BDC}%
10455                 \begingroup
10456                     \expandafter\HyColor@UseColor\Hy@ocgcolor
10457                     \box0 %
10458                 \endgroup
10459                 \@pdfm@mark{content EMC}%
10460             }%
10461         \fi
10462     \endgroup
10463     }%
10464     }%
10465     \else
10466         \Hy@DisableOption{ocgcolorlinks}%
10467     \fi
10468     \def\Hy@BeginAnnot#1{%
10469         \stepcounter{Hy@AnnotLevel}%

```

```

10470 \ifnum\value{Hy@AnnotLevel}=\@ne
10471   #1%
10472 \fi
10473 }
10474 \def\Hy@endAnnot{%
10475   \ifnum\value{Hy@AnnotLevel}=\@ne
10476     \Hy@endcolorlink
10477     \@pdfm@mark{eann}%
10478   \fi
10479   \addtocounter{Hy@AnnotLevel}\m@ne
10480 }

10481 \def\Hy@undefinedname{UNDEFINED}
10482 \def\hyper@linkstart#1#2{%
10483   \Hy@VerboseLinkStart{#1}{#2}%
10484   \leavevmode
10485   \Hy@BeginAnnot{%
10486     \protected@edef\Hy@testname{#2}%
10487     \ifx\Hy@testname\@empty
10488       \Hy@Warning{%
10489         Empty destination name,\MessageBreak
10490         using '\Hy@undefinedname'%
10491       }%
10492       \let\Hy@testname\Hy@undefinedname
10493     \else
10494       \Hy@pstringdef\Hy@testname{%
10495         \expandafter\HyperDestNameFilter\expandafter{%
10496           \Hy@testname
10497         }%
10498       }%
10499     \fi
10500     \@pdfm@mark{%
10501       bann<<%
10502       /Type/Annot%
10503       /Subtype/Link%
10504       \ifHy@pdfa /F 4\fi
10505       \Hy@setpdfborder
10506       \expandafter\ifx\csname @#1bordercolor\endcsname\relax
10507       \else
10508         /C[\csname @#1bordercolor\endcsname]%
10509       \fi
10510       /A<<%
10511       /S/GoTo%
10512       /D(\Hy@testname)%
10513       \Hy@href@nextactionraw
10514       >>%
10515     >>%
10516   }%
10517   \expandafter\Hy@colorlink\csname @#1color\endcsname
10518 }%
10519 }
10520 \def\hyper@linkend{\Hy@endAnnot}%
10521 \def\hyper@link#1#2#3{%
10522   \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
10523 }
10524 \def\hyper@linkfile#1#2#3{%
10525   \leavevmode
10526   \Hy@BeginAnnot{%

```



```

10527 \def\Hy@pstringF{#2}%
10528 \Hy@CleanupFile\Hy@pstringF
10529 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10530 \Hy@pstringdef\Hy@pstringD{#3}%
10531 \Hy@MakeRemoteAction
10532 \@pdfm@mark{%
10533   bann<<%
10534   /Type/Annot%
10535   /Subtype/Link%
10536   \ifHy@pdfa /F 4\fi
10537   \Hy@setpdfborder
10538   \ifx\@filebordercolor\relax
10539   \else
10540     /C[\@filebordercolor]%
10541   \fi
10542   /A<<%
10543   /S/GoToR%
10544   /F(\Hy@pstringF)%
10545   /D%
10546   \ifx\#3\%
10547     [\Hy@href@page\@pdfremotestartview]%
10548   \else
10549     (\Hy@pstringD)%
10550   \fi
10551   \Hy@SetNewWindow
10552   \Hy@href@nextactionraw
10553   >>%
10554   >>%
10555   }%
10556   \Hy@colorlink\@filecolor
10557 }%
10558 #1\Hy@xspace@end
10559 \Hy@endAnnot
10560 }
10561 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
10562   \leavevmode
10563   \Hy@BeginAnnot{%
10564     \Hy@pstringdef\Hy@pstringF{#1}%
10565     \Hy@pstringdef\Hy@pstringP{#3}%
10566     \@pdfm@mark{%
10567       bann<<%
10568       /Type/Annot%
10569       /Subtype/Link%
10570       \ifHy@pdfa /F 4\fi
10571       \Hy@setpdfborder
10572       \ifx\@runbordercolor\relax
10573       \else
10574         /C[\@runbordercolor]%
10575       \fi
10576       /A<<%
10577       /F(\Hy@pstringF)%
10578       /S/Launch%
10579       \Hy@SetNewWindow
10580       \ifx\#3\%
10581       \else
10582         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10583       \fi

```

```

10584      \Hy@href@nextactionraw
10585      >>%
10586      >>%
10587      }%
10588      \Hy@colorlink\@runcolor
10589      }%
10590      #2\Hy@xspace@end
10591      \Hy@EndAnnot
10592  }
10593  \def\hyper@linkurl#1#2{%
10594      \leavevmode
10595      \Hy@BeginAnnot{%
10596          \Hy@pstringdef\Hy@pstringURI{#2}%
10597          \@pdfm@mark{%
10598              bann<<%
10599              /Type/Annot%
10600              /Subtype/Link%
10601              \ifHy@pdfa /F 4\fi
10602              \Hy@setpdfborder
10603              \ifx\@urlbordercolor\relax
10604                  \else
10605                      /C[\@urlbordercolor]%
10606                  \fi
10607              /A<<%
10608              /S/URI%
10609              /URI(\Hy@pstringURI)%
10610              \ifHy@href@ismap
10611                  /IsMap true%
10612              \fi
10613              \Hy@href@nextactionraw
10614              >>%
10615              >>%
10616              }%
10617              \Hy@colorlink\@urlcolor
10618              }%
10619              #1\Hy@xspace@end
10620              \Hy@EndAnnot
10621          }
10622  \def\Acrobatmenu#1#2{%
10623      \Hy@Acrobatmenu{#1}{#2}{%
10624          \Hy@BeginAnnot{%
10625              \EdefEscapeName\Hy@temp@menu{#1}%
10626              \@pdfm@mark{%
10627                  bann<<%
10628                  /Type/Annot%
10629                  /Subtype/Link%
10630                  \ifHy@pdfa /F 4\fi
10631                  \Hy@setpdfborder
10632                  \ifx\@menubordercolor\relax
10633                      \else
10634                          /C[\@menubordercolor]%
10635                      \fi
10636                  /A<<%
10637                  /S/Named%
10638                  /N/\Hy@temp@menu
10639                  \Hy@href@nextactionraw
10640                  >>%

```

```

10641     >>%
10642   }%
10643   \Hy@colorlink\@menucolor
10644 }%
10645 #2\Hy@xspace@end
10646 \Hy@endAnnot
10647 }%
10648 }
10649 \ifx\@pdfproducer\relax
10650 \def\@pdfproducer{dvipdfm}%

```

Detect Xe<sub>TeX</sub>. However, but xdvipdfmx will overwrite it in the final PDF file.

```

10651 \begingroup\expandafter\expandafter\expandafter\endgroup
10652 \expandafter\ifx\csname XeTeXversion\endcsname\relax
10653 \else
10654 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10655 \fi
10656 \fi
10657 \def\PDF@FinishDoc{%
10658 \Hy@UseMaketitleInfos
10659 \HyInfo@GenerateAddons
10660 \@pdfm@mark{%
10661   docinfo<<%
10662     /Title(\@pdftitle)%
10663     /Subject(\@pdfsubject)%
10664     /Creator(\@pdfcreator)%
10665     \ifx\@pdfcreationdate\@empty
10666     \else
10667       /CreationDate(\@pdfcreationdate)%
10668     \fi
10669     \ifx\@pdfmoddate\@empty
10670     \else
10671       /ModDate(\@pdfmoddate)%
10672     \fi
10673     /Author(\@pdfauthor)%
10674     \ifx\@pdfproducer\relax
10675     \else
10676       /Producer(\@pdfproducer)%
10677     \fi
10678     /Keywords(\@pdfkeywords)%
10679     \ifx\@pdftrapped\@empty
10680     \else
10681       /Trapped/\@pdftrapped
10682     \fi
10683     \HyInfo@Addons
10684   >>%
10685 }%
10686 \Hy@DisableOption{pdfauthor}%
10687 \Hy@DisableOption{pdftitle}%
10688 \Hy@DisableOption{pdfsubject}%
10689 \Hy@DisableOption{pdfcreator}%
10690 \Hy@DisableOption{pdfcreationdate}%
10691 \Hy@DisableOption{pdfmoddate}%
10692 \Hy@DisableOption{pdfproducer}%
10693 \Hy@DisableOption{pdfkeywords}%
10694 \Hy@DisableOption{pdftrapped}%
10695 \Hy@DisableOption{pdfinfo}%
10696 }

```

```

10697 \def\PDF@SetupDoc{%
10698   \edef\Hy@temp{%
10699     \ifHy@pdftoolbar\else /HideToolbar true\fi
10700     \ifHy@pdfmenubar\else /HideMenubar true\fi
10701     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10702     \ifHy@pdfwindow /FitWindow true\fi
10703     \ifHy@pdfcenterwindow /CenterWindow true\fi
10704     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10705     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10706     \Hy@UseNameKey{Direction}\@pdfdirection
10707     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10708     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10709     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10710     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10711     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10712     \Hy@UseNameKey{Duplex}\@pdfduplex
10713     \ifx\@pdfpicktraybypdfsize\@empty
10714       \else
10715         /PickTrayByPDFSize \@pdfpicktraybypdfsize
10716       \fi
10717     \ifx\@pdfprintpagerange\@empty
10718       \else
10719         /PrintPageRange[\@pdfprintpagerange]%
10720       \fi
10721     \ifx\@pdfnumcopies\@empty
10722       \else
10723         /NumCopies \@pdfnumcopies
10724       \fi
10725   }%
10726   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10727   \@pdfm@mark{%
10728     docview<<%
10729     \ifx\@pdfstartpage\@empty
10730       \else
10731         \ifx\@pdfstartview\@empty
10732           \else
10733             /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10734           \fi
10735         \fi
10736         \ifx\@baseurl\@empty
10737           \else
10738             /URI<</Base(\Hy@pstringB)>>%
10739           \fi
10740         /PageMode/\@pdfpagemode
10741         \ifx\Hy@temp\@empty
10742           \else
10743             /ViewerPreferences<<\Hy@temp>>%
10744           \fi
10745         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10746         \ifx\@pdflang\@empty
10747           \else
10748             /Lang(\@pdflang)%
10749           \fi
10750       >>%
10751     }%
10752     \ifx\@pdfpagescrop\@empty
10753       \else

```

```

10754 \pdfmark{put @pages <</CropBox[\pdfpagescrop]>>}}%
10755 \fi
10756 }
10757 </dvipdfm | xetex>
10758 < *dvipdfm | xetex>

```

\hyper@pagetransition

```

10759 \def\hyper@pagetransition{%
10760 \ifx\pdfpagetransition\relax
10761 \else
10762 \ifx\pdfpagetransition\empty
10763 \else
10764 \special{pdf:put @thispage %
10765 <</Trans<</S/\pdfpagetransition>>>>%
10766 }%
10767 \fi
10768 \fi
10769 }

```

\hyper@pageduration

```

10770 \def\hyper@pageduration{%
10771 \ifx\pdfpageduration\relax
10772 \else
10773 \ifx\pdfpageduration\empty
10774 \else
10775 \special{pdf:put @thispage %
10776 <</Dur \pdfpageduration>>>%
10777 }%
10778 \fi
10779 \fi
10780 }

```

\hyper@pagehidden

```

10781 \def\hyper@pagehidden{%
10782 \ifHy@useHidKey
10783 \special{pdf:put @thispage %
10784 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10785 }%
10786 \fi
10787 }

10788 \g@addto@macro\Hy@EveryPageBoxHook{%
10789 \hyper@pagetransition
10790 \hyper@pageduration
10791 \hyper@pagehidden
10792 }

10793 </dvipdfm | xetex>

```

XeTeX uses pdfTeX's method \pdfpagewidth and \pdfpageheight for setting the paper size.

```

10794 < *dvipdfm>
10795 \AtBeginShipoutFirst{%
10796 \ifHy@setpagesize
10797 \begingroup
10798 \ifundefined{stockwidth}{%
10799 \ifdim\paperwidth>\z@
10800 \ifdim\paperheight>\z@

```

```

10801         \special{papersize=\the\paperwidth,\the\paperheight}%
10802     \fi
10803 \fi
10804 }{%
10805     \ifdim\stockwidth>\z@
10806     \ifdim\stockheight>\z@
10807         \special{papersize=\the\stockwidth,\the\stockheight}%
10808     \fi
10809 \fi
10810 }%
10811 \endgroup
10812 \fi
10813 \Hy@DisableOption{setpagesize}%
10814 }
10815 </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.

```

10816 <*vtexhtml>
10817 \providecommand*\XR@ext}{htm}
10818 \RequirePackage{vtexhtml}
10819 \newif\if@Localurl
10820 \let\PDF@FinishDoc\ltx@empty
10821 \def\PDF@SetupDoc{%
10822     \ifx\@baseurl\@empty
10823     \else
10824         \special{!direct <base href="\@baseurl">}%
10825     \fi
10826 }
10827 \def\@urltype{url}
10828 \def\hyper@link#1#2#3{%
10829     \Hy@VerboseLinkStart{#1}{#2}%
10830     \leavevmode
10831     \special{!direct <a href=%
10832         \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10833     #3\Hy@xspace@end
10834     \special{!direct </a>}%
10835 }
10836 \def\hyper@linkurl#1#2{%
10837     \begingroup
10838     \hyper@chars
10839     \leavevmode
10840     \MathBSuppress=1\relax
10841     \special{!direct <a href=%
10842         \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10843     #1\Hy@xspace@end
10844     \MathBSuppress=0\relax
10845     \special{!direct </a>}%
10846 \endgroup
10847 }
10848 \def\hyper@linkfile#1#2#3{%
10849     \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
10850 }
10851 \def\hyper@linkstart#1#2{%
10852     \Hy@VerboseLinkStart{#1}{#2}%

```

```

10853 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10854 \@Localurltrue
10855 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10856 \else
10857 \@Localurlfalse
10858 \begingroup
10859 \hyper@chars
10860 \special{!aref \HyperDestNameFilter{#2}}%
10861 \endgroup
10862 \fi
10863 }
10864 \def\hyper@linkend{%
10865 \if@Localurl
10866 \special{!endaref}%
10867 \else
10868 \special{!direct </a>}%
10869 \fi
10870 }
10871 \Hy@WrapperDef\hyper@anchorstart#1{%
10872 \Hy@SaveLastskip
10873 \Hy@VerboseAnchor{#1}%
10874 \begingroup
10875 \hyper@chars
10876 \special{!aname #1}%
10877 \special{!direct <a name=%
10878 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10879 \endgroup
10880 \Hy@activeanchortrue
10881 }
10882 \def\hyper@anchorend{%
10883 \special{!direct </a>}%
10884 \Hy@activeanchorfalse
10885 \Hy@RestoreLastskip
10886 }
10887 \Hy@WrapperDef\hyper@anchor#1{%
10888 \Hy@SaveLastskip
10889 \Hy@VerboseAnchor{#1}%
10890 \begingroup
10891 \let\protect=\string
10892 \hyper@chars
10893 \leavevmode
10894 \special{!aname #1}%
10895 \special{!direct <a name=%
10896 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10897 \endgroup
10898 \Hy@activeanchortrue
10899 \bgroup\anchor@spot\egroup
10900 \special{!direct </a>}%
10901 \Hy@activeanchorfalse
10902 \Hy@RestoreLastskip
10903 }
10904 \def\@Form[#1]{%
10905 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10906 }
10907 \let\@endForm\ltx@empty
10908 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10909 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%

```

```

10910 }
10911 \def\@TextField[#1]#2{% parameters, label
10912 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10913 }
10914 \def\@CheckBox[#1]#2{% parameters, label
10915 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10916 }
10917 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10918 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10919 }
10920 \def\@PushButton[#1]#2{% parameters, label
10921 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10922 }
10923 \def\@Reset[#1]#2{%
10924 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10925 }
10926 \def\@Submit[#1]#2{%
10927 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10928 }
10929 \</vtexhtml>
10930 \< *vtex>

```

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

```

10931 \ifx\mediaheight\@undefined
10932 \else
10933 \ifx\mediaheight\relax
10934 \else
10935 \ifHy@setpagesize
10936 \providecommand*\VTeXInitMediaSize{%
10937 \ltx@ifundefined{stockwidth}{%
10938 \ifdim\paperheight>0pt %
10939 \setlength\mediaheight\paperheight
10940 \fi
10941 \ifdim\paperheight>0pt %
10942 \setlength\mediawidth\paperwidth
10943 \fi
10944 }{%
10945 \ifdim\stockheight>0pt %
10946 \setlength\mediaheight\stockheight
10947 \fi
10948 \ifdim\stockwidth>0pt %
10949 \setlength\mediawidth\stockwidth
10950 \fi
10951 }%
10952 }%
10953 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10954 \fi
10955 \Hy@DisableOption{setpagesize}%
10956 \fi
10957 \fi

```

Older versions of VTeX require `xyz` in lower case.

```

10958 \providecommand*\@pdfview{xyz}
10959 \providecommand*\@pdfborder{0 0 1}
10960 \providecommand*\@pdfborderstyle{}
10961 \let\CurrentBorderColor\@linkbordercolor

```



```

10962 \Hy@WrapperDef\hyper@anchor#1{%
10963   \Hy@SaveLastskip
10964   \Hy@VerboseAnchor{#1}%
10965   \begingroup
10966     \let\protect=\string
10967     \hyper@chars
10968     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10969   \endgroup
10970   \Hy@activeanchortrue
10971   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10972   \Hy@activeanchorfalse
10973   \Hy@RestoreLastskip
10974 }
10975 \Hy@WrapperDef\hyper@anchorstart#1{%
10976   \Hy@SaveLastskip
10977   \Hy@VerboseAnchor{#1}%
10978   \begingroup
10979     \hyper@chars
10980     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10981   \endgroup
10982   \Hy@activeanchortrue
10983 }
10984 \def\hyper@anchorend{%
10985   \Hy@activeanchorfalse
10986   \Hy@RestoreLastskip
10987 }
10988 \def\@urltype{url}
10989 \def\Hy@undefinedname{UNDEFINED}
10990 \def\hyper@linkstart#1#2{%
10991   \Hy@VerboseLinkStart{#1}{#2}%
10992   \Hy@pstringdef\Hy@pstringURI{#2}%
10993   \expandafter\Hy@colorlink\csname @#1color\endcsname
10994   \ltx@ifundefined{#1bordercolor}{%
10995     \let\CurrentBorderColor\relax
10996   }{%
10997     \edef\CurrentBorderColor{%
10998       \csname @#1bordercolor\endcsname
10999     }%
11000   }%
11001   \def\Hy@tempa{#1}%
11002   \ifx\Hy@tempa\@urltype
11003     \special{!%
11004       aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
11005         \ifHy@href@ismap
11006           /IsMap true%
11007         \fi
11008         \Hy@href@nextactionraw
11009       >,%
11010       a=<%
11011         \ifHy@pdfa /F 4\fi
11012         \Hy@setpdfborder
11013         \ifx\CurrentBorderColor\relax
11014           \else
11015             /C [\CurrentBorderColor]%
11016         \fi
11017       >%
11018     }%

```

```

11019 \else
11020   \protected@edef\Hy@testname{#2}%
11021   \ifx\Hy@testname\@empty
11022     \Hy@Warning{%
11023       Empty destination name,\MessageBreak
11024       using '\Hy@undefinedname'%
11025     }%
11026     \let\Hy@testname\Hy@undefinedname
11027   \fi
11028   \special{!%
11029     aref \expandafter\HyperDestNameFilter
11030     \expandafter{\Hy@testname};%
11031     a=<%
11032     \ifHy@pdfa /F 4\fi
11033     \Hy@setpdfborder
11034     \ifx\CurrentBorderColor\relax
11035       \else
11036       /C [\CurrentBorderColor]%
11037     \fi
11038     >%
11039   }%
11040 \fi
11041 }
11042 \def\hyper@linkend{%
11043   \special{!endaref}%
11044   \Hy@endcolorlink
11045 }
11046 \def\hyper@linkfile#1#2#3{%
11047   \leavevmode
11048   \def\Hy@pstringF{#2}%
11049   \Hy@CleanupFile\Hy@pstringF
11050   \special{!%
11051     aref <%
11052     \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi
11053     f=\Hy@pstringF>#3;%
11054     a=<%
11055     \ifHy@pdfa /F 4\fi
11056     \Hy@setpdfborder
11057     \ifx\@filebordercolor\relax
11058       \else
11059       /C [\@filebordercolor]%
11060     \fi
11061     >%
11062   }%
11063   \Hy@colorlink\@filecolor
11064   #1\Hy@xspace@end
11065   \Hy@endcolorlink
11066   \special{!endaref}%
11067 }
11068 \def\hyper@linkurl#1#2{%
11069   \begingroup
11070   \Hy@pstringdef\Hy@pstringURI{#2}%
11071   \hyper@chars
11072   \leavevmode
11073   \special{!%
11074     aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
11075     \ifHy@href@ismap

```

```

11076      /IsMap true%
11077      \fi
11078      \Hy@href@nextactionraw
11079      >;%
11080      a=<%
11081      \ifHy@pdfa /F 4\fi
11082      \Hy@setpdfborder
11083      \ifx\@urlbordercolor\relax
11084      \else
11085      /C [\@urlbordercolor]%
11086      \fi
11087      >%
11088      }%
11089      \Hy@colorlink\@urlcolor
11090      #1\Hy@xspace@end
11091      \Hy@endcolorlink
11092      \special{!endaref}%
11093 \endgroup
11094 }
11095 \def\hyper@link#1#2#3{%
11096 \Hy@VerboseLinkStart{#1}{#2}%
11097 \ltx@ifundefined{#1bordercolor}{%
11098 \let\CurrentBorderColor\relax
11099 }{%
11100 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
11101 }%
11102 \leavevmode
11103 \protected@edef\Hy@testname{#2}%
11104 \ifx\Hy@testname\@empty
11105 \Hy@Warning{%
11106 Empty destination name,\MessageBreak
11107 using '\Hy@undefinedname'%
11108 }%
11109 \let\Hy@testname\Hy@undefinedname
11110 \fi
11111 \special{!%
11112 aref \expandafter\HyperDestNameFilter
11113 \expandafter{\Hy@testname};%
11114 a=<%
11115 \ifHy@pdfa /F 4\fi
11116 \Hy@setpdfborder
11117 \ifx\CurrentBorderColor\relax
11118 \else
11119 /C [\CurrentBorderColor]%
11120 \fi
11121 >%
11122 }%
11123 \expandafter
11124 \Hy@colorlink\csname @#1color\endcsname
11125 #3\Hy@xspace@end
11126 \Hy@endcolorlink
11127 \special{!endaref}%
11128 }
11129 \def\hyper@image#1#2{%
11130 \hyper@linkurl{#2}{#1}%
11131 }
11132 \def\@hyper@launch run:#1\#2#3{%

```

```

11133 \Hy@pstringdef\Hy@pstringF{#1}%
11134 \Hy@pstringdef\Hy@pstringP{#3}%
11135 \leavevmode
11136 \special{!aref %
11137   <u=%
11138     /Type/Action%
11139     /S/Launch%
11140     /F(\Hy@pstringF)%
11141     \Hy@SetNewWindow
11142     \ifx\#3\%
11143     \else
11144     /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
11145     \fi
11146     \Hy@href@nextactionraw
11147   >:%
11148   a=<%
11149     \ifHy@pdfa /F 4\fi
11150     \Hy@setpdfborder
11151     \ifx\@runbordercolor\relax
11152     \else
11153     /C[\@runbordercolor]%
11154     \fi
11155   >%
11156 }%
11157 \Hy@colorlink\@runcolor
11158 #2\Hy@xspace@end
11159 \Hy@endcolorlink
11160 \special{!endaref}%
11161 }
11162 \def\Acrobatmenu#1#2{%
11163   \EdefEscapeName\Hy@temp@menu{#1}%
11164   \Hy@Acrobatmenu{#1}{#2}{%
11165     \special{!%
11166       aref <u=/S /Named /N /\Hy@temp@menu>;%
11167       a=<%
11168         \ifHy@pdfa /F 4\fi
11169         \Hy@setpdfborder
11170         \ifx\@menubordercolor\relax
11171         \else
11172         /C[\@menubordercolor]%
11173         \fi
11174       >%
11175     }%
11176     \Hy@colorlink\@menucolor
11177     #2\Hy@xspace@end
11178     \Hy@endcolorlink
11179     \special{!endaref}%
11180   }%
11181 }

```

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

The code below makes sense for VTeX 7.02 or later.

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

```

11182 \ifnum\Hy@VTeXversion<702 %
11183 \else
11184   \def\hyper@pagetransition{%
11185     \ifx\@pdfpagetransition\relax
11186     \else

```

```
11187 \ifx\@pdfpagetransition\@empty
```

Standard incantation.

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

```
11188 \else
```

```
11189 \hvtex@parse@trans\@pdfpagetransition
```

```
11190 \fi
```

```
11191 \fi
```

```
11192 }%
```

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:

```
11193 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
```

```
11194 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
```

```
11195 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
```

```
11196 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
```

```
11197 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
```

```
11198 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
```

```
11199 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%
```

Optional parameters:

```
11200 \def\hvtex@par@dimension{/Dm}%
```

```
11201 \def\hvtex@par@direction{/Di}%
```

```
11202 \def\hvtex@par@duration{/D}%
```

```
11203 \def\hvtex@par@motion{/M}%
```

Tokenizer:

```
11204 \def\hvtex@gettoken{%
```

```
11205 \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
```

```
11206 }%
```

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

```
11207 \def\hvtex@gettoken@#1 #2\@nil{%
```

```
11208 \edef\hvtex@token{#1}%
```

```
11209 \edef\hvtex@buffer{#2}%
```

```
11210 }%
```

```
11211 \def\hvtex@parse@trans#1{%
```

Initializing code:

```
11212 \let\hvtex@trans@code\@empty
```

```
11213 \let\hvtex@param@dimension\@empty
```

```

11214 \let\hvtex@param@direction\@empty
11215 \let\hvtex@param@duration\@empty
11216 \let\hvtex@param@motion\@empty
11217 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

11218 \hvtex@gettoken
11219 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

11220 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

11221 \else
11222 \hvtex@gettoken
11223 \fi
11224 \fi
11225 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

11226 \hvtex@trans@params
11227 }%

```

Reentrant macro to parse optional parameters.

```

11228 \def\hvtex@trans@params{%
11229 \ifx\hvtex@buffer\@empty
11230 \else
11231 \hvtex@gettoken
11232 \let\hvtex@trans@par\hvtex@token
11233 \ifx\hvtex@buffer\@empty
11234 \else
11235 \hvtex@gettoken
11236 \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. V<sub>T</sub>E<sub>X</sub> special takes it in milliseconds.

```

11237 \let\hvtex@param@duration\hvtex@token
11238 \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

11239 \expandafter\edef\expandafter\hvtex@param@motion
11240 \expandafter{\expandafter\@gobble\hvtex@token}%
11241 \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

11242 \expandafter\edef\expandafter\hvtex@param@dimension
11243 \expandafter{\expandafter\@gobble\hvtex@token}%
11244 \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).

```

11245 \let\hvtex@param@direction\hvtex@token
11246 \fi\fi\fi\fi
11247 \fi
11248 \fi
11249 \ifx\hvtex@buffer\@empty
11250 \let\next\hvtex@produce@trans
11251 \else
11252 \let\next\hvtex@trans@params
11253 \fi
11254 \next
11255 }%

```

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

```

11256 \def\hvtex@produce@trans{%
11257   \let\vtex@trans@special\@empty
11258   \if S\hvtex@trans@code
11259     \edef\vtex@trans@special{\hvtex@trans@code
11260       \hvtex@param@dimension\hvtex@param@motion}%
11261   \else\if B\hvtex@trans@code
11262     \edef\vtex@trans@special{%
11263       \hvtex@trans@code\hvtex@param@dimension
11264     }%
11265   \else\if X\hvtex@trans@code
11266     \edef\vtex@trans@special{%
11267       \hvtex@trans@code\hvtex@param@motion
11268     }%
11269   \else\if W\hvtex@trans@code
11270     \edef\vtex@trans@special{%
11271       \hvtex@trans@code\hvtex@param@direction
11272     }%
11273   \else\if D\hvtex@trans@code
11274     \let\vtex@trans@special\hvtex@trans@code
11275   \else\if R\hvtex@trans@code
11276     \let\vtex@trans@special\hvtex@trans@code
11277   \else\if G\hvtex@trans@code
11278     \edef\vtex@trans@special{%
11279       \hvtex@trans@code\hvtex@param@direction
11280     }%
11281   \fi\fi\fi\fi\fi\fi
11282   \ifx\vtex@trans@special\@empty
11283     \else
11284       \ifx\hvtex@param@duration\@empty
11285       \else
11286         \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

11287   \multiply\dimen@\@m
11288   \edef\vtex@trans@special{%
11289     \vtex@trans@special,\strip@pt\dimen@
11290   }%
11291   \fi

```

And all the mess is just for this.

```

11292   \special{!trans \vtex@trans@special}%
11293   \fi
11294 }%

11295 \def\hyper@pageduration{%
11296   \ifx\@pdfpageduration\relax
11297   \else
11298     \ifx\@pdfpageduration\@empty
11299       \special{!duration-}%
11300     \else
11301       \special{!duration \@pdfpageduration}%
11302     \fi
11303   \fi
11304 }%
11305 \def\hyper@pagehidden{%
11306   \ifHy@useHidKey

```

```

11307 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
11308 \fi
11309 }%
11310 \g@addto@macro\Hy@EveryPageBoxHook{%
11311 \hyper@pagetransition
11312 \hyper@pageduration
11313 \hyper@pagehidden
11314 }%
11315 \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

```

11316 \ifx\@pdfproducer\relax
11317 \def\@pdfproducer{VTeX}%
11318 \ifnum\Hy@VTeXversion>\z@
11319 \count@\VTeXversion
11320 \divide\count@ 100 %
11321 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
11322 \multiply\count@ -100 %
11323 \advance\count@\VTeXversion
11324 \edef\@pdfproducer{%
11325 \@pdfproducer
11326 .\ifnum\count@<10 0\fi\the\count@
11327 \ifx\VTeXOS\@undefined\else
11328 \ifnum\VTeXOS>0 %
11329 \ifnum\VTeXOS<6 %
11330 \space(
11331 \ifcase\VTeXOS
11332 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
11333 \fi
11334 )%
11335 \fi
11336 \fi
11337 \fi
11338 ,\space
11339 \ifnum\OpMode=\@ne PDF\else PS\fi
11340 \space backend%
11341 \ifx\gexmode\@undefined\else
11342 \ifnum\gexmode>\z@\space with GeX\fi
11343 \fi
11344 }%
11345 \fi
11346 \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).

```

11347 \def\PDF@SetupDoc{%
11348   \ifx\@pdfpagescrop\@empty
11349   \else
11350     \special{!pdfinfo b=<\@pdfpagescrop>}%
11351   \fi
11352   \ifx\@pdfstartpage\@empty
11353   \else
11354     \ifx\@pdfstartview\@empty
11355     \else
11356       \special{!onopen Page\@pdfstartpage}%
11357     \fi
11358   \fi
11359   \special{!pdfinfo p=</\@pdfpagemode>}%
11360   \ifx\@baseurl\@empty
11361   \else
11362     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
11363   \fi
11364   \special{!pdfinfo v=<<<%
11365     \ifHy@pdftoolbar\else /HideToolbar true\fi
11366     \ifHy@pdfmenubar\else /HideMenubar true\fi
11367     \ifHy@pdfwindowui\else /HideWindowUI true\fi
11368     \ifHy@pdffitwindow /FitWindow true\fi
11369     \ifHy@pdfcenterwindow /CenterWindow true\fi
11370     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11371     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11372     \Hy@UseNameKey{Direction}\@pdfdirection
11373     \Hy@UseNameKey{ViewArea}\@pdfviewarea
11374     \Hy@UseNameKey{ViewClip}\@pdfviewclip
11375     \Hy@UseNameKey{PrintArea}\@pdfprintarea
11376     \Hy@UseNameKey{PrintClip}\@pdfprintclip
11377     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11378     \Hy@UseNameKey{Duplex}\@pdfduplex
11379     \ifx\@pdfpicktraybypdfsize\@empty
11380     \else
11381       /PickTrayByPDFSize \@pdfpicktraybypdfsize
11382     \fi
11383     \ifx\@pdfprintpagerange\@empty
11384     \else
11385       /PrintPageRange[\@pdfprintpagerange]%
11386     \fi
11387     \ifx\@pdfnumcopies\@empty
11388     \else
11389       /NumCopies \@pdfnumcopies

```

```

11390 \fi
11391 >>>}%
11392 \ifx\@pdfpagelayout\@empty
11393 \else
11394 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
11395 \fi
11396 }%
11397 \HyInfo@AddonUnsupportedtrue
11398 \define@key{Hyp}{pdfcreationdate}{%
11399 \Hy@Warning{%
11400 VTeX does not support pdfcreationdate.\MessageBreak
11401 Therefore its setting is ignored%
11402 }%
11403 }
11404 \define@key{Hyp}{pdfmoddate}{%
11405 \Hy@Warning{%
11406 VTeX does not support pdfmoddate.\MessageBreak
11407 Therefore its setting is ignored%
11408 }%
11409 }
11410 \def\PDF@FinishDoc{%
11411 \Hy@UseMaketitleInfos
11412 \HyInfo@TrappedUnsupported
11413 \special{!pdfinfo a=<\@pdfauthor>}%
11414 \special{!pdfinfo t=<\@pdftitle>}%
11415 \special{!pdfinfo s=<\@pdfsubject>}%
11416 \special{!pdfinfo c=<\@pdfcreator>}%
11417 \ifx\@pdfproducer\relax
11418 \else
11419 \special{!pdfinfo r=<\@pdfproducer>}%
11420 \fi
11421 \special{!pdfinfo k=<\@pdfkeywords>}%
11422 \Hy@DisableOption{pdfauthor}%
11423 \Hy@DisableOption{pdftitle}%
11424 \Hy@DisableOption{pdfsubject}%
11425 \Hy@DisableOption{pdfcreator}%
11426 \Hy@DisableOption{pdfcreationdate}%
11427 \Hy@DisableOption{pdfmoddate}%
11428 \Hy@DisableOption{pdfproducer}%
11429 \Hy@DisableOption{pdfkeywords}%
11430 \Hy@DisableOption{pdftrapped}%
11431 \Hy@DisableOption{pdfinfo}%
11432 }
11433 </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.

```

11434 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
11435 <package>\providecommand*{\Hy@DistillerDestFix}{%
11436 <*pdfmark | dviwindo>
11437 \def\Hy@DistillerDestFix{%
11438 \begingroup
11439 \let\x\literalps@out

```

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

```

11440 \ifnum \@ifundefined{OpMode}{0}{%
11441 \ifundefined{gexmode}{0}{%
11442 \ifnum\gexmode>0 \OpMode\else 0\fi
11443 }>1 %
11444 \def\x##1{%
11445 \immediate\special{!=##1}%
11446 }%
11447 \fi
11448 \x{%
11449 /product where{%
11450 pop %
11451 product(Distiller)search{%
11452 pop pop pop %
11453 version(.)search{%
11454 exch pop exch pop%
11455 (3011)eq{%
11456 gsave %
11457 newpath 0 0 moveto closepath clip%
11458 /Courier findfont 10 scalefont setfont %
11459 72 72 moveto(.)show %
11460 grestore%
11461 }if%
11462 }{pop}ifelse%
11463 }{pop}ifelse%
11464 }if%
11465 }%
11466 \endgroup
11467 }
11468 </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

```

```

11469 <*pdfmark>
11470 \Hy@breaklinks@unsupported
11471 \def\HyPat@ObjRef{%

```

```

11472 \[{}+}%
11473 }
11474 \Hy@WrapperDef\hyper@anchor#1{%
11475 \Hy@SaveLastskip
11476 \Hy@VerboseAnchor{#1}%
11477 \begingroup
11478 \pdfmark[\anchor@spot]{%
11479 pdfmark=/DEST,%
11480 linktype=anchor,%
11481 View=/\@pdfview \@pdfviewparams,%
11482 DestAnchor={#1}%
11483 }%
11484 \endgroup
11485 \Hy@RestoreLastskip
11486 }
11487 \ltx@ifundefined{hyper@anchorstart}{\endinput}
11488 \Hy@WrapperDef\hyper@anchorstart#1{%
11489 \Hy@SaveLastskip
11490 \Hy@VerboseAnchor{#1}%
11491 \literalps@out{H.S}%
11492 \Hy@AllowHyphens
11493 \xdef\hyper@currentanchor{#1}%
11494 \Hy@activeanchortrue
11495 }
11496 \def\hyper@anchorend{%
11497 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11498 \pdfmark{%
11499 pdfmark=/DEST,%
11500 linktype=anchor,%
11501 View=/\@pdfview \@pdfviewparams,%
11502 DestAnchor=\hyper@currentanchor,%
11503 }%
11504 \Hy@activeanchorfalse
11505 \Hy@RestoreLastskip
11506 }
11507 \def\hyper@linkstart#1#2{%
11508 \Hy@VerboseLinkStart{#1}{#2}%
11509 \ifHy@breaklinks
11510 \else
11511 \leavevmode
11512 \ifmmode
11513 \def\Hy@LinkMath{$}%
11514 \else
11515 \let\Hy@LinkMath\ltx@empty
11516 \fi
11517 \Hy@SaveSpaceFactor
11518 \hbox\bgroup
11519 \Hy@RestoreSpaceFactor
11520 \Hy@LinkMath
11521 \fi
11522 \expandafter\Hy@colorlink\csname @#1color\endcsname
11523 \literalps@out{H.S}%
11524 \Hy@AllowHyphens
11525 \xdef\hyper@currentanchor{#2}%
11526 \gdef\hyper@currentlinktype{#1}%
11527 }
11528 \def\hyper@linkend{%

```

```

11529 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L.}%
11530 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
11531   \let\Hy@tempcolor\relax
11532 }{%
11533   \edef\Hy@tempcolor{%
11534     \csname @\hyper@currentlinktype bordercolor\endcsname
11535   }%
11536 }%
11537 \pdfmark{%
11538   pdfmark=/ANN,%
11539   linktype=link,%
11540   Subtype=/Link,%
11541   PDFAFlags=4,%
11542   Dest=\hyper@currentanchor,%
11543   AcroHighlight=\@pdfhighlight,%
11544   Border=\@pdfborder,%
11545   BorderStyle=\@pdfborderstyle,%
11546   Color=\Hy@tempcolor,%
11547   Raw=H.B%
11548 }%
11549 \Hy@endcolorlink
11550 \ifHy@breaklinks
11551 \else
11552   \Hy@LinkMath
11553   \Hy@SaveSpaceFactor
11554   \egroup
11555   \Hy@RestoreSpaceFactor
11556 \fi
11557 }

```

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.

```

11558 \begingroup
11559   \catcode'P=12 %
11560   \catcode'T=12 %
11561   \lowercase{\endgroup
11562   \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11563 }
11564 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

11565 \def\hyper@pagetransition{%
11566   \ifx\@pdfpagetransition\relax
11567   \else
11568     \ifx\@pdfpagetransition\@empty
11569       % 1. Does an old entry have to be deleted?
11570       % 2. If 1=yes, how to delete?
11571     \else
11572       \pdfmark{%
11573         pdfmark=/PUT,%
11574         Raw={%
11575           \string{ThisPage\string}%
11576           <</Trans << /S /\@pdfpagetransition\space >> >>%
11577         }%
11578       }%
11579     \fi

```

```

11580 \fi
11581 }

```

\hyper@pageduration

```

11582 \def\hyper@pageduration{%
11583 \ifx\@pdfpageduration\relax
11584 \else
11585 \ifx\@pdfpageduration\@empty
11586 % 1. Does an old entry have to be deleted?
11587 % 2. If 1=yes, how to delete?
11588 \else
11589 \pdfmark{%
11590 pdfmark=/PUT,%
11591 Raw={%
11592 \string{ThisPage\string}%
11593 <</Dur \@pdfpageduration>>%
11594 }%
11595 }%
11596 \fi
11597 \fi
11598 }

```

\hyper@pagehidden

```

11599 \def\hyper@pagehidden{%
11600 \ifHy@useHidKey
11601 \pdfmark{%
11602 pdfmark=/PUT,%
11603 Raw={%
11604 \string{ThisPage\string}%
11605 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11606 }%
11607 }%
11608 \fi
11609 }

11610 \g@addto@macro\Hy@EveryPageBoxHook{%
11611 \hyper@pagetransition
11612 \hyper@pageduration
11613 \hyper@pagehidden
11614 }

11615 \def\hyper@image#1#2{%
11616 \hyper@linkurl{#2}{#1}%
11617 }

11618 \def\Hy@undefinedname{UNDEFINED}
11619 \def\hyper@link#1#2#3{%
11620 \Hy@VerboseLinkStart{#1}{#2}%
11621 \ltx@ifundefined{@#1bordercolor}{%
11622 \let\Hy@tempcolor\relax
11623 }{%
11624 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11625 }%
11626 \begingroup
11627 \protected@edef\Hy@testname{#2}%
11628 \ifx\Hy@testname\@empty
11629 \Hy@Warning{%
11630 Empty destination name,\MessageBreak
11631 using '\Hy@undefinedname'%

```

```

11632 }%
11633 \let\Hy@testname\Hy@undefinedname
11634 \fi
11635 \pdfmark[{#3}]{%
11636   Color=\Hy@tempcolor,%
11637   linktype={#1},%
11638   AcroHighlight=\@pdfhighlight,%
11639   Border=\@pdfborder,%
11640   BorderStyle=\@pdfborderstyle,%
11641   pdfmark=/ANN,%
11642   Subtype=/Link,%
11643   PDFAFlags=4,%
11644   Dest=\Hy@testname
11645 }%
11646 \endgroup
11647 }
11648 \newtoks\pdf@docset
11649 \def\PDF@FinishDoc{%
11650   \Hy@UseMaketitleInfos
11651   \HyInfo@GenerateAddons
11652   \let\Hy@temp\@empty
11653   \ifx\@pdfcreationdate\@empty
11654   \else
11655     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11656   \fi
11657   \ifx\@pdfmoddate\@empty
11658   \else
11659     \expandafter\def\expandafter\Hy@temp\expandafter{%
11660       \Hy@temp
11661       ModDate=\@pdfmoddate,%
11662     }%
11663   \fi
11664   \ifx\@pdfproducer\relax
11665   \else
11666     \expandafter\def\expandafter\Hy@temp\expandafter{%
11667       \Hy@temp
11668       Producer=\@pdfproducer,%
11669     }%
11670   \fi
11671   \expandafter
11672   \pdfmark\expandafter{%
11673     \Hy@temp
11674     pdfmark=/DOCINFO,%
11675     Title=\@pdftitle,%
11676     Subject=\@pdfsubject,%
11677     Creator=\@pdfcreator,%
11678     Author=\@pdfauthor,%
11679     Keywords=\@pdfkeywords,%
11680     Trapped=\@pdftrapped
11681   }%
11682   \ifx\HyInfo@Addons\@empty
11683   \else
11684     \pdfmark{%
11685       pdfmark=/DOCINFO,%
11686       Raw={\HyInfo@Addons}%
11687     }%
11688   \fi

```

```

11689 \Hy@DisableOption{pdfauthor}%
11690 \Hy@DisableOption{pdftitle}%
11691 \Hy@DisableOption{pdfsubject}%
11692 \Hy@DisableOption{pdfcreator}%
11693 \Hy@DisableOption{pdfcreationdate}%
11694 \Hy@DisableOption{pdfmoddate}%
11695 \Hy@DisableOption{pdfproducer}%
11696 \Hy@DisableOption{pdfkeywords}%
11697 \Hy@DisableOption{pdftrapped}%
11698 \Hy@DisableOption{pdfinfo}%
11699 }
11700 \def\PDF@SetupDoc{%
11701 \def\Hy@temp{}%
11702 \ifx\@pdfstartpage\@empty
11703 \else
11704 \ifx\@pdfstartview\@empty
11705 \else
11706 \edef\Hy@temp{%
11707 ,Page=\@pdfstartpage
11708 ,View=\@pdfstartview
11709 }%
11710 \fi
11711 \fi
11712 \edef\Hy@temp{%
11713 \noexpand\pdfmark{%
11714 pdfmark=/DOCVIEW,%
11715 PageMode=/\@pdfpagemode
11716 \Hy@temp
11717 }%
11718 }%
11719 \Hy@temp
11720 \ifx\@pdfpagescrop\@empty
11721 \else
11722 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11723 \fi
11724 \edef\Hy@temp{%
11725 \ifHy@pdftoolbar\else /HideToolbar true\fi
11726 \ifHy@pdfmenubar\else /HideMenubar true\fi
11727 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11728 \ifHy@pdffitwindow /FitWindow true\fi
11729 \ifHy@pdfcenterwindow /CenterWindow true\fi
11730 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11731 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11732 \Hy@UseNameKey{Direction}\@pdfdirection
11733 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11734 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11735 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11736 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11737 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11738 \Hy@UseNameKey{Duplex}\@pdfduplex
11739 \ifx\@pdfpicktraybypdfsize\@empty
11740 \else
11741 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11742 \fi
11743 \ifx\@pdfprintpagerange\@empty
11744 \else
11745 /PrintPageRange[\@pdfprintpagerange]%

```



```

11746 \fi
11747 \ifx\@pdfnumcopies\@empty
11748 \else
11749 /NumCopies \@pdfnumcopies
11750 \fi
11751 }%
11752 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11753 \pdfmark{%
11754 pdfmark=/PUT,%
11755 Raw={%
11756 \string{Catalog\string}<<%
11757 \ifx\Hy@temp\@empty
11758 \else
11759 /ViewerPreferences<<\Hy@temp>>%
11760 \fi
11761 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11762 \ifx\@pdflang\@empty
11763 \else
11764 /Lang(\@pdflang)%
11765 \fi
11766 \ifx\@baseurl\@empty
11767 \else
11768 /URI<</Base(\Hy@pstringB)>>%
11769 \fi
11770 >>%
11771 }%
11772 }%
11773 }
11774 \pdfmark
11775 \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.

```

11776 \newif\ifHy@pdfmarkerror
11777 \def\pdfmark{\@ifnextchar[\pdfmark@]{\pdfmark@[]}}
11778 \def\pdfmark@[#1]#2{%
11779 \Hy@pdfmarkerrorfalse
11780 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11781 \@processme
11782 \let\pdf@type\relax
11783 \kvsetkeys{PDF}{#2}%
11784 \ifHy@pdfmarkerror
11785 \else
11786 \ifx\pdf@type\relax
11787 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11788 \ifx\\#1\\%
11789 \else
11790 \pdf@rect{#1}%
11791 \fi
11792 \else
11793 \ifx\\#1\\%
11794 \literalps@out{%
11795 [\the\pdf@toks\space\pdf@type\space pdfmark%

```

```

11796     }%
11797   \else
11798     \ltx@ifundefined{@\pdf@linktype color}{%
11799       \Hy@colorlink\@linkcolor
11800     }{%
11801       \expandafter\Hy@colorlink
11802         \csname @\pdf@linktype color\endcsname
11803     }%
11804     \pdf@rect{#1}%
11805     \literalps@out{%
11806       [\the\pdf@toks\space\pdf@type\space pdfmark%
11807     }%
11808     \Hy@endcolorlink
11809   \fi
11810 \fi
11811 \fi
11812 }

```

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](mailto: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}

```

```

11813 \newsavebox{\pdf@box}
11814 \providecommand*{\Hy@setouterhbox}{\sbox}
11815 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11816 \def\Hy@DEST{/DEST}
11817 \def\pdf@rect#1{%
11818   \begingroup
11819   \chardef\x=1 %
11820   \def\Hy@temp{#1}%
11821   \ifx\Hy@temp\ltx@empty
11822     \chardef\x=0 %
11823   \else
11824     \def\y{\anchor@spot}%
11825     \ifx\Hy@temp\y
11826       \def\y{\relax}%
11827     \ifx\anchor@spot\y
11828       \chardef\x=0 %
11829     \fi
11830   \fi
11831   \fi
11832   \expandafter\endgroup
11833   \ifcase\x
11834     \literalps@out{H.S}%
11835     \literalps@out{H.R}%
11836   \else
11837     \leavevmode
11838     \Hy@SaveSpaceFactor
11839     \ifmmode

```

```

11840 \def\Hy@LinkMath{$}%
11841 \else
11842 \let\Hy@LinkMath\ltx@empty
11843 \fi
11844 \ifHy@breaklinks
11845 \Hy@setouterhbox\pdf@box{%
11846 \Hy@RestoreSpaceFactor
11847 \Hy@LinkMath
11848 \Hy@AllowHyphens#1\Hy@xspace@end
11849 \Hy@LinkMath
11850 \Hy@SaveSpaceFactor
11851 }%
11852 \else
11853 \sbox\pdf@box{%
11854 \Hy@RestoreSpaceFactor
11855 \Hy@LinkMath
11856 #1\Hy@xspace@end
11857 \Hy@LinkMath
11858 \Hy@SaveSpaceFactor
11859 }%
11860 \fi
11861 \dimen@ \ht\pdf@box
11862 \ifdim\dp\pdf@box=\z@
11863 \literalps@out{H.S}%
11864 \else
11865 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11866 \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...).

```

11867 \ifHy@breaklinks
11868 \ifhmode
11869 \Hy@breaklinksunhbox\pdf@box
11870 \else
11871 \box\pdf@box
11872 \fi
11873 \else
11874 \expandafter\box\pdf@box
11875 \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

11876 \ifdim\dimen@=\z@
11877 \literalps@out{H.R}%
11878 \else
11879 \raise\dimen@\hbox{\literalps@out{H.R}}%
11880 \fi
11881 \Hy@RestoreSpaceFactor
11882 \fi
11883 \ifx\pdf@type\Hy@DEST
11884 \else
11885 \pdf@addtoksx{H.B}%
11886 \fi
11887 }

```

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.

```

11888 \newtoks\pdf@toks
11889 \newtoks\pdf@defaulttoks
11890 \pdf@defaulttoks={} %
11891 \def\pdf@addtoks#1#2{%
11892   \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}} %
11893   \@processme
11894 }
11895 \def\pdf@addtoksx#1{%
11896   \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}} %
11897   \@processme
11898 }
11899 \def\PDFdefaults#1{%
11900   \pdf@defaulttoks={#1} %
11901 }

```

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

```

11902 % what is the type of pdfmark?
11903 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11904 % what is the link type?
11905 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11906 \def\pdf@linktype{link}
11907 % parameter is a stream of PDF
11908 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11909 % parameter is a name
11910 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11911 % parameter is a array
11912 \define@key{PDF}{Border}{%
11913   \edef\Hy@temp{#1}%
11914   \ifx\Hy@temp\@empty
11915     \else
11916       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11917     \fi
11918 }
11919 \let\Hy@BorderArrayPatch\@empty
11920 % parameter is a dictionary
11921 \define@key{PDF}{BorderStyle}{%
11922   \edef\Hy@temp{#1}%
11923   \ifx\Hy@temp\@empty
11924     \else
11925       \pdf@addtoks{<<#1>>}{BS}%
11926     \fi
11927 }
11928 % parameter is a array
11929 \define@key{PDF}{Color}{%
11930   \ifx\relax#1\relax
11931     \else
11932       \pdf@addtoks{[#1]}{Color}% hash-ok
11933     \fi
11934 }
11935 % parameter is a string
11936 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11937 % parameter is a integer
11938 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11939 % parameter is a array
11940 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok

```

```

11941 % parameter is a string
11942 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11943 % parameter is a string or file
11944 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11945 % parameter is a destination
11946 \define@key{PDF}{Dest}{%
11947   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11948   \ifx\Hy@pstringDest\@empty
11949     \Hy@pdfmarkerrortrue
11950     \Hy@Warning{Destination with empty name ignored}%
11951   \else
11952     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11953   \fi
11954 }
11955 \define@key{PDF}{DestAnchor}{%
11956   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11957   \ifx\Hy@pstringDest\@empty
11958     \Hy@pdfmarkerrortrue
11959     \Hy@Warning{Destination with empty name ignored}%
11960   \else
11961     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11962   \fi
11963 }
11964 % parameter is a string
11965 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11966 % parameter is a string
11967 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11968 % parameter is a int
11969 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11970 \define@key{PDF}{PDFAFlags}{%
11971   \ifHy@pdfa
11972     \pdf@addtoks{#1}{F}%
11973   \fi
11974 }
11975 % parameter is a name
11976 \define@key{PDF}{AcroHighlight}{%
11977   \begingroup
11978     \edef\x{#1}%
11979     \expandafter\endgroup\ifx\x\@empty
11980     \else
11981       \pdf@addtoks{#1}{H}%
11982     \fi
11983 }
11984 % parameter is a string
11985 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11986 % parameter is a string
11987 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11988 % parameter is a string
11989 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11990 % parameter is a string
11991 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11992 % parameter is a Boolean
11993 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11994 % parameter is a integer or name
11995 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11996 % parameter is a name
11997 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}

```

```

11998 % parameter is a string
11999 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
12000 % parameter is a array
12001 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
12002 % parameter is a integer
12003 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
12004 % parameter is a name
12005 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
12006 % parameter is a string
12007 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
12008 % parameter is a string
12009 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
12010 % parameter is a string
12011 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
12012 % parameter is an array
12013 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
12014 % parameter is a string
12015 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

12016 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
12017 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
12018 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
12019 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
12020 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
12021 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
12022 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
12023 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
12024 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
12025 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
12026 \define@key{PDF}{Trapped}{%
12027   \edef\Hy@temp{#1}%
12028   \ifx\Hy@temp\@empty
12029     \else
12030       \pdf@addtoks{/#1}{Trapped}%
12031     \fi
12032 }
12033
12034 </pdfmarkbase>
12035 <*pdfmark>
12036 \def\Acrobatmenu#1#2{%
12037   \EdefEscapeName\Hy@temp@menu{#1}%
12038   \Hy@Acrobatmenu{#1}{#2}{%
12039     \pdfmark[{#2}]{%
12040       linktype=menu,%
12041       pdfmark=/ANN,%
12042       AcroHighlight=\@pdfhighlight,%
12043       Border=\@pdfborder,%
12044       BorderStyle=\@pdfborderstyle,%
12045       Color=\@menubordercolor,%
12046       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
12047       Subtype=/Link,%
12048       PDFAFlags=4%
12049     }%
12050   }%
12051 }

```

And now for some useful examples:

```

12052 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
12053 \def\PDFNextPage@[#1]#2{%
12054   \pdfmark[{#2}]{%
12055     #1,%
12056     Border=\@pdfborder,%
12057     BorderStyle=\@pdfborderstyle,%
12058     Color=.2 .1 .5,%
12059     pdfmark=/ANN,%
12060     Subtype=/Link,%
12061     PDFAFlags=4,%
12062     Page=/Next%
12063   }%
12064 }
12065 \def\PDFPreviousPage{%
12066   \@ifnextchar{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
12067 }
12068 \def\PDFPreviousPage@[#1]#2{%
12069   \pdfmark[{#2}]{%
12070     #1,%
12071     Border=\@pdfborder,%
12072     BorderStyle=\@pdfborderstyle,%
12073     Color=.4 .4 .1,%
12074     pdfmark=/ANN,%
12075     Subtype=/Link,%
12076     PDFAFlags=4,%
12077     Page=/Prev%
12078   }%
12079 }
12080 \def\PDFOpen#1{%
12081   \pdfmark{#1,pdfmark=/DOCVIEW}%
12082 }

```

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

```

12083 \def\hyper@linkurl#1#2{%
12084   \begingroup
12085     \Hy@pstringdef\Hy@pstringURI{#2}%
12086     \hyper@chars
12087     \leavevmode
12088     \pdfmark[{#1}]{%
12089       pdfmark=/ANN,%
12090       linktype=url,%
12091       AcroHighlight=\@pdfhighlight,%
12092       Border=\@pdfborder,%
12093       BorderStyle=\@pdfborderstyle,%
12094       Color=\@urlbordercolor,%
12095       Action={<<%
12096         /Subtype/URI%
12097         /URI(\Hy@pstringURI)%
12098         \ifHy@href@ismap
12099           /IsMap true%
12100         \fi
12101       >>},%
12102       Subtype=/Link,%
12103       PDFAFlags=4%
12104     }%
12105   \endgroup
12106 }
12107 \def\hyper@linkfile#1#2#3{%

```

```

12108 \begingroup
12109 \def\Hy@pstringF{#2}%
12110 \Hy@CleanupFile\Hy@pstringF
12111 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
12112 \Hy@pstringdef\Hy@pstringD{#3}%
12113 \Hy@MakeRemoteAction
12114 \leavevmode
12115 \pdfmark[{#1}]{%
12116 pdfmark=/ANN,%
12117 Subtype=/Link,%
12118 PDFAFlags=4,%
12119 AcroHighlight=\@pdfhighlight,%
12120 Border=\@pdfborder,%
12121 BorderStyle=\@pdfborderstyle,%
12122 linktype=file,%
12123 Color=\@filebordercolor,%
12124 Action={%
12125 <<%
12126 /S/GoToR%
12127 \Hy@SetNewWindow
12128 /F(\Hy@pstringF)%
12129 /D%
12130 \ifx\#3\%
12131 [\Hy@href@page\@pdfremotestartview]%
12132 \else
12133 (\Hy@pstringD)cvn%
12134 \fi
12135 \Hy@href@nextactionraw
12136 >>%
12137 }%
12138 }%
12139 \endgroup
12140 }
12141 \def\@hyper@launch run:#1\#2#3{%
12142 \begingroup
12143 \Hy@pstringdef\Hy@pstringF{#1}%
12144 \Hy@pstringdef\Hy@pstringP{#3}%
12145 \leavevmode
12146 \pdfmark[{#2}]{%
12147 pdfmark=/ANN,%
12148 Subtype=/Link,%
12149 PDFAFlags=4,%
12150 AcroHighlight=\@pdfhighlight,%
12151 Border=\@pdfborder,%
12152 BorderStyle=\@pdfborderstyle,%
12153 linktype=run,%
12154 Color=\@runbordercolor,%
12155 Action={%
12156 <<%
12157 /S/Launch%
12158 \Hy@SetNewWindow
12159 /F(\Hy@pstringF)%
12160 \ifx\#3\%
12161 \else
12162 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
12163 \fi
12164 \Hy@href@nextactionraw

```



```

12165     >>%
12166   }%
12167 }%
12168 \endgroup
12169 }
12170 </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.

```

12171 (*dvips)
12172 \providecommand*\XR@ext\pdf{
12173 \let\Hy@raisedlink\ltx@empty
12174 \def\literals@out#1{\special{ps:SDict begin #1 end}}%
12175 \def\headerps@out#1{\special{! #1}}%
12176 \input{pdfmark.def}%
12177 \ifx\@pdfproducer\relax
12178   \def\@pdfproducer{dvips + Distiller}%
12179 \fi
12180 \providecommand*\@pdfborder{0 0 1}
12181 \providecommand*\@pdfborderstyle{}
12182 \providecommand*\@pdfview{XYZ}
12183 \providecommand*\@pdfviewparams{ H.V}
12184 \def\Hy@BorderArrayPatch{BorderArrayPatch}

12185 \g@addto@macro\Hy@FirstPageHook{%
12186   \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.

```

12187   /DvipsToPDF{72.27 mul Resolution div} def%
12188   /PDFToDvips{72.27 div Resolution mul} def%
12189   /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.

```

12190   /BorderArrayPatch{%
12191     [exch{%
12192       dup dup type/integertype eq exch type/realtype eq or%
12193       {BPToDvips}if%

```

```

12194     }forall]%
12195     }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.

```

12196     /HyperBorder {1 PDFToDvips} def%
12197     /H.V {pdf@hoff pdf@voff null} def%
12198     /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

```

12199     /H.S {%
12200         currentpoint %
12201         HyperBorder add /pdf@lly exch def %
12202         dup DvipsToPDF 72 add /pdf@hoff exch def %
12203         HyperBorder sub /pdf@llx exch def%
12204     } def%

```

The calculation of upper left  $y$  is done without raising the point in  $\text{\TeX}$ , by simply adding on the current  $\backslash\text{baselineskip}$  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

```

12205     /H.L {%
12206         2 sub dup%
12207         /HyperBasePt exch def %
12208         PDFToDvips /HyperBaseDvips exch def %
12209         currentpoint %
12210         HyperBaseDvips sub /pdf@ury exch def%
12211         /pdf@urx exch def%
12212     } def%
12213     /H.A {%
12214         H.L %
12215         % |pdf@voff| = the distance from the top of the page to a point
12216         % |\baselineskip| above the current point in PDF coordinates
12217         currentpoint exch pop %
12218         vsize 72 sub exch DvipsToPDF %
12219         HyperBasePt sub % baseline skip
12220         sub /pdf@voff exch def%
12221     } def%
12222     /H.R {%
12223         currentpoint %
12224         HyperBorder sub /pdf@ury exch def %
12225         HyperBorder add /pdf@urx exch def %
12226         % |pdf@voff| = the distance from the top of the page to the current point, in
12227         % PDF coordinates
12228         currentpoint exch pop vsize 72 sub %
12229         exch DvipsToPDF sub /pdf@voff exch def%
12230     } def%
12231 }%
12232 }
12233 \AtBeginShipoutFirst{%
12234     \ifHy@setpagesize
12235     \begingroup
12236     \@ifundefined{stockwidth}{%
12237         \ifdim\paperwidth>\z@

```

```

12238     \ifdim\paperheight>\z@
12239     \special{papersize=\the\paperwidth,\the\paperheight}%
12240     \fi
12241   \fi
12242 }{%
12243   \ifdim\stockwidth>\z@
12244   \ifdim\stockheight>\z@
12245     \special{papersize=\the\stockwidth,\the\stockheight}%
12246   \fi
12247   \fi
12248 }%
12249 \endgroup
12250 \fi
12251 \Hy@DisableOption{setpagesize}%
12252 }
12253 </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.

```

12254 (*vtexpdfmark)
12255 \providecommand*\XR@ext}{pdf}
12256 \let\Hy@raisedlink\ltx@empty
12257 \def\litalps@out#1{\special{pS:#1}}%
12258 \def\headerps@out#1{\immediate\special{pS:#1}}%
12259 \input{pdfmark.def}%
12260 \ifx\@pdfproducer\relax
12261   \ifnum\OpMode=\@ne
12262     \def\@pdfproducer{VTeX}%
12263   \else
12264     \def\@pdfproducer{VTeX + Distiller}%
12265   \fi
12266 \fi
12267 \providecommand*\@pdfborder{0 0 1}
12268 \providecommand*\@pdfborderstyle{}
12269 \providecommand*\@pdfview{XYZ}
12270 \providecommand*\@pdfviewparams{ H.V}
12271 \g@addto@macro\Hy@FirstPageHook{%
12272   \headerps@out{%
12273     /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.

```

12274   /HyperBorder {1} def%
12275   /H.V {pdf@hoff pdf@voff null} def%
12276   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

12277   /H.S {%
12278     currentpoint %
12279     HyperBorder sub%

```

```

12280    /pdf@lly exch def %
12281    dup 72 add /pdf@hoff exch def %
12282    HyperBorder sub%
12283    /pdf@llx exch def%
12284    } def%

```

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

```

12285    /H.L {%
12286        2 sub%
12287        /HyperBasePt exch def %
12288        currentpoint %
12289        HyperBasePt add HyperBorder add%
12290        /pdf@ury exch def %
12291        HyperBorder add%
12292        /pdf@urx exch def%
12293    } def%
12294    /H.A {%
12295        H.L %
12296        currentpoint exch pop %
12297        vsize 72 sub exch %
12298        HyperBasePt add add%
12299        /pdf@voff exch def%
12300    } def%

```

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

```

12301    /H.R {%
12302        currentpoint %
12303        HyperBorder add%
12304        /pdf@ury exch def %
12305        HyperBorder add%
12306        /pdf@urx exch def %
12307        currentpoint exch pop vsize 72 sub add%
12308        /pdf@voff exch def%
12309    } def%
12310    }%
12311 }
12312 </vtxpdfmark>

```

## 47.11 Textures

```

12313 <*textures>
12314 \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.

```

12315 \begingroup
12316 \obeylines %
12317 \gdef\Hy@ps@CR{\noexpand
12318 }%
12319 \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`.

```
12320 \def\literalps@out#1{%
12321   \special{postscript 0 0 transform}%
12322   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
12323 }%
12324 %
```

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.

```
12325 \def\headerps@out#1{%
12326   \special{%
12327     prepostscript TeXdict begin\Hy@ps@CR
12328       #1\Hy@ps@CR
12329     end%
12330   }%
12331 }%
12332 %
```

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.

```
12333 \g@addto@macro\Hy@FirstPageHook{%
12334   \headerps@out{%
12335     /betterpdfmark {%
12336       systemdict begin %
12337         dup /BP eq%
12338         {cleartomark gsave nulldevice []}%
12339         {dup /EP eq%
12340          {cleartomark cleartomark grestore}}%
12341         {cleartomark}%
12342         ifelse%
12343       }ifelse %
12344     end%
12345   }def\Hy@ps@CR
12346   ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
12347 }% end of \headerps@out
12348 }% end of \AtBeginShipoutFirst
12349 %
12350 \input{pdfmark.def}%
12351 %
12352 \ifx\@pdfproducer\relax
12353   \def\@pdfproducer{Textures + Distiller}%
12354 \fi
12355 \providecommand*\@pdfborder{0 0 1}
12356 \providecommand*\@pdfborderstyle{}
12357 \providecommand*\@pdfview{XYZ}
```

```

12358 \providecommand*\@pdfviewparams{ H.V}
12359 %

```

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  $\text{\TeX}$ .

```

12360 \Hy@AtBeginDocument{%
12361   \headerps@out{%

```

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

```

12362   /vsize {\Hy@pageheight} def%
12363   /DvipsToPDF {} def%
12364   /PDFToDvips {} def%
12365   /BPToDvips {} def%
12366   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
12367   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
12368   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
12369   /H.S {%
12370     currentpoint %
12371     HyperBorder add /pdf@lly exch def %
12372     dup DvipsToPDF 72 add /pdf@hoff exch def %
12373     HyperBorder sub /pdf@llx exch def%
12374   } def\Hy@ps@CR
12375   /H.L {%
12376     2 sub %
12377     PDFToDvips /HyperBase exch def %
12378     currentpoint %
12379     HyperBase sub /pdf@ury exch def%
12380     /pdf@urx exch def%
12381   } def\Hy@ps@CR
12382   /H.A {%
12383     H.L %
12384     currentpoint exch pop %
12385     vsize 72 sub exch DvipsToPDF %
12386     HyperBase sub % baseline skip
12387     sub /pdf@voff exch def%
12388   } def\Hy@ps@CR
12389   /H.R {%
12390     currentpoint %
12391     HyperBorder sub /pdf@ury exch def %
12392     HyperBorder add /pdf@urx exch def %
12393     currentpoint exch pop vsize 72 sub %
12394     exch DvipsToPDF sub /pdf@voff exch def%
12395   } def\Hy@ps@CR
12396   }%
12397 }
12398 \Hy@AtBeginDocument{%
12399   \ifHy@colorlinks
12400     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
12401   \fi
12402 }

```

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.

```

12403 \expandafter\let\expandafter\keepPDF@SetupDoc
12404 \csname PDF@SetupDoc\endcsname
12405 \def\PDF@SetupDoc{%
12406   \ifx\@baseurl\@empty
12407   \else
12408     \special{html:<base href="\@baseurl">}%
12409   \fi
12410   \keepPDF@SetupDoc
12411 }
12412 \Hy@WrapperDef\hyper@anchor#1{%
12413   \Hy@SaveLastskip
12414   \Hy@VerboseAnchor{#1}%
12415   \begingroup
12416     \let\protect=\string
12417     \special{html:<a name=%
12418       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12419   \endgroup
12420   \Hy@activeanchortrue
12421   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12422   \special{html:</a>}%
12423   \Hy@activeanchorfalse
12424   \Hy@RestoreLastskip
12425 }
12426 \Hy@WrapperDef\hyper@anchorstart#1{%
12427   \Hy@SaveLastskip
12428   \Hy@VerboseAnchor{#1}%
12429   \begingroup
12430     \hyper@chars
12431     \special{html:<a name=%
12432       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12433   \endgroup
12434   \Hy@activeanchortrue
12435 }
12436 \def\hyper@anchorend{%
12437   \special{html:</a>}%
12438   \Hy@activeanchorfalse
12439   \Hy@RestoreLastskip
12440 }
12441 \def\@urltype{url}
12442 \def\hyper@linkstart#1#2{%
12443   \Hy@VerboseLinkStart{#1}{#2}%
12444   \expandafter\Hy@colorlink\csname @#1color\endcsname
12445   \def\Hy@tempa{#1}%
12446   \ifx\Hy@tempa\@urltype
12447     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12448   \else
12449     \begingroup
12450       \hyper@chars
12451       \special{%
12452         html:<a href=%
12453           \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
12454       }%
12455     \endgroup
12456   \fi
12457 }
12458 \def\hyper@linkend{%
12459   \special{html:</a>}%

```

```

12460 \Hy@endcolorlink
12461 }
12462 \def\hyper@linkfile#1#2#3{%
12463 \hyper@linkurl{#1}{%
12464 \Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi
12465 }%
12466 }
12467 \def\hyper@linkurl#1#2{%
12468 \leavevmode
12469 \ifHy@raiselinks
12470 \Hy@SaveSpaceFactor
12471 \Hy@SaveSavedSpaceFactor
12472 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12473 \Hy@RestoreSavedSpaceFactor
12474 \@linkdim\dp\@tempboxa
12475 \lower\@linkdim\hbox{%
12476 \hyper@chars
12477 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
12478 }%
12479 \Hy@colorlink\@urlcolor
12480 \Hy@RestoreSpaceFactor
12481 #1\Hy@xspace@end
12482 \Hy@SaveSpaceFactor
12483 \@linkdim\ht\@tempboxa
12484 \advance\@linkdim by -6.5\p@
12485 \raise\@linkdim\hbox{\special{html:</a>}}%
12486 \Hy@endcolorlink
12487 \Hy@RestoreSpaceFactor
12488 \else
12489 \begingroup
12490 \hyper@chars
12491 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
12492 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12493 \special{html:</a>}}%
12494 \Hy@endcolorlink
12495 \endgroup
12496 \fi
12497 }

```

Very poor implementation of \hyper@link without considering #1.

```

12498 \def\hyper@link#1#2#3{%
12499 \Hy@VerboseLinkStart{#1}{#2}%
12500 \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
12501 }
12502 \def\hyper@image#1#2{%
12503 \begingroup
12504 \hyper@chars
12505 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
12506 \endgroup
12507 }
12508 </textures>

```

## 47.12 dvipsone

```

12509 % \subsection{dvipsone driver}
12510 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
12511 % |\special| commands.
12512 (*dvipsone)

```



```

12513 \providecommand*\XR@ext}{pdf}
12514 \let\Hy@raisedlink\ltx@empty
12515 \providecommand*\@pdfborder{0 0 1}
12516 \providecommand*\@pdfborderstyle{}
12517 \def\literalps@out#1{\special{ps:#1}}%
12518 \def\headerps@out#1{\special{headertext=#1}}%
12519 \input{pdfmark.def}%
12520 \ifx\@pdfproducer\relax
12521   \def\@pdfproducer{dvipsone + Distiller}%
12522 \fi
12523 \HyInfo@AddonUnsupportedtrue
12524 \def\PDF@FinishDoc{%
12525   \Hy@UseMaketitleInfos
12526   \HyInfo@TrappedUnsupported
12527   \special{PDF: Keywords \@pdfkeywords}%
12528   \special{PDF: Title \@pdftitle}%
12529   \special{PDF: Creator \@pdfcreator}%
12530   \ifx\@pdfcreationdate\@empty
12531     \else
12532       \special{PDF: CreationDate \@pdfcreationdate}%
12533     \fi
12534   \ifx\@pdfmoddate\@empty
12535     \else
12536       \special{PDF: ModDate \@pdfmoddate}%
12537     \fi
12538   \special{PDF: Author \@pdfauthor}%
12539   \ifx\@pdfproducer\relax
12540     \else
12541       \special{PDF: Producer \@pdfproducer}%
12542     \fi
12543   \special{PDF: Subject \@pdfsubject}%
12544   \Hy@DisableOption{pdfauthor}%
12545   \Hy@DisableOption{pdftitle}%
12546   \Hy@DisableOption{pdfsubject}%
12547   \Hy@DisableOption{pdfcreator}%
12548   \Hy@DisableOption{pdfcreationdate}%
12549   \Hy@DisableOption{pdfmoddate}%
12550   \Hy@DisableOption{pdfproducer}%
12551   \Hy@DisableOption{pdfkeywords}%
12552   \Hy@DisableOption{pdftrapped}%
12553   \Hy@DisableOption{pdfinfo}%
12554 }
12555 \def\PDF@SetupDoc{%
12556   \def\Hy@temp{}%
12557   \ifx\@pdfstartpage\@empty
12558     \else
12559     \ifx\@pdfstartview\@empty
12560       \else
12561         \edef\Hy@temp{%
12562           ,Page=\@pdfstartpage
12563           ,View=\@pdfstartview
12564         }%
12565       \fi
12566     \fi
12567   \edef\Hy@temp{%
12568     \noexpand\pdfmark{%
12569       pdfmark=/DOCVIEW,%

```

```

12570     PageMode=/\@pdfpagemode
12571     \Hy@temp
12572 }%
12573 }%
12574 \Hy@temp
12575 \ifx\@pdfpagescrop\@empty
12576 \else
12577   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12578 \fi
12579 \edef\Hy@temp{%
12580   \ifHy@pdftoolbar\else /HideToolbar true\fi
12581   \ifHy@pdfmenubar\else /HideMenubar true\fi
12582   \ifHy@pdfwindowui\else /HideWindowUI true\fi
12583   \ifHy@pdfwindow /FitWindow true\fi
12584   \ifHy@pdfcenterwindow /CenterWindow true\fi
12585   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12586   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12587   \Hy@UseNameKey{Direction}\@pdfdirection
12588   \Hy@UseNameKey{ViewArea}\@pdfviewarea
12589   \Hy@UseNameKey{ViewClip}\@pdfviewclip
12590   \Hy@UseNameKey{PrintArea}\@pdfprintarea
12591   \Hy@UseNameKey{PrintClip}\@pdfprintclip
12592   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12593   \Hy@UseNameKey{Duplex}\@pdfduplex
12594   \ifx\@pdfpicktraybypdfsize\@empty
12595   \else
12596     /PickTrayByPDFSize \@pdfpicktraybypdfsize
12597   \fi
12598   \ifx\@pdfprintpagerange\@empty
12599   \else
12600     /PrintPageRange[\@pdfprintpagerange]%
12601   \fi
12602   \ifx\@pdfnumcopies\@empty
12603   \else
12604     /NumCopies \@pdfnumcopies
12605   \fi
12606 }%
12607 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12608 \pdfmark{%
12609   pdfmark=/PUT,%
12610   Raw={%
12611     \string{Catalog\string}<<%
12612     \ifx\Hy@temp\@empty
12613     \else
12614       /ViewerPreferences<<\Hy@temp>>%
12615     \fi
12616     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12617     \ifx\@pdflang\@empty
12618     \else
12619       /Lang(\@pdflang)%
12620     \fi
12621     \ifx\@baseurl\@empty
12622     \else
12623       /URI<</Base(\Hy@pstringB)>>%
12624     \fi
12625     >>%
12626   }%

```

```

12627 }%
12628 }
12629 \providecommand*\@pdfview{XYZ}
12630 \providecommand*\@pdfviewparams{ %
12631   gsave revscl currentpoint grestore %
12632   72 add exch pop null exch null%
12633 }
12634 \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 T<sub>E</sub>X.

```

12635 \g@addto@macro\Hy@FirstPageHook{%
12636   \headerps@out{%

```

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

```

12637   /DvipsToPDF { 65781 div } def%
12638   /PDFToDvips { 65781 mul } def%
12639   /BPToDvips{65781 mul}def%
12640   /HyperBorder { 1 PDFToDvips } def%
12641   /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.

```

12642   /BorderArrayPatch{%
12643     [exch{%
12644       dup dup type/integertype eq exch type/realtype eq or%
12645       {BPToDvips}if%
12646     }forall]%
12647   }def%
12648   /H.S {%
12649     currentpoint %
12650     HyperBorder add /pdf@lly exch def %
12651     dup DvipsToPDF 72 add /pdf@hoff exch def %
12652     HyperBorder sub /pdf@llx exch def%
12653   } def%
12654   /H.L {%
12655     2 sub %
12656     PDFToDvips /HyperBase exch def %
12657     currentpoint %
12658     HyperBase sub /pdf@ury exch def%
12659     /pdf@urx exch def%
12660   } def%
12661   /H.A {%
12662     H.L %
12663     currentpoint exch pop %
12664     HyperBase sub % baseline skip
12665     DvipsToPDF /pdf@voff exch def%
12666   } def%
12667   /H.R {%
12668     currentpoint %
12669     HyperBorder sub /pdf@ury exch def %
12670     HyperBorder add /pdf@urx exch def %
12671     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12672   } def%
12673 }%

```

```

12674 }
12675 </dvipsone>

```

## 47.13 TeX4ht

```

12676 <*tex4ht>
12677 \providecommand*{\XR@ext}{html}
12678 \let\Hy@raisedlink\ltx@empty
12679 \@ifpackageloaded{tex4ht}{%
12680   \Hy@InfoNoLine{tex4ht is already loaded}%
12681 }{%
12682   \RequirePackage[hTeX4ht]{tex4ht}%
12683 }
12684 \hyperlinkfileprefix{}
12685 \let\PDF@FinishDoc\ltx@empty
12686 \def\PDF@SetupDoc{%
12687   \ifx\@baseurl\@empty
12688     \else
12689       \special{t4ht=<base href="\@baseurl">}%
12690     \fi
12691 }
12692 \Hy@WrapperDef\hyper@anchor#1{%
12693   \Hy@SaveLastskip
12694   \Hy@VerboseAnchor{#1}%
12695   \begingroup
12696     \let\protect=\string
12697     \special{t4ht=<a name=%
12698       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12699   \endgroup
12700   \Hy@Activeanchortrue
12701   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12702   \special{t4ht=</a>}%
12703   \Hy@activeanchorfalse
12704   \Hy@RestoreLastskip
12705 }
12706 \Hy@WrapperDef\hyper@anchorstart#1{%
12707   \Hy@SaveLastskip
12708   \Hy@VerboseAnchor{#1}%
12709   \begingroup
12710     \hyper@chars\special{t4ht=<a name=%
12711       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12712   \endgroup
12713   \Hy@Activeanchortrue
12714 }
12715 \def\hyper@anchorend{%
12716   \special{t4ht=</a>}%
12717   \Hy@activeanchorfalse
12718   \Hy@RestoreLastskip
12719 }
12720 \def\@urltype{url}
12721 \def\hyper@linkstart#1#2{%
12722   \Hy@VerboseLinkStart{#1}{#2}%
12723   \expandafter\Hy@colorlink\csname @#1color\endcsname
12724   \def\Hy@tempa{#1}%
12725   \ifx\Hy@tempa\@urltype
12726     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12727   \else
12728     \begingroup

```

```

12729 \hyper@chars
12730 \special{t4ht=<a href=%
12731 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12732 \endgroup
12733 \fi
12734 }
12735 \def\hyper@linkend{%
12736 \special{t4ht=</a>}%
12737 \Hy@endcolorlink
12738 }
12739 \def\hyper@linkfile#1#2#3{%
12740 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\#3\fi}%
12741 }
12742 \def\hyper@linkurl#1#2{%
12743 \leavevmode
12744 \ifHy@raiselinks
12745 \Hy@SaveSpaceFactor
12746 \Hy@SaveSavedSpaceFactor
12747 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12748 \Hy@RestoreSavedSpaceFactor
12749 \@linkdim\dp\@tempboxa
12750 \lower\@linkdim\hbox{%
12751 \begingroup
12752 \hyper@chars
12753 \special{%
12754 t4ht=<a href=\hyper@quote#2\hyper@quote>%
12755 }%
12756 \endgroup
12757 }%
12758 \Hy@colorlink\@urlcolor
12759 \Hy@RestoreSpaceFactor
12760 #1\Hy@xspace@end
12761 \Hy@SaveSpaceFactor
12762 \Hy@endcolorlink
12763 \@linkdim\ht\@tempboxa
12764 \advance\@linkdim by -6.5\p@
12765 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12766 \Hy@RestoreSpaceFactor
12767 \else
12768 \begingroup
12769 \hyper@chars
12770 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12771 \Hy@colorlink\@urlcolor
12772 #1\Hy@xspace@end
12773 \Hy@endcolorlink
12774 \special{t4ht=</a>}%
12775 \endgroup
12776 \fi
12777 }

```

Poor implementation of \hyper@link without considering #1.

```

12778 \def\hyper@link#1#2#3{%
12779 \Hy@VerboseLinkStart{#1}{#2}%
12780 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
12781 }
12782 \def\hyper@image#1#2{%
12783 \begingroup
12784 \hyper@chars

```

```

12785 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12786 \endgroup
12787 }
12788 \let\autoref\ref
12789 \ifx \rEfLiNK \UnDef
12790 \def\rEfLiNK #1#2{#2}%
12791 \fi
12792 \let\backref\ltx@gobble

Fix for tex4ht.
12793 \AtBeginDocument{%
12794 \expandafter
12795 \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12796 \expandafter\def\csname Make:Label\endcsname#1#2{%
12797 \ifhmode
12798 \Hy@SaveSpaceFactor
12799 \else
12800 \global\Hy@SavedSpaceFactor=1000 %
12801 \fi
12802 \Hy@OrgMakeLabel{#1}{%
12803 \Hy@RestoreSpaceFactor
12804 #2\Hy@xspace@end%
12805 \Hy@SaveSpaceFactor
12806 }%
12807 \Hy@RestoreSpaceFactor
12808 }%
12809 }
12810 </tex4ht>
12811 <*tex4htcfg>
12812 \IfFileExists{\jobname.cfg}{\endinput}{}
12813 \Preamble{html}
12814 \begin{document}%
12815 \EndPreamble
12816 \def\TeX{TeX}
12817 \def\OMEGA{Omega}
12818 \def\LaTeX{LaTeX}
12819 \def\LaTeXe{LaTeX2e}
12820 \def\eTeX{e-TeX}
12821 \def\MF{Metafont}
12822 \def\MP{MetaPost}
12823 </tex4htcfg>

```

## 48 Driver-specific form support

### 48.1 pdfmarks

```

12824 <*pdfmark>
12825 \long\def\@Form[#1]{%
12826 \g@addto@macro\Hy@FirstPageHook{%
12827 \headerps@out{%
12828 [%
12829 /_objdef{pdfDocEncoding}%
12830 /type/dict%
12831 /OBJ pdfmark%
12832 [%
12833 {pdfDocEncoding}%
12834 <<%
12835 /Type/Encoding%

```

12836 /Differences[%  
12837 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%  
12838 /tilde %  
12839 39/quotesingle %  
12840 96/grave %  
12841 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%  
12842 /fraction/guilsinglleft/guilsinglright/minus/perthousand%  
12843 /quotedblbase/quotedblleft/quotedblright/quoteleft%  
12844 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%  
12845 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %  
12846 164/currency %  
12847 166/brokenbar %  
12848 168/dieresis/copyright/ordfeminine %  
12849 172/logicalnot/.notdef/registered/macron/degree/plusminus%  
12850 /twosuperior/threesuperior/acute/mu %  
12851 183/periodcentered/cedilla/onesuperior/ordmasculine %  
12852 188/onequarter/onehalf/threequarters %  
12853 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%  
12854 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%  
12855 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%  
12856 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%  
12857 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%  
12858 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%  
12859 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%  
12860 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%  
12861 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%  
12862 /ucircumflex/udieresis/yacute/thorn/ydieresis%  
12863 ]%  
12864 >>%  
12865 /PUT pdfmark%  
12866 [%  
12867 /\_objdef{ZaDb}%  
12868 /type/dict%  
12869 /OBJ pdfmark%  
12870 [%  
12871 {ZaDb}%  
12872 <<%  
12873 /Type/Font%  
12874 /Subtype/Type1%  
12875 /Name/ZaDb%  
12876 /BaseFont/ZapfDingbats%  
12877 >>%  
12878 /PUT pdfmark%  
12879 [%  
12880 /\_objdef{Helv}%  
12881 /type/dict%  
12882 /OBJ pdfmark%  
12883 [%  
12884 {Helv}%  
12885 <<%  
12886 /Type/Font%  
12887 /Subtype/Type1%  
12888 /Name/Helv%  
12889 /BaseFont/Helvetica%  
12890 /Encoding{pdfDocEncoding}%  
12891 >>%  
12892 /PUT pdfmark%

```

12893 [%
12894   /__objdef{aform}%
12895   /type/dict%
12896 /OBJ pdfmark%
12897 [%
12898   /__objdef{afields}%
12899   /type/array%
12900 /OBJ pdfmark%
12901 {%
12902   [%
12903     /BBox[0 0 100 100]%
12904     /__objdef{Check}%
12905   /BP pdfmark %
12906   1 0 0 setrgbcolor%
12907   /ZapfDingbats 80 selectfont %
12908   20 20 moveto%
12909   (4)show%
12910 [/EP pdfmark%
12911 [%
12912   /BBox[0 0 100 100]%
12913   /__objdef{Cross}%
12914 /BP pdfmark %
12915   1 0 0 setrgbcolor%
12916   /ZapfDingbats 80 selectfont %
12917   20 20 moveto%
12918   (8)show%
12919 [/EP pdfmark%
12920 [%
12921   /BBox[0 0 250 100]%
12922   /__objdef{Submit}%
12923 /BP pdfmark %
12924   0.6 setgray %
12925   0 0 250 100 rectfill %
12926   1 setgray %
12927   2 2 moveto %
12928   2 98 lineto %
12929   248 98 lineto %
12930   246 96 lineto %
12931   4 96 lineto %
12932   4 4 lineto %
12933   fill %
12934   0.34 setgray %
12935   248 98 moveto %
12936   248 2 lineto %
12937   2 2 lineto %
12938   4 4 lineto %
12939   246 4 lineto %
12940   246 96 lineto %
12941   fill%
12942 /Helvetica 76 selectfont %
12943   0 setgray %
12944   8 22.5 moveto%
12945   (Submit)show%
12946 [/EP pdfmark%
12947 [%
12948   /BBox[0 0 250 100]%
12949   /__objdef{SubmitP}%

```



```

12950 /BP pdfmark %
12951 0.6 setgray %
12952 0 0 250 100 rectfill %
12953 0.34 setgray %
12954 2 2 moveto %
12955 2 98 lineto %
12956 248 98 lineto %
12957 246 96 lineto %
12958 4 96 lineto %
12959 4 4 lineto %
12960 fill %
12961 1 setgray %
12962 248 98 moveto %
12963 248 2 lineto %
12964 2 2 lineto %
12965 4 4 lineto %
12966 246 4 lineto %
12967 246 96 lineto %
12968 fill%
12969 /Helvetica 76 selectfont %
12970 0 setgray %
12971 10 20.5 moveto%
12972 (Submit)show%
12973 [/EP pdfmark%
12974 } ?pdfmark%
12975 [%
12976 {aform}%
12977 <<%
12978 /Fields{afields}%
12979 /DR<<%
12980 /Font<<%
12981 /ZaDb{ZaDb}%
12982 /Helv{Helv}%
12983 >>%
12984 >>%
12985 /DA(/Helv 10 Tf 0 g)%
12986 /CO{corder}%
12987 \ifHy@pdfa
12988 \else
12989 \ifHyField@NeedAppearances
12990 /NeedAppearances true%
12991 \fi
12992 \fi
12993 >>%
12994 /PUT pdfmark%
12995 [%
12996 {Catalog}%
12997 <<%
12998 /AcroForm{aform}%
12999 >>%
13000 /PUT pdfmark%
13001 [%
13002 /__objdef{corder}%
13003 /type/array%
13004 /OBJ pdfmark% dps
13005 }}%
13006 \kvsetkeys{Form}{#1}%

```

```

13007 }
13008 \let\@endForm\ltx@empty
13009 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13010 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
13011 }
13012 \edef\Fld@pageobjref{/P/string{ThisPage\string}}
13013 \def\@TextField[#1]#2{% parameters, label
13014 \def\Fld@name{#2}%
13015 \let\Fld@default\ltx@empty
13016 \let\Fld@value\@empty
13017 \def\Fld@width{\DefaultWidthofText}%
13018 \def\Fld@height{%
13019 \ifFld@multiline
13020 \DefaultHeightofTextMultiline
13021 \else
13022 \DefaultHeightofText
13023 \fi
13024 }%
13025 \begingroup
13026 \expandafter\HyField@SetKeys\expandafter{%
13027 \DefaultOptionsofText,#1%
13028 }%
13029 \HyField@FlagsText
13030 \ifFld@hidden\def\Fld@width{1sp}\fi
13031 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13032 \LayoutTextField{#2}{%
13033 \leavevmode
13034 \Hy@escapeform\PDFForm@Text
13035 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
13036 pdfmark=/ANN,Raw={\PDFForm@Text}%
13037 }%
13038 }%
13039 \endgroup
13040 }
13041 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13042 \def\Fld@name{#2}%
13043 \let\Fld@default\relax
13044 \let\Fld@value\relax
13045 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13046 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13047 \begingroup
13048 \Fld@menulength=0 %
13049 \@tempdima\z@
13050 \@for\@curropt:=#3\do{%
13051 \expandafter\Fld@checkequals\@curropt==\%
13052 \Hy@StepCount\Fld@menulength
13053 \settowidth{\@tempdimb}{\@currDisplay}%
13054 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13055 }%
13056 \advance\@tempdima by 15\p@
13057 \begingroup
13058 \HyField@SetKeys{#1}%
13059 \edef\x{\endgroup
13060 \noexpand\expandafter
13061 \noexpand\HyField@SetKeys
13062 \noexpand\expandafter{%
13063 \expandafter\noexpand\cname DefaultOptionsof%

```

```

13064     \ifFld@radio
13065         Radio%
13066     \else
13067         \ifFld@combo
13068             \ifFld@popdown
13069                 PopdownBox%
13070             \else
13071                 ComboBox%
13072             \fi
13073         \else
13074             ListBox%
13075         \fi
13076     \fi
13077 \endcsname
13078 }%
13079 }\x
13080 \HyField@SetKeys{#1}%
13081 \ifFld@hidden\def\Fld@width{1sp}\fi
13082 \ifx\Fld@value\relax
13083     \let\Fld@value\Fld@default
13084 \fi
13085 \LayoutChoiceField{#2}{%
13086     \ifFld@radio
13087         \HyField@FlagsRadioButton
13088         \@@Radio{#3}%
13089     \else
13090         \begingroup
13091         \HyField@FlagsChoice
13092         \ifdim\Fld@width<\@tempdima
13093             \ifdim\@tempdima<1cm\@tempdima1cm\fi
13094             \edef\Fld@width{\the\@tempdima}%
13095         \fi
13096         \ifFld@combo
13097         \else
13098             \@tempdima=\the\Fld@menulength\Fld@charsize
13099             \advance\@tempdima by \Fld@borderwidth bp %
13100             \advance\@tempdima by \Fld@borderwidth bp %
13101             \edef\Fld@height{\the\@tempdima}%
13102         \fi
13103         \@@ListBox{#3}%
13104     \endgroup
13105 \fi
13106 }%
13107 \endgroup
13108 }
13109 \def\@@Radio#1{%
13110     \Fld@listcount=0 %
13111     \EdefEscapeName\Fld@default{\Fld@default}%
13112     \@for\@curropt:=#1\do{%
13113         \expandafter\Fld@checkequals\@curropt==\%
13114         \EdefEscapeName\@currValue{\@currValue}%
13115         \Hy@StepCount\Fld@listcount
13116         \@currDisplay\space
13117         \Hy@escapeform\PDFForm@Radio
13118         \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
13119             pdfmark=/ANN,%
13120             Raw={%

```

```

13121      \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
13122      }%
13123  } % deliberate space between radio buttons
13124 }%
13125 }
13126 \newcount\Fld@listcount
13127 \def\@@ListBox#1{%
13128   \HyField@PDFChoices{#1}%
13129   \Hy@escapeform\PDFForm@List
13130   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
13131     pdfmark=/ANN,Raw={\PDFForm@List}%
13132   }%
13133 }
13134 \def\@PushButton[#1]#2{% parameters, label
13135   \def\Fld@name{#2}%
13136   \begingroup
13137     \expandafter\HyField@SetKeys\expandafter{%
13138       \DefaultOptionsofPushButton,#1%
13139     }%
13140     \ifHy@pdfa
13141       \Hy@Error{%
13142         PDF/A: Push button with JavaScript is prohibited%
13143       } \@ehc
13144       \LayoutPushButtonField{%
13145         \leavevmode
13146         \MakeButtonField{#2}%
13147       }%
13148     \else
13149       \HyField@FlagsPushButton
13150       \ifFld@hidden\def\Fld@width{1sp}\fi
13151       \LayoutPushButtonField{%
13152         \leavevmode
13153         \Hy@escapeform\PDFForm@Push
13154         \pdfmark[\MakeButtonField{#2}]{%
13155           pdfmark=/ANN,Raw={\PDFForm@Push}%
13156         }%
13157       }%
13158     \fi
13159   \endgroup
13160 }
13161 \def\@Submit[#1]#2{%
13162   \def\Fld@width{\DefaultWidthofSubmit}%
13163   \def\Fld@height{\DefaultHeightofSubmit}%
13164   \begingroup
13165     \expandafter\HyField@SetKeys\expandafter{%
13166       \DefaultOptionsofSubmit,#1%
13167     }%
13168     \HyField@FlagsPushButton
13169     \HyField@FlagsSubmit
13170     \ifFld@hidden\def\Fld@width{1sp}\fi
13171     \Hy@escapeform\PDFForm@Submit
13172     \pdfmark[\MakeButtonField{#2}]{%
13173       pdfmark=/ANN,%
13174       Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
13175     }%
13176   \endgroup
13177 }

```

```

13178 \def\@Reset[#1]#2{%
13179   \def\Fld@width{\DefaultWidthofReset}%
13180   \def\Fld@height{\DefaultHeightofReset}%
13181   \begingroup
13182     \expandafter\HyField@SetKeys\expandafter{%
13183       \DefaultOptionsofReset,#1%
13184     }%
13185     \leavevmode
13186     \ifHy@pdfa
13187       \Hy@Error{%
13188         PDF/A: Reset action is prohibited%
13189       }\@ehc
13190       \MakeButtonField{#2}%
13191     \else
13192       \HyField@FlagsPushButton
13193       \ifFld@hidden\def\Fld@width{1sp}\fi
13194       \Hy@escapeform\PDFForm@Reset
13195       \pdfmark[\MakeButtonField{#2}]{%
13196         pdfmark=/ANN,Raw={\PDFForm@Reset}%
13197       }%
13198     \fi
13199   \endgroup
13200 }%
13201 \def\@CheckBox[#1]#2{% parameters, label
13202   \def\Fld@name{#2}%
13203   \def\Fld@default{0}%
13204   \begingroup
13205     \def\Fld@width{\DefaultWidthofCheckBox}%
13206     \def\Fld@height{\DefaultHeightofCheckBox}%
13207     \expandafter\HyField@SetKeys\expandafter{%
13208       \DefaultOptionsofCheckBox,#1%
13209     }%
13210     \HyField@FlagsCheckBox
13211     \ifFld@hidden\def\Fld@width{1sp}\fi
13212     \LayoutCheckField{#2}{%
13213       \leavevmode
13214       \Hy@escapeform\PDFForm@Check
13215       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
13216         pdfmark=/ANN,Raw={\PDFForm@Check}%
13217       }%
13218     }%
13219   \endgroup
13220 }
13221 \pdfmark

```

## 48.2 HyperTeX

```

13222 \*hypertex
13223 \def\@Form[#1]{%
13224   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13225 }
13226 \let\@endForm\ltx@empty
13227 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13228   \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
13229 }
13230 \def\@TextField[#1]#2{% parameters, label
13231   \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
13232 }

```

```

13233 \def\@CheckBox[#1]#2{% parameters, label
13234   \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
13235 }
13236 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13237   \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
13238 }
13239 \def\@PushButton[#1]#2{% parameters, label
13240   \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
13241 }
13242 \def\@Reset[#1]#2{%
13243   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13244 }
13245 \def\@Submit[#1]#2{%
13246   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13247 }
13248 \end{hypertex}

```

### 48.3 TeX4ht

```

13249 (*tex4ht)
13250 \def\@Form[#1]{%
13251   \kvsetkeys{Form}{#1}%
13252   \HCode{<form action="\Form@action" method="\Form@method">}%
13253 }
13254 \def\@endForm{\HCode{</form>}}
13255 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13256   \Hy@Message{Sorry, TeX4ht does not support gauges}%
13257 }
13258 \def\@TextField[#1]#2{% parameters, label
13259   \let\Hy@reserved@a\@empty
13260   \def\Fld@name{#2}%
13261   \let\Fld@default\ltx@empty
13262   \bgroup
13263     \Field@toks={ }%
13264     \kvsetkeys{Field}{#1}%
13265     \HCode{<label for="\Fld@name">#2</label>}%
13266     \ifFld@password
13267       \@@PasswordField
13268     \else
13269       \@@TextField
13270     \fi
13271   \egroup
13272 }
13273 \def\@@PasswordField{%
13274   \HCode{%
13275     <input type="password" %
13276     id="\Fld@name" %
13277     name="\Fld@name" %
13278     \ifFld@hidden type="hidden" \fi
13279     value="\Fld@default" %
13280     \the\Field@toks
13281     >%
13282   }%
13283 }
13284 \def\@@TextField{%
13285   \ifFld@multiline
13286     \HCode{<textarea %
13287     \ifFld@readonly readonly \fi

```

```

13288     id="\Fld@name" %
13289     name="\Fld@name" %
13290     \ifFld@hidden type="hidden" \fi
13291     \the\Field@toks>%
13292 }%
13293 \Fld@default
13294 \HCode{</textarea>}%
13295 \else
13296 \HCode{<input type="textbox" %
13297 \ifFld@readonly readonly \fi
13298 id="\Fld@name" %
13299 name="\Fld@name" %
13300 \ifFld@hidden type="hidden" \fi
13301 value="\Fld@default" %
13302 \the\Field@toks>%
13303 }%
13304 \fi
13305 }
13306 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13307 \def\Fld@name{#2}%
13308 \let\Fld@default\ltx@empty
13309 \let\Hy@reserved@a\relax
13310 \begingroup
13311 \expandafter\Fld@findlength#3\\%
13312 \Field@toks={ }%
13313 \kvsetkeys{Field}{#1}%
13314 #2%
13315 \ifFld@radio
13316 \expandafter\@@Radio#3\\%
13317 \else
13318 \expandafter\@@Menu#3\\%
13319 \fi
13320 \endgroup
13321 }
13322 \def\Fld@findlength#1\\{%
13323 \Fld@menulength=0 %
13324 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
13325 }
13326 \def\@@Menu#1\\{%
13327 \HCode{<select size="\the\Fld@menulength" %
13328 name="\Fld@name" %
13329 \the\Field@toks>%
13330 }%
13331 \@for\@curropt:=#1\do{%
13332 \expandafter\Fld@checkequals\@curropt==\\%
13333 \HCode{<option %
13334 \ifx\@curropt\Fld@default selected \fi
13335 value="\@currValue">\@currDisplay</option>%
13336 }%
13337 }%
13338 \HCode{</select>}%
13339 }
13340 \def\@@Radio#1\\{%
13341 \@for\@curropt:=#1\do{%
13342 \expandafter\Fld@checkequals\@curropt==\\%
13343 \HCode{<input type="radio" %
13344 \ifx\@curropt\Fld@default checked \fi

```

```

13345     name="\Fld@name" %
13346     value="\@currValue" %
13347     \the\Fld@toks>%
13348 }%
13349 \@currDisplay
13350 }%
13351 }
13352 \def\@PushButton[#1]#2{% parameters, label
13353 \def\Fld@name{#2}%
13354 \bgroup
13355 \Field@toks={ }%
13356 \kvsetkeys{Field}{#1}%
13357 \HCode{<input type="button" %
13358     name="\Fld@name" %
13359     value="#2" %
13360     \the\Fld@toks>%
13361 }%
13362 \HCode{</button>}%
13363 \egroup
13364 }
13365 \def\@Submit[#1]#2{%
13366 \HCode{<button type="submit">#2</button>}%
13367 }
13368 \def\@Reset[#1]#2{%
13369 \HCode{<button type="reset">#2</button>}%
13370 }
13371 \def\@CheckBox[#1]#2{% parameters, label
13372 \let\Hy@reserved@a\@empty
13373 \def\Fld@name{#2}%
13374 \def\Fld@default{0}%
13375 \bgroup
13376 \Field@toks={ }%
13377 \kvsetkeys{Field}{#1}%
13378 \HCode{<input type="checkbox" %
13379     \ifFld@checked checked \fi
13380     \ifFld@disabled disabled \fi
13381     \ifFld@readonly readonly \fi
13382     name="\Fld@name" %
13383     \ifFld@hidden type="hidden" \fi
13384     value="\Fld@default" %
13385     \the\Fld@toks>%
13386     #2%
13387 }%
13388 \egroup
13389 }
13390 </tex4ht>

```

## 48.4 pdfTeX

```

13391 <*pdfTeX>
13392 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13393 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
13394 }
13395 \def\MakeFieldObject#1#2{\sbox0{#1}%
13396 \immediate\pdfxform0 %
13397 \expandafter\edef\csname #2Object\endcsname{%
13398 \the\pdfxform\space 0 R%
13399 }%

```



```

13400 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}}%
13401 }%
13402 \let\HyField@afields\ltx@empty
13403 \begingroup\expandafter\expandafter\expandafter\endgroup
13404 \expandafter\ifx\csname pdflastlink\endcsname\relax
13405 \let\HyField@AddToFields\relax
13406 \PackageInfo{hyperref}{%
13407   You need pdfTeX 1.40.0 for setting the /Fields entry.%
13408   \MessageBreak
13409   Adobe Reader/Acrobat accepts an empty /Field array,%
13410   \MessageBreak
13411   but other PDF viewers might complain%
13412 }%
13413 \else
13414 \let\HyField@AuxAddToFields\ltx@gobble
13415 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
13416 \Hy@AtBeginDocument{%
13417   \if@filesw
13418     \immediate\write\@mainaux{%
13419       \string\providecommand\string\HyField@AuxAddToFields[1]{}%
13420     }%
13421   \fi
13422   \let\HyField@AfterAuxOpen\@firstofone
13423   \def\HyField@AuxAddToFields#1{%
13424     \xdef\HyField@afields{%
13425       \ifx\HyField@afields\@empty
13426         \else
13427           \HyField@afields
13428           \space
13429         \fi
13430       #1 0 R%
13431     }%
13432   }%
13433 }%
13434 \def\HyField@AddToFields{%
13435   \expandafter\HyField@@AddToFields\expandafter{%
13436     \the\pdflastlink
13437   }%
13438 }%
13439 \def\HyField@@AddToFields#1{%
13440   \HyField@AfterAuxOpen{%
13441     \if@filesw
13442       \write\@mainaux{%
13443         \string\HyField@AuxAddToFields{#1}%
13444       }%
13445     \fi
13446   }%
13447 }%
13448 \fi
13449 \def\@Form[#1]{%
13450   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13451   \kvsetkeys{Form}{#1}%
13452   \pdf@ifdraftmode{}{%
13453     \Hy@FormObjects
13454     \ifnum\pdfTeXversion>13 %
13455       \pdfrefobj\OBJ@pdfdocencoding
13456       \pdfrefobj\OBJ@ZaDb

```

```

13457 \pdfrefobj\OBJ@Helv
13458 \fi
13459 \AtVeryEndDocument{%
13460 \immediate\pdfobj{%
13461 <<%
13462 /Fields[\HyField@afields]%
13463 /DR<<%
13464 /Font<<%
13465 /ZaDb \OBJ@ZaDb\space 0 R%
13466 /Helv \OBJ@Helv\space 0 R%
13467 >>%
13468 >>%
13469 /DA(/Helv 10 Tf 0 g)%
13470 \ifHy@pdfa
13471 \else
13472 \ifHyField@NeedAppearances
13473 /NeedAppearances true%
13474 \fi
13475 \fi
13476 >>%
13477 }%
13478 \edef\OBJ@acroform{\the\pdfflastobj}%
13479 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13480 }%
13481 }%
13482 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

13483 \begingroup
13484 \fontfamily{pzd}%
13485 \fontencoding{U}%
13486 \fontseries{m}%
13487 \fontshape{n}%
13488 \selectfont
13489 \char123 %
13490 \endgroup
13491 }{Ding}%
13492 \MakeFieldObject{%
13493 \fbox{\textcolor{yellow}{\textsf{Submit}}}}%
13494 }{Submit}%
13495 \MakeFieldObject{%
13496 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}}%
13497 }{SubmitP}%
13498 }
13499 \let\@endForm\ltx@empty
13500 \let\HyAnn@AbsPageLabel\ltx@empty
13501 \let\Fld@pageobjref\ltx@empty
13502 \ltx@ifUndefined{pdfpageref}{%
13503 }{%
13504 \ltx@ifpackageloaded{zref-abspage}{%
13505 \newcount\HyAnn@Count
13506 \HyAnn@Count=\ltx@zero
13507 \def\HyAnn@AbsPageLabel{%
13508 \global\advance\HyAnn@Count by\ltx@one
13509 \zref@labelbyprops{HyAnn@\the\HyAnn@Count}{abspage}%
13510 \zref@refused{HyAnn@\the\HyAnn@Count}%
13511 }%
13512 \def\Fld@pageobjref{%

```

```

13513 \zref@ifrefundefined{HyAnn@the\HyAnn@Count}{%
13514 }{%
13515 \zref@ifrefcontainsprop{HyAnn@the\HyAnn@Count}{abspage}{%
13516 /P \pdfpageref
13517 \zref@extractdefault{HyAnn@the\HyAnn@Count}{abspage}{1} %
13518 \space 0 R%
13519 }{%
13520 }%
13521 }%
13522 }%
13523 }{%
13524 }%
13525 }

13526 \def\@TextField[#1]#2{% parameters, label
13527 \def\Fld@name{#2}%
13528 \let\Fld@default\ltx@empty
13529 \let\Fld@value\@empty
13530 \def\Fld@width{\DefaultWidthofText}%
13531 \def\Fld@height{%
13532 \ifFld@multiline
13533 \DefaultHeightofTextMultiline
13534 \else
13535 \DefaultHeightofText
13536 \fi
13537 }%
13538 \begingroup
13539 \expandafter\HyField@SetKeys\expandafter{%
13540 \DefaultOptionsofText,#1%
13541 }%
13542 \PDFForm@Name
13543 \HyField@FlagsText
13544 \ifFld@hidden\def\Fld@width{1sp}\fi
13545 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13546 \LayoutTextField{#2}{%
13547 \leavevmode
13548 \HyAnn@AbsPageLabel
13549 \Hy@escapeform\PDFForm@Text
13550 \pdfstartlink user {\PDFForm@Text}\relax
13551 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13552 \HyField@AddToFields
13553 }%
13554 \endgroup
13555 }

13556 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13557 \def\Fld@name{#2}%
13558 \let\Fld@default\relax
13559 \let\Fld@value\relax
13560 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13561 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13562 \begingroup
13563 \Fld@menulength=0 %
13564 \@tempdima\z@
13565 \@for\@curropt:=#3\do{%
13566 \expandafter\Fld@checkequals\@curropt==\%
13567 \Hy@StepCount\Fld@menulength
13568 \settowidth{\@tempdimb}{\@currDisplay}%
13569 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi

```

```

13570 }%
13571 \advance\@tempdima by 15\p@
13572 \begingroup
13573 \HyField@SetKeys{#1}%
13574 \edef\x{\endgroup
13575 \noexpand\expandafter
13576 \noexpand\HyField@SetKeys
13577 \noexpand\expandafter{%
13578 \expandafter\noexpand\csname DefaultOptionsof%
13579 \ifFld@radio
13580 Radio%
13581 \else
13582 \ifFld@combo
13583 \ifFld@popdown
13584 PopdownBox%
13585 \else
13586 ComboBox%
13587 \fi
13588 \else
13589 ListBox%
13590 \fi
13591 \fi
13592 \endcsname
13593 }%
13594 }\x
13595 \HyField@SetKeys{#1}%
13596 \PDFForm@Name
13597 \ifFld@hidden\def\Fld@width{1sp}\fi
13598 \ifx\Fld@value\relax
13599 \let\Fld@value\Fld@default
13600 \fi
13601 \LayoutChoiceField{#2}{%
13602 \ifFld@radio
13603 \HyField@FlagsRadioButton
13604 \@@Radio{#3}%
13605 \else
13606 \begingroup
13607 \HyField@FlagsChoice
13608 \ifdim\Fld@width<\@tempdima
13609 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13610 \edef\Fld@width{\the\@tempdima}%
13611 \fi
13612 \ifFld@combo
13613 \else
13614 \@tempdima=\the\Fld@menulength\Fld@charsize
13615 \advance\@tempdima by \Fld@borderwidth bp %
13616 \advance\@tempdima by \Fld@borderwidth bp %
13617 \edef\Fld@height{\the\@tempdima}%
13618 \fi
13619 \@@ListBox{#3}%
13620 \endgroup
13621 \fi
13622 }%
13623 \endgroup
13624 }
13625 \def\@@Radio#1{%
13626 \Fld@listcount=0 %

```

```

13627 \EdefEscapeName\Fld@default{\Fld@default}%
13628 \@for\@curropt:=#1\do{%
13629   \expandafter\Fld@checkequals\@curropt==\%
13630   \EdefEscapeName\@currValue{\@currValue}%
13631   \Hy@StepCount\Fld@listcount
13632   \@currDisplay\space
13633   \leavevmode
13634   \HyAnn@AbsPageLabel
13635   \Hy@escapeform\PDFForm@Radio
13636   \pdfstartlink user {%
13637     \PDFForm@Radio
13638     /AP<<%
13639     /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.

```

13640     /\@currValue\space \DingObject
13641     >>%
13642     >>%
13643   }%
13644   \relax
13645   \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13646   \ifnum\Fld@listcount=1 %
13647     \HyField@AddToFields
13648   \fi
13649   \space % deliberate space between radio buttons
13650 }%
13651 }
13652 \newcount\Fld@listcount
13653 \def\@@Listbox#1{%
13654   \HyField@PDFChoices{#1}%
13655   \leavevmode
13656   \HyAnn@AbsPageLabel
13657   \Hy@escapeform\PDFForm@List
13658   \pdfstartlink user {\PDFForm@List}\relax
13659   \MakeChoiceField{\Fld@width}{\Fld@height}%
13660   \pdfendlink
13661   \HyField@AddToFields
13662 }
13663 \def\@PushButton[#1]#2{% parameters, label
13664   \def\Fld@name{#2}%
13665   \begingroup
13666     \expandafter\HyField@SetKeys\expandafter{%
13667       \DefaultOptionsofPushButton,#1%
13668     }%
13669     \PDFForm@Name
13670     \ifHy@pdfa
13671       \Hy@Error{%
13672         PDF/A: Push button with JavaScript is prohibited%
13673       }\@ehc
13674       \LayoutPushButtonField{%
13675         \leavevmode
13676         \MakeButtonField{#2}%
13677       }%
13678     \else
13679       \HyField@FlagsPushButton
13680       \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

13681 \LayoutPushButtonField{%
13682 \leavevmode
13683 \HyAnn@AbsPageLabel
13684 \Hy@escapeform\PDFForm@Push
13685 \pdfstartlink user {\PDFForm@Push}\relax
13686 \MakeButtonField{#2}%
13687 \pdfendlink
13688 \HyField@AddToFields
13689 }%
13690 \fi
13691 \endgroup
13692 }
13693 \def\@Submit[#1]#2{%
13694 \def\Fld@width{\DefaultWidthofSubmit}%
13695 \def\Fld@height{\DefaultHeightofSubmit}%
13696 \begingroup
13697 \expandafter\HyField@SetKeys\expandafter{%
13698 \DefaultOptionsofSubmit,#1%
13699 }%
13700 \HyField@FlagsPushButton
13701 \HyField@FlagsSubmit
13702 \ifFld@hidden\def\Fld@width{1sp}\fi
13703 \leavevmode
13704 \HyAnn@AbsPageLabel
13705 \Hy@escapeform\PDFForm@Submit
13706 \pdfstartlink user {%
13707 \PDFForm@Submit
13708 /AP<</N \SubmitObject/D \SubmitPObject>>%
13709 }%
13710 \relax
13711 \MakeButtonField{#2}%
13712 \pdfendlink
13713 \HyField@AddToFields
13714 \endgroup
13715 }
13716 \def\@Reset[#1]#2{%
13717 \def\Fld@width{\DefaultWidthofReset}%
13718 \def\Fld@height{\DefaultHeightofReset}%
13719 \begingroup
13720 \expandafter\HyField@SetKeys\expandafter{%
13721 \DefaultOptionsofReset,#1%
13722 }%
13723 \leavevmode
13724 \ifHy@pdfa
13725 \Hy@Error{%
13726 PDF/A: Reset action is prohibited%
13727 }\@ehc
13728 \MakeButtonField{#2}%
13729 \else
13730 \HyField@FlagsPushButton
13731 \ifFld@hidden\def\Fld@width{1sp}\fi
13732 \HyAnn@AbsPageLabel
13733 \Hy@escapeform\PDFForm@Reset
13734 \pdfstartlink user {\PDFForm@Reset}\relax
13735 \MakeButtonField{#2}%
13736 \pdfendlink
13737 \HyField@AddToFields

```

```

13738 \fi
13739 \endgroup
13740 }
13741 \def\@CheckBox[#1]#2{% parameters, label
13742 \def\Fld@name{#2}%
13743 \def\Fld@default{0}%
13744 \begingroup
13745 \def\Fld@width{\DefaultWidthofCheckBox}%
13746 \def\Fld@height{\DefaultHeightofCheckBox}%
13747 \expandafter\HyField@SetKeys\expandafter{%
13748 \DefaultOptionsofCheckBox,#1%
13749 }%
13750 \PDFForm@Name
13751 \HyField@FlagsCheckBox
13752 \ifFld@hidden\def\Fld@width{1sp}\fi
13753 \LayoutCheckField{#2}{%
13754 \leavevmode
13755 \HyAnn@AbsPageLabel
13756 \Hy@escapeform\PDFForm@Check
13757 \pdfstartlink user {\PDFForm@Check}\relax
13758 \MakeCheckField{\Fld@width}{\Fld@height}%
13759 \pdfendlink
13760 \HyField@AddToFields
13761 }%
13762 \endgroup
13763 }
13764 \def\Hy@FormObjects{%
13765 \pdfobj {%
13766 <<%
13767 /Type/Encoding%
13768 /Differences%
13769 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13770 /ring/tilde %
13771 39/quotesingle %
13772 96/grave %
13773 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13774 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13775 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13776 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13777 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13778 164/currency %
13779 166/brokenbar %
13780 168/dieresis/copyright/ordfeminine %
13781 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13782 /twosuperior/threesuperior/acute/mu %
13783 183/periodcentered/cedilla/onesuperior/ordmasculine %
13784 188/onequarter/onehalf/threequarters %
13785 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13786 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13787 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13788 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13789 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13790 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13791 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13792 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13793 /ocircumflex/otilde/odieresis/divide/oshlash/ugrave%
13794 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%

```

```

13795    ]%
13796    >>%
13797  }%
13798  \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
13799  \pdfobj{%
13800    <<%
13801    /Type/Font%
13802    /Subtype/Type1%
13803    /Name/ZaDb%
13804    /BaseFont/ZapfDingbats%
13805    >>%
13806  }%
13807  \xdef\OBJ@ZaDb{\the\pdflastobj}%
13808  \pdfobj{%
13809    <<%
13810    /Type/Font%
13811    /Subtype/Type1%
13812    /Name/Helv%
13813    /BaseFont/Helvetica%
13814    /Encoding \OBJ@pdfdocencoding\space 0 R%
13815    >>%
13816  }%
13817  \xdef\OBJ@Helv{\the\pdflastobj}%
13818  \global\let\Hy@FormObjects\relax
13819 }
13820 </pdfTeX>

```

## 48.5 dvipdfm, xetex

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

```
13821 < *dvipdfm | xetex>
```

\@Gauge

```

13822 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13823   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13824 }

```

\@Form

```

13825 \def\@Form[#1]{%
13826   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13827   \kvsetkeys{Form}{#1}%
13828   \Hy@FormObjects
13829   \@pdfm@mark{obj @afields []}%
13830   \@pdfm@mark{obj @corder []}%
13831   \@pdfm@mark{%
13832     obj @aform <<%
13833     /Fields @afields%
13834     /DR<<%
13835     /Font<<%
13836     /ZaDb @OBJZaDb%
13837     /Helv @OBJHelv%
13838     >>%
13839     >>%
13840     /DA(/Helv 10 Tf 0 g)%
13841     /CO @corder%
13842     \ifHy@pdfa
13843     \else

```



```

13844     \ifHyField@NeedAppearances
13845     /NeedAppearances true%
13846     \fi
13847     \fi
13848     >>%
13849     }%
13850     \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13851 }

\@endForm

13852 \let\@endForm\ltx@empty

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
13853 \def\dvipdfm@setdim{%
13854   height \the\ht\pdfm@box\space
13855   width \the\wd\pdfm@box\space
13856   depth \the\dp\pdfm@box\space
13857 }

\HyField@AnnotCount
13858 \newcount\HyField@AnnotCount
13859 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
13860 \def\HyField@AdvanceAnnotCount{%
13861   \global\advance\HyField@AnnotCount\@ne
13862 }

\HyField@TheAnnotCount
13863 \def\HyField@TheAnnotCount{%
13864   \the\HyField@AnnotCount
13865 }

\Fld@pageobjref
13866 \def\Fld@pageobjref{/P @thispage}%

\@TextField
13867 \def\@TextField[#1]#2{% parameters, label
13868   \def\Fld@name{#2}%
13869   \let\Fld@default\ltx@empty
13870   \let\Fld@value\@empty
13871   \def\Fld@width{\DefaultWidthofText}%
13872   \def\Fld@height{%
13873     \ifFld@multiline
13874       \DefaultHeightofTextMultiline
13875     \else
13876       \DefaultHeightofText
13877     \fi
13878   }%
13879   \begingroup
13880   \expandafter\HyField@SetKeys\expandafter{%
13881     \DefaultOptionsofText,#1%
13882   }%
13883   \PDFForm@Name
13884   \HyField@FlagsText
13885   \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

13886 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13887 \setbox\pdfm@box=\hbox{%
13888   \MakeTextField{\Fld@width}{\Fld@height}%
13889 }%
13890 \HyField@AdvanceAnnotCount
13891 \LayoutTextField{#2}{%
13892   \leavevmode
13893   \Hy@escapeform\PDFForm@Text
13894   \@pdfm@mark{%
13895     ann @text\HyField@TheAnnotCount\space
13896     \dvipdfm@setdim << \PDFForm@Text >>%
13897   }%
13898 }%
13899 \unhbox\pdfm@box
13900 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
13901 % record in @afields array
13902 \endgroup
13903 }

```

#### \@ChoiceMenu

```

13904 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13905   \def\Fld@name{#2}%
13906   \let\Fld@default\relax
13907   \let\Fld@value\relax
13908   \def\Fld@width{\DefaultWidthofChoiceMenu}%
13909   \def\Fld@height{\DefaultHeightofChoiceMenu}%
13910   \begingroup
13911     \Fld@menulength=0 %
13912     \@tempdima\z@
13913     \@for\@curropt:=#3\do{%
13914       \expandafter\Fld@checkequals\@curropt==\%
13915       \Hy@StepCount\Fld@menulength
13916       \settowidth{\@tempdimb}{\@currDisplay}%
13917       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13918     }%
13919     \advance\@tempdima by 15\p@
13920     \begingroup
13921       \HyField@SetKeys{#1}%
13922     \edef\x{\endgroup
13923       \noexpand\expandafter
13924       \noexpand\HyField@SetKeys
13925       \noexpand\expandafter{%
13926         \expandafter\noexpand\cname DefaultOptionsof%
13927         \ifFld@radio
13928           Radio%
13929         \else
13930           \ifFld@combo
13931             \ifFld@popdown
13932               PopdownBox%
13933             \else
13934               ComboBox%
13935           \fi
13936         \else
13937           ListBox%
13938         \fi
13939       \fi
13940       \endcsname
13941     }%

```

```

13942 } \x
13943 \HyField@SetKeys{#1}%
13944 \PDFForm@Name
13945 \ifFld@hidden\def\Fld@width{1sp}\fi
13946 \ifx\Fld@value\relax
13947 \let\Fld@value\Fld@default
13948 \fi
13949 \LayoutChoiceField{#2}{%
13950 \ifFld@radio
13951 \HyField@FlagsRadioButton
13952 \@@Radio{#3}%
13953 \else
13954 \begingroup
13955 \HyField@FlagsChoice
13956 \ifdim\Fld@width<\@tempdima
13957 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13958 \edef\Fld@width{\the\@tempdima}%
13959 \fi
13960 \ifFld@combo
13961 \else
13962 \@tempdima=\the\Fld@menulength\Fld@charsize
13963 \advance\@tempdima by \Fld@borderwidth bp %
13964 \advance\@tempdima by \Fld@borderwidth bp %
13965 \edef\Fld@height{\the\@tempdima}%
13966 \fi
13967 \@@ListBox{#3}%
13968 \endgroup
13969 \fi
13970 }%
13971 \endgroup
13972 }

```

\@@Radio

```

13973 \def\@@Radio#1{%
13974 \Fld@listcount=0 %
13975 \EdefEscapeName\Fld@default{\Fld@default}%
13976 \setbox\pdfm@box=\hbox{%
13977 \MakeRadioField{\Fld@width}{\Fld@height}%
13978 }%
13979 \@for\@curropt:=#1\do{%
13980 \expandafter\Fld@checkequals\@curropt==\%
13981 \EdefEscapeName\@currValue{\@currValue}%
13982 \Hy@StepCount\Fld@listcount
13983 \@currDisplay\space
13984 \leavevmode
13985 \Hy@escapeform\PDFForm@Radio
13986 \ifnum\Fld@listcount=1 %
13987 \HyField@AdvanceAnnotCount
13988 \fi
13989 \@pdfm@mark{%
13990 ann %
13991 \ifnum\Fld@listcount=1 %
13992 @radio\HyField@TheAnnotCount%
13993 \space
13994 \fi
13995 \dvi pdfm@setdim
13996 <<%
13997 \PDFForm@Radio

```

```

13998      /AP<</N<</\@currValue /null>>>>%
13999      >>%
14000  }%
14001  \unhcopy\pdfm@box\space% deliberate space between radio buttons
14002  \ifnum\Fld@listcount=1 %
14003    \@pdfm@mark{%
14004      put @afields @radio\HyField@TheAnnotCount
14005    }%
14006  \fi
14007 }%
14008 }

\Fld@listcount
14009 \newcount\Fld@listcount

\@@Listbox
14010 \def\@@Listbox#1{%
14011   \HyField@PDFChoices{#1}%
14012   \setbox\pdfm@box=\hbox{%
14013     \MakeChoiceField{\Fld@width}{\Fld@height}%
14014   }%
14015   \leavevmode
14016   \Hy@escapeform\PDFForm@List
14017   \HyField@AdvanceAnnotCount
14018   \@pdfm@mark{%
14019     ann @list\HyField@TheAnnotCount\space
14020     \dvipdfm@setdim
14021     <<\PDFForm@List>>%
14022   }%
14023   \unhbox\pdfm@box
14024   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
14025 }

\@PushButton
14026 \def\@PushButton[#1]#2{% parameters, label
14027   \def\Fld@name{#2}%
14028   \begingroup
14029     \expandafter\HyField@SetKeys\expandafter{%
14030       \DefaultOptionsofPushButton,#1%
14031     }%
14032     \PDFForm@Name
14033     \ifHy@pdfa
14034       \Hy@Error{%
14035         PDF/A: Push button with JavaScript is prohibited%
14036       }\@ehc
14037       \LayoutPushButtonField{%
14038         \leavevmode
14039         \MakeButtonField{#2}%
14040       }%
14041     \else
14042       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14043       \HyField@FlagsPushButton
14044       \ifFld@hidden\def\Fld@width{1sp}\fi
14045       \HyField@AdvanceAnnotCount
14046       \LayoutPushButtonField{%
14047         \leavevmode
14048         \Hy@escapeform\PDFForm@Push

```

```

14049     \@pdfm@mark{%
14050         ann @push\HyField@TheAnnotCount\space
14051         \dvi pdfm@setdim
14052         <<\PDFForm@Push>>%
14053     }%
14054 }%
14055 \unhbox\pdfm@box
14056 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
14057 \fi
14058 \endgroup
14059 }

\@Submit
14060 \def\@Submit[#1]#2{%
14061     \def\Fld@width{\DefaultWidthofSubmit}%
14062     \def\Fld@height{\DefaultHeightofSubmit}%
14063     \begingroup
14064         \expandafter\HyField@SetKeys\expandafter{%
14065             \DefaultOptionsofSubmit,#1%
14066         }%
14067         \HyField@FlagsPushButton
14068         \HyField@FlagsSubmit
14069         \ifFld@hidden\def\Fld@width{1sp}\fi
14070         \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14071         \leavevmode
14072         \Hy@escapeform\PDFForm@Submit
14073         \HyField@AdvanceAnnotCount
14074         \@pdfm@mark{%
14075             ann @submit\HyField@TheAnnotCount\space
14076             \dvi pdfm@setdim
14077             <<\PDFForm@Submit>>%
14078         }%
14079         \unhbox\pdfm@box%
14080         \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
14081     \endgroup
14082 }

\@Reset
14083 \def\@Reset[#1]#2{%
14084     \def\Fld@width{\DefaultWidthofReset}%
14085     \def\Fld@height{\DefaultHeightofReset}%
14086     \begingroup
14087         \expandafter\HyField@SetKeys\expandafter{%
14088             \DefaultOptionsofReset,#1%
14089         }%
14090         \leavevmode
14091         \ifHy@pdfa
14092             \Hy@Error{%
14093                 PDF/A: Reset action is prohibited%
14094             }\@ehc
14095             \MakeButtonField{#2}%
14096         \else
14097             \HyField@FlagsPushButton
14098             \ifFld@hidden\def\Fld@width{1sp}\fi
14099             \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14100             \Hy@escapeform\PDFForm@Reset
14101             \HyField@AdvanceAnnotCount

```

```

14102 \pdfmark{%
14103   ann @reset\HyField@TheAnnotCount\space
14104   \dvipdfm@setdim
14105   <<\PDFForm@Reset>>%
14106 }%
14107 \unhbox\pdfm@box
14108 \pdfmark{put @afields @reset\HyField@TheAnnotCount}%
14109 \fi
14110 \endgroup
14111 }

```

#### \@CheckBox

```

14112 \def\@CheckBox[#1]#2{% parameters, label
14113   \def\Fld@name{#2}%
14114   \def\Fld@default{0}%
14115   \begingroup
14116     \def\Fld@width{\DefaultWidthofCheckBox}%
14117     \def\Fld@height{\DefaultHeightofCheckBox}%
14118     \expandafter\HyField@SetKeys\expandafter{%
14119       \DefaultOptionsofCheckBox,#1%
14120     }%
14121     \PDFForm@Name
14122     \HyField@FlagsCheckBox
14123     \ifFld@hidden\def\Fld@width{1sp}\fi
14124     \setbox\pdfm@box=\hbox{%
14125       \MakeCheckField{\Fld@width}{\Fld@height}%
14126     }%
14127     \HyField@AdvanceAnnotCount
14128     \LayoutCheckField{#2}%
14129     \leavevmode
14130     \Hy@escapeform\PDFForm@Check
14131     \pdfmark{%
14132       ann @check\HyField@TheAnnotCount\space
14133       \dvipdfm@setdim
14134       <<\PDFForm@Check>>%
14135     }%
14136     \unhbox\pdfm@box
14137     \pdfmark{put @afields @check\HyField@TheAnnotCount}%
14138   }%
14139 \endgroup
14140 }

14141 \def\Hy@FormObjects{%
14142   \pdfmark{obj @OBJpdfdocencoding%
14143     <<%
14144       /Type/Encoding%
14145       /Differences[
14146         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
14147         39/quotesingle %
14148         96/grave %
14149         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
14150         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
14151         /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
14152         /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
14153         /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
14154         164/currency %
14155         166/brokenbar %
14156         168/dieresis/copyright/ordfeminine %

```

```

14157 172/logicalnot/.notdef/registered/macron/degree/plusminus%
14158 /twosuperior/threesuperior/acute/mu %
14159 183/periodcentered/cedilla/onesuperior/ordmasculine %
14160 188/onequarter/onehalf/threequarters %
14161 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
14162 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
14163 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
14164 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
14165 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
14166 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
14167 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
14168 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
14169 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
14170 /thorn/ydieresis%
14171 }%
14172 >>%
14173 }%
14174 \@pdfm@mark{obj @OBJZaDb%
14175 <<%
14176 /Type/Font%
14177 /Subtype/Type1%
14178 /Name/ZaDb%
14179 /BaseFont/ZapfDingbats%
14180 >>%
14181 }%
14182 \@pdfm@mark{obj @OBJHelv%
14183 <<%
14184 /Type/Font%
14185 /Subtype/Type1%
14186 /Name/Helv%
14187 /BaseFont/Helvetica%
14188 /Encoding @OBJpdfdocencoding%
14189 >>%
14190 }%
14191 \global\let\Hy@FormObjects\relax
14192 }
14193 </dvipdfm | xetex>

```

## 48.6 Common forms part

```

14194 <*pdfform>

\Fld@pageobjref

14195 \providecommand*{\Fld@pageobjref}{%

\Hy@escapestring

14196 \begingroup\expandafter\expandafter\expandafter\endgroup
14197 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
14198 \let\Hy@escapestring\@firstofone
14199 \def\Hy@escapeform#1{%
14200 \ifHy@pdfescapeform
14201 \def\Hy@escapestring##1{%
14202 \noexpand\Hy@escapestring{\noexpand##1}%
14203 }%
14204 \edef\Hy@temp{#1}%
14205 \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
14206 \def\Hy@escapestring##1{%

```

```

14207 \ifundefined{Hy@esc@\string##1}{%
14208   ##1%
14209   \ThisShouldNotHappen
14210 }{%
14211   \csname Hy@esc@\string##1\endcsname
14212 }%
14213 }%
14214 \else
14215   \let\Hy@escapestring\@firstofone
14216 \fi
14217 }%
14218 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
14219   \ifx\#3\%
14220   \else
14221     \expandafter
14222     \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
14223     \ltx@ReturnAfterFi{%
14224       \Hy@@escapeform#3\@nil
14225     }%
14226   \fi
14227 }%
14228 \else
14229   \def\Hy@escapeform#1{%
14230     \ifHy@pdfescapeform
14231       \let\Hy@escapestring\pdfescapestring
14232     \else
14233       \let\Hy@escapestring\@firstofone
14234     \fi
14235   }%
14236   \Hy@escapeform{}%
14237 \fi

```

\PDFForm@Name

```

14238 \def\PDFForm@Name{%
14239   \PDFForm@@Name\Fld@name
14240   \ifx\Fld@altname\relax
14241   \else
14242     \PDFForm@@Name\Fld@altname
14243   \fi
14244   \ifx\Fld@mappingname\relax
14245   \else
14246     \PDFForm@@Name\Fld@mappingname
14247   \fi
14248 }

```

\PDFForm@@Name

```

14249 \def\PDFForm@@Name#1{%
14250   \begingroup
14251     \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
14252       \ifHy@unicode
14253         \Hy@unicodetrue
14254       \fi
14255     \fi
14256     \HyPsd@XeTeXBigCharstrue
14257     \pdfstringdef\Hy@gtemp#1%
14258   \endgroup
14259   \let#1\Hy@gtemp
14260 }

```



\Fld@additionalactions

```
14261 \def\Fld@@additionalactions{%
```

K input (keystroke) format

```
14262 \ifx\Fld@keystroke@code\@empty
```

```
14263 \else
```

```
14264 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
```

```
14265 \fi
```

F display format

```
14266 \ifx\Fld@format@code\@empty
```

```
14267 \else
```

```
14268 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
```

```
14269 \fi
```

V validation

```
14270 \ifx\Fld@validate@code\@empty
```

```
14271 \else
```

```
14272 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
```

```
14273 \fi
```

C calculation

```
14274 \ifx\Fld@calculate@code\@empty
```

```
14275 \else
```

```
14276 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
```

```
14277 \fi
```

Fo receiving the input focus

```
14278 \ifx\Fld@onfocus@code\@empty
```

```
14279 \else
```

```
14280 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
```

```
14281 \fi
```

Bl loosing the input focus (blurred)

```
14282 \ifx\Fld@onblur@code\@empty
```

```
14283 \else
```

```
14284 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
```

```
14285 \fi
```

D pressing the mouse button (down)

```
14286 \ifx\Fld@onmousedown@code\@empty
```

```
14287 \else
```

```
14288 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
```

```
14289 \fi
```

U releasing the mouse button (up)

```
14290 \ifx\Fld@onmouseup@code\@empty
```

```
14291 \else
```

```
14292 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
```

```
14293 \fi
```

E cursor enters the annotation's active area.

```
14294 \ifx\Fld@onenter@code\@empty
```

```
14295 \else
```

```
14296 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
```

```
14297 \fi
```

X cursor exits the annotation's active area.

```
14298 \ifx\Fld@onexit@code\@empty
```

```
14299 \else
```

```
14300 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
```

```

14301  \fi
14302  }
14303  \def\Fld@additionalactions{%
14304    \if-\Fld@@additionalactions-%
14305    \else
14306      \ifHy@pdfa
14307      \else
14308        /AA<<\Fld@@additionalactions>>%
14309      \fi
14310    \fi
14311  }

\Fld@annotnames
14312  \def\Fld@annotnames{%
14313    /T(\Fld@name)%
14314    \ifx\Fld@altname\relax
14315    \else
14316      /TU(\Fld@altname)%
14317    \fi
14318    \ifx\Fld@mappingname\relax
14319    \else
14320      /TM(\Fld@mappingname)%
14321    \fi
14322  }

\PDFForm@Check
14323  \def\PDFForm@Check{%
14324    /Subtype/Widget%
14325    \Fld@annotflags
14326    \Fld@pageobjref
14327    \Fld@annotnames
14328    /FT/Btn%
14329    \Fld@flags
14330    /Q \Fld@align
14331    /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
14332    /MK<<%
14333      \ifnum\Fld@rotation=\z@
14334      \else
14335        /R \Fld@rotation
14336      \fi
14337      \ifx\Fld@bordercolor\relax
14338      \else
14339        /BC[\Fld@bordercolor]%
14340      \fi
14341      \ifx\Fld@bcolor\relax
14342      \else
14343        /BG[\Fld@bcolor]%
14344      \fi
14345      /CA(\Hy@escapestring{\Fld@cbsymbol})%
14346    >>%
14347    /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14348      \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14349    /H/P%
14350    \ifFld@checked /V/Yes/AS/Yes\else /V/Off/AS/Off\fi
14351    \Fld@additionalactions
14352  }

\PDFForm@Push

```

```

14353 \ifHy@pdfa
14354 \else
14355 \def\PDFForm@Push{%
14356 /Subtype/Widget%
14357 \Fld@annotflags
14358 \Fld@pageobjref
14359 \Fld@annotnames
14360 /FT/Btn%
14361 \Fld@flags
14362 /H/P%
14363 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14364 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14365 \ifx\Fld@bordercolor\relax\else 1\fi
14366 \space
14367 \else
14368 /MK<<%
14369 \ifnum\Fld@rotation=\z@
14370 \else
14371 /R \Fld@rotation
14372 \fi
14373 \ifx\Fld@bordercolor\relax
14374 \else
14375 /BC[\Fld@bordercolor]%
14376 \fi
14377 >>%
14378 \fi
14379 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
14380 \Fld@additionalactions
14381 }%
14382 \fi

```

#### \PDFForm@List

```

14383 \def\PDFForm@List{%
14384 /Subtype/Widget%
14385 \Fld@annotflags
14386 \Fld@pageobjref
14387 \Fld@annotnames
14388 /FT/Ch%
14389 \Fld@flags
14390 /Q \Fld@align
14391 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14392 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14393 \ifx\Fld@bordercolor\relax\else 1\fi
14394 \ifx\Fld@bcolor\relax \else 1\fi
14395 \space
14396 \else
14397 /MK<<%
14398 \ifnum\Fld@rotation=\z@
14399 \else
14400 /R \Fld@rotation
14401 \fi
14402 \ifx\Fld@bordercolor\relax
14403 \else
14404 /BC[\Fld@bordercolor]%
14405 \fi
14406 \ifx\Fld@bcolor\relax
14407 \else
14408 /BG[\Fld@bcolor]%

```

```

14409     \fi
14410     >>%
14411     \fi
14412     /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14413         \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14414     \Fld@choices
14415     \Fld@additionalactions
14416 }

```

#### \PDFForm@Radio

```

14417 \def\PDFForm@Radio{%
14418   /Subtype/Widget%
14419   \Fld@annotflags
14420   \Fld@pageobjref
14421   \Fld@annotnames
14422   /FT/Btn%
14423   \Fld@flags
14424   /H/P%
14425   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14426   /MK<<%
14427     \ifnum\Fld@rotation=\z@
14428     \else
14429       /R \Fld@rotation
14430     \fi
14431     \ifx\Fld@bordercolor\relax
14432     \else
14433       /BC[\Fld@bordercolor]%
14434     \fi
14435     \ifx\Fld@bcolor\relax
14436     \else
14437       /BG[\Fld@bcolor]%
14438     \fi
14439     /CA(\Hy@escapestring{\Fld@radiosymbol})%
14440   >>%
14441   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14442       \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14443   \ifx\@currValue\Fld@default
14444     /V/\Fld@default
14445     /DV/\Fld@default
14446   \else
14447     /V/Off%
14448     /DV/Off%
14449   \fi
14450   \Fld@additionalactions
14451 }

```

#### \PDFForm@Text

```

14452 \def\PDFForm@Text{%
14453   /Subtype/Widget%
14454   \Fld@annotflags
14455   \Fld@pageobjref
14456   \Fld@annotnames
14457   /FT/Tx%
14458   \Fld@flags
14459   /Q \Fld@align
14460   /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14461   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi

```

```

14462         \ifx\Fld@bordercolor\relax\else 1\fi
14463         \ifx\Fld@bcolor\relax    \else 1\fi
14464         \space
14465     \else
14466         /MK<<%
14467         \ifnum\Fld@rotation=\z@
14468         \else
14469             /R \Fld@rotation
14470         \fi
14471         \ifx\Fld@bordercolor\relax
14472         \else
14473             /BC[\Fld@bordercolor]%
14474         \fi
14475         \ifx\Fld@bcolor\relax
14476         \else
14477             /BG[\Fld@bcolor]%
14478         \fi
14479         >>%
14480     \fi
14481     /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14482         \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14483     /DV(\Hy@escapestring{\Fld@default})%
14484     /V(\Hy@escapestring{\Fld@value})%
14485     \Fld@additionalactions
14486     \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14487 }

```

\PDFForm@Submit

```

14488 \def\PDFForm@Submit{%
14489     /Subtype/Widget%
14490     \Fld@annotflags
14491     \Fld@pageobjref
14492     \Fld@annotnames
14493     /FT/Btn%
14494     \Fld@flags
14495     /H/P%
14496     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14497     \ifcase0\ifnum\Fld@rotation=\z@    \else 1\fi
14498         \ifx\Fld@bordercolor\relax\else 1\fi
14499         \space
14500     \else
14501         /MK<<%
14502         \ifnum\Fld@rotation=\z@
14503         \else
14504             /R \Fld@rotation
14505         \fi
14506         \ifx\Fld@bordercolor\relax
14507         \else
14508             /BC[\Fld@bordercolor]%
14509         \fi
14510         >>%
14511     \fi
14512     /A<<%
14513     /S/SubmitForm%
14514     /F<<%
14515         /FS/URL%
14516         /F(\Hy@escapestring{\Form@action})%
14517     >>%

```

```

14518   \Fld@submitflags
14519   >>%
14520   \Fld@additionalactions
14521 }

\PDFForm@Reset

14522 \ifHy@pdfa
14523 \else
14524   \def\PDFForm@Reset{%
14525     /Subtype/Widget%
14526     \Fld@annotflags
14527     \Fld@pageobjref
14528     \Fld@annotnames
14529     /FT/Btn%
14530     \Fld@flags
14531     /H/P%
14532     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14533     \ifcase0\ifnum\Fld@rotation=\z@   \else 1\fi
14534       \ifx\Fld@bordercolor\relax\else 1\fi
14535       \space
14536     \else
14537       /MK<<%
14538       \ifnum\Fld@rotation=\z@
14539       \else
14540       /R \Fld@rotation
14541       \fi
14542       \ifx\Fld@bordercolor\relax
14543       \else
14544       /BC[\Fld@bordercolor]%
14545       \fi
14546 %     /CA (Clear)
14547 %     /AC (Done)
14548   >>%
14549   \fi
14550   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14551   /A<</S/ResetForm>>%
14552   \Fld@additionalactions
14553 }%
14554 \fi

14555 </pdfform>
14556 <*package>

```

## 49 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in  $\text{\LaTeX}$  macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```

14557 \def\phantomsection{%
14558   \Hy@MakeCurrentHrefAuto{section*}%
14559   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%

```

```

14560 }
14561 </package>

```

## 49.1 Bookmarks

```

14562 (*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.

```

14563 \def\Hy@writebookmark#1#2#3#4#5{%
14564   % section number, text, label, level, file
14565   \ifx\WriteBookmarks\relax%
14566   \else
14567     \ifnum#4>\Hy@bookmarksdepth\relax
14568     \else
14569       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
14570     \fi
14571   \fi
14572 }
14573 \def\Hy@currentbookmarklevel{0}
14574 \def\Hy@numberline#1{#1 }
14575 \def\@@writetorep#1#2#3#4#5{%
14576   \begingroup
14577     \edef\Hy@tempa{#5}%
14578     \ifx\Hy@tempa\Hy@bookmarkstype
14579       \edef\Hy@level{#4}%
14580       \ifx\Hy@levelcheck Y%
14581         \@tempcnta\Hy@level\relax
14582         \advance\@tempcnta by -1 %
14583         \ifnum\Hy@currentbookmarklevel<\@tempcnta
14584           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14585           \advance\@tempcnta by 1 %
14586           \Hy@Warning{%
14587             Difference (\the\@tempcnta) between bookmark levels is %
14588             greater \MessageBreak than one, level fixed%
14589           }%
14590           \@tempcnta\Hy@currentbookmarklevel
14591           \advance\@tempcnta by 1 %
14592           \edef\Hy@level{\the\@tempcnta}%
14593         \fi
14594       \else
14595         \global\let\Hy@levelcheck Y%

```

```

14596 \fi
14597 \global\let\Hy@currentbookmarklevel\Hy@level
14598 \@tempcnta\Hy@level\relax
14599 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14600 \advance\@tempcnta by -1 %
14601 \edef\Hy@tempa{#3}%
14602 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14603 \ifx\Hy@tempa\Hy@tempb
14604 \Hy@Warning{%
14605     The anchor of a bookmark and its parent's must not%
14606     \MessageBreak be the same. Added a new anchor%
14607 }%
14608 \phantomsection
14609 \fi
14610 \ifHy@bookmarksnumbered
14611 \let\numberline\Hy@numberline
14612 \let\booknumberline\Hy@numberline
14613 \let\partnumberline\Hy@numberline
14614 \let\chapternumberline\Hy@numberline
14615 \else
14616 \let\numberline\@gobble
14617 \let\booknumberline\@gobble
14618 \let\partnumberline\@gobble
14619 \let\chapternumberline\@gobble
14620 \fi
14621 \HyPsd@XeTeXBigCharstrue
14622 \pdfstringdef\Hy@tempa{#2}%
14623 \HyPsd@SanitizeForOutFile\Hy@tempa
14624 \if@filesw
14625 \stepcounter{bookmark@seq@number}%
14626 \@ifundefined{@outlinefile}{%
14627 }{%
14628 \protected@write\@outlinefile{}{%
14629 \protect\BOOKMARK
14630 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14631 {\Hy@tempa}{\Hy@tempb}%
14632 \@percentchar\space\thebookmark@seq@number
14633 }%
14634 }%
14635 \fi
14636 \fi
14637 \endgroup
14638 }
14639 \newcounter{bookmark@seq@number}

14640 \begingroup
14641 \lccode'('= '{%
14642 \lccode'('= '}%
14643 \lccode'1=\z@
14644 \lccode'2=\z@
14645 \lccode'3=\z@
14646 \lccode'5=\z@
14647 \lccode'7=\z@
14648 \lccode'\#=\z@
14649 \lccode'\='=\z@
14650 \lccode'\{=\z@
14651 \lccode'\}=\z@
14652 \lowercase{%

```



```

14653 \endgroup
14654 \def\HyPsd@SanitizeForOutFile#1{%
14655   \@onelevel@sanitize\Hy@tempa
14656   \escapechar'\%
14657   \edef\Hy@tempa{%
14658     \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14659   }%
14660   \edef\Hy@tempa{%
14661     \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14662   }%
14663 }%
14664 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14665   #1%
14666   \ifx\#2\%
14667     \expandafter\ltx@gobble
14668   \else
14669     \expandafter\ltx@firstofone
14670   \fi
14671   {%
14672     \string\173%
14673     \HyPsd@SanitizeOut@BraceLeft#2\@nil
14674   }%
14675 }%
14676 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14677   #1%
14678   \ifx\#2\%
14679     \expandafter\ltx@gobble
14680   \else
14681     \expandafter\ltx@firstofone
14682   \fi
14683   {%
14684     \string\175%
14685     \HyPsd@SanitizeOut@BraceRight#2\@nil
14686   }%
14687 }%
14688 }

```

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

```

14689 \newcommand{\currentpdfbookmark}{%
14690   \pdfbookmark[\Hy@currentbookmarklevel]%
14691 }
14692 \newcommand{\subpdfbookmark}{%
14693   \@tempcnta\Hy@currentbookmarklevel
14694   \Hy@StepCount\@tempcnta
14695   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14696 }
14697 \newcommand{\belowpdfbookmark}[2]{%
14698   \@tempcnta\Hy@currentbookmarklevel
14699   \Hy@StepCount\@tempcnta
14700   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14701   \advance\@tempcnta by -1 %
14702   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14703 }

```

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

```

14704 \renewcommand\pdfbookmark[3][0]{%
14705   \Hy@writebookmark{}{#2}{#3.#1}{#1}{toc}%
14706   \hyper@anchorstart{#3.#1}\hyper@anchorend
14707 }
14708 \def\BOOKMARK{%
14709   \@ifnextchar{\@BOOKMARK}{\@BOOKMARK[1][-]}%
14710 }
14711 \def\@BOOKMARK[#1]{%
14712   \@ifnextchar{\@BOOKMARK[{#1}]}{\@BOOKMARK[{#1}][-]}%
14713 }

```

### 49.1.1 Rerun warning

```

14714 \RequirePackage{rerunfilecheck}[2009/12/10]
14715 \def\Hy@OutlineRerunCheck{%
14716   \RerunFileCheck{\jobname.out}{%
14717     \immediate\closeout\@outlinefile
14718   }{%
14719     Rerun to get outlines right\MessageBreak
14720     or use package 'bookmark'%
14721   }%
14722 }

```

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 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.

`\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.

314

```

14743 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14744 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14745 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14746 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14747 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14748 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14749 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14750 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14751 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14752 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14753 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14754 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14755 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14756 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14757 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14758 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14759 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14760 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
14761 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14762 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14763 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14764 \fi
14765 }%
14766 \else
14767 \gdef\hv@pdf@char{\char'}%
14768 \fi
14769 \endgroup

```

\@@BOOKMARK

```

14770 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14771 \expandafter\edef\csname @count@#3\endcsname{%
14772 \the\@serial@counter
14773 }%
14774 \edef\@mycount{\the\@serial@counter}%
14775 \Hy@StepCount\@serial@counter
14776 \edef\@parcount{%
14777 \expandafter\ifx\csname @count@#5\endcsname\relax
14778 0%
14779 \else
14780 \csname @count@#5\endcsname
14781 \fi
14782 }%
14783 \immediate\special{%
14784 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14785 s=\ifx#2-c\else o\fi,t=#4%
14786 }%
14787 }%

```

\ReadBookmarks

```

14788 \def\ReadBookmarks{%
14789 \begingroup
14790 \def\0{\hv@pdf@char 0}%
14791 \def\1{\hv@pdf@char 1}%
14792 \def\2{\hv@pdf@char 2}%
14793 \def\3{\hv@pdf@char 3}%
14794 \def\({}%
14795 \def\)}%

```

```

14796 \def\do###1{%
14797 \ifnum\catcode'###1=\active
14798 \@makeoother###1%
14799 \else
14800 \ifnum\catcode'###1=6 %
14801 \@makeoother###1%
14802 \fi
14803 \fi
14804 }%
14805 \dospecials
14806 \Hy@safe@activetrue
14807 \InputIfFileExists{\jobname.out}{-}{-}%
14808 \endgroup
14809 \ifx\WriteBookmarks\relax
14810 \else
14811 \if@filesw
14812 \newwrite\@outlinefile
14813 \Hy@OutlineRerunCheck
14814 \immediate\openout\@outlinefile=\jobname.out\relax
14815 \ifHy@typexml
14816 \immediate\write\@outlinefile{<relaxxml>\relax}%
14817 \fi
14818 \fi
14819 \fi
14820 }

14821 </vtex>
14822 <!*vtex>
14823 \def\ReadBookmarks{%
14824 \pdf@ifdraftmode{-}{-}%
14825 \begingroup
14826 \def\do###1{%
14827 \ifnum\catcode'###1=\active
14828 \@makeoother###1%
14829 \else
14830 \ifnum\catcode'###1=6 %
14831 \@makeoother###1%
14832 \fi
14833 \fi
14834 }%
14835 \dospecials
14836 \Hy@safe@activetrue
14837 \escapechar='\%
14838 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14839 \calc@bm@number{##5}%
14840 }%
14841 \InputIfFileExists{\jobname.out}{-}{-}%
14842 \ifx\WriteBookmarks\relax
14843 \global\let\WriteBookmarks\relax
14844 \fi
14845 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14846 \def\Hy@temp{##4}%
14847 (*pdfTeX)
14848 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14849 \Hy@OutlineName{}\Hy@pstringName{%
14850 ##2\check@bm@number{##3}%
14851 }{%
14852 \expandafter\strip@prefix\meaning\Hy@temp

```

```

14853     }%
14854 </pdftex>
14855 <*pdfmark>
14856     \pdfmark{%
14857         pdfmark=/OUT,%
14858         Count={##2\check@bm@number{##3}},%
14859         Dest={##3},%
14860         Title=\expandafter\strip@prefix\meaning\Hy@temp
14861     }%
14862 </pdfmark>
14863 <*dvipdfm|xetex>
14864     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14865     \@pdfm@mark{%
14866         outline \ifHy@DvipdfmxOutlineOpen
14867             [%
14868             \ifnum##21>\z@
14869             \else
14870             -%
14871             \fi
14872             ] %
14873             \fi
14874             ##1<<%
14875             /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14876             /A<<%
14877             /S/GoTo%
14878             /D(\Hy@pstringName)%
14879             >>%
14880             >>%
14881         }%
14882 </dvipdfm|xetex>
14883     }%
14884     \begingroup
14885     \def\WriteBookmarks{0}%
14886     \InputIfFileExists{jobname.out}{\relax}%
14887     \endgroup
14888     %{\escapechar\m@ne\InputIfFileExists{jobname.out}{\relax}}%
14889     \endgroup
14890 }%
14891 \ifx\WriteBookmarks\relax
14892 \else
14893     \if@filesw
14894         \newwrite\@outlinefile
14895         \Hy@OutlineRerunCheck
14896         \immediate\openout\@outlinefile=jobname.out\relax
14897         \ifHy@typexml
14898             \immediate\write\@outlinefile{<relaxxml>\relax}%
14899         \fi
14900     \fi
14901 \fi
14902 }
14903 <*pdftex>
14904 \def\Hy@OutlineName#1#2#3#4{%
14905     \pdfoutline goto name{##2}count#3{##4}%
14906 }
14907 </pdftex>
14908 \def\check@bm@number#1{%
14909     \expandafter\ifx\csname B_#1\endcsname\relax

```

```

14910 0%
14911 \else
14912 \csname B_#1\endcsname
14913 \fi
14914 }
14915 \def\calc@bm@number#1{%
14916 \@tempcnta=\check@bm@number{#1}\relax
14917 \advance\@tempcnta by 1 %
14918 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14919 }
14920 </!vtx>

14921 \ifHy@implicit
14922 \else
14923 \expandafter\endinput
14924 \fi

14925 </outlines>
14926 <*outlines | hypertex>

14927 \newlength\Hy@SectionHShift
14928 \def\Hy@SectionAnchorHref#1{%
14929 \ifx\protect\@typeset@protect
14930 \Hy@@SectionAnchor{#1}%
14931 \fi
14932 }
14933 \DeclareRobustCommand*\Hy@@SectionAnchor}[1]{%
14934 \leavevmode
14935 \hbox to 0pt{%
14936 \kern-\Hy@SectionHShift
14937 \Hy@raisedlink{%
14938 \hyper@anchorstart{#1}\hyper@anchorend
14939 }%
14940 \hss
14941 }%
14942 }
14943 \let\H@old@ssect\@ssect
14944 \def\@ssect#1#2#3#4#5{%
14945 \Hy@MakeCurrentHrefAuto{section*}%
14946 \setlength{\Hy@SectionHShift}{#1}%
14947 \begingroup
14948 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14949 \toks\tw@\expandafter{%
14950 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14951 #5%
14952 }%
14953 \edef\x{\endgroup
14954 \the\toks@\the\toks\tw@}%
14955 }\x
14956 }
14957 \let\H@old@schapter\@schapter
14958 \def\@schapter#1{%
14959 \begingroup
14960 \let\@mkboth\@gobbletwo
14961 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14962 \Hy@raisedlink{%
14963 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14964 }%
14965 \endgroup

```

```

14966 \H@old@chapter{#1}%
14967 }

```

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:

```

14968 \ltx@ifundefined{@chapter}{}{%
14969   \let\Hy@org@chapter\@chapter
14970   \def\@chapter{%
14971     \def\Hy@next{%
14972       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14973       \Hy@raisedlink{%
14974         \hyper@anchorstart{\@currentHref}\hyper@anchorend
14975       }%
14976     }%
14977     \ifnum\c@secnumdepth>\m@ne
14978       \ltx@ifundefined{if@mainmatter}%
14979       \iftrue{\csname if@mainmatter\endcsname}%
14980       \let\Hy@next\relax
14981     \fi
14982   \fi
14983   \Hy@next
14984   \Hy@org@chapter
14985 }%
14986 }

14987 \let\H@old@part\@part
14988 \begingroup\expandafter\expandafter\expandafter\endgroup
14989 \expandafter\ifx\csname chapter\endcsname\relax
14990   \let\Hy@secnum@part\z@
14991 \else
14992   \let\Hy@secnum@part\m@ne
14993 \fi
14994 \def\@part{%
14995   \ifnum\Hy@secnum@part>\c@secnumdepth
14996     \phantomsection
14997   \fi
14998   \H@old@part
14999 }

15000 \let\H@old@spart\@spart
15001 \def\@spart#1{%
15002   \Hy@MakeCurrentHrefAuto{part*}%
15003   \Hy@raisedlink{%
15004     \hyper@anchorstart{\@currentHref}\hyper@anchorend
15005   }%
15006   \H@old@spart{#1}%
15007 }

15008 \let\H@old@sect\@sect
15009 \def\@sect#1#2#3#4#5#6[#7]#8{%
15010   \ifnum #2>\c@secnumdepth
15011     \expandafter\@firstoftwo
15012   \else
15013     \expandafter\@secondoftwo
15014   \fi
15015   {%
15016     \Hy@MakeCurrentHrefAuto{section*}%
15017     \setlength{\Hy@SectionHShift}{#3}%
15018     \begingroup

```

```

15019 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}}%
15020 \toks\tw@\expandafter{%
15021 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
15022 #8%
15023 }%
15024 \edef\x{\endgroup
15025 \the\toks@{\the\toks\tw@}%
15026 }\x
15027 }{%
15028 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
15029 }%
15030 }

15031 </outlines | hypertex>
15032 (*outlines)

15033 \expandafter\def\csname Parent-4\endcsname{}
15034 \expandafter\def\csname Parent-3\endcsname{}
15035 \expandafter\def\csname Parent-2\endcsname{}
15036 \expandafter\def\csname Parent-1\endcsname{}
15037 \expandafter\def\csname Parent0\endcsname{}
15038 \expandafter\def\csname Parent1\endcsname{}
15039 \expandafter\def\csname Parent2\endcsname{}
15040 \expandafter\def\csname Parent3\endcsname{}
15041 \expandafter\def\csname Parent4\endcsname{}

15042 </outlines>

```

## 50 Compatibility with koma-script classes

```

15043 (*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.

```

15044 \def\Hy@tempa{%
15045 \def\@addchap{##1}##2{%
15046 \typeout{##2}%
15047 \if@twoside
15048 \@mkboth{##1}{}%
15049 \else
15050 \@mkboth{}{##1}%
15051 \fi
15052 \addtocontents{lof}{\protect\addvspace{10\p@}}%
15053 \addtocontents{lot}{\protect\addvspace{10\p@}}%
15054 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15055 \Hy@raisedlink{%
15056 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15057 }%
15058 \if@twocolumn
15059 \@topnewpage[\@makeschapterhead{##2}]%
15060 \else
15061 \@makeschapterhead{##2}%
15062 \@afterheading
15063 \fi
15064 \addcontentsline{toc}{chapter}{##1}%
15065 }%
15066 }

```



```

15067 \@ifclassloaded{scrbook}{%
15068   \@ifclasslater{scrbook}{2001/01/01}{%
15069     \let\Hy@tempa\@empty
15070   }{}%
15071 }{%
15072   \@ifclassloaded{scrreprt}{%
15073     \@ifclasslater{scrreprt}{2001/01/01}{%
15074       \let\Hy@tempa\@empty
15075     }{}%
15076   }{%
15077     \let\Hy@tempa\@empty
15078   }%
15079 }%
15080 \Hy@tempa
15081 </outlines | hypertex>

```

## 51 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 51.1 PD1 encoding

```

15082 <*pd1enc>
15083 \DeclareFontEncoding{PD1}{}{}

Accents
15084 \DeclareTextAccent{'}{PD1}{\textasciigrave}
15085 \DeclareTextAccent{'~}{PD1}{\textacute}
15086 \DeclareTextAccent{^}{PD1}{\textasciicircum}
15087 \DeclareTextAccent{~}{PD1}{\texttilde}
15088 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
15089 \DeclareTextAccent{r}{PD1}{\textstring}
15090 \DeclareTextAccent{v}{PD1}{\textasciicaron}
15091 \DeclareTextAccent{.}{PD1}{\textdotaccent}
15092 \DeclareTextAccent{c}{PD1}{\textcedilla}
15093 \DeclareTextAccent{=}{PD1}{\textasciimacron}
15094 \DeclareTextAccent{b}{PD1}{\textmacronbelow}
15095 \DeclareTextAccent{d}{PD1}{\textdotbelow}
15096 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
15097 \DeclareTextCompositeCommand{'~}{PD1}{\@empty}{\textacute}
15098 \DeclareTextCompositeCommand{^}{PD1}{\@empty}{\textasciicircum}
15099 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
15100 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
15101 \DeclareTextCompositeCommand{r}{PD1}{\@empty}{\textstring}
15102 \DeclareTextCompositeCommand{v}{PD1}{\@empty}{\textasciicaron}
15103 \DeclareTextCompositeCommand{.}{PD1}{\@empty}{\textdotaccent}
15104 \DeclareTextCompositeCommand{c}{PD1}{\@empty}{\textcedilla}
15105 \DeclareTextCompositeCommand{=}{PD1}{\@empty}{\textasciimacron}
15106 \DeclareTextCompositeCommand{b}{PD1}{\@empty}{\textmacronbelow}
15107 \DeclareTextCompositeCommand{d}{PD1}{\@empty}{\textdotbelow}
15108 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textasciigrave}
15109 \DeclareTextCompositeCommand{'~}{PD1}{\ }{\textacute}
15110 \DeclareTextCompositeCommand{^}{PD1}{\ }{\textasciicircum}
15111 \DeclareTextCompositeCommand{~}{PD1}{\ }{\texttilde}
15112 \DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}
15113 \DeclareTextCompositeCommand{r}{PD1}{\ }{\textstring}

```

```

15114 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
15115 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
15116 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
15117 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
15118 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
15119 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
15120 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
15121 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
15122 \DeclareTextCommand{\newtie}{PD1}[1]{%
15123   \TextSymbolUnavailable{\newtie{#1}}#1%
15124 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

15125 % U+0009 (CHARACTER TABULATION)
15126 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
15127 % U+000A (LINE FEED)
15128 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
15129 % U+000D (CARRIAGE RETURN)
15130 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

15131 % U+02D8 BREVE; breve
15132 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
15133 % U+02C7 CARON; caron
15134 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
15135 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
15136 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
15137 % U+02D9 DOT ABOVE; dotaccent
15138 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
15139 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
15140 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
15141 % U+02DB OGONEK; ogonek
15142 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
15143 % U+02DA RING ABOVE; ring
15144 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
15145 % U+02DC SMALL TILDE; ilde, *tilde
15146 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; \*space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

```

15147 % U+0022 QUOTATION MARK; quotedbl
15148 \DeclareTextCommand{\textquotedbl}{PD1}{"}% \042 U+0022
15149 % U+0023 NUMBER SIGN; numbersign
15150 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
15151 % U+0024 DOLLAR SIGN; dollar
15152 \DeclareTextCommand{\textdollar}{PD1}{\$}% \044 U+0024
15153 % U+0025 PERCENT SIGN; percent
15154 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
15155 % U+0026 AMPERSAND; ampersand
15156 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

```

\047: U+0027 APOSTROPHE; quotesingle

```

15157 % U+0028 LEFT PARENTHESIS; parenleft
15158 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028
15159 % U+0029 RIGHT PARENTHESIS; parenright
15160 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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  
 15161 % U+002E FULL STOP; period  
 15162 \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  
 15163 % U+003C LESS-THAN SIGN; less  
 15164 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 15165 % U+003E GREATER-THAN SIGN; greater  
 15166 \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  
 15167 % U+005C REVERSE SOLIDUS; backslash  
 15168 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 15169 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"  
 15170 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 15171 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 15172 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 15173 % U+005F LOW LINE; underscore  
 15174 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 15175 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 15176 % U+0060 GRAVE ACCENT; grave  
 15177 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 15178 % U+0069 LATIN SMALL LETTER I; i  
 15179 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 15180 % U+007B LEFT CURLY BRACKET; braceleft  
 15181 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 15182 % U+007C VERTICAL LINE; \*bar, verticalbar  
 15183 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 15184 % U+007D RIGHT CURLY BRACKET; braceright  
 15185 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 15186 % U+007E TILDE; asciitilde  
 15187 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 15188 % U+2022 BULLET; bullet  
 15189 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 15190 % U+2020 DAGGER; dagger

15191 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
15192 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
15193 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
15194 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}  
15195 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
15196 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
15197 % U+2014 EM DASH; emdash  
15198 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
15199 % U+2013 EN DASH; endash  
15200 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
15201 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
15202 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
15203 % U+2044 FRACTION SLASH; fraction  
15204 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
15205 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
inglleft  
15206 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039  
15207 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
inglright  
15208 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A  
15209 % U+2212 MINUS SIGN; minus  
15210 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
15211 % U+2030 PER MILLE SIGN; perthousand  
15212 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
15213 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
15214 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
15215 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
15216 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
15217 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
15218 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
15219 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
15220 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
15221 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
15222 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
15223 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
15224 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
15225 % U+2122 TRADE MARK SIGN; trademark  
15226 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
15227 % U+FB01 LATIN SMALL LIGATURE FI; fi  
15228 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
15229 % U+FB02 LATIN SMALL LIGATURE FL; fl  
15230 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
15231 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
15232 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
15233 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
15234 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
15235 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
15236 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
15237 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
15238 \DeclareTextCompositeCommand{\"}{PD1}{Y}{\230}% U+0178  
15239 \DeclareTextCommand{\IJ}{PD1}{IJ}% ligature U+0049 U+004A  
15240 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
15241 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
15242 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
15243 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
15244 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
15245 \DeclareTextCommand{\l}{PD1}{\233}% U+0142

15246 % U+0153 LATIN SMALL LIGATURE OE; oe  
 15247 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
 15248 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 15249 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
 15250 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 15251 \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.  
 15252 % U+20AC EURO SIGN; \*Euro, euro  
 15253 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
 15254 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 15255 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
 15256 % U+00A2 CENT SIGN; cent  
 15257 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
 15258 % U+00A3 POUND SIGN; sterling  
 15259 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
 15260 % U+00A4 CURRENCY SIGN; currency  
 15261 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
 15262 % U+00A5 YEN SIGN; yen  
 15263 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
 15264 % U+00A6 BROKEN BAR; brokenbar  
 15265 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
 15266 % U+00A7 SECTION SIGN; section  
 15267 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
 15268 % U+00A8 DIAERESIS; dieresis  
 15269 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
 15270 % U+00A9 COPYRIGHT SIGN; copyright  
 15271 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
 15272 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 15273 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
 15274 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motleft  
 15275 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
 15276 % U+00AC NOT SIGN; logicalnot  
 15277 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
 15278 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
 No glyph \255 in PDFDocEncoding.  
 15279 % U+00AE REGISTERED SIGN; registered  
 15280 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
 15281 % U+00AF MACRON; \*macron, overscore  
 15282 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
 15283 % U+00B0 DEGREE SIGN; degree  
 15284 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
 15285 % U+00B1 PLUS-MINUS SIGN; plusminus  
 15286 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
 15287 % U+00B2 SUPERSCRIPT TWO; twosuperior  
 15288 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%\* U+00B2  
 15289 % U+00B3 SUPERSCRIPT THREE; threesuperior  
 15290 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%\* U+00B3  
 15291 % U+00B4 ACUTE ACCENT; acute  
 15292 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
 15293 % U+00B5 MICRO SIGN; mu, mu1  
 15294 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
 15295 % U+00B6 PILCROW SIGN; paragraph  
 15296 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
 15297 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 15298 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7

15299 % U+00B8 CEDILLA; cedilla  
 15300 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
 15301 % U+00B9 SUPERSCRIPT ONE; onesuperior  
 15302 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%\* U+00B9  
 15303 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 15304 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
 15305 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
 15306 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
 15307 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 15308 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
 15309 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 15310 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
 15311 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
 15312 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
 15313 % U+00BF INVERTED QUESTION MARK; questiondown  
 15314 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
 15315 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
 15316 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
 15317 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
 15318 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
 15319 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
 15320 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
 15321 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
 15322 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
 15323 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
 15324 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
 15325 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
 15326 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
 15327 % U+00C6 LATIN CAPITAL LETTER AE; AE  
 15328 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
 15329 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
 15330 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
 15331 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
 15332 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
 15333 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
 15334 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
 15335 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
 15336 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
 15337 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
 15338 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
 15339 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
 15340 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
 15341 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
 15342 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
 15343 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
 15344 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
 15345 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
 15346 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
 15347 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
 15348 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
 15349 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
 15350 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
 15351 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
 15352 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
 15353 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
 15354 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute

15355 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
15356 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15357 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
15358 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15359 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
15360 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15361 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
15362 % U+00D7 MULTIPLICATION SIGN; multiply  
15363 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
15364 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15365 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
15366 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15367 \DeclareTextCompositeCommand{\'}{PD1}{U}{\331}% U+00D9  
15368 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15369 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
15370 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15371 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
15372 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15373 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
15374 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15375 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
15376 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15377 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
15378 \DeclareTextCommand{\textThorn}{PD1}{\336}%\* U+00DE  
15379 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15380 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
15381 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15382 \DeclareTextCompositeCommand{\'}{PD1}{a}{\340}% U+00E0  
15383 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15384 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
15385 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15386 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
15387 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15388 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
15389 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15390 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
15391 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15392 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
15393 % U+00E6 LATIN SMALL LETTER AE; ae  
15394 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
15395 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15396 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
15397 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15398 \DeclareTextCompositeCommand{\'}{PD1}{e}{\350}% U+00E8  
15399 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15400 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
15401 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15402 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
15403 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15404 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
15405 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15406 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
15407 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
15408 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15409 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15410 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15411 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex

```

15412 \DeclareTextCompositeCommand{\~}{PD1}{i}{\356}% U+00EE
15413 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
15414 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
15415 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
15416 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
15417 % U+00F0 LATIN SMALL LETTER ETH; eth
15418 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
15419 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
15420 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
15421 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
15422 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
15423 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
15424 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
15425 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
15426 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4
15427 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
15428 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
15429 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
15430 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
15431 % U+00F7 DIVISION SIGN; divide
15432 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
15433 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
15434 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
15435 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
15436 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
15437 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
15438 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
15439 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
15440 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
15441 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
15442 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
15443 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
15444 \DeclareTextCompositeCommand{\`}{PD1}{y}{\375}% U+00FD
15445 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)
15446 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
15447 \DeclareTextCommand{\textthorn}{PD1}{\376}%* U+00FE
15448 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15449 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
15450 \DeclareTextCommand{\ij}{PD1}{ij}% ligature U+0069 U+006A

```

Glyphs that consist of several characters.

```

15451 \DeclareTextCommand{\SS}{PD1}{SS}%
15452 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}%

```

Aliases (german.sty)

```

15453 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}%
15454 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}%
15455 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}%
15456 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}%
15457 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}%
15458 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}%
15459 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}%
15460 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}%

```

Aliases (math names)

```

15461 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}%
15462 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}%
15463 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}%
15464 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}%

```



```

15465 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}%
15466 \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).

```

15467 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15468 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
15469 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15470 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
15471 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
15472 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
15473 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15474 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15475 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
15476 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15477 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
15478 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
15479 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
15480 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
15481 (/pd1enc)

```

## 51.2 PU encoding

```

15482 (*puenc)
15483 \DeclareFontEncoding{PU}{-}{-}

```

### 51.2.1 NFSS2 accents

```

15484 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15485 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
15486 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15487 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15488 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15489 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
15490 % U+0303 COMBINING TILDE; tildecmb, *tildecomb
15491 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15492 % U+0304 COMBINING MACRON; macroncmb
15493 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15494 % U+0306 COMBINING BREVE; brevecmb
15495 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
15496 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
15497 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
15498 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
15499 % U+0308 COMBINING DIAERESIS; dieresiscmb
15500 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
15501 % U+030A COMBINING RING ABOVE; ringcmb
15502 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
15503 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
15504 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
15505 % U+030C COMBINING CARON; caroncmb
15506 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
15507 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
15508 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
15509 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
15510 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
15511 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311
15512 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
15513 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323

```

15514 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubumlaut (tipa)  
15515 \DeclareTextCommand{\textsubumlaut}{PU}[1]{\#1\83\044}% U+0324  
15516 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)  
15517 \DeclareTextCommand{\textsubring}{PU}[1]{\#1\83\045}% U+0325  
15518 % U+0327 COMBINING CEDILLA; cedillacmb  
15519 \DeclareTextCommand{\c}{PU}[1]{\#1\83\047}% U+0327  
15520 % U+0328 COMBINING OGONEK; ogonekcmb  
15521 \DeclareTextCommand{\k}{PU}[1]{\#1\83\050}% U+0328  
15522 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;  
15523 % \textsubcircum (tipa)  
15524 \DeclareTextCommand{\textsubcircum}{PU}[1]{\#1\83\055}% U+032D  
15525 % U+032E COMBINING BREVE BELOW; brevebelowcmb  
15526 \DeclareTextCommand{\textsubbreve}{PU}[1]{\#1\83\056}% U+032E  
15527 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)  
15528 \DeclareTextCommand{\textsubtilde}{PU}[1]{\#1\83\060}% U+0330  
15529 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
15530 \DeclareTextCommand{\b}{PU}[1]{\#1\83\061}% U+0331  
15531 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
15532 \DeclareTextCommand{\t}{PU}[1]{\#1\83\141}% U+0361  
15533 % U+20DD COMBINING ENCLOSING CIRCLE  
15534 \DeclareTextCommand{\textcircled}{PU}[1]{\#1\9040\335}% U+20DD

Double accents.

15535 \DeclareTextCommand{\textacutemacron}{PU}[1]{\#1\83\001\83\004}% U+0301 U+0304  
15536 \DeclareTextCommand{\textgravemacron}{PU}[1]{\#1\83\000\83\004}% U+0300 U+0304

\@empty is an artefact of the NFSS2 machinery, it gets inserted for empty arguments and spaces.

15537 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}%  
15538 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}%  
15539 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}%  
15540 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}%  
15541 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}%  
15542 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}%  
15543 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}%  
15544 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}%  
15545 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}%  
15546 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}%  
15547 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}%  
15548 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}%  
15549 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}%  
15550 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}%  
15551 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\83\021}% U+0311  
15552 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\83\044}% U+0324  
15553 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}%  
15554 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircumlow}%  
15555 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\83\056}% U+032E  
15556 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildelow}%  
15557 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}%  
15558 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}%  
15559 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}%  
15560 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}%  
15561 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}%  
15562 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\83\001\83\004}% U+0301 U+0304  
15563 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\83\000\83\004}% U+0300 U+0304

```

15564 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}%
15565 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}%
15566 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}%
15567 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}%
15568 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}%
15569 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}%
15570 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}%
15571 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}%
15572 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}%
15573 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}%
15574 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}%
15575 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}%
15576 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}%
15577 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}%
15578 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\{ \83\021\}}% U+0311
15579 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\{ \83\044\}}% U+0324
15580 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\texttringlow}%
15581 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}%
15582 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\{ \83\056\}}% U+032E
15583 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildelow}%
15584 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}%
15585 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}%
15586 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}%
15587 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}%
15588 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}%
15589 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\{ \83\001\83\004\}}% U+0301 U+0304
15590 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\{ \83\000\83\004\}}% U+0300 U+0304

```

Accents for capitals (see encoding TS1)

```

15591 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}%
15592 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}%
15593 \DeclareTextCommand{\capitalgrave}{PU}[1]{\'{#1}}%
15594 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}%
15595 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}%
15596 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}%
15597 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\">{#1}}%
15598 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}%
15599 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}%
15600 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}%
15601 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}%
15602 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}%
15603 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1}}%
15604 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}%
15605 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}%

```

### 51.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

15606 % U+0009 (CHARACTER TABULATION)
15607 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
15608 % U+000A (LINE FEED)
15609 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
15610 % U+000D (CARRIAGE RETURN)
15611 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam
15612 % U+0022 QUOTATION MARK; quotedbl
15613 \DeclareTextCommand{\textquotedbl}{PU}{"}% \80\042 U+0022

```

15614 % U+0023 NUMBER SIGN; numbersign  
15615 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023  
15616 % U+0024 DOLLAR SIGN; dollar  
15617 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024  
15618 %\* \textdollar -> \mathdollar  
15619 %\* \textdollar -> \EyesDollar (marvosym)  
15620 % U+0025 PERCENT SIGN; percent  
15621 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025  
15622 % U+0026 AMPERSAND; ampersand  
15623 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026  
15624 %\* \textampersand -> \binampersand (stmaryrd)  
15625 %\* \textampersand -> \with (cml)  
15626 % U+0027 APOSTROPHE; quotesingle  
15627 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027  
15628 % U+0028 LEFT PARENTHESIS; parenleft  
15629 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
15630 % U+0029 RIGHT PARENTHESIS; parenright  
15631 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
15632 % U+002A ASTERISK; asterisk; (?)  
15633 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A  
15634 % U+002B PLUS SIGN; plus; \MVPlus (marvosym)  
15635 \DeclareTextCommand{\textMVPlus}{PU}{\80\053}%\* U+002B  
15636 % U+002C COMMA; comma; \MVComma (marvosym)  
15637 \DeclareTextCommand{\textMVComma}{PU}{\80\054}%\* U+002C  
15638 % U+002D HYPHEN-MINUS; hyphen; \MVMinus (marvosym)  
15639 \DeclareTextCommand{\textMVMinus}{PU}{\80\055}%\* U+002D  
15640 % U+002E FULL STOP; period; \MVPeriod (marvosym)  
15641 \DeclareTextCommand{\textMVPeriod}{PU}{\80\056}%\* U+002E  
15642 % U+002F SOLIDUS; slash; \MVDivision (marvosym)  
15643 \DeclareTextCommand{\textMVDivision}{PU}{\80\057}%\* U+002F  
15644 % U+0030 DIGIT ZERO; zero; \MVZero (marvosym)  
15645 \DeclareTextCommand{\textMVZero}{PU}{\80\060}%\* U+0030  
15646 % U+0031 DIGIT ONE; one; \MVOne (marvosym)  
15647 \DeclareTextCommand{\textMVOne}{PU}{\80\061}%\* U+0031  
15648 % U+0032 DIGIT TWO; two; \MVTwo (marvosym)  
15649 \DeclareTextCommand{\textMVTwo}{PU}{\80\062}%\* U+0032  
15650 % U+0033 DIGIT THREE; three; \MVThree (marvosym)  
15651 \DeclareTextCommand{\textMVThree}{PU}{\80\063}%\* U+0033  
15652 % U+0034 DIGIT FOUR; four; \MVFfour (marvosym)  
15653 \DeclareTextCommand{\textMVFfour}{PU}{\80\064}%\* U+0034  
15654 % U+0035 DIGIT FIVE; five; \MVFfive (marvosym)  
15655 \DeclareTextCommand{\textMVFfive}{PU}{\80\065}%\* U+0035  
15656 % U+0036 DIGIT SIX; six; \MVSix (marvosym)  
15657 \DeclareTextCommand{\textMVSix}{PU}{\80\066}%\* U+0036  
15658 % U+0037 DIGIT SEVEN; seven; \MVSeven (marvosym)  
15659 \DeclareTextCommand{\textMVSeven}{PU}{\80\067}%\* U+0037  
15660 % U+0038 DIGIT EIGHT; eight; \MVEight (marvosym)  
15661 \DeclareTextCommand{\textMVEight}{PU}{\80\070}%\* U+0038  
15662 % U+0039 DIGIT NINE; nine; \MVNine (marvosym)  
15663 \DeclareTextCommand{\textMVNine}{PU}{\80\071}%\* U+0039  
\80\072: U+003A COLON; colon  
\80\073: U+003B SEMICOLON; semicolon  
15664 % U+003C LESS-THAN SIGN; less  
15665 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
\80\075: U+003D EQUALS SIGN; equal  
15666 % U+003E GREATER-THAN SIGN; greater

15667 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E  
 \80\077: U+003F QUESTION MARK; question  
 15668 % U+0040 COMMERCIAL AT; at; \MVAt (marvosym)  
 15669 \DeclareTextCommand{\textMVAt}{PU}{\80\100}%\* U+0040  
 \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  
 15670 % U+005C REVERSE SOLIDUS; backslash  
 15671 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 15672 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 15673 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 15674 % U+005F LOW LINE; underscore  
 15675 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 15676 %\* \textunderscore -> \mathunderscore (LaTeX)  
 15677 % U+0060 GRAVE ACCENT; grave  
 15678 \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  
 15679 % U+0069 LATIN SMALL LETTER I; i  
 15680 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069  
 15681 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069  
 \80\152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \80\172: U+007A LATIN SMALL LETTER Z; z  
 15682 % U+007B LEFT CURLY BRACKET; braceleft  
 15683 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 15684 % U+007C VERTICAL LINE; \*bar, verticalbar  
 15685 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 15686 %\* \textbar -> \textvtrline (tipa)  
 15687 % U+007D RIGHT CURLY BRACKET; braceright  
 15688 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 15689 % U+007E TILDE; asciitilde  
 15690 \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  
 15691 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 15692 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 15693 % U+00A2 CENT SIGN; cent  
 15694 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 15695 % U+00A3 POUND SIGN; sterling  
 15696 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 15697 %\* \textsterling -> \mathsterling (LaTeX)  
 15698 %\* \textsterling -> \pounds (LaTeX)  
 15699 % U+00A4 CURRENCY SIGN; currency  
 15700 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 15701 % U+00A5 YEN SIGN; yen  
 15702 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 15703 % U+00A6 BROKEN BAR; brokenbar

15704 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
15705 %\* \textbrokenbar -> \brokenvert (wasysym)  
15706 % U+00A7 SECTION SIGN; section  
15707 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
15708 %\* \textsection -> \mathsection (LaTeX)  
15709 %\* \textsection -> \S (LaTeX)  
15710 % U+00A8 DIAERESIS; dieresis  
15711 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
15712 % U+00A9 COPYRIGHT SIGN; copyright  
15713 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%\* U+00A9  
15714 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
15715 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
15716 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
15717 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
15718 % U+00AC NOT SIGN; logicalnot  
15719 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
15720 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
\80\255: U+00AD SOFT HYPHEN; sftthyphen, softthyphen  
15721 % U+00AE REGISTERED SIGN; registered  
15722 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
15723 % U+00AF MACRON; \*macron, overscore  
15724 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
15725 % U+00B0 DEGREE SIGN; degree  
15726 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
15727 % U+00B1 PLUS-MINUS SIGN; plusminus  
15728 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
15729 % U+00B2 SUPERSCRIPT TWO; twosuperior  
15730 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%\* U+00B2  
15731 % U+00B3 SUPERSCRIPT THREE; threesuperior  
15732 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%\* U+00B3  
15733 % U+00B4 ACUTE ACCENT; acute  
15734 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
15735 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
15736 % U+00B5 MICRO SIGN; mu, mu1  
15737 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
15738 % U+00B6 PILCROW SIGN; paragraph  
15739 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
15740 %\* \textparagraph -> \mathparagraph (LaTeX)  
15741 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
15742 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
15743 %\* \textperiodcentered -> \MultiplicationDot (marvosym)  
15744 %\* \textperiodcentered -> \Squaredot (marvosym)  
15745 % U+00B8 CEDILLA; cedilla  
15746 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
15747 % U+00B9 SUPERSCRIPT ONE; onesuperior  
15748 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%\* U+00B9  
15749 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
15750 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
15751 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
15752 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
15753 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
15754 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
15755 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
15756 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
15757 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters

15758 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
15759 % U+00BF INVERTED QUESTION MARK; questiondown  
15760 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
15761 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15762 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
15763 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15764 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
15765 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15766 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
15767 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15768 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
15769 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15770 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
15771 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15772 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
15773 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15774 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
15775 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15776 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
15777 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15778 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
15779 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15780 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
15781 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15782 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
15783 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15784 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
15785 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15786 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
15787 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15788 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
15789 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15790 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
15791 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15792 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
15793 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
15794 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
15795 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15796 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
15797 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15798 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
15799 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15800 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
15801 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15802 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
15803 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15804 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
15805 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15806 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
15807 % U+00D7 MULTIPLICATION SIGN; multiply  
15808 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
15809 %\* \textmultiply -> \vartimes (stmaryrd)  
15810 %\* \textmultiply -> \MVMultiplication (marvosym)  
15811 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15812 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
15813 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15814 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9

15815 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15816 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
15817 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15818 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
15819 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15820 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
15821 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15822 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
15823 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15824 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
15825 \DeclareTextCommand{\textThorn}{PU}{\80\336}%\* U+00DE  
15826 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15827 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
15828 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15829 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0  
15830 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15831 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
15832 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15833 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
15834 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15835 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
15836 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15837 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
15838 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15839 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
15840 % U+00E6 LATIN SMALL LETTER AE; ae  
15841 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
15842 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15843 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
15844 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15845 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8  
15846 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15847 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
15848 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15849 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
15850 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15851 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
15852 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15853 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
15854 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
15855 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15856 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
15857 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
15858 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15859 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15860 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15861 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15862 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
15863 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
15864 % U+00F0 LATIN SMALL LETTER ETH; eth  
15865 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
15866 %\* \dh -> \eth (wsuipa, phonetic)  
15867 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
15868 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
15869 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
15870 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
15871 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute



15872 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 15873 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 15874 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4  
 15875 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 15876 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 15877 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 15878 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
 15879 % U+00F7 DIVISION SIGN; divide  
 15880 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 15881 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 15882 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 15883 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 15884 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 15885 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 15886 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\372}% U+00FA  
 15887 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 15888 \DeclareTextCompositeCommand{\~}{PU}{u}{\80\373}% U+00FB  
 15889 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 15890 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
 15891 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 15892 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 15893 % U+00FE LATIN SMALL LETTER THORN; thorn;  
 15894 % \th, \thorn (wasysym), \textthorn (tipa)  
 15895 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 15896 \DeclareTextCommand{\textthorn}{PU}{\80\376}%\* U+00FE  
 15897 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 15898 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 51.2.4 Latin Extended-A: U+0080 to U+017F

15899 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 15900 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
 15901 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 15902 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
 15903 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 15904 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 15905 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 15906 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 15907 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 15908 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
 15909 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
 15910 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
 15911 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
 15912 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
 15913 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
 15914 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
 15915 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
 15916 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
 15917 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
 15918 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
 15919 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotac-  
 cent  
 15920 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
 15921 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
 15922 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
 15923 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
 15924 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C

15925 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
 15926 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
 15927 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
 15928 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
 15929 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
 15930 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
 15931 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
 15932 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
 15933 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;  
 15934 % \textcrd (tipa)  
 15935 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
 15936 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111  
 15937 %\* \textcrd -> \crossd (wsuipa)  
 15938 % An alternate glyph with the stroke through the bowl:  
 15939 %\* \textcrd -> \textbard (tipa)  
 15940 %\* \textcrd -> \bard (wsuipa)  
 15941 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
 15942 \DeclareTextCompositeCommand{=} {PU}{E}{\81\022}% U+0112  
 15943 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
 15944 \DeclareTextCompositeCommand{=} {PU}{e}{\81\023}% U+0113  
 15945 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
 15946 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
 15947 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
 15948 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
 15949 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
 15950 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
 15951 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
 15952 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
 15953 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
 15954 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
 15955 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
 15956 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
 15957 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
 15958 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
 15959 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
 15960 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
 15961 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
 15962 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
 15963 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
 15964 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
 15965 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
 15966 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
 15967 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
 15968 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
 15969 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotac-  
 cent  
 15970 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
 15971 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
 15972 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
 15973 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcom-  
 maaccent  
 15974 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
 15975 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
 15976 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
 15977 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
 15978 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
 15979 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex

15980 \DeclareTextCompositeCommand{\~}{PU}{h}{\81\045}% U+0125  
15981 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
15982 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
15983 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (AmS)  
15984 \DeclareTextCommand{\textthbar}{PU}{\81\047}%\* U+0127  
15985 %\* \textthbar -> \textcrh (tipa)  
15986 %\* \textthbar -> \crossh (wsuipa)  
15987 %\* \textthbar -> \planck (phonetic)  
15988 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
15989 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
15990 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
15991 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
15992 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
15993 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
15994 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
15995 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
15996 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
15997 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
15998 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
15999 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
16000 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
16001 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
16002 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
16003 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
16004 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
16005 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
16006 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
16007 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
16008 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
16009 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
16010 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
16011 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
16012 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
16013 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
16014 % U+0133 LATIN SMALL LIGATURE IJ; ij  
16015 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
16016 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
16017 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
16018 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
16019 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
16020 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
16021 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-  
cent  
16022 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
16023 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
16024 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

The canonical name of U+0138, small letter kra, would be `\textkgreenlandic`, following the glyph naming convention. However `latex/base/inputenc.dtx` has chosen `\textkra`.

16025 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
16026 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
16027 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
16028 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
16029 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
16030 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
16031 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-  
cent

16032 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
16033 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
16034 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
16035 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
16036 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
16037 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
16038 \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.  
16039 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotac-  
cent  
16040 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
16041 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
16042 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
16043 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
16044 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
16045 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
16046 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
16047 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
16048 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
16049 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
16050 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
16051 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-  
cent  
16052 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
16053 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
16054 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
16055 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
16056 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
16057 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
16058 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
16059 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-  
trophe, quoterightn  
16060 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
16061 % U+014A LATIN CAPITAL LETTER ENG; Eng  
16062 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
16063 % U+014B LATIN SMALL LETTER ENG; eng  
16064 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
16065 %\* \ng -> \eng (wsuipa)  
16066 %\* \ng -> \engma (phonetic)  
16067 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
16068 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
16069 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
16070 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
16071 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
16072 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
16073 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
16074 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
16075 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odbla-  
cute, Ohungarumlaut  
16076 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
16077 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-  
cute, ohungarumlaut  
16078 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
16079 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
16080 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152

16081 % U+0153 LATIN SMALL LIGATURE OE; oe  
 16082 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
 16083 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
 16084 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
 16085 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
 16086 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
 16087 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent  
 16088 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
 16089 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
 16090 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
 16091 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
 16092 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
 16093 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
 16094 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
 16095 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
 16096 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
 16097 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
 16098 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
 16099 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
 16100 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
 16101 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
 16102 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
 16103 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
 16104 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
 16105 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
 16106 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
 16107 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
 16108 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
 16109 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 16110 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
 16111 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent  
 16112 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
 16113 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
 16114 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
 16115 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
 16116 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
 16117 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
 16118 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
 16119 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
 16120 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
 16121 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
 16122 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
 16123 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
 16124 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
 16125 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
 16126 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 16127 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
 16128 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
 16129 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
 16130 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
 16131 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
 16132 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
 16133 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
 16134 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
 16135 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring

16136 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
 16137 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
 16138 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
 16139 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udbla-  
 cute, Uhungarumlaut  
 16140 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
 16141 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udbla-  
 cute, uhungarumlaut  
 16142 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
 16143 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
 16144 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
 16145 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
 16146 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
 16147 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
 16148 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
 16149 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
 16150 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
 16151 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
 16152 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
 16153 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 16154 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
 16155 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 16156 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
 16157 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 16158 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
 16159 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 16160 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
 16161 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 16162 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
 16163 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 16164 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 16165 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 16166 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 16167 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 16168 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 16169 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 16170 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

### 51.2.5 Latin Extended-B: U+0180 to U+024F

16171 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)  
 16172 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180  
 16173 %\* \textcrb -> \crossb (wsuipa)  
 16174 % An alternate glyph with the stroke through the bowl:  
 16175 %\* \textcrb -> \textbarb (tipa)  
 16176 %\* \textcrb -> \barb (wsuipa)  
 16177 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausaB (pho-  
 netic)  
 16178 \DeclareTextCommand{\texthausaB}{PU}{\81\201}%\* U+0181  
 16179 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)  
 16180 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188  
 16181 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausaD (pho-  
 netic)  
 16182 \DeclareTextCommand{\texthausaD}{PU}{\81\212}%\* U+018A  
 16183 % U+018E LATIN CAPITAL LETTER REVERSED E; Ereversed  
 16184 \DeclareTextCommand{\textEreversed}{PU}{\81\216}% U+018E  
 16185 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E  
 16186 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin

16187 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
16188 %\* \textflorin -> \Florin (marvosym)  
16189 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)  
16190 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195  
16191 %\* \texthvlig -> \hv (wsuipa)  
16192 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (phonetic)  
16193 \DeclareTextCommand{\texthausak}{PU}{\81\230}%\* U+0198  
16194 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)  
16195 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199  
16196 %\* \texthtk -> \hausak (phonetic)  
16197 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;  
16198 % \textbarl (tipa), \barl (wsuipa)  
16199 \DeclareTextCommand{\textbarl}{PU}{\81\232}%\* U+019A  
16200 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/  
16201 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;  
16202 % \textcrlambda (tipa)  
16203 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B  
16204 %\* \textcrlambda -> \crossnilambda (wsuipa)  
16205 %\* \textcrlambda -> \barlambda (phonetic)  
16206 %\* \textcrlambda -> \lambdabar (txfonts/pxfonts)  
16207 %\* \textcrlambda -> \lambdaslash (txfonts/pxfonts)  
16208 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegrightlong;  
16209 % \textnrleg (tipx)  
16210 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E  
16211 %\* \textPUnrleg -> \textnrleg (tipx)  
16212 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthtp (tipa)  
16213 \DeclareTextCommand{\texthtp}{PU}{\81\245}% U+01A5  
16214 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;  
16215 % \textlhookt (tipa)  
16216 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB  
16217 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)  
16218 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD  
16219 % U+01B9 LATIN SMALL LETTER EZH REVERSED/  
16220 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)  
16221 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9  
16222 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)  
16223 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB  
16224 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;  
16225 % glottalinvertedstroke; \textcrinvglotstop (tipa)  
16226 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE  
16227 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)  
16228 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF  
16229 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickdental;  
16230 % \textpipe (tipa)  
16231 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0  
16232 %\* \textpipe -> \textpipevar (tipx)  
16233 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER  
16234 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)  
16235 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1  
16236 %\* \textdoublepipe -> \textdoublepipevar (tipx)  
16237 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOUBLE BAR;  
16238 % clickalveolar; \textdoublebarpipe (tipa)  
16239 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2

16240 %\* \textdoublebarpipe -> \textdoublebarpipevar (tipx)  
 16241 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 16242 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 16243 % U+01CE LATIN SMALL LETTER A WITH CARON; acarón  
 16244 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 16245 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 16246 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 16247 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 16248 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 16249 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 16250 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 16251 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 16252 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 16253 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 16254 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 16255 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
 16256 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
 16257 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
 16258 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)  
 16259 \DeclareTextCommand{\textinve}{PU}{\81\335}%\* U+01DD  
 16260 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
 16261 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
 16262 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
 16263 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
 16264 %\* \textgslash -> \textcrg (tipa)  
 16265 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
 16266 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
 16267 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
 16268 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
 16269 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
 16270 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
 16271 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
 16272 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
 16273 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
 16274 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
 16275 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
 16276 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
 16277 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
 16278 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
 16279 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
 16280 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
 16281 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
 16282 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
 16283 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
 16284 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
 16285 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
 16286 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
 16287 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9  
 16288 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
 16289 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
 16290 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
 16291 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
 16292 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;  
 16293 % \*Oslashacute, Ostrokeacute  
 16294 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
 16295 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;  
 16296 % \*oslashacute, ostrokeacute



16297 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
16298 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
16299 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
16300 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
16301 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
16302 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
16303 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
16304 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
16305 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
16306 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-  
edbreve  
16307 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206  
16308 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einverted-  
breve  
16309 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207  
16310 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
16311 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
16312 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
16313 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
16314 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
16315 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinverted-  
breve  
16316 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A  
16317 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-  
breve  
16318 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
16319 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
16320 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
16321 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
16322 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
16323 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
16324 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-  
edbreve  
16325 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E  
16326 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinvert-  
breve  
16327 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F  
16328 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
16329 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
16330 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
16331 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
16332 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
16333 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
16334 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
16335 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
16336 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-  
edbreve  
16337 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216  
16338 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinvert-  
breve  
16339 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217  
16340 % U+021E LATIN CAPITAL LETTER H WITH CARON  
16341 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
16342 % U+021F LATIN SMALL LETTER H WITH CARON  
16343 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
16344 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)  
16345 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221

16346 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)  
 16347 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225  
 16348 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 16349 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 16350 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 16351 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 16352 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 16353 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 16354 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 16355 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 16356 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 16357 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 16358 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 16359 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 16360 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 16361 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 16362 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 16363 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 16364 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)  
 16365 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235  
 16366 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)  
 16367 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236  
 16368 % U+0237 LATIN SMALL LETTER DOTLESS J  
 16369 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237  
 16370 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)  
 16371 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238  
 16372 %\* \textPUdblig -> \textdblig (tipx)  
 16373 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)  
 16374 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239  
 16375 %\* \textPUqplig -> \textqplig (tipx)  
 16376 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)  
 16377 \DeclareTextCommand{\textslashc}{PU}{\82\074}%\* U+023C  
 16378 %\* \textslashc -> \textcentoldstyle (textcomp)  
 16379 % With bar instead of stroke:  
 16380 %\* \textslashc -> \textbarc (tipa)

### 51.2.6 IPA Extensions: U+0250 to U+02AF

16381 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)  
 16382 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+0250  
 16383 %\* \textturna -> \inva (wasysym)  
 16384 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER  
 16385 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)  
 16386 \DeclareTextCommand{\textscripta}{PU}{\82\121}%\* U+0251  
 16387 %\* \textscripta -> \vara (phonetic)  
 16388 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;  
 16389 % \textturnscripta (tipa)  
 16390 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+0252  
 16391 %\* \textturnscripta -> \invscripta (wsuipa)  
 16392 %\* \textturnscripta -> \rotvara (phonetic)  
 16393 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)  
 16394 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+0253  
 16395 %\* \texthtb -> \hookb (wsuipa)  
 16396 %\* \texthtb -> \hausab (phonetic)  
 16397 % U+0254 LATIN SMALL LETTER OPEN O; oopen;  
 16398 % \textopeno (tipa), \openo (wasysym)  
 16399 \DeclareTextCommand{\textopeno}{PU}{\82\124}%\* U+0254  
 16400 %\* \textopeno -> \varopeno (phonetic)

16401 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)  
16402 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255  
16403 %\* \textctc -> \curlyc (wsuipa)  
16404 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)  
16405 \DeclareTextCommand{\textrtaild}{PU}{\82\126}%\* U+0256  
16406 %\* \textrtaild -> \taild (wsuipa)  
16407 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)  
16408 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257  
16409 %\* \texthtd -> \hookd (wsuipa)  
16410 %\* \texthtd -> \hausad (phonetic)  
16411 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;  
16412 % \textreve (tipa), \reve (wsuipa)  
16413 \DeclareTextCommand{\textreve}{PU}{\82\130}%\* U+0258  
16414 % U+0259 LATIN SMALL LETTER SCHWA; schwa;  
16415 % \textschwa (tipa), \schwa (wsuipa, phonetic)  
16416 \DeclareTextCommand{\textschwa}{PU}{\82\131}%\* U+0259  
16417 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;  
16418 % \textrhookschwa (tipa)  
16419 \DeclareTextCommand{\textrhookschwa}{PU}{\82\132}% U+025A  
16420 %\* \textrhookschwa -> \er (wsuipa)  
16421 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-  
SILON; eopen;  
16422 % \niepsilon (wsuipa)  
16423 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}%\* U+025B  
16424 %\* \textniepsilon -> \epsi (phonetic)  
16425 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;  
16426 % \textrevepsilon (tipa), \revepsilon (wsuipa)  
16427 \DeclareTextCommand{\textrevepsilon}{PU}{\82\134}%\* U+025C  
16428 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-  
reversedhook;  
16429 % \textrhookrevepsilon (tipa)  
16430 \DeclareTextCommand{\textrhookrevepsilon}{PU}{\82\135}%\* U+025D  
16431 %\* \textrhookrevepsilon -> \hookrevepsilon (wsuipa)  
16432 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-  
versedclosed;  
16433 % \textcloserevepsilon (tipa)  
16434 \DeclareTextCommand{\textcloserevepsilon}{PU}{\82\136}% U+025E  
16435 %\* \textcloserevepsilon -> \closedrevepsilon (wsuipa)  
16436 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-  
lessstroke;  
16437 % \textbardotlessj (tipa)  
16438 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F  
16439 %\* \textbardotlessj -> \barj (phonetic)  
16440 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)  
16441 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260  
16442 %\* \texthtg -> \hookg (wsuipa)  
16443 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;  
16444 % \textscriptg (tipa), \scriptg (wsuipa)  
16445 \DeclareTextCommand{\textscriptg}{PU}{\82\141}%\* U+0261  
16446 %\* \textscriptg -> \varg (phonetic)  
16447 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)  
16448 \DeclareTextCommand{\textscg}{PU}{\82\142}%\* U+0262  
16449 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinismall;  
16450 % \ipagamma (wsuipa), \vod (phonetic)  
16451 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%\* U+0263  
16452 %\* \textipagamma -> \vod (pnonetic)  
16453 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;

16454 % \babygamma (wsuipa)  
16455 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%\* U+0264  
16456 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)  
16457 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265  
16458 %\* \textturnh -> \invh (wsuipa)  
16459 %\* \textturnh -> \udesc (phonetic)  
16460 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)  
16461 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266  
16462 %\* \texthth -> \hookh (wsuipa)  
16463 %\* \texthth -> \voicedh (phonetic)  
16464 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \texththeng (tipa)  
16465 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267  
16466 %\* \texththeng -> \hookheng (wsuipa)  
16467 % U+0268 LATIN SMALL LETTER I WITH STROKE;  
16468 % \textbari (tipa), \bari (wsuipa)  
16469 \DeclareTextCommand{\textbari}{PU}{\82\150}%\* U+0268  
16470 %\* \textbari -> \ibar (phonetic)  
16471 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \nniota (wsuipa)  
16472 \DeclareTextCommand{\textnniota}{PU}{\82\151}%\* U+0269  
16473 %\* \textnniota -> \vari (phonetic)  
16474 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)  
16475 \DeclareTextCommand{\textsci}{PU}{\82\152}%\* U+026A  
16476 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;  
16477 % \textltilde (tipa)  
16478 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B  
16479 %\* \textltilde -> \tildel (wsuipa)  
16480 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)  
16481 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C  
16482 %\* \textbeltl -> \latfric (wsuipa)  
16483 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;  
16484 % \hookretroflex; \textrtaill (tipa)  
16485 \DeclareTextCommand{\textrtaill}{PU}{\82\155}% U+026D  
16486 %\* \textrtaill -> \taill (wsuipa)  
16487 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)  
16488 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E  
16489 %\* \textlyoghlig -> \lz (wsuipa)  
16490 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)  
16491 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F  
16492 %\* \textturnm -> \invm (wsuipa)  
16493 %\* \textturnm -> \rotm (phonetic)  
16494 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlonglegturned;  
16495 % \textturnmrleg (tipa)  
16496 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270  
16497 %\* \textturnmrleg -> \legm (wsuipa)  
16498 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)  
16499 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271  
16500 %\* \textltailm -> \labdentalnas (wsuipa)  
16501 %\* \textltailm -> \emgma (phonetic)  
16502 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textltailn (tipa)  
16503 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272  
16504 %\* \textltailn -> \nj (wsuipa)  
16505 %\* \textltailn -> \enya (phonetic)  
16506 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;  
16507 % \hookretroflex; \textrtailn (tipa)

16508 \DeclareTextCommand{\texttrtailn}{PU}{\82\163}% U+0273  
16509 %\* \texttrtailn -> \tailn (wsuipa)  
16510 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)  
16511 \DeclareTextCommand{\textscn}{PU}{\82\164}%\* U+0274  
16512 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/  
16513 % LATIN CAPITAL LETTER BARRED O; obarred;  
16514 % \textbaro (tipa), \baro (wsuipa)  
16515 % But \baro from stmaryrd is different!  
16516 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275  
16517 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscoe (tipa)  
16518 \DeclareTextCommand{\textscoe}{PU}{\82\166}% U+0276  
16519 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;  
16520 % \textcloseomega (tipa)  
16521 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277  
16522 %\* \textcloseomega -> \closedniomega (wsuipa)  
16523 %\* \textcloseomega -> \varomega (phonetic)  
16524 % U+0278 LATIN SMALL LETTER PHI; philatin; \nippi (wsuipa)  
16525 \DeclareTextCommand{\textnippi}{PU}{\82\170}%\* U+0278  
16526 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)  
16527 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279  
16528 %\* \textturnr -> \invr (wsuipa)  
16529 %\* \textturnr -> \rotr (phonetic)  
16530 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;  
16531 % rlonglegturned; \textturnlongleg (tipa)  
16532 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A  
16533 %\* \textturnlongleg -> \invleg (wsuipa)  
16534 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhocturned;  
16535 % \textturnrrtail (tipa)  
16536 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B  
16537 %\* \textturnrrtail -> \tailinvr (wsuipa)  
16538 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlongleg (tipa)  
16539 \DeclareTextCommand{\textlongleg}{PU}{\82\174}%\* U+027C  
16540 %\* \textlongleg -> \leg (wsuipa)  
16541 % U+027D LATIN SMALL LETTER R WITH TAIL; rhoct; \texttrtail (tipa)  
16542 \DeclareTextCommand{\texttrtail}{PU}{\82\175}% U+027D  
16543 %\* \texttrtail -> \tailr (wsuipa)  
16544 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;  
16545 % \textfishhookr (tipa)  
16546 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E  
16547 %\* \textfishhookr -> \flapr (wsuipa)  
16548 %\* \textfishhookr -> \flap (phonetic)  
16549 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfishhookreversed;  
16550 % \textlhtlongi (tipa)  
16551 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F  
16552 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)  
16553 \DeclareTextCommand{\textscr}{PU}{\82\200}%\* U+0280  
16554 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;  
16555 % \textinvscr (tipa), \invscr (wsuipa)  
16556 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%\* U+0281  
16557 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \texttrails (tipa)  
16558 \DeclareTextCommand{\texttrails}{PU}{\82\202}% U+0282  
16559 %\* \texttrails -> \tails (wsuipa)  
16560 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)  
16561 \DeclareTextCommand{\textesh}{PU}{\82\203}%\* U+0283  
16562 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;

16563 % dotlessjstrokehook; \texthtbardotlessj (tipa)  
16564 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284  
16565 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquatre-  
versed;  
16566 % \textvibyi (tipa)  
16567 \DeclareTextCommand{\textvibyi}{PU}{\82\205}% U+0285  
16568 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)  
16569 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286  
16570 %\* \textctesh -> \curlyesh (wsuipa)  
16571 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)  
16572 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287  
16573 %\* \textturnt -> \clickt (wsuipa)  
16574 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflex-  
hook;  
16575 % \textrtailt (tipa)  
16576 \DeclareTextCommand{\textrtailt}{PU}{\82\210}% U+0288  
16577 %\* \textrtailt -> \tailt (wsuipa)  
16578 % U+0289 LATIN SMALL LETTER U BAR; ubar;  
16579 % \textbaru (tipa), \baru (wsuipa)  
16580 \DeclareTextCommand{\textbaru}{PU}{\82\211}%\* U+0289  
16581 %\* \textbaru -> \ubar (phonetic)  
16582 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)  
16583 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%\* U+028A  
16584 %\* \textniupsilon -> \rotOmega (phonetic)  
16585 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LET-  
TER SCRIPT V;  
16586 % vhook; \textscriptv (tipa), \scriptv (wsuipa)  
16587 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%\* U+028B  
16588 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)  
16589 \DeclareTextCommand{\textturnv}{PU}{\82\214}%\* U+028C  
16590 %\* \textturnv -> \invv (wsuipa)  
16591 %\* \textturnv -> \pwedge (phonetic)  
16592 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)  
16593 \DeclareTextCommand{\textturnw}{PU}{\82\215}%\* U+028D  
16594 %\* \textturnw -> \invw (wsuipa)  
16595 %\* \textturnw -> \rotw (phonetic)  
16596 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)  
16597 \DeclareTextCommand{\textturny}{PU}{\82\216}%\* U+028E  
16598 %\* \textturny -> \invy (wsuipa)  
16599 %\* \textturny -> \roty (phonetic)  
16600 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)  
16601 \DeclareTextCommand{\textscy}{PU}{\82\217}%\* U+028F  
16602 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-  
hook;  
16603 % \textrtailz (tipa)  
16604 \DeclareTextCommand{\textrtailz}{PU}{\82\220}% U+0290  
16605 %\* \textrtailz -> \tailz (wsuipa)  
16606 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)  
16607 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291  
16608 %\* \textctz -> \curlyz (wsuipa)  
16609 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;  
16610 % \textyogh (tipa), \yogh (wsuipa)  
16611 \DeclareTextCommand{\textyogh}{PU}{\82\222}%\* U+0292  
16612 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LET-  
TER YOGH CURL;  
16613 % ezhcurl; \textctyogh (tipa)  
16614 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293

16615 %\* \textctyogh -> \curlyyogh (wsuipa)  
16616 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;  
16617 % \textglotstop (tipa), \glotstop (wsuipa)  
16618 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%\* U+0294  
16619 %\* \textglotstop -> \ejective (wsuipa)  
16620 %\* \textglotstop -> \glottal (phonetic)  
16621 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/  
16622 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;  
16623 % \textrevglotstop (tipa), \revglotstop (wsuipa)  
16624 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%\* U+0295  
16625 %\* \textrevglotstop -> \reveject (wsuipa)  
16626 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;  
16627 % \textinvglotstop (tipa), \invglotstop (wsuipa)  
16628 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%\* U+0296  
16629 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)  
16630 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297  
16631 %\* \textstretchc -> \clickc (wsuipa)  
16632 %\* \textstretchc -> \textstretchcvar (tipx)  
16633 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;  
16634 % \textbullseye (tipa)  
16635 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298  
16636 %\* \textbullseye -> \clickb (wsuipa)  
16637 %\* \textbullseye -> \textObullseye (tipx)  
16638 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)  
16639 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299  
16640 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;  
16641 % \textcloseepsilon (tipa)  
16642 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A  
16643 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;  
16644 % \texthtscg (tipa)  
16645 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B  
16646 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)  
16647 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C  
16648 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossted-tail; \textcdj (tipa)  
16649 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D  
16650 %\* \textctj -> \textctjvar (tipx)  
16651 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)  
16652 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E  
16653 %\* \textturnk -> \textturnsck (tipx)  
16654 % U+029F LATIN LETTER SMALL CAPITAL L; \textscL (tipa)  
16655 \DeclareTextCommand{\textscL}{PU}{\82\237}% U+029F  
16656 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)  
16657 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0  
16658 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-stroke;  
16659 % \textbarglotstop (tipa)  
16660 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1  
16661 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/  
16662 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokereversed;  
16663 % \textbarrevglotstop (tipa)  
16664 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2  
16665 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)  
16666 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3  
16667 %\* \textdzlig -> \dz (wsupipa)

16668 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyoghlig (tipa)  
 16669 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4  
 16670 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;  
 16671 % \textdctzlig (tipa)  
 16672 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5  
 16673 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)  
 16674 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6  
 16675 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \textteshlig (tipa)  
 16676 \DeclareTextCommand{\textteshlig}{PU}{\82\247}% U+02A7  
 16677 %\* \textteshlig -> \tesh (wsuipa)  
 16678 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;  
 16679 % \texttctclig (tipa)  
 16680 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8  
 16681 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;  
 16682 % \textlhtlongy (tipa)  
 16683 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE  
 16684 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;  
 16685 % \textvibyy (tipa)  
 16686 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

### 51.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

16687 % U+02BD MODIFIER LETTER REVERSED COMMA;  
 16688 % commareversedmod, afi64937; \textrevapostrophe (tipa)  
 16689 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD  
 16690 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;  
 16691 % \textraiseglotstop (tipa)  
 16692 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0  
 16693 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;  
 16694 % \textlptr (tipa)  
 16695 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2  
 16696 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;  
 16697 % \textrptr (tipa)  
 16698 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3  
 16699 % U+02C7 CARON; caron  
 16700 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 16701 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticallinemod;  
 16702 % \textprimstress (tipa)  
 16703 \DeclareTextCommand{\textprimstress}{PU}{\82\310}% U+02C8  
 16704 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticallinelowmod;  
 16705 % \textsecstress (tipa)  
 16706 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC  
 16707 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; colontriangularmod;  
 16708 % \textlengthmark (tipa)  
 16709 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0  
 16710 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangularhalfmod;  
 16711 % \texthalflength (tipa)  
 16712 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1  
 16713 % U+02D8 BREVE; breve  
 16714 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 16715 % U+02D9 DOT ABOVE; dotaccent  
 16716 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 16717 % U+02DA RING ABOVE; ring  
 16718 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 16719 % U+02DB OGONEK; ogonek  
 16720 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB



16721 % U+02DC SMALL TILDE; ilde, \*tilde  
 16722 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 16723 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 16724 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 16725 \DeclareTextCommand{\textacutedbl}{PU}{\82\335}% U+02DD  
 16726 % U+02F3 MODIFIER LETTER LOW RING  
 16727 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3  
 16728 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 16729 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 16730 % U+02F7 MODIFIER LETTER LOW TILDE  
 16731 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7  
 16732 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; \textopencorner (tipa)  
 16733 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9  
 16734 % U+02FA MODIFIER LETTER END HIGH TONE; \textcorner (tipa)  
 16735 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

### 51.2.8 Combining Diacritical Marks: U+0300 to U+036F

16736 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 16737 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 16738 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 16739 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 16740 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
 16741 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 16742 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 16743 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 16744 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-  
 blecmb  
 16745 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

### 51.2.9 Greek and Coptic: U+0370 to U+03FF

16746 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 16747 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 16748 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 16749 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 16750 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos  
 16751 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 16752 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 16753 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 16754 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 16755 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 16756 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 16757 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 16758 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-  
 crontonos  
 16759 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 16760 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos  
 16761 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
 16762 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
 16763 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
 16764 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS;  
 16765 % iotadieresis-tonos  
 16766 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390  
 16767 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
 16768 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
 16769 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
 16770 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
 16771 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma; \Gamma (LaTeX)

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16772 \DeclareTextCommand{\textGamma}{PU}{\83\223}%* U+0393
16773 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta; \Delta (La-
      TeX)
16774 \DeclareTextCommand{\textDelta}{PU}{\83\224}%* U+0394
16775 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
16776 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
16777 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
16778 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
16779 % U+0397 GREEK CAPITAL LETTER ETA; Eta
16780 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
16781 % U+0398 GREEK CAPITAL LETTER THETA; Theta; \Theta (LaTeX)
16782 \DeclareTextCommand{\textTheta}{PU}{\83\230}%* U+0398
16783 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
16784 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
16785 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
16786 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
16787 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda; \Lambda (LaTeX)
16788 \DeclareTextCommand{\textLambda}{PU}{\83\233}%* U+039B
16789 % U+039C GREEK CAPITAL LETTER MU; Mu
16790 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
16791 % U+039D GREEK CAPITAL LETTER NU; Nu
16792 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
16793 % U+039E GREEK CAPITAL LETTER XI; Xi; \Xi (LaTeX)
16794 \DeclareTextCommand{\textXi}{PU}{\83\236}%* U+039E
16795 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
16796 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
16797 % U+03A0 GREEK CAPITAL LETTER PI; Pi
16798 \DeclareTextCommand{\textPi}{PU}{\83\240}%* U+03A0
16799 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
16800 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
16801 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma; \Sigma (LaTeX)
16802 \DeclareTextCommand{\textSigma}{PU}{\83\243}%* U+03A3
16803 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
16804 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
16805 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon; \Upsilon (LaTeX)
16806 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%* U+03A5
16807 % U+03A6 GREEK CAPITAL LETTER PHI; Phi; \Phi (LaTeX)
16808 \DeclareTextCommand{\textPhi}{PU}{\83\246}%* U+03A6
16809 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
16810 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
16811 % U+03A8 GREEK CAPITAL LETTER PSI; Psi; \Psi (LaTeX)
16812 \DeclareTextCommand{\textPsi}{PU}{\83\250}%* U+03A8
16813 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega;
16814 % \Omega (LaTeX)
16815 \DeclareTextCommand{\textOmega}{PU}{\83\251}%* U+03A9
16816 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
16817 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
16818 \DeclareTextCompositeCommand{\"}{PU}{\textIota}{\83\252}% U+03AA
16819 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
      silondieresis
16820 \DeclareTextCompositeCommand{\"}{PU}{\textUpsilon}{\83\253}% U+03AB
16821 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
16822 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}%* U+03AC
16823 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
16824 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}% U+03AD
16825 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
16826 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE

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16827 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotatonos
16828 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF
16829 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA
16830 % AND TONOS; upsilondieresisto
16831 \DeclareTextCompositeCommand{\"}{PU}{\textupsilonacute}{\83\260}% U+03B0
16832 % U+03B1 GREEK SMALL LETTER ALPHA; alpha; \alpha (LaTeX)
16833 \DeclareTextCommand{\textalpha}{PU}{\83\261}%* U+03B1
16834 % U+03B2 GREEK SMALL LETTER BETA; beta; \beta (LaTeX)
16835 \DeclareTextCommand{\textbeta}{PU}{\83\262}%* U+03B2
16836 % U+03B3 GREEK SMALL LETTER GAMMA; gamma; \gamma (LaTeX)
16837 \DeclareTextCommand{\textgamma}{PU}{\83\263}%* U+03B3
16838 % U+03B4 GREEK SMALL LETTER DELTA; delta; \delta (LaTeX)
16839 \DeclareTextCommand{\textdelta}{PU}{\83\264}%* U+03B4
16840 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon; \epsilon (LaTeX)
16841 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%* U+03B5
16842 % U+03B6 GREEK SMALL LETTER ZETA; zeta; \zeta (LaTeX)
16843 \DeclareTextCommand{\textzeta}{PU}{\83\266}%* U+03B6
16844 % U+03B7 GREEK SMALL LETTER ETA; eta; \eta (LaTeX)
16845 \DeclareTextCommand{\texteta}{PU}{\83\267}%* U+03B7
16846 % U+03B8 GREEK SMALL LETTER THETA; theta; \theta (LaTeX)
16847 \DeclareTextCommand{\texttheta}{PU}{\83\270}%* U+03B8
16848 % U+03B9 GREEK SMALL LETTER IOTA; iota; \iota (LaTeX)
16849 \DeclareTextCommand{\textiota}{PU}{\83\271}%* U+03B9
16850 % U+03BA GREEK SMALL LETTER KAPPA; kappa; \kappa (LaTeX)
16851 \DeclareTextCommand{\textkappa}{PU}{\83\272}%* U+03BA
16852 % U+03BB GREEK SMALL LETTER LAMDA; lambda; \lambda (LaTeX)
16853 \DeclareTextCommand{\textlambda}{PU}{\83\273}%* U+03BB
16854 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu; \mu (LaTeX)
16855 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%* U+03BC
16856 % U+03BD GREEK SMALL LETTER NU; nu; \nu (LaTeX)
16857 \DeclareTextCommand{\textnu}{PU}{\83\275}%* U+03BD
16858 % U+03BE GREEK SMALL LETTER XI; xi; \xi (LaTeX)
16859 \DeclareTextCommand{\textxi}{PU}{\83\276}%* U+03BE
16860 % U+03BF GREEK SMALL LETTER OMICRON; omicron
16861 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
16862 % U+03C0 GREEK SMALL LETTER PI; pi; \pi (LaTeX)
16863 \DeclareTextCommand{\textpi}{PU}{\83\300}%* U+03C0
16864 % U+03C1 GREEK SMALL LETTER RHO; rho; \rho (LaTeX)
16865 \DeclareTextCommand{\textrho}{PU}{\83\301}%* U+03C1
16866 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
16867 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%* U+03C2
16868 % U+03C3 GREEK SMALL LETTER SIGMA; sigma; \sigma (LaTeX)
16869 \DeclareTextCommand{\textsigma}{PU}{\83\303}%* U+03C3
16870 % U+03C4 GREEK SMALL LETTER TAU; tau; \tau (LaTeX)
16871 \DeclareTextCommand{\texttau}{PU}{\83\304}%* U+03C4
16872 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)
16873 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%* U+03C5
16874 % U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)
16875 \DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6
16876 % U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)
16877 \DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7
16878 % U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)
16879 \DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8
16880 % U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)
16881 \DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9
16882 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
16883 \DeclareTextCompositeCommand{\"}{PU}{\textiota}{\83\312}% U+03CA

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16884 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-  
silondieresis  
16885 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\313}% U+03CB  
16886 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos  
16887 \DeclareTextCompositeCommand{\'}{PU}{\textomicron}{\83\314}% U+03CC  
16888 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos  
16889 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD  
16890 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}% U+03CD  
16891 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos  
16892 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}% U+03CE  
16893 % U+03DA GREEK LETTER STIGMA; Stigmagreek  
16894 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA  
16895 % U+03DB GREEK SMALL LETTER STIGMA  
16896 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB  
16897 % U+03DC GREEK LETTER DIGAMMA; Digammagreek  
16898 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC  
16899 % U+03DD GREEK SMALL LETTER DIGAMMA  
16900 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD  
16901 %\* \textdigammagreek -> \digamma (AmS)  
16902 % U+03DE GREEK LETTER KOPPA; Koppagreek  
16903 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE  
16904 % U+03DF GREEK SMALL LETTER KOPPA  
16905 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF  
16906 % U+03E0 GREEK LETTER SAMPI; Sampigreek  
16907 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0  
16908 % U+03E1 GREEK SMALL LETTER SAMPI  
16909 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1  
16910 % U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;  
16911 % \backepsilon (AmS)  
16912 \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.

16913 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE  
16914 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400  
16915 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrilic, \*afii10023  
16916 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401  
16917 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\001}% U+0401  
16918 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, \*afii10051  
16919 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402  
16920 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afii10052  
16921 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403  
16922 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrilic, \*afii10053  
16923 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
16924 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afii10054  
16925 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
16926 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;  
16927 % Icyrrilic, \*afii10055  
16928 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
16929 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrrilic, \*afii10056  
16930 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
16931 \DeclareTextCompositeCommand{\'}{PU}{\CYRII}{\84\007}% U+0407  
16932 % U+0408 CYRILLIC CAPITAL LETTER JJE; Jecyrillic, \*afii10057  
16933 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
16934 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
16935 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409

16936 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
16937 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
16938 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
16939 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
16940 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
16941 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
16942 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
16943 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D  
16944 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
16945 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
16946 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
16947 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
16948 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
16949 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
16950 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
16951 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
16952 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
16953 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
16954 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
16955 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
16956 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
16957 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
16958 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
16959 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
16960 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
16961 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
16962 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
16963 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
16964 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
16965 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
16966 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
16967 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
16968 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
16969 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
16970 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
16971 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
16972 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
16973 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
16974 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
16975 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
16976 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
16977 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
16978 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
16979 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
16980 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
16981 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
16982 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
16983 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
16984 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
16985 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
16986 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
16987 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
16988 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
16989 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
16990 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
16991 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
16992 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039

16993 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
16994 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
16995 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
16996 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
16997 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
16998 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
16999 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
17000 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
17001 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
17002 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;  
17003 % Hardsigncyrillic, \*afii10044  
17004 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
17005 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
17006 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
17007 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;  
17008 % Softsigncyrillic, \*afii10046  
17009 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
17010 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
17011 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
17012 % U+042E CYRILLIC CAPITAL LETTER YU; IUCyrillic, \*afii10048  
17013 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
17014 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
17015 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
17016 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
17017 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
17018 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
17019 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
17020 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
17021 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
17022 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
17023 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
17024 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
17025 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
17026 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
17027 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
17028 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
17029 \DeclareTextCommand{\cyrrzh}{PU}{\84\066}% U+0436  
17030 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
17031 \DeclareTextCommand{\cyrrz}{PU}{\84\067}% U+0437  
17032 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
17033 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
17034 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
17035 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
17036 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
17037 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
17038 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
17039 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
17040 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B  
17041 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
17042 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
17043 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
17044 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
17045 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
17046 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
17047 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
17048 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
17049 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic

17050 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
17051 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
17052 \DeclareTextCommand{\cyr s}{PU}{\84\101}% U+0441  
17053 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
17054 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
17055 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
17056 \DeclareTextCommand{\cyr u}{PU}{\84\103}% U+0443  
17057 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
17058 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
17059 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
17060 \DeclareTextCommand{\cyr h}{PU}{\84\105}% U+0445  
17061 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
17062 \DeclareTextCommand{\cyr c}{PU}{\84\106}% U+0446  
17063 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
17064 \DeclareTextCommand{\cyr ch}{PU}{\84\107}% U+0447  
17065 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
17066 \DeclareTextCommand{\cyr sh}{PU}{\84\110}% U+0448  
17067 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
17068 \DeclareTextCommand{\cyr shch}{PU}{\84\111}% U+0449  
17069 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
17070 \DeclareTextCommand{\cyr hrdsn}{PU}{\84\112}% U+044A  
17071 %\* \cyr hrdsn -> \hardsign (tipa)  
17072 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
17073 \DeclareTextCommand{\cyr ery}{PU}{\84\113}% U+044B  
17074 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
17075 \DeclareTextCommand{\cyr sftsn}{PU}{\84\114}% U+044C  
17076 %\* \cyr sftsn -> \softsign (tipa)  
17077 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
17078 \DeclareTextCommand{\cyr rerev}{PU}{\84\115}% U+044D  
17079 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
17080 \DeclareTextCommand{\cyr yu}{PU}{\84\116}% U+044E  
17081 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
17082 \DeclareTextCommand{\cyr ya}{PU}{\84\117}% U+044F  
17083 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
17084 \DeclareTextCompositeCommand{\`}{PU}{\cyr e}{\84\120}% U+0450  
17085 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
17086 \DeclareTextCommand{\cyr yo}{PU}{\84\121}% U+0451  
17087 \DeclareTextCompositeCommand{\"}{PU}{\cyr e}{\84\121}% U+0451  
17088 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
17089 \DeclareTextCommand{\cyr dje}{PU}{\84\122}% U+0452  
17090 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
17091 \DeclareTextCompositeCommand{\'}{PU}{\cyr g}{\84\123}% U+0453  
17092 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
17093 \DeclareTextCommand{\cyr ie}{PU}{\84\124}% U+0454  
17094 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
17095 \DeclareTextCommand{\cyr dze}{PU}{\84\125}% U+0455  
17096 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;  
17097 % \*afii10103, icyrillic  
17098 \DeclareTextCommand{\cyr ii}{PU}{\84\126}% U+0456  
17099 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
17100 \DeclareTextCommand{\cyr yi}{PU}{\84\127}% U+0457  
17101 \DeclareTextCompositeCommand{\"}{PU}{\cyr ii}{\84\127}% U+0457  
17102 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
17103 \DeclareTextCommand{\cyr je}{PU}{\84\130}% U+0458  
17104 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
17105 \DeclareTextCommand{\cyr lje}{PU}{\84\131}% U+0459

17106 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
17107 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
17108 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
17109 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
17110 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
17111 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
17112 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
17113 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
17114 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
17115 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
17116 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
17117 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
17118 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
17119 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
17120 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
17121 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
17122 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
17123 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
17124 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
17125 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
17126 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
17127 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
17128 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
17129 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
17130 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
17131 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
17132 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
17133 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
17134 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
17135 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-  
otifiedcyrillic  
17136 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
17137 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitlei-  
otifiedcyrillic  
17138 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
17139 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
17140 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
17141 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
17142 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
17143 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
cyrillic  
17144 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
17145 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-  
cyrillic  
17146 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
17147 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
17148 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
17149 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
17150 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
17151 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
17152 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
17153 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
17154 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
17155 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
17156 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
17157 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
17158 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473



17159 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
 17160 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
 17161 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
 17162 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
 17163 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE  
 17164 % GRAVE ACCENT; Izhitsadblgravecyrillic  
 17165 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
 17166 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE  
 17167 % GRAVE ACCENT; izhitsadblgravecyrillic  
 17168 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
 17169 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
 17170 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
 17171 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
 17172 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 17173 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
 17174 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
 17175 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 17176 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 17177 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
 17178 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 17179 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
 17180 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 17181 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 17182 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 17183 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 17184 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 17185 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 17186 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 17187 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 17188 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 17189 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 17190 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb  
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrilliccmb  
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrilliccmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrilliccmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 17191 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 17192 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 17193 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 17194 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 17195 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 17196 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 17197 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 17198 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 17199 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 17200 \DeclareTextCommand{\CYRRRTICK}{PU}{\84\216}% U+048E  
 17201 % U+048F CYRILLIC SMALL LETTER ER WITH TICK

17202 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 17203 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-  
 cyrillic, \*afii10050  
 17204 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
 17205 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, ghe-  
 upturncyrillic  
 17206 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
 17207 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-  
 cyrillic  
 17208 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
 17209 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
 17210 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
 17211 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;  
 17212 % Ghemiddlehookcyrillic  
 17213 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
 17214 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;  
 17215 % ghemiddlehookcyrillic  
 17216 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
 17217 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;  
 17218 % Zhedescendercyrillic  
 17219 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
 17220 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;  
 17221 % zhedescendercyrillic  
 17222 \DeclareTextCommand{\cyrzhsc}{PU}{\84\227}% U+0497  
 17223 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-  
 dercyrillic  
 17224 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
 17225 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
 17226 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-  
 cyrillic  
 17227 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
 17228 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
 17229 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-  
 dercyrillic  
 17230 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
 17231 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescen-  
 dercyrillic  
 17232 \DeclareTextCommand{\cyrkds}{PU}{\84\233}% U+049B  
 17233 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;  
 17234 % Kavertikalstrokecyrillic  
 17235 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
 17236 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;  
 17237 % kavertikalstrokecyrillic  
 17238 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
 17239 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
 17240 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
 17241 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
 17242 \DeclareTextCommand{\cyrkcrs}{PU}{\84\237}% U+049F  
 17243 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
 17244 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
 17245 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
 17246 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
 17247 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-  
 dercyrillic  
 17248 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
 17249 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-  
 cyrillic

17250 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
17251 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
17252 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
17253 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
17254 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
17255 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
17256 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
17257 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
17258 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
17259 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
17260 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
17261 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
17262 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
17263 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
17264 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
17265 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
17266 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
17267 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
17268 \DeclareTextCompositeCommand{\k}{PU}{\cys}{\84\253}% U+04AB  
17269 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
17270 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
17271 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
17272 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD  
17273 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
17274 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
17275 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
17276 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF  
17277 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
17278 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
17279 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic  
17280 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1  
17281 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesdescendercyrillic  
17282 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
17283 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
17284 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
17285 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
17286 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
17287 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
17288 \DeclareTextCommand{\cyr tetse}{PU}{\84\265}% U+04B5  
17289 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;  
17290 % Chedescendercyrillic  
17291 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
17292 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
17293 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
17294 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;

17295 % Cheverticalstrokecyrillic  
17296 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
17297 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;  
17298 % cheverticalstrokecyrillic  
17299 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
17300 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
17301 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
17302 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
17303 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
17304 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-  
cyrillic  
17305 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
17306 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-  
lic  
17307 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
17308 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; Chedescenderabkhasiancyrillic  
17309 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
17310 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
17311 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; chedescenderabkhasiancyrillic  
17312 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
17313 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
17314 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
17315 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
17316 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
17317 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
17318 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
17319 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
17320 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
17321 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
17322 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
17323 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
17324 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
17325 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
17326 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
17327 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
17328 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
17329 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
17330 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
17331 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
17332 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-  
siancyrillic  
17333 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
17334 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-  
cyrillic  
17335 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
17336 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
17337 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
17338 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
17339 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
17340 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
17341 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
17342 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
17343 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1

17344 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic  
17345 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2  
17346 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
17347 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3  
17348 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
17349 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
17350 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
17351 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
17352 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevescyrillic  
17353 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
17354 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevescyrillic  
17355 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
17356 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
17357 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
17358 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
17359 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
17360 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;  
17361 % Schwadiesiscyrillic  
17362 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
17363 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;  
17364 % schwadiesiscyrillic  
17365 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB  
17366 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresiscyrillic  
17367 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC  
17368 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic  
17369 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\335}% U+04DD  
17370 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic  
17371 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE  
17372 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic  
17373 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF  
17374 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic  
17375 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
17376 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic  
17377 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
17378 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
17379 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2  
17380 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
17381 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3  
17382 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
17383 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
17384 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
17385 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5  
17386 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
17387 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
17388 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
17389 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
17390 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
17391 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
17392 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic

17393 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
17394 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;  
17395 % Obarreddieresis Cyrillic  
17396 \DeclareTextCompositeCommand{\"}{PU}{\CYROTLD}{\84\352}% U+04EA  
17397 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;  
17398 % obarreddieresis Cyrillic  
17399 \DeclareTextCompositeCommand{\"}{PU}{\cyrotld}{\84\353}% U+04EB  
17400 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
17401 \DeclareTextCompositeCommand{\"}{PU}{\CYREREV}{\84\354}% U+04EC  
17402 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
17403 \DeclareTextCompositeCommand{\"}{PU}{\cyreref}{\84\355}% U+04ED  
17404 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacron Cyrillic  
17405 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U+04EE  
17406 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacron Cyrillic  
17407 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF  
17408 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresis Cyrillic  
17409 \DeclareTextCompositeCommand{\"}{PU}{\CYRU}{\84\360}% U+04F0  
17410 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresis Cyrillic  
17411 \DeclareTextCompositeCommand{\"}{PU}{\cyru}{\84\361}% U+04F1  
17412 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlaut Cyrillic  
17413 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
17414 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlaut Cyrillic  
17415 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
17416 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresis Cyrillic  
17417 \DeclareTextCompositeCommand{\"}{PU}{\CYRCH}{\84\364}% U+04F4  
17418 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresis Cyrillic  
17419 \DeclareTextCompositeCommand{\"}{PU}{\cyrch}{\84\365}% U+04F5  
17420 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
17421 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
17422 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
17423 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
17424 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresis Cyrillic  
17425 \DeclareTextCompositeCommand{\"}{PU}{\CYRERY}{\84\370}% U+04F8  
17426 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresis Cyrillic  
17427 \DeclareTextCompositeCommand{\"}{PU}{\cyrery}{\84\371}% U+04F9  
\84\372: U+04FA CYRILLIC CAPITAL LETTER GHE WITH STROKE AND HOOK  
\84\373: U+04FB CYRILLIC SMALL LETTER GHE WITH STROKE AND HOOK  
17428 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
17429 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
17430 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
17431 \DeclareTextCommand{\cyrhkh}{PU}{\84\375}% U+04FD  
\84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE  
\84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

### 51.2.11 Hebrew: U+0590 to U+05FF

Macro names are taken from `he8enc.def`.

17432 % U+05C3 HEBREW PUNCTUATION SOF PASUQ  
 17433 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3  
 17434 % U+05D0 HEBREW LETTER ALEF  
 17435 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0  
 17436 % U+05D1 HEBREW LETTER BET  
 17437 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1  
 17438 % U+05D2 HEBREW LETTER GIMEL  
 17439 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2  
 17440 % U+05D3 HEBREW LETTER DALET  
 17441 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3  
 17442 % U+05D4 HEBREW LETTER HE  
 17443 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4  
 17444 % U+05D5 HEBREW LETTER VAV  
 17445 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5  
 17446 % U+05D6 HEBREW LETTER ZAYIN  
 17447 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6  
 17448 % U+05D7 HEBREW LETTER HET  
 17449 \DeclareTextCommand{\hebhet}{PU}{\85\327}% U+05D7  
 17450 % U+05D8 HEBREW LETTER TET  
 17451 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8  
 17452 % U+05D9 HEBREW LETTER YOD  
 17453 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9  
 17454 % U+05DA HEBREW LETTER FINAL KAF  
 17455 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA  
 17456 % U+05DB HEBREW LETTER KAF  
 17457 \DeclareTextCommand{\hebkafe}{PU}{\85\333}% U+05DB  
 17458 % U+05DC HEBREW LETTER LAMED  
 17459 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC  
 17460 % U+05DD HEBREW LETTER FINAL MEM  
 17461 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD  
 17462 % U+05DE HEBREW LETTER MEM  
 17463 \DeclareTextCommand{\hebmem}{PU}{\85\336}% U+05DE  
 17464 % U+05DF HEBREW LETTER FINAL NUN  
 17465 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF  
 17466 % U+05E0 HEBREW LETTER NUN  
 17467 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0  
 17468 % U+05E1 HEBREW LETTER SAMEKH  
 17469 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1  
 17470 % U+05E2 HEBREW LETTER AYIN  
 17471 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2  
 17472 % U+05E3 HEBREW LETTER FINAL PE  
 17473 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3  
 17474 % U+05E4 HEBREW LETTER PE  
 17475 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4  
 17476 % U+05E5 HEBREW LETTER FINAL TSADI  
 17477 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5  
 17478 % U+05E6 HEBREW LETTER TSADI  
 17479 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6  
 17480 % U+05E7 HEBREW LETTER QOF  
 17481 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7  
 17482 % U+05E8 HEBREW LETTER RESH  
 17483 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8  
 17484 % U+05E9 HEBREW LETTER SHIN  
 17485 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9  
 17486 %\* \hebshin -> \hebsin (he8)  
 17487 % U+05EA HEBREW LETTER TAV  
 17488 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA

17489 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV  
 17490 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0  
 17491 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD  
 17492 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1  
 17493 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD  
 17494 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2

### 51.2.12 Thai: U+0E00 to U+0E7F

17495 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 17496 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

### 51.2.13 Phonetic Extensions: U+1D00 to U+1D7F

17497 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textscA (tipa)  
 17498 \DeclareTextCommand{\textscA}{PU}{\9035\000}% U+1D00  
 17499 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)  
 17500 \DeclareTextCommand{\textscd}{PU}{\9035\005}%\* U+1D05  
 17501 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textscE (tipa)  
 17502 \DeclareTextCommand{\textscE}{PU}{\9035\007}% U+1D07  
 17503 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscJ (tipa)  
 17504 \DeclareTextCommand{\textscJ}{PU}{\9035\012}% U+1D0A  
 17505 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textscK (tipx)  
 17506 \DeclareTextCommand{\textPUscK}{PU}{\9035\013}% U+1D0B  
 17507 %\* \textPUscK -> \textscK (tipx)  
 17508 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscM (tipx)  
 17509 \DeclareTextCommand{\textPUscM}{PU}{\9035\015}% U+1D0D  
 17510 %\* \textPUscM -> \textscM (tipx)  
 17511 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscP (tipx)  
 17512 \DeclareTextCommand{\textPUscP}{PU}{\9035\030}% U+1D18  
 17513 %\* \textPUscP -> \textscP (tipx)  
 17514 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)  
 17515 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19  
 17516 %\* \textPUrevscr -> \textrevscr (tipx)  
 17517 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscU (tipa), \scu (wsuipa)  
 17518 \DeclareTextCommand{\textscU}{PU}{\9035\034}%\* U+1D1C  
 17519 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I  
 17520 \DeclareTextCommand{\textiiinferior}{PU}{\9035\142}%\* U+1D62  
 17521 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R  
 17522 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}%\* U+1D63  
 17523 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U  
 17524 \DeclareTextCommand{\textuiinferior}{PU}{\9035\144}%\* U+1D64  
 17525 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V  
 17526 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}%\* U+1D65  
 17527 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA  
 17528 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}%\* U+1D66  
 17529 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA  
 17530 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}%\* U+1D67  
 17531 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO  
 17532 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}%\* U+1D68  
 17533 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI  
 17534 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}%\* U+1D69  
 17535 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI  
 17536 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}%\* U+1D6A  
 17537 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;  
 17538 % \barsci (wsuipa)  
 17539 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%\* U+1D7B  
 17540 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)



17541 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%\* U+1D7D  
 17542 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;  
 17543 % \barscu (wsuipa)  
 17544 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%\* U+1D7E

#### 51.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

17545 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-  
 trhooka (tipx)  
 17546 \DeclareTextCommand{\textPurhooka}{PU}{\9035\217}% U+1D8F  
 17547 %\* \textPurhooka -> \textrhooka (tipx)  
 17548 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-  
 taild (tipa)  
 17549 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%\* U+1D91  
 17550 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-  
 trhooke (tipx)  
 17551 \DeclareTextCommand{\textPurhooke}{PU}{\9035\222}% U+1D92  
 17552 %\* \textPurhooke -> \textrhooke (tipx)  
 17553 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;  
 17554 % \textrhookepsilon (tipx)  
 17555 \DeclareTextCommand{\textPurhookepsilon}{PU}{\9035\223}% U+1D93  
 17556 %\* \textPurhookepsilon -> \textrhookepsilon (tipx)  
 17557 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;  
 17558 % \textrhookopeno (tipx)  
 17559 \DeclareTextCommand{\textPurhookopeno}{PU}{\9035\227}% U+1D97  
 17560 %\* \textPurhookopeno -> \textrhookopeno (tipx)

#### 51.2.15 Latin Extended Additional: U+1E00 to U+1EFF

17561 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow  
 17562 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00  
 17563 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow  
 17564 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01  
 17565 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 17566 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02  
 17567 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 17568 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03  
 17569 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow  
 17570 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04  
 17571 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow  
 17572 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05  
 17573 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 17574 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
 17575 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
 17576 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
 17577 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
 17578 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
 17579 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
 17580 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
 17581 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow  
 17582 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C  
 17583 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow  
 17584 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D  
 17585 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
 17586 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
 17587 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
 17588 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
 17589 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
 17590 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10

17591 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
17592 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
17593 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-  
cumflexbelow  
17594 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12  
17595 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-  
cumflexbelow  
17596 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13  
17597 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;  
17598 % Emacrongrave  
17599 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14  
17600 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;  
17601 % emacrongrave  
17602 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15  
17603 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;  
17604 % Emacronacute  
17605 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16  
17606 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;  
17607 % emacronacute  
17608 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17  
17609 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-  
cumflexbelow  
17610 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18  
17611 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-  
cumflexbelow  
17612 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19  
17613 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow  
17614 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A  
17615 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow  
17616 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B  
17617 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
17618 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
17619 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
17620 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
17621 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
17622 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
17623 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
17624 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
17625 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
17626 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
17627 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
17628 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
17629 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow  
17630 \DeclareTextCompositeCommand{\d}{PU}{H}{\9036\044}% U+1E24  
17631 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow  
17632 \DeclareTextCompositeCommand{\d}{PU}{h}{\9036\045}% U+1E25  
17633 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
17634 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
17635 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
17636 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27  
17637 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
17638 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
17639 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
17640 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
17641 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow  
17642 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A  
17643 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow

17644 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B  
17645 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; itildebelow  
17646 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\054}% U+1E2C  
17647 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow  
17648 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D  
17649 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
17650 \DeclareTextCompositeCommand{'}{PU}{K}{\9036\060}% U+1E30  
17651 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
17652 \DeclareTextCompositeCommand{'}{PU}{k}{\9036\061}% U+1E31  
17653 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow  
17654 \DeclareTextCompositeCommand{d}{PU}{K}{\9036\062}% U+1E32  
17655 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow  
17656 \DeclareTextCompositeCommand{d}{PU}{k}{\9036\063}% U+1E33  
17657 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
17658 \DeclareTextCompositeCommand{b}{PU}{K}{\9036\064}% U+1E34  
17659 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
17660 \DeclareTextCompositeCommand{b}{PU}{k}{\9036\065}% U+1E35  
17661 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow  
17662 \DeclareTextCompositeCommand{d}{PU}{L}{\9036\066}% U+1E36  
17663 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow  
17664 \DeclareTextCompositeCommand{d}{PU}{l}{\9036\067}% U+1E37  
17665 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
17666 \DeclareTextCompositeCommand{b}{PU}{L}{\9036\072}% U+1E3A  
17667 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
17668 \DeclareTextCompositeCommand{b}{PU}{l}{\9036\073}% U+1E3B  
17669 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-  
cumflexbelow  
17670 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C  
17671 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-  
cumflexbelow  
17672 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D  
17673 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
17674 \DeclareTextCompositeCommand{'}{PU}{M}{\9036\076}% U+1E3E  
17675 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
17676 \DeclareTextCompositeCommand{'}{PU}{m}{\9036\077}% U+1E3F  
17677 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
17678 \DeclareTextCompositeCommand{.}{PU}{M}{\9036\100}% U+1E40  
17679 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
17680 \DeclareTextCompositeCommand{.}{PU}{m}{\9036\101}% U+1E41  
17681 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow  
17682 \DeclareTextCompositeCommand{d}{PU}{M}{\9036\102}% U+1E42  
17683 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow  
17684 \DeclareTextCompositeCommand{d}{PU}{m}{\9036\103}% U+1E43  
17685 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
17686 \DeclareTextCompositeCommand{.}{PU}{N}{\9036\104}% U+1E44  
17687 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
17688 \DeclareTextCompositeCommand{.}{PU}{n}{\9036\105}% U+1E45  
17689 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow  
17690 \DeclareTextCompositeCommand{d}{PU}{N}{\9036\106}% U+1E46  
17691 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow  
17692 \DeclareTextCompositeCommand{d}{PU}{n}{\9036\107}% U+1E47  
17693 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
17694 \DeclareTextCompositeCommand{b}{PU}{N}{\9036\110}% U+1E48  
17695 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
17696 \DeclareTextCompositeCommand{b}{PU}{n}{\9036\111}% U+1E49  
17697 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-  
cumflexbelow

17698 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A  
17699 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-  
cumflexbelow  
17700 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B  
17701 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;  
17702 % Omacrongrave  
17703 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50  
17704 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;  
17705 % omacrongrave  
17706 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51  
17707 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;  
17708 % Omacronacute  
17709 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52  
17710 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;  
17711 % omacronacute  
17712 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53  
17713 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
17714 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
17715 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
17716 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
17717 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
17718 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
17719 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
17720 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
17721 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
17722 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
17723 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
17724 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
17725 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow  
17726 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A  
17727 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow  
17728 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B  
17729 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
17730 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
17731 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
17732 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
17733 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
17734 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
17735 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
17736 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
17737 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow  
17738 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62  
17739 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow  
17740 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63  
17741 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent  
17742 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A  
17743 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent  
17744 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B  
17745 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow  
17746 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C  
17747 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow  
17748 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D  
17749 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
17750 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
17751 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
17752 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F

17753 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcircumflexbelow  
 17754 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70  
 17755 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcircumflexbelow  
 17756 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71  
 17757 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-  
 sisbelow  
 17758 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72  
 17759 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udiere-  
 sisbelow  
 17760 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73  
 17761 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow  
 17762 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74  
 17763 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow  
 17764 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75  
 17765 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucircumflexbelow  
 17766 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76  
 17767 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucircumflexbelow  
 17768 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77  
 17769 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
 17770 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
 17771 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
 17772 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
 17773 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow  
 17774 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E  
 17775 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow  
 17776 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F  
 17777 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
 17778 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
 17779 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
 17780 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
 17781 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
 17782 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
 17783 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
 17784 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
 17785 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
 17786 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
 17787 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
 17788 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
 17789 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
 17790 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
 17791 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
 17792 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
 17793 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow  
 17794 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88  
 17795 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow  
 17796 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89  
 17797 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
 17798 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
 17799 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
 17800 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
 17801 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
 17802 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
 17803 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis

17804 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
17805 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
17806 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
17807 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
17808 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
17809 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
17810 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90  
17811 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
17812 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
17813 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow  
17814 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92  
17815 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow  
17816 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93  
17817 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
17818 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
17819 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
17820 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
17821 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
17822 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
17823 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
17824 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
17825 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
17826 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
17827 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
17828 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
17829 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdo-  
taccent  
17830 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
17831 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow  
17832 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
17833 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow  
17834 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1  
17835 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow  
17836 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
17837 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow  
17838 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
17839 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
17840 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
17841 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
17842 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
17843 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow  
17844 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
17845 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow  
17846 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
17847 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow  
17848 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
17849 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow  
17850 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
17851 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow  
17852 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
17853 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow  
17854 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
17855 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
17856 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2  
17857 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
17858 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
17859 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow

17860 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4  
 17861 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow  
 17862 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 17863 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 17864 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 17865 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 17866 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

### 51.2.16 General Punctuation: U+2000 to U+206F

17867 % U+200C ZERO WIDTH NON-JOINER; \*afii61664, zerowidthnonjoiner  
 17868 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 17869 % U+2013 EN DASH; endash  
 17870 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 17871 % U+2014 EM DASH; emdash  
 17872 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 17873 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 17874 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 17875 %\* \textbardbl -> \textdoublevertline (tipa)  
 17876 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 17877 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 17878 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 17879 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 17880 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 17881 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 17882 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 17883 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 17884 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 17885 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 17886 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 17887 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 17888 % U+2020 DAGGER; dagger  
 17889 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%\* U+2020  
 17890 %\* \textdagger -> \dag (LaTeX)  
 17891 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
 17892 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 17893 %\* \textdaggerdbl -> \ddagger (LaTeX)  
 17894 %\* \textdaggerdbl -> \ddag (LaTeX)  
 17895 % U+2022 BULLET; bullet  
 17896 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%\* U+2022  
 17897 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)  
 17898 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%\* U+2025  
 17899 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 17900 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 17901 %\* \textellipsis -> \mathellipsis  
 17902 % U+2030 PER MILLE SIGN; perthousand  
 17903 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 17904 % U+2031 PER TEN THOUSAND SIGN  
 17905 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 17906 % U+2032 PRIME; minute; \prime (MnSymbol)  
 17907 \DeclareTextCommand{\textprime}{PU}{\9040\062}%\* U+2032  
 17908 % U+2033 DOUBLE PRIME; \second (mathabx)  
 17909 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%\* U+2033  
 17910 % U+2034 TRIPLE PRIME; \third (mathabx)  
 17911 \DeclareTextCommand{\textthird}{PU}{\9040\064}%\* U+2034  
 17912 % U+2035 REVERSED PRIME; \backprime (AmS)  
 17913 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%\* U+2035

17914 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 ingleft  
 17915 \DeclareTextCommand{\guilingleft}{PU}{\9040\071}% U+2039  
 17916 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 ingright  
 17917 \DeclareTextCommand{\guilsingright}{PU}{\9040\072}% U+203A  
 17918 % U+203B REFERENCE MARK; referencemark  
 17919 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 17920 % U+203D INTERROBANG  
 17921 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 17922 % U+2044 FRACTION SLASH; fraction  
 17923 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 17924 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 17925 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 17926 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 17927 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 17928 % U+2052 COMMERCIAL MINUS SIGN  
 17929 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052  
 17930 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)  
 17931 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%\* U+2056  
 17932 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)  
 17933 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%\* U+2057  
 17934 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)  
 17935 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%\* U+2058

### 51.2.17 Superscripts and Subscripts: U+2070 to U+209F

17936 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 17937 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%\* U+2070  
 17938 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I  
 17939 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%\* U+2071  
 17940 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 17941 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%\* U+2074  
 17942 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 17943 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%\* U+2075  
 17944 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 17945 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%\* U+2076  
 17946 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 17947 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%\* U+2077  
 17948 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 17949 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%\* U+2078  
 17950 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 17951 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%\* U+2079  
 17952 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 17953 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%\* U+207A  
 17954 % U+207B SUPERSCRIPT MINUS  
 17955 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%\* U+207B  
 17956 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 17957 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}%\* U+207C  
 17958 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 17959 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%\* U+207D  
 17960 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 17961 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%\* U+207E  
 17962 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 17963 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%\* U+207F  
 17964 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 17965 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%\* U+2080  
 17966 % U+2081 SUBSCRIPT ONE; oneinferior



17967 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%\* U+2081  
 17968 % U+2082 SUBSCRIPT TWO; twoinferior  
 17969 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%\* U+2082  
 17970 % U+2083 SUBSCRIPT THREE; threeinferior  
 17971 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}%\* U+2083  
 17972 % U+2084 SUBSCRIPT FOUR; fourinferior  
 17973 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%\* U+2084  
 17974 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 17975 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%\* U+2085  
 17976 % U+2086 SUBSCRIPT SIX; sixinferior  
 17977 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%\* U+2086  
 17978 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 17979 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%\* U+2087  
 17980 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 17981 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%\* U+2088  
 17982 % U+2089 SUBSCRIPT NINE; nineinferior  
 17983 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%\* U+2089  
 17984 % U+208A SUBSCRIPT PLUS SIGN  
 17985 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%\* U+208A  
 17986 % U+208B SUBSCRIPT MINUS  
 17987 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%\* U+208B  
 17988 % U+208C SUBSCRIPT EQUALS SIGN  
 17989 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%\* U+208C  
 17990 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 17991 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%\* U+208D  
 17992 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 17993 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%\* U+208E  
 17994 % U+2090 LATIN SUBSCRIPT SMALL LETTER A  
 17995 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%\* U+2090  
 17996 % U+2091 LATIN SUBSCRIPT SMALL LETTER E  
 17997 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%\* U+2091  
 17998 % U+2092 LATIN SUBSCRIPT SMALL LETTER O  
 17999 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%\* U+2092  
 18000 % U+2093 LATIN SUBSCRIPT SMALL LETTER X  
 18001 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%\* U+2093  
 18002 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA  
 18003 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%\* U+2094  
 18004 % U+2095 LATIN SUBSCRIPT SMALL LETTER H  
 18005 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%\* U+2095  
 18006 % U+2096 LATIN SUBSCRIPT SMALL LETTER K  
 18007 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%\* U+2096  
 18008 % U+2097 LATIN SUBSCRIPT SMALL LETTER L  
 18009 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%\* U+2097  
 18010 % U+2098 LATIN SUBSCRIPT SMALL LETTER M  
 18011 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%\* U+2098  
 18012 % U+2099 LATIN SUBSCRIPT SMALL LETTER N  
 18013 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%\* U+2099  
 18014 % U+209A LATIN SUBSCRIPT SMALL LETTER P  
 18015 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%\* U+209A  
 18016 % U+209B LATIN SUBSCRIPT SMALL LETTER S  
 18017 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%\* U+209B  
 18018 % U+209C LATIN SUBSCRIPT SMALL LETTER T  
 18019 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%\* U+209C

### 51.2.18 Currency Symbols: U+20A0 to U+20CF

18020 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 18021 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1

18022 % U+20A4 LIRA SIGN; afii08941, \*lira  
 18023 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 18024 % U+20A6 NAIRA SIGN  
 18025 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 18026 % U+20A7 PESETA SIGN; peseta  
 18027 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 18028 % U+20A9 WON SIGN; won  
 18029 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 18030 % U+20AB DONG SIGN; dong  
 18031 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 18032 % U+20AC EURO SIGN; \*Euro, euro  
 18033 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 18034 %\* \texteuro -> \EurDig (marvosym)  
 18035 %\* \texteuro -> \EURdig (marvosym)  
 18036 %\* \texteuro -> \EurHv (marvosym)  
 18037 %\* \texteuro -> \EURhv (marvosym)  
 18038 %\* \texteuro -> \EurCr (marvosym)  
 18039 %\* \texteuro -> \EURcr (marvosym)  
 18040 %\* \texteuro -> \EurTm (marvosym)  
 18041 %\* \texteuro -> \EURtm (marvosym)  
 18042 %\* \texteuro -> \Eur (marvosym)  
 18043 % U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)  
 18044 \DeclareTextCommand{\textDeleatur}{PU}{\9040\260}%\* U+20B0  
 18045 %\* \textDeleatur -> \Denarius (marvosym)  
 18046 % U+20B1 PESO SIGN  
 18047 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 18048 % U+20B2 GUARANI SIGN  
 18049 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

### 51.2.19 Letterlike Symbols: U+2100 to U+214F

18050 % U+2103 DEGREE CELSIUS; centigrade  
 18051 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 18052 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)  
 18053 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%\* U+210F  
 18054 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)  
 18055 \DeclareTextCommand{\textIm}{PU}{\9041\021}%\* U+2111  
 18056 % U+2113 SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)  
 18057 \DeclareTextCommand{\textell}{PU}{\9041\023}%\* U+2113  
 18058 % U+2116 NUMERO SIGN; \*afii61352, numero  
 18059 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 18060 % U+2117 SOUND RECORDING COPYRIGHT  
 18061 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 18062 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);  
 18063 % weierstrass; \wp (LaTeX)  
 18064 \DeclareTextCommand{\textwp}{PU}{\9041\030}%\* U+2118  
 18065 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)  
 18066 \DeclareTextCommand{\textRe}{PU}{\9041\034}%\* U+211C  
 18067 % U+211E PRESCRIPTION TAKE; prescription  
 18068 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 18069 % U+2120 SERVICE MARK  
 18070 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 18071 % U+2122 TRADE MARK SIGN; trademark  
 18072 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 18073 % U+2126 OHM SIGN; Ohm, Omega  
 18074 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 18075 % U+2127 INVERTED OHM SIGN

18076 \DeclareTextCommand{\textmho}{PU}{\9041\047}%\* U+2127  
 18077 %\* \textmho -> \agemO (wasysym)  
 18078 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)  
 18079 \DeclareTextCommand{\textriota}{PU}{\9041\051}%\* U+2129  
 18080 % U+212B ANGSTROM SIGN; angstrom  
 18081 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 18082 % U+212E ESTIMATED SYMBOL; estimated  
 18083 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 18084 %\* \textestimated -> \EstimatedSign (marvosym)  
 18085 %\* \textestimated -> \Ecommerce (marvosym)  
 18086 % U+2132 TURNED CAPITAL F; \Finv (AmS)  
 18087 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%\* U+2132  
 18088 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)  
 18089 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%\* U+2135  
 18090 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)  
 18091 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%\* U+2136  
 18092 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)  
 18093 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%\* U+2137  
 18094 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)  
 18095 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%\* U+2138  
 18096 % U+213B FACSIMILE SIGN; \fax (marvosym)  
 18097 \DeclareTextCommand{\textfax}{PU}{\9041\073}%\* U+213B  
 18098 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game  
 18099 \DeclareTextCommand{\textGame}{PU}{\9041\101}%\* U+2141  
 18100 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)  
 18101 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B  
 18102 %\* \textinvamp -> \bindnasrepma (stmaryrd)  
 18103 %\* \textinvamp -> \parr (cml)

### 51.2.20 Number Forms: U+2150 to U+218F

18104 % U+2150 VULGAR FRACTION ONE SEVENTH  
 18105 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150  
 18106 % U+2151 VULGAR FRACTION ONE NINTH  
 18107 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151  
 18108 % U+2152 VULGAR FRACTION ONE TENTH  
 18109 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152  
 18110 % U+2153 VULGAR FRACTION ONE THIRD; onethird  
 18111 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153  
 18112 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds  
 18113 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154  
 18114 % U+2155 VULGAR FRACTION ONE FIFTH  
 18115 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155  
 18116 % U+2156 VULGAR FRACTION TWO FIFTHS  
 18117 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156  
 18118 % U+2157 VULGAR FRACTION THREE FIFTHS  
 18119 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157  
 18120 % U+2158 VULGAR FRACTION FOUR FIFTHS  
 18121 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158  
 18122 % U+2159 VULGAR FRACTION ONE SIXTH  
 18123 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159  
 18124 % U+215A VULGAR FRACTION FIVE SIXTHS  
 18125 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A  
 18126 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth  
 18127 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B  
 18128 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths  
 18129 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C  
 18130 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths

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18131 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D
18132 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths
18133 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E
18134 % U+2184 LATIN SMALL LETTER REVERSED C
18135 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184
18136 % U+2189 VULGAR FRACTION ZERO THIRDS
18137 \DeclareTextCommand{\textzerthirds}{PU}{\9041\211}% U+2189

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### 51.2.21 Arrows: U+2190 to U+21FF

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18138 % U+2190 LEFTWARDS ARROW; arrowleft
18139 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%* U+2190
18140 % U+2191 UPWARDS ARROW; arrowup
18141 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%* U+2191
18142 % U+2192 RIGHTWARDS ARROW; arrowright
18143 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%* U+2192
18144 %* \textrightarrow -> \MVRightArrow (marvosym)
18145 %* \textrightarrow -> \MVRightarrow (marvosym)
18146 % U+2193 DOWNWARDS ARROW; arrowdown
18147 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%* U+2193
18148 %* \textdownarrow -> \MVAArrowDown (marvosym)
18149 %* \textdownarrow -> \Force (marvosym)
18150 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightharrow (LaTeX)
18151 \DeclareTextCommand{\textleftrightharrow}{PU}{\9041\224}%* U+2194
18152 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)
18153 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%* U+2195
18154 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)
18155 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%* U+2196
18156 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)
18157 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%* U+2197
18158 %* \textnearrow -> \textglobrise (tipa)
18159 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)
18160 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%* U+2198
18161 %* \textsearrow -> \textglobfall (tipa)
18162 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)
18163 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%* U+2199
18164 % U+219A LEFTWARDS ARROW WITH STROKE; \leftarrow (AmS)
18165 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%* U+219A
18166 % U+219B RIGHTWARDS ARROW WITH STROKE; \rightarrow (AmS)
18167 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\233}%* U+219B
18168 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)
18169 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%* U+219E
18170 % \ntwoheadleftarrow (txfonts/pxfonts)
18171 \DeclareTextCommand{\textntwoheadleftarrow}{PU}{\9041\236\83\070}%* U+219E U+0338
18172 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)
18173 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%* U+219F
18174 % U+21A0 RIGHTWARDS TWO HEADED ARROW;
18175 % \twoheadrightarrow (AmS)
18176 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%* U+21A0
18177 % \ntwoheadrightarrow (txfonts/pxfonts)
18178 \DeclareTextCommand{\textntwoheadrightarrow}{PU}{\9041\240\83\070}%* U+21A0 U+0338
18179 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-
Symbol)
18180 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
18181 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
18182 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%* U+21A2
18183 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)
18184 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3

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18185 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
18186 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
18187 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
18188 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
18189 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
18190 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA
18191 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
18192 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
18193 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
18194 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
18195 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightarrow (AmS)
18196 \DeclareTextCommand{\textnleftrightarrow}{PU}{\9041\256}%* U+21AE
18197 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
18198 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
18199 %* \textlightning -> \Lightning (marvosym)
18200 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
18201 % \dls (mathabx)
18202 \DeclareTextCommand{\textdls}{PU}{\9041\265}%* U+21B5
18203 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
18204 % \curvearrowleft (AmS)
18205 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
18206 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
18207 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
18208 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
    barbup;
18209 % \leftharpoonup (LaTeX)
18210 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
18211 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
18212 % \leftharpoondown (LaTeX)
18213 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
18214 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
18215 % \upharpoonright (AmS)
18216 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
18217 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
18218 % \upharpoonleft (AmS)
18219 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
18220 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
    barbup
18221 % \rightharpoonup (LaTeX)
18222 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
18223 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
18224 % \rightharpoondown (LaTeX)
18225 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
18226 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
18227 % \downharpoonright (AmS)
18228 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
18229 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
18230 % \downharpoonleft (AmS)
18231 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
18232 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
18233 % \rightarrowoverleft; \rightleftarrows (MnSymbol)
18234 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
18235 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; ar-
    rowupleftofdown;
18236 % \updownarrows (MnSymbol)
18237 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5

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18238 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; arrowleft-
      overright;
18239 % \leftrightharrows (AmS)
18240 \DeclareTextCommand{\textleftrightharrows}{PU}{\9041\306}%* U+21C6
18241 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
18242 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
18243 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
18244 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8
18245 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
18246 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%* U+21C9
18247 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)
18248 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%* U+21CA
18249 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
18250 % \leftrightharpoons (AmS);
18251 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%* U+21CB
18252 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
18253 % \rightleftharpoons (LaTeX, AmS)
18254 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
18255 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftd-
      blstroke;
18256 % \nLeftarrow (AmS)
18257 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD
18258 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightar-
      row (AmS)
18259 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%* U+21CE
18260 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightd-
      blstroke;
18261 % \nRightarrow (AmS)
18262 \DeclareTextCommand{\textnRightarrow}{PU}{\9041\317}%* U+21CF
18263 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;
18264 % \Leftarrow (LaTeX)
18265 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
18266 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)
18267 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
18268 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;
18269 % \Rightarrow (LaTeX)
18270 \DeclareTextCommand{\textRightarrow}{PU}{\9041\322}%* U+21D2
18271 %* \textRightarrow -> \Conclusion (marvosym)
18272 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbldown; \Downarrow (La-
      TeX)
18273 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
18274 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdblboth;
18275 % \Leftrightarrow (LaTeX)
18276 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
18277 %* \textLeftrightarrow -> \Equivalence (marvosym)
18278 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)
18279 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%* U+21D5
18280 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
18281 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%* U+21D6
18282 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)
18283 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%* U+21D7
18284 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)
18285 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%* U+21D8
18286 % U+21D9 SOUTH WEST DOUBLE ARROW; \Svarrow (MnSymbol)
18287 \DeclareTextCommand{\textSvarrow}{PU}{\9041\331}%* U+21D9
18288 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)
18289 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%* U+21DA

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18290 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)
18291 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
18292 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
18293 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
18294 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
18295 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%* U+21DD
18296 % U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;
18297 % \dashleftarrow (AmS)
18298 \DeclareTextCommand{\textdashleftarrow}{PU}{\9041\340}%* U+21E0
18299 %* \textdashleftarrow -> \dashedleftarrow (MnSymbol)
18300 % U+21E1 UPWARDS DASHED ARROW; arrowdashup; \dasheduparrow (Mn-
Symbol)
18301 \DeclareTextCommand{\textdasheduparrow}{PU}{\9041\341}%* U+21E1
18302 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightarrow
(AmS)
18303 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\342}%* U+21E2
18304 %* \textdashrightarrow -> \dashedrightarrow (MnSymbol)
18305 % U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dasheddownarrow
(MnSymbol)
18306 \DeclareTextCommand{\textdasheddownarrow}{PU}{\9041\343}%* U+21E3
18307 % U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasysym)
18308 \DeclareTextCommand{\textpointer}{PU}{\9041\350}%* U+21E8
18309 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
18310 % \downuparrows (MnSymbol)
18311 \DeclareTextCommand{\textdownuparrows}{PU}{\9041\365}%* U+21F5
18312 % U+21FD LEFTWARDS OPEN-HEADED ARROW; \leftarrowtriangle (stmaryrd)
18313 \DeclareTextCommand{\textleftarrowtriangle}{PU}{\9041\375}%* U+21FD
18314 % U+21FE RIGHTWARDS OPEN-HEADED ARROW; \rightarrowtriangle (stmaryrd)
18315 \DeclareTextCommand{\textrightarrowtriangle}{PU}{\9041\376}%* U+21FE
18316 % U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightarrowtriangle
(stmaryrd)
18317 \DeclareTextCommand{\textleftrightarrowtriangle}{PU}{\9041\377}%* U+21FF

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### 51.2.22 Mathematical Operators: U+2200 to U+22FF

```

18318 % U+2200 FOR ALL; forall; \forall (LaTeX)
18319 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
18320 % U+2201 COMPLEMENT; \complement (AmS)
18321 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
18322 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
18323 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
18324 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
18325 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203
18326 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
18327 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
18328 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
18329 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
18330 %* \textemptyset -> \varnothing (AmS)
18331 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)
18332 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
18333 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
18334 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207
18335 % U+2208 ELEMENT OF; element; \in (LaTeX)
18336 \DeclareTextCommand{\textin}{PU}{\9042\010}%* U+2208
18337 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
18338 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209
18339 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
18340 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A

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18341 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
18342 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
18343 %* \textni -> \owns (mathabx)
18344 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
18345 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C
18346 %* \textnotowner -> \notni (txfonts/pxfonts)
18347 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
18348 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
18349 % U+220F N-ARY PRODUCT; \prod (LaTeX)
18350 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
18351 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
18352 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
18353 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
18354 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
18355 % U+2212 MINUS SIGN; minus
18356 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
18357 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
18358 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213
18359 % U+2214 DOT PLUS; \dotplus (AmS)
18360 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
18361 % U+2215 DIVISION SLASH; divisionslash; \Divides (marvosym)
18362 \DeclareTextCommand{\textDivides}{PU}{\9042\025}%* U+2215
18363 % \DividesNot (marvosym)
18364 \DeclareTextCommand{\textDividesNot}{PU}{\9042\025\9040\322}%* U+2215 U+20D2
18365 % U+2216 SET MINUS; \setminus (LaTeX)
18366 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216
18367 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
18368 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
18369 % U+2218 RING OPERATOR; \circ (LaTeX)
18370 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
18371 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
18372 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219
18373 % U+221A SQUARE ROOT; radical
18374 \DeclareTextCommand{\textsqrt}{PU}{\9042\032}%* U+221A
18375 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
18376 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
18377 %* \textpropto -> \varprop (wasysym)
18378 % U+221E INFINITY; infinity; \infty (LaTeX)
18379 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
18380 % U+2220 ANGLE; angle; \angle (LaTeX)
18381 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
18382 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
18383 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
18384 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)
18385 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222
18386 %* \textsphericalangle -> \varangle (wasysym)
18387 %* \textsphericalangle -> \Anglesign (marvosym)
18388 %* \textsphericalangle -> \AngleSign (marvosym)
18389 % U+2223 DIVIDES; divides; \mid (LaTeX)
18390 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
18391 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
18392 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224
18393 %* \textnmid -> \notdivides (mathabx)
18394 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
18395 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225
18396 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
18397 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226

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18398 %* \textnparallel -> nUpdownline (MnSymbol)
18399 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
18400 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
18401 % \owedge (stmaryrd)
18402 \DeclareTextCommand{\textowedge}{PU}{\9042\047\9040\335}%* U+2227 U+20DD
18403 %* \textowedge -> \varowedge (stmaryrd)
18404 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
18405 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
18406 % \ovee (stmaryrd)
18407 \DeclareTextCommand{\textovee}{PU}{\9042\050\9040\335}%* U+2228 U+20DD
18408 %* \textovee -> \varovee (stmaryrd)
18409 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
18410 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229
18411 % U+222A UNION; union; \cup (LaTeX)
18412 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A
18413 % U+222B INTEGRAL; integral; \int (LaTeX)
18414 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
18415 %* \textint -> \varint (wasysym)
18416 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)
18417 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
18418 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
18419 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%* U+222D
18420 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
18421 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
18422 %* \textoint -> \varoint (wasysym)
18423 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
18424 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%* U+222F
18425 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
18426 % \ointclockwise (txfonts/pxfonts)
18427 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
18428 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrclockwise (tx-
      fonts/pxfonts)
18429 \DeclareTextCommand{\textointctrclockwise}{PU}{\9042\063}%* U+2233
18430 % U+2234 THEREFORE; therefore; \therefore (AmS)
18431 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
18432 %* \texttherefore -> uptherefore (MnSymbol)
18433 % U+2235 BECAUSE; because; \because (AmS)
18434 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235
18435 %* \textbecause -> \downtherefore (MnSymbol)
18436 % U+2236 RATIO; \vdotdot (MnSymbol)
18437 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%* U+2236
18438 % U+2237 PROPORTION; \squaredots (MnSymbol)
18439 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%* U+2237
18440 % U+2238 DOT MINUS; \dotminus (MnSymbol)
18441 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238
18442 %* \textdotminus -> \textdotdiv (mathabx)
18443 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)
18444 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%* U+2239
18445 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)
18446 \DeclareTextCommand{\textsim}{PU}{\9042\074}%* U+223C
18447 %* \textsim -> \AC (wasysym)
18448 % U+223D REVERSED TILDE; reverseditilde; \backsim (AmS)
18449 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%* U+223D
18450 % \nbacksim (txfonts/pxfonts)
18451 \DeclareTextCommand{\textnbacksim}{PU}{\9042\075\83\070}%* U+223D U+0338
18452 % U+2240 WREATH PRODUCT; \wr (LaTeX)
18453 \DeclareTextCommand{\textwr}{PU}{\9042\100}%* U+2240

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18454 %* \textwr -> \wreath (MnSymbol)
18455 % U+2241 NOT TILDE; \nsim (AmS)
18456 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%* U+2241
18457 % U+2242 MINUS TILDE; \eqsim (MnSymbol)
18458 \DeclareTextCommand{\texteqsim}{PU}{\9042\102}%* U+2242
18459 % \neqsim (MnSymbol)
18460 \DeclareTextCommand{\textneqsim}{PU}{\9042\102\83\070}%* U+2242 U+0338
18461 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (La-
TeX)
18462 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%* U+2243
18463 % U+2244 NOT ASYMPTOTICALLY EQUAL TO; \nsimeq (txfonts/pxfonts)
18464 \DeclareTextCommand{\textnsimeq}{PU}{\9042\104}%* U+2244
18465 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)
18466 \DeclareTextCommand{\textcong}{PU}{\9042\105}%* U+2245
18467 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;
18468 % \ncong (AmS)
18469 \DeclareTextCommand{\textncong}{PU}{\9042\107}%* U+2247
18470 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)
18471 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%* U+2248
18472 % U+2249 NOT ALMOST EQUAL TO; \napprox (txfonts/pxfonts)
18473 \DeclareTextCommand{\textnapprox}{PU}{\9042\111}%* U+2249
18474 %* \textnapprox -> \nthickapprox (txfonts/pxfonts)
18475 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)
18476 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%* U+224A
18477 % \napproxeq (txfonts/pxfonts)
18478 \DeclareTextCommand{\textnapproxeq}{PU}{\9042\112\83\070}%* U+224A U+0338
18479 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)
18480 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%* U+224B
18481 %* \texttriplesim -> \VHF (wasysym)
18482 % \ntriplesim (MnSymbol)
18483 \DeclareTextCommand{\textntriplesim}{PU}{\9042\113\83\070}%* U+224B U+0338
18484 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)
18485 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%* U+224C
18486 % \nbackcong (MnSymbol)
18487 \DeclareTextCommand{\textnbackcong}{PU}{\9042\114\83\070}%* U+224C U+0338
18488 % U+224D EQUIVALENT TO; \asymp (LaTeX)
18489 \DeclareTextCommand{\textasympt}{PU}{\9042\115}%* U+224D
18490 % \nasympt (txfonts/pxfonts)
18491 \DeclareTextCommand{\textnasympt}{PU}{\9042\115\83\070}%* U+224D U+0338
18492 %* \textnasympt -> \notasympt (mathabx)
18493 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)
18494 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%* U+224E
18495 % \nBumpeq (txfonts/pxfonts)
18496 \DeclareTextCommand{\textnBumpeq}{PU}{\9042\116\83\070}%* U+224E U+0338
18497 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)
18498 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%* U+224F
18499 % \nbumpeq (txfonts/pxfonts)
18500 \DeclareTextCommand{\textnbumpeq}{PU}{\9042\117\83\070}%* U+224F U+0338
18501 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)
18502 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%* U+2250
18503 % \ndoteq (MnSymbol)
18504 \DeclareTextCommand{\textndoteq}{PU}{\9042\120\83\070}%* U+2250 U+0338
18505 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;
18506 % \doteqdot (AmS)
18507 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%* U+2251
18508 %* \textdoteqdot -> \Doteq (MnSymbol)
18509 % \nDoteq (MnSymbol)

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18510 \DeclareTextCommand{\textnDoteq}{PU}{\9042\121\83\070}%* U+2251 U+0338
18511 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-
      qualorimage;
18512 % \fallingdotseq (AmS)
18513 \DeclareTextCommand{\textfallingdoteq}{PU}{\9042\122}%* U+2252
18514 % \nfallingdotseq (MnSymbol)
18515 \DeclareTextCommand{\textnfallingdoteq}{PU}{\9042\122\83\070}%* U+2252 U+0338
18516 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapproxi-
      matelyequal;
18517 % \risingdotseq (AmS)
18518 \DeclareTextCommand{\textrisingdoteq}{PU}{\9042\123}%* U+2253
18519 % \nrisingdoteq (MnSymbol)
18520 \DeclareTextCommand{\textnrisingdoteq}{PU}{\9042\123\83\070}%* U+2253 U+0338
18521 % U+2254 COLON EQUALS; \colonequals (colonequals)
18522 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%* U+2254
18523 % U+2255 EQUALS COLON; \equalscolon (colonequals)
18524 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%* U+2255
18525 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)
18526 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%* U+2256
18527 % \neqcirc (MnSymbol)
18528 \DeclareTextCommand{\textneqcirc}{PU}{\9042\126\83\070}%* U+2256 U+0338
18529 % U+2257 RING EQUAL TO; \circeq (AmS)
18530 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%* U+2257
18531 % \ncirceq (MnSymbol)
18532 \DeclareTextCommand{\textncirceq}{PU}{\9042\127\83\070}%* U+2257 U+0338
18533 % U+2259 ESTIMATES; \hateq (MnSymbol)
18534 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%* U+2259
18535 %* \texthateq -> \corresponds (mathabx)
18536 %* \texthateq -> \Corresponds (marvosym)
18537 % \nhateq (MnSymbol)
18538 \DeclareTextCommand{\textnhateq}{PU}{\9042\131\83\070}%* U+2259 U+0338
18539 % U+225C DELTA EQUAL TO; \triangleeq (AmS)
18540 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%* U+225C
18541 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)
18542 \DeclareTextCommand{\textneq}{PU}{\9042\140}%* U+2260
18543 \DeclareTextCommand{\textne}{PU}{\9042\140}%* U+2260
18544 %* \textneq -> \nequal (MnSymbol)
18545 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)
18546 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%* U+2261
18547 %* \textequiv -> \Congruent (marvosym)
18548 % U+2262 NOT IDENTICAL TO; notidentical; \nequiv (txfonts/pxfonts)
18549 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%* U+2262
18550 %* \textnequiv -> \NotCongruent (marvosym)
18551 %* \textnequiv -> \notequiv (mathabx)
18552 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)
18553 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
18554 \DeclareTextCommand{\textle}{PU}{\9042\144}%* U+2264
18555 %* \textleq -> \LessOrEqual (marvosym)
18556 % U+2265 GREATER-THAN OR EQUAL TO; greaterequal;
18557 % \ge (LaTeX), \geq (LaTeX)
18558 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265
18559 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
18560 %* \textgeq -> \LargerOrEqual (marvosym)
18561 % U+2266 LESS-THAN OVER EQUAL TO; lessorequal; \leqq (AmS)
18562 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
18563 % \nleqq (txfonts/pxfonts)
18564 \DeclareTextCommand{\textnleqq}{PU}{\9042\146\83\070}%* U+2266 U+0338

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18565 % U+2267 GREATER-THAN OVER EQUAL TO; greateroverequal; \geqq (AmS)
18566 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
18567 % \ngeqq (txfonts/pxfonts)
18568 \DeclareTextCommand{\textngeqq}{PU}{\9042\147\83\070}%* U+2267 U+0338
18569 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
18570 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268
18571 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
18572 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
18573 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
18574 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A
18575 % \nll (txfonts/pxfonts)
18576 \DeclareTextCommand{\textnll}{PU}{\9042\152\83\070}%* U+226A U+0338
18577 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
18578 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
18579 % \ngg (txfonts/pxfonts)
18580 \DeclareTextCommand{\textngg}{PU}{\9042\153\83\070}%* U+226B U+0338
18581 % U+226C BETWEEN; \between (AmS)
18582 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
18583 % U+226E NOT LESS-THAN; notless; \nless (AmS)
18584 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
18585 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
18586 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18587 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18588 % \nleq (AmS)
18589 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18590 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal; \ngeq (AmS)
18591 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18592 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lessim (AmS)
18593 \DeclareTextCommand{\textlessim}{PU}{\9042\162}%* U+2272
18594 %* \textlessim -> \apprle (wasysym)
18595 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim (AmS)
18596 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18597 %* \textgtrsim -> \apprge (wasysym)
18598 % U+2274 NEITHER LESS-THAN NOR EQUIVALENT TO; \nlessim (txfonts/pxfonts)
18599 \DeclareTextCommand{\textnlessim}{PU}{\9042\164}%* U+2274
18600 % U+2275 NEITHER GREATER-THAN NOR EQUIVALENT TO; \ngtrsim (txfonts/pxfonts)
18601 \DeclareTextCommand{\textngtrsim}{PU}{\9042\165}%* U+2275
18602 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)
18603 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%* U+2276
18604 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)
18605 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%* U+2277
18606 % U+2278 NEITHER LESS-THAN NOR GREATER-THAN; \ngtrless (txfonts/pxfonts)
18607 \DeclareTextCommand{\textngtrless}{PU}{\9042\170}%* U+2278
18608 % U+2279 NEITHER GREATER-THAN NOR LESS-THAN; \nlessgtr (txfonts/pxfonts)
18609 \DeclareTextCommand{\textnlessgtr}{PU}{\9042\171}%* U+2279
18610 % U+227A PRECEDES; precedes; \prec (LaTeX)
18611 \DeclareTextCommand{\textprec}{PU}{\9042\172}%* U+227A
18612 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)
18613 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%* U+227B
18614 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)
18615 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%* U+227C

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18616 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)  
18617 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%\* U+227D  
18618 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)  
18619 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%\* U+227E  
18620 % \nprecsim (txfonts/pxfonts)  
18621 \DeclareTextCommand{\textnprecsim}{PU}{\9042\176\83\070}%\* U+227E U+0338  
18622 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)  
18623 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%\* U+227F  
18624 % \nsuccsim (txfonts/pxfonts)  
18625 \DeclareTextCommand{\textnsuccsim}{PU}{\9042\177\83\070}%\* U+227F U+0338  
18626 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)  
18627 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%\* U+2280  
18628 % U+2281 DOES NOT SUCCEED; notsucceeds; \nsucc (AmS)  
18629 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%\* U+2281  
18630 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)  
18631 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%\* U+2282  
18632 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)  
18633 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%\* U+2283  
18634 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)  
18635 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%\* U+2284  
18636 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)  
18637 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%\* U+2285  
18638 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseteq (LaTeX)  
18639 \DeclareTextCommand{\textsubseteq}{PU}{\9042\206}%\* U+2286  
18640 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)  
18641 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%\* U+2287  
18642 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)  
18643 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%\* U+2288  
18644 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)  
18645 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%\* U+2289  
18646 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subsetneq (AmS)  
18647 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%\* U+228A  
18648 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supsetneq (AmS)  
18649 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%\* U+228B  
18650 % U+228D MULTISET MULTIPLICATION; \cupdot (MnSymbol)  
18651 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%\* U+228D  
18652 % U+228E MULTISET UNION; \cupplus (MnSymbol)  
18653 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%\* U+228E  
18654 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)  
18655 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%\* U+228F  
18656 % \nsqsubset (txfonts/pxfonts)  
18657 \DeclareTextCommand{\textnsqsubset}{PU}{\9042\217\83\070}%\* U+228F U+0338  
18658 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)  
18659 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%\* U+2290  
18660 % \nsqsupset (txfonts/pxfonts)  
18661 \DeclareTextCommand{\textnsqsupset}{PU}{\9042\220\83\070}%\* U+2290 U+0338  
18662 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseteq (LaTeX)  
18663 \DeclareTextCommand{\textsqsubseteq}{PU}{\9042\221}%\* U+2291  
18664 % \nsqsubseteq (txfonts/pxfonts)  
18665 \DeclareTextCommand{\textnsqsubseteq}{PU}{\9042\221\83\070}%\* U+2291 U+0338  
18666 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseteq (LaTeX)  
18667 \DeclareTextCommand{\textsqsupseteq}{PU}{\9042\222}%\* U+2292  
18668 % \nsqsupseteq (txfonts/pxfonts)  
18669 \DeclareTextCommand{\textnsqsupseteq}{PU}{\9042\222\83\070}%\* U+2292 U+0338  
18670 % U+2293 SQUARE CAP; \sqcap (LaTeX)

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18671 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18672 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18673 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18674 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
18675 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
18676 %* \textoplus -> \varoplus (stmaryrd)
18677 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
18678 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
18679 %* \textominus -> \varominus (stmaryrd)
18680 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18681 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18682 %* \textotimes -> \varotimes (stmaryrd)
18683 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18684 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18685 %* \textoslash -> \varoslash (stmaryrd)
18686 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18687 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18688 %* \textodot -> \varodot (stmaryrd)
18689 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18690 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18691 %* \textcircledcirc -> \ocirc (mathabx)
18692 %* \textcircledcirc -> \varocircle (stmaryrd)
18693 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18694 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18695 %* \textcircledast -> \varoast (stmaryrd)
18696 %* \textcircledast -> \oasterisk (mathabx)
18697 % U+229D CIRCLED DASH; \circleddash (AmS)
18698 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18699 % U+229E SQUARED PLUS; \boxplus (AmS)
18700 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
18701 % U+229F SQUARED MINUS; \boxminus (AmS)
18702 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18703 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18704 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
18705 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18706 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18707 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18708 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18709 %* \textvdash -> \rightvdash (MnSymbol)
18710 % U+22A3 LEFT TACK; \dashleftarrow; \dashv (LaTeX)
18711 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18712 %* \textdashv -> \leftvdash (MnSymbol)
18713 % \ndashv (mathabx)
18714 \DeclareTextCommand{\textndashv}{PU}{\9042\243\83\070}%* U+22A3 U+0338
18715 %* \textndashv -> \nleftvdash (MnSymbol)
18716 % U+22A4 DOWN TACK (=top); \dashrightarrow; \top (LaTeX)
18717 \DeclareTextCommand{\textttop}{PU}{\9042\244}%* U+22A4
18718 %* \textttop -> \downvdash (MnSymbol)
18719 % \ndownvdash (MnSymbol)
18720 \DeclareTextCommand{\textndownvdash}{PU}{\9042\244\83\070}%* U+22A4 U+0338
18721 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
18722 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
18723 %* \textbot -> \upvdash (MnSymbol)
18724 % \nupvdash (MnSymbol)
18725 \DeclareTextCommand{\textnupvdash}{PU}{\9042\245\83\070}%* U+22A5 U+0338
18726 %* \textnupvdash -> \nperp (MnSymbol)
18727 % U+22A8 TRUE; \vDash (AmS)

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18728 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
18729 %* \textvDash -> \models (LaTeX)
18730 %* \textvDash -> \rightmodels (MnSymbol)
18731 % U+22A9 FORCES; \Vdash (AmS)
18732 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
18733 %* \textVdash -> \rightVdash (MnSymbol)
18734 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
18735 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
18736 % \nVdash (mathabx)
18737 \DeclareTextCommand{\textnVdash}{PU}{\9042\252\83\070}%* U+22AA U+0338
18738 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
18739 % \VDash (mathabx)
18740 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
18741 %* \textVDash -> \rightModels (MnSymbol)
18742 % U+22AC DOES NOT PROVE; \nvDash (AmS)
18743 \DeclareTextCommand{\textnvDash}{PU}{\9042\254}%* U+22AC
18744 %* \textnvDash -> \nrighnvDash (MnSymbol)
18745 % U+22AD NOT TRUE; \nVDash (AmS)
18746 \DeclareTextCommand{\textnVDash}{PU}{\9042\255}%* U+22AD
18747 %* \textnVDash -> \nrighmodels (MnSymbol)
18748 %* \textnVDash -> \nmodels (MnSymbol)
18749 % U+22AE DOES NOT FORCE; \nVdash (txfonts/pxfonts)
18750 \DeclareTextCommand{\textnVdash}{PU}{\9042\256}%* U+22AE
18751 %* \textnVdash -> \nrighVdash (MnSymbol)
18752 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
      STILE; \nVDash (AmS)
18753 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
18754 %* \textnVDash -> \nrighModels (MnSymbol)
18755 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
18756 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
18757 %* \textlhd -> \lessclosed (MnSymbol)
18758 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
18759 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
18760 %* \textrhd -> \gtrclosed (MnSymbol)
18761 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
18762 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
18763 %* \textunlhd -> \leqclosed (MnSymbol)
18764 %* \textunlhd -> \trianglelefteq (MnSymbol)
18765 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
      texsym, ...)
18766 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
18767 %* \textunrhd -> \geqclosed (MnSymbol)
18768 %* \textunrhd -> \trianglerighteq (MnSymbol)
18769 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
18770 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
18771 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
18772 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
18773 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
18774 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8
18775 % U+22BB XOR; \veebar (AmS)
18776 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB
18777 % U+22BC NAND; \barwedge (mathabx)
18778 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC
18779 % U+22C6 STAR OPERATOR; \star (LaTeX)
18780 \DeclareTextCommand{\textstar}{PU}{\9042\306}%* U+22C6
18781 % U+22C7 DIVISION TIMES; \divideontimes (AmS)
18782 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%* U+22C7

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18783 % U+22C8 BOWTIE; \bowtie (LaTeX)
18784 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%* U+22C8
18785 %* \textbowtie -> \Bowtie (wasysym)
18786 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)
18787 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%* U+22C9
18788 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;
18789 % \rtimes (AmS)
18790 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%* U+22CA
18791 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)
18792 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%* U+22CB
18793 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)
18794 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%* U+22CC
18795 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)
18796 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%* U+22CD
18797 % \nbacksimeq (txfonts/pxfonts)
18798 \DeclareTextCommand{\textnbacksimeq}{PU}{\9042\315\83\070}%* U+22CD U+0338
18799 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)
18800 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%* U+22CE
18801 %* \textcurlyvee -> \varcurlyvee (stmaryrd)
18802 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)
18803 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%* U+22CF
18804 %* \textcurlywedge -> \varcurlywedge (stmaryrd)
18805 % U+22D0 DOUBLE SUBSET; \Subset (AmS)
18806 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%* U+22D0
18807 % \nSubset (txfonts/pxfonts)
18808 \DeclareTextCommand{\textnSubset}{PU}{\9042\320\83\070}%* U+22D0 U+0338
18809 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)
18810 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%* U+22D1
18811 % \nSupset (txfonts/pxfonts)
18812 \DeclareTextCommand{\textnSupset}{PU}{\9042\321\83\070}%* U+22D1 U+0338
18813 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)
18814 \DeclareTextCommand{\textCap}{PU}{\9042\322}%* U+22D2
18815 %* \textCap -> \doublecap (mathabx)
18816 % U+22D3 DOUBLE UNION; \Cup (AmS)
18817 \DeclareTextCommand{\textCup}{PU}{\9042\323}%* U+22D3
18818 %* \textCup -> \doublecup (mathabx)
18819 % U+22D4 PITCHFORK; \pitchfork (mathabx)
18820 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%* U+22D4
18821 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)
18822 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%* U+22D6
18823 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)
18824 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%* U+22D7
18825 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)
18826 \DeclareTextCommand{\textlll}{PU}{\9042\330}%* U+22D8
18827 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)
18828 \DeclareTextCommand{\textggg}{PU}{\9042\331}%* U+22D9
18829 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lessequalorgreater;
18830 % \lesseqgtr (AmS)
18831 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%* U+22DA
18832 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterqualorless;
18833 % \gtreqless (AmS)
18834 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%* U+22DB
18835 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)
18836 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%* U+22DE
18837 % \ncurlyeqprec (mathabx)
18838 \DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%* U+22DE U+0338
18839 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)

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18840 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%* U+22DF
18841 % \ncurlyeqsucc (mathabx)
18842 \DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%* U+22DF U+0338
18843 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)
18844 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%* U+22E0
18845 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)
18846 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%* U+22E1
18847 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-
    fonts/pxfonts)
18848 \DeclareTextCommand{\textnqsubseteq}{PU}{\9042\342}%* U+22E2
18849 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-
    fonts/pxfonts)
18850 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%* U+22E3
18851 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)
18852 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%* U+22E4
18853 %* \textsqsubsetneq -> \varsqsubsetneq (mathabx)
18854 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-
    abx)
18855 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%* U+22E5
18856 %* \textsqsupsetneq -> \varsqsupsetneq (mathabx)
18857 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
18858 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
18859 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
18860 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
18861 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precsim (AmS)
18862 \DeclareTextCommand{\textprecsim}{PU}{\9042\350}%* U+22E8
18863 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succsim (AmS)
18864 \DeclareTextCommand{\textsuccsim}{PU}{\9042\351}%* U+22E9
18865 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)
18866 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%* U+22EA
18867 %* \textntriangleleft -> \nlessclosed (MnSymbol)
18868 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriang-
    leright (AmS)
18869 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%* U+22EB
18870 %* \textntriangleright -> \ngtrclosed (MnSymbol)
18871 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;
18872 % \ntrianglelefteq (AmS)
18873 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%* U+22EC
18874 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;
18875 % \ntrianglerighteq (AmS)
18876 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%* U+22ED
18877 %* \textntrianglerighteq -> \textngeqclosed
18878 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)
18879 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%* U+22EE
18880 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)
18881 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%* U+22EF
18882 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)
18883 \DeclareTextCommand{\textudots}{PU}{\9042\360}%* U+22F0
18884 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)
18885 \DeclareTextCommand{\textddots}{PU}{\9042\361}%* U+22F1
18886 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)
18887 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%* U+22F6

```

### 51.2.23 Miscellaneous Technical: U+2300 to U+23FF

```

18888 % U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)
18889 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%* U+2300
18890 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)

```

```

18891 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%* U+2310
18892 % U+2311 SQUARE LOZENGE; \wasylounge (wasysym)
18893 \DeclareTextCommand{\textwasylounge}{PU}{\9043\021}%* U+2311
18894 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)
18895 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%* U+2319
18896 % U+231A WATCH; \clock (wasysym)
18897 \DeclareTextCommand{\textclock}{PU}{\9043\032}%* U+231A
18898 %* \textclock -> \Clocklogo (marvosym)
18899 %* \textclock -> \ClockLogo (marvosym)
18900 % U+231C TOP LEFT CORNER; \ulcorner (AmS)
18901 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%* U+231C
18902 % U+231D TOP RIGHT CORNER; \urcorner (AmS)
18903 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%* U+231D
18904 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)
18905 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%* U+231E
18906 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)
18907 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%* U+231F
18908 % U+2322 FROWN; \frown (LaTeX)
18909 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%* U+2322
18910 % U+2323 SMILE; \smile (LaTeX)
18911 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%* U+2323
18912 % U+2328 KEYBOARD; \Keyboard (marvosym)
18913 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%* U+2328
18914 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \langle (LaTeX)
18915 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%* U+2329
18916 % U+232A RIGHT-POINTING ANGLE BRACKET; \angleright; \rangle (LaTeX)
18917 \DeclareTextCommand{\textrightangle}{PU}{\9043\052}%* U+232A
18918 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)
18919 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%* U+2339
18920 % U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (marvosym)
18921 \DeclareTextCommand{\textTumbler}{PU}{\9043\074}%* U+233C
18922 % U+233D APL FUNCTIONAL SYMBOL CIRCLE STILE; \baro (stmaryrd)
18923 \DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}%* U+233D
18924 %* \textstmaryrdbaro -> \baro (stmaryrd)
18925 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)
18926 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%* U+233F
18927 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;
18928 % \notbackslash (wasysym)
18929 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%* U+2340
18930 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxbackslash (mathabx)
18931 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%* U+2342
18932 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;
18933 % \APLleftarrowbox (wasysym)
18934 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%* U+2347
18935 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;
18936 % \APLrightarrowbox (wasysym)
18937 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%* U+2348
18938 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLuparrowbox (wasysym)
18939 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%* U+2350
18940 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;
18941 % \APLdownarrowbox (wasysym)
18942 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%* U+2357
18943 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;
18944 % \APLinput (wasysym)

```

18945 \DeclareTextCommand{\textAPLinut}{PU}{\9043\136}%\* U+235E  
 18946 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)  
 18947 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%\* U+2370  
 18948 % U+2393 DIRECT CURRENT SYMBOL FORM TWO; \Beam (marvosym)  
 18949 \DeclareTextCommand{\textBeam}{PU}{\9043\223}%\* U+2393  
 18950 % U+2394 SOFTWARE-FUNCTION SYMBOL; \hexagon (wasysym)  
 18951 \DeclareTextCommand{\texthexagon}{PU}{\9043\224}%\* U+2394  
 18952 % U+2395 APL FUNCTIONAL SYMBOL QUAD; \APLbox (wasysym)  
 18953 \DeclareTextCommand{\textAPLbox}{PU}{\9043\225}%\* U+2395  
 18954 % U+23ED BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTI-  
 CAL BAR;  
 18955 % \ForwardToIndex (marvosym)  
 18956 \DeclareTextCommand{\textForwardToIndex}{PU}{\9043\355}%\* U+23ED  
 18957 % U+23EE BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTI-  
 CAL BAR;  
 18958 % \RewindToIndex (marvosym)  
 18959 \DeclareTextCommand{\textRewindToIndex}{PU}{\9043\356}%\* U+23EE

#### 51.2.24 Control Pictures: U+2400 to U+243F

18960 % U+2422 BLANK SYMBOL  
 18961 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
 18962 % U+2423 OPEN BOX; blank  
 18963 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

#### 51.2.25 Optical Character Recognition: U+2440 to U+245F

18964 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)  
 18965 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%\* U+244A  
 18966 %\* \textbbslash -> \varparalelinv (txfonts/pxfonts)

#### 51.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

18967 % U+2460 CIRCLED DIGIT ONE; onecircle  
 18968 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
 18969 % U+2461 CIRCLED DIGIT TWO; twocircle  
 18970 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
 18971 % U+2462 CIRCLED DIGIT THREE; threecircle  
 18972 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
 18973 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
 18974 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
 18975 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
 18976 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
 18977 % U+2465 CIRCLED DIGIT SIX; sixcircle  
 18978 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
 18979 % U+2466 CIRCLED DIGIT SEVEN; sevenscircle  
 18980 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
 18981 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
 18982 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
 18983 % U+2468 CIRCLED DIGIT NINE; ninecircle  
 18984 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
 18985 % U+2469 CIRCLED NUMBER TEN; tencircle  
 18986 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
 18987 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
 18988 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
 18989 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
 18990 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
 18991 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
 18992 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
 18993 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle

18994 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
18995 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
18996 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
18997 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
18998 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
18999 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
19000 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
19001 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
19002 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
19003 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
19004 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
19005 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
19006 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
19007 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
19008 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
19009 % \CircledA (marvosym)  
19010 \DeclareTextCommand{\textCircledA}{PU}{\9044\266}%\* U+24B6  
19011 %\* \textCircledA -> \CleaningA  
19012 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
19013 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
19014 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
19015 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
19016 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
19017 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
19018 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
19019 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
19020 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
19021 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
19022 % \CleaningF (marvosym)  
19023 \DeclareTextCommand{\textCleaningF}{PU}{\9044\273}%\* U+24BB  
19024 % \CleaningFF (marvosym)  
19025 \DeclareTextCommand{\textCleaningFF}{PU}{\9044\273\83\062}%\* U+24BB U+0332  
19026 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
19027 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
19028 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
19029 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
19030 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
19031 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
19032 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
19033 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
19034 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
19035 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
19036 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
19037 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
19038 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
19039 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
19040 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
19041 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
19042 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
19043 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
19044 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
19045 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
19046 % \CleaningP (marvosym)  
19047 \DeclareTextCommand{\textCleaningP}{PU}{\9044\305}%\* U+24C5  
19048 % \CleaningPP (marvosym)  
19049 \DeclareTextCommand{\textCleaningPP}{PU}{\9044\305\83\062}%\* U+24C5 U+0332  
19050 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle

19051 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
 19052 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
 19053 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
 19054 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
 19055 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
 19056 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
 19057 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
 19058 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
 19059 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
 19060 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
 19061 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
 19062 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 19063 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 19064 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 19065 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 19066 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 19067 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 19068 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 19069 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 19070 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 19071 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 19072 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 19073 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 19074 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 19075 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 19076 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 19077 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 19078 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 19079 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 19080 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 19081 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 19082 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 19083 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 19084 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 19085 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 19086 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 19087 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 19088 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 19089 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 19090 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 19091 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 19092 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 19093 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 19094 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 19095 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 19096 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 19097 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 19098 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 19099 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 19100 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 19101 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 19102 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 19103 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 19104 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 19105 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 19106 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 19107 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2

```

19108 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
19109 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
19110 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
19111 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
19112 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
19113 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
19114 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
19115 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
19116 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
19117 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
19118 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
19119 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
19120 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
19121 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
19122 % U+24EA CIRCLED DIGIT ZERO
19123 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

```

### 51.2.27 Box Drawing: U+2500 to 257F

```

19124 % U+2504 BOX DRAWINGS LIGHT TRIPLE DASH HORIZONTAL; \Cutting-
      Line (marvosym)
19125 \DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}%* U+2504
19126 %* \textCuttingLine -> \Kutline (marvosym)
19127 %* \textCuttingLine -> \CutLine (marvosym)
19128 %* \textCuttingLine -> \Cutline (marvosym)

```

### 51.2.28 Geometric Shapes: U+25A0 to U+25FF

```

19129 % U+25B2 BLACK UP-POINTING TRIANGLE; \UParrow (wasysym)
19130 \DeclareTextCommand{\textUParrow}{PU}{\9045\262}%* U+25B2
19131 %* \textUParrow -> \MoveUp (marvosym)
19132 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;
19133 % \bigtriangleup (LaTeX)
19134 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%* U+25B3
19135 %* \textbigtriangleup -> \APLup (wasysym)
19136 %* \textbigtriangleup -> \Bleech (marvosym)
19137 % U+25B6 BLACK RIGHT-POINTING TRIANGLE; \Forward (marvosym)
19138 \DeclareTextCommand{\textForward}{PU}{\9045\266}%* U+25B6
19139 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-
      tion);
19140 % whiterightpointingtriangle; \triangleright (LaTeX)
19141 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%* U+25B7
19142 % U+25BA BLACK RIGHT-POINTING POINTER; \RHD (wasysym)
19143 \DeclareTextCommand{\textRHD}{PU}{\9045\272}%* U+25BA
19144 % U+25BC BLACK DOWN-POINTING TRIANGLE; \DOWNarrow (wasysym)
19145 \DeclareTextCommand{\textDOWNarrow}{PU}{\9045\274}%* U+25BC
19146 %* \textDOWNarrow -> \MoveDown (marvosym)
19147 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtri-
      angle;
19148 % \bigtriangledown (LaTeX)
19149 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%* U+25BD
19150 %* \textbigtriangledown -> \APLdown (wasysym)
19151 % U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)
19152 \DeclareTextCommand{\textRewind}{PU}{\9045\300}%* U+25C0
19153 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-
      striction);
19154 % whiteleftpointingtriangle; \triangleleft (LaTeX)
19155 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%* U+25C1
19156 % U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)

```

```

19157 \DeclareTextCommand{\textLHD}{PU}{\9045\304}%* U+25C4
19158 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
19159 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
19160 %* \textdiamond -> \Diamond (wasysym)
19161 % U+25CA LOZENGE; lozenge; \lozenge (AmS)
19162 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
19163 % U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)
19164 \DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
19165 % U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
19166 \DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
19167 % U+25E6 WHITE BULLET; *openbullet, whitebullet
19168 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
19169 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
19170 % \boxbar (stmaryrd)
19171 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
19172 % U+25EF LARGE CIRCLE; largecircle
19173 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF
19174 %* \textbigcircle -> \varbigcirc (stmaryrd)
19175 %

```

### 51.2.29 Miscellaneous Symbols: U+2600 to U+26FF

```

19176 % U+2601 CLOUD; \Cloud (ifsym)
19177 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
19178 % U+2605 BLACK STAR; \FiveStar (bbding)
19179 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605
19180 % U+2606 WHITE STAR; \FiveStarOpen (bbding)
19181 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%* U+2606
19182 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bbding)
19183 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%* U+260E
19184 %* \textPhone -> \Telefon (marvosym)
19185 % U+2610 BALLOT BOX; \boxempty (stmaryrd)
19186 \DeclareTextCommand{\textboxempty}{PU}{\9046\020}%* U+2610
19187 %* \textboxempty -> \Box (wasysym)
19188 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)
19189 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%* U+2611
19190 %* \textCheckedbox -> \CheckedBox (marvosym)
19191 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)
19192 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%* U+2612
19193 %* \textCrossedbox -> \XBox (wasysym)
19194 %* \textCrossedbox -> \CrossedBox (marvosym)
19195 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)
19196 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%* U+2615
19197 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bbding)
19198 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%* U+261A
19199 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bbding)
19200 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%* U+261B
19201 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bbding)
19202 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%* U+261C
19203 %* \textHandLeft -> \rightpointleft (fourier)
19204 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bbding)
19205 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%* U+261E
19206 %* \textHandRight -> \leftpointright (fourier)
19207 %* \textHandRight -> \PointingHand (marvosym)
19208 %* \textHandRight -> \Pointinghand (marvosym)
19209 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)
19210 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%* U+2622
19211 %* \textRadioactivity -> \Radiation (ifsym)

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19212 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)  
19213 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%\* U+2623  
19214 % U+2625 ANKH; \Ankh (marvosym)  
19215 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%\* U+2625  
19216 % U+262F YIN YANG; \YinYang (marvosym)  
19217 \DeclareTextCommand{\textYinYang}{PU}{\9046\057}%\* U+262F  
19218 %\* \textYinYang -> \Yinyang (marvosym)  
19219 %\* \textYinYang -> \YingYang (marvosym)  
19220 %\* \textYinYang -> \Yingyang (marvosym)  
19221 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)  
19222 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%\* U+2639  
19223 %\* \textfrownie -> \Frowny (marvosym)  
19224 % U+263A WHITE SMILING FACE; \smiley (wasysym)  
19225 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%\* U+263A  
19226 %\* \textsmiley -> \Smiley (marvosym)  
19227 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)  
19228 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%\* U+263B  
19229 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)  
19230 \DeclareTextCommand{\textsun}{PU}{\9046\074}%\* U+263C  
19231 %\* \textsun -> \Sun (marvosym)  
19232 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)  
19233 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%\* U+263D  
19234 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)  
19235 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%\* U+263E  
19236 % U+263F MERCURY; \mercury (wasysym)  
19237 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%\* U+263F  
19238 %\* \textmercury -> \Mercury (marvosym)  
19239 % U+2640 FEMALE SIGN; female; \female (wasysym)  
19240 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640  
19241 %\* \textPUfemale -> \textfemale (tipx)  
19242 %\* \textPUfemale -> \female (wasysym)  
19243 %\* \textPUfemale -> \venus (wasysym)  
19244 %\* \textPUfemale -> \Venus (marvosym)  
19245 %\* \textPUfemale -> \Female (marvosym)  
19246 % U+2641 EARTH; \earth (wasysym)  
19247 \DeclareTextCommand{\textearth}{PU}{\9046\101}%\* U+2641  
19248 %\* \textearth -> \Earth (marvosym)  
19249 % U+2642 MALE SIGN; male, mars; \male (wasysym)  
19250 \DeclareTextCommand{\textmale}{PU}{\9046\102}%\* U+2642  
19251 %\* \textmale -> \mars (wasysym)  
19252 %\* \textmale -> \Mars (marvosym)  
19253 %\* \textmale -> \Male (marvosym)  
19254 % U+2643 JUPITER; \jupiter (wasysym)  
19255 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%\* U+2643  
19256 %\* \textjupiter -> \Jupiter (marvosym)  
19257 % U+2644 SATURN; \saturn (wasysym)  
19258 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%\* U+2644  
19259 %\* \textsaturn -> \Saturn (marvosym)  
19260 % U+2645 URANUS; \uranus (wasysym)  
19261 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%\* U+2645  
19262 %\* \texturanus -> \Uranus (marvosym)  
19263 % U+2646 NEPTUNE; \neptune (wasysym)  
19264 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%\* U+2646  
19265 %\* \textneptune -> \Neptune (marvosym)  
19266 % U+2647 PLUTO; \pluto (wasysym)  
19267 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%\* U+2647  
19268 %\* \textpluto -> \Pluto (marvosym)



19269 % U+2648 ARIES; \aries (wasysym)  
 19270 \DeclareTextCommand{\textaries}{PU}{\9046\110}%\* U+2648  
 19271 %\* \textaries -> \Aries (marvosym)  
 19272 % U+2649 TAURUS; \taurus (wasysym)  
 19273 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%\* U+2649  
 19274 %\* \texttaurus -> \Taurus (marvosym)  
 19275 % U+264A GEMINI; \gemini (wasysym)  
 19276 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%\* U+264A  
 19277 %\* \textgemini -> \Gemini (marvosym)  
 19278 % U+264B CANCER; \cancer (wasysym)  
 19279 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%\* U+264B  
 19280 %\* \textcancer -> \Cancer (marvosym)  
 19281 % U+264C LEO; \leo (wasysym)  
 19282 \DeclareTextCommand{\textleo}{PU}{\9046\114}%\* U+264C  
 19283 %\* \textleo -> \Leo (marvosym)  
 19284 % U+264D VIRGO; \virgo (wasysym)  
 19285 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%\* U+264D  
 19286 %\* \textvirgo -> \Virgo (marvosym)  
 19287 % U+264E LIBRA; \libra (wasysym)  
 19288 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%\* U+264E  
 19289 %\* \textlibra -> \Libra (marvosym)  
 19290 % U+264F SCORPIO; \scorpio (wasysym)  
 19291 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%\* U+264F  
 19292 %\* \textscorpio -> \Scorpio (marvosym)  
 19293 % U+2650 SAGITTARIUS; \sagittarius (wasysym)  
 19294 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%\* U+2650  
 19295 %\* \textsagittarius -> \Sagittarius (marvosym)  
 19296 % U+2651 CAPRICORN; \capricornus (wasysym)  
 19297 \DeclareTextCommand{\textcapricornus}{PU}{\9046\121}%\* U+2651  
 19298 %\* \textcapricornus -> \Capricorn (marvosym)  
 19299 % U+2652 AQUARIUS; \aquarius (wasysym)  
 19300 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%\* U+2652  
 19301 %\* \textaquarius -> \Aquarius (marvosym)  
 19302 % U+2653 PISCES; \pisces (wasysym)  
 19303 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%\* U+2653  
 19304 %\* \textpisces -> \Pisces (marvosym)  
 19305 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)  
 19306 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660  
 19307 %\* \textspadesuitblack -> \spadesuit (MnSymbol)  
 19308 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)  
 19309 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661  
 19310 %\* \textheartsuitwhite -> \Heart (marvosym)  
 19311 %\* \textheartsuitwhite -> \heartsuit (MnSymbol)  
 19312 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)  
 19313 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662  
 19314 %\* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)  
 19315 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)  
 19316 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663  
 19317 %\* \textclubsuitblack -> \clubsuit (MnSymbol)  
 19318 % U+2664 WHITE SPADE SUIT; spadesuitwhite  
 19319 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664  
 19320 % U+2665 BLACK HEART SUIT; heartsuitblack, heart  
 19321 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665  
 19322 % U+2666 BLACK DIAMOND SUIT; diamond  
 19323 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666  
 19324 % U+2667 WHITE CLUB SUIT; clubsuitwhite  
 19325 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667

19326 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)  
 19327 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%\* U+2669  
 19328 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)  
 19329 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
 19330 %\* \textmusicalnote -> \eighthnote (wasysym, arev)  
 19331 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)  
 19332 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%\* U+266B  
 19333 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-  
 note (arev)  
 19334 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%\* U+266C  
 19335 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)  
 19336 \DeclareTextCommand{\textflat}{PU}{\9046\155}%\* U+266D  
 19337 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)  
 19338 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%\* U+266E  
 19339 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)  
 19340 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%\* U+266F  
 19341 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)  
 19342 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%\* U+2672  
 19343 %\* \textrecycle -> \Recycling (marvosym)  
 19344 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)  
 19345 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%\* U+267F  
 19346 % U+2691 BLACK FLAG; \Flag (ifsym)  
 19347 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%\* U+2691  
 19348 %\* \textFlag -> \VarFlag (ifsym)  
 19349 % U+2692 HAMMER AND PICK; \MineSign (marvosym)  
 19350 \DeclareTextCommand{\textMineSign}{PU}{\9046\222}%\* U+2692  
 19351 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)  
 19352 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%\* U+2694  
 19353 %\* \textdsmilitary -> \textxswup (fourier)  
 19354 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)  
 19355 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%\* U+2695  
 19356 % U+2696 SCALES; \dsjuridical (dictsym)  
 19357 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%\* U+2696  
 19358 % U+2697 ALEMBIC; \dschemical (dictsym)  
 19359 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%\* U+2697  
 19360 % U+2698 FLOWER; \dsbiological (dictsym)  
 19361 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%\* U+2698  
 19362 % U+269A STAFF OF HERMES; \dscommercial (dictsym)  
 19363 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%\* U+269A  
 19364 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)  
 19365 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%\* U+269D  
 19366 % U+26A0 WARNING SIGN; \danger (fourier)  
 19367 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%\* U+26A0  
 19368 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)  
 19369 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%\* U+26A2  
 19370 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)  
 19371 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%\* U+26A3  
 19372 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (mar-  
 vosym)  
 19373 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%\* U+26A4  
 19374 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)  
 19375 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%\* U+26A5  
 19376 % U+26AA MEDIUM WHITE CIRCLE; \Neural (marvosym)  
 19377 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%\* U+26AA  
 19378 % U+26AD MARRIAGE SYMBOL  
 19379 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 19380 % U+26AE DIVORCE SYMBOL

19381 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE  
 19382 % U+26B2 NEUTER; \textuncrfemale (tipx)  
 19383 \DeclareTextCommand{\textPUuncrfemale}{PU}{\9046\262}% U+26B2  
 19384 %\* \textPUuncrfemale -> \textuncrfemale (tipx)  
 19385 % U+26B9 TEXTILE; \hexstar (wasysym)  
 19386 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%\* U+26B9  
 19387 % U+26BD SOCCER BALL; \Football (marvosym)  
 19388 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD  
 19389 %\* \textSoccerBall -> \Football (marvosym)  
 19390 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)  
 19391 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%\* U+26C5  
 19392 % U+26C6 RAIN; \Rain (ifsym)  
 19393 \DeclareTextCommand{\textRain}{PU}{\9046\306}%\* U+26C6  
 19394 % U+26D4 NO ENTRY; \noway (fourier)  
 19395 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%\* U+26D4  
 19396 % U+26F0 MOUNTAIN; \Mountain (ifsym)  
 19397 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%\* U+26F0  
 19398 % U+26FA TENT; \Tent (ifsym)  
 19399 \DeclareTextCommand{\textTent}{PU}{\9046\372}%\* U+26FA

### 51.2.30 Dingbats: U+2700 to U+27BF

19400 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bding)  
 19401 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701  
 19402 %\* \textScissorRightBrokenBottom -> \CutLeft (marvosym)  
 19403 %\* \textScissorRightBrokenBottom -> \Cutright (marvosym)  
 19404 % U+2702 BLACK SCISSORS; \ScissorRight (bding)  
 19405 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%\* U+2702  
 19406 %\* \textScissorRight -> \RightScissors (marvosym)  
 19407 %\* \textScissorRight -> \Leftscissors (marvosym)  
 19408 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bding)  
 19409 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%\* U+2703  
 19410 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bding)  
 19411 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%\* U+2704  
 19412 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bding)  
 19413 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%\* U+2706  
 19414 % U+2707 TAPE DRIVE; \Tape (bding)  
 19415 \DeclareTextCommand{\textTape}{PU}{\9047\007}%\* U+2707  
 19416 % U+2708 AIRPLANE; \Plane (bding)  
 19417 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%\* U+2708  
 19418 % U+2709 ENVELOPE; \Envelope (bding),  
 19419 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%\* U+2709  
 19420 %\* \textEnvelope -> \Letter (marvosym)  
 19421 % U+270C VICTORY HAND; \Peace (bding)  
 19422 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%\* U+270C  
 19423 % U+270D WRITING HAND; \WritingHand (marvosym)  
 19424 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%\* U+270D  
 19425 %\* \textWritingHand -> \Writinghand (marvosym)  
 19426 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bding)  
 19427 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%\* U+270E  
 19428 % U+270F PENCIL; \PencilRight (bding)  
 19429 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%\* U+270F  
 19430 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)  
 19431 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%\* U+2710  
 19432 % U+2711 WHITE NIB; \NibRight (bding)  
 19433 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%\* U+2711  
 19434 % U+2712 BLACK NIB; \NibSolidRight (bding)  
 19435 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%\* U+2712

19436 % U+2713 CHECK MARK; checkmark; \Checkmark (bding)  
 19437 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%\* U+2713  
 19438 %\* \textCheckmark -> \checkmark (MnSymbol)  
 19439 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)  
 19440 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%\* U+2714  
 19441 % U+2715 MULTIPLICATION X; \XSolid (bding)  
 19442 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%\* U+2715  
 19443 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)  
 19444 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%\* U+2716  
 19445 % U+2717 BALLOT X; \XSolidBrush (bding)  
 19446 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%\* U+2717  
 19447 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bding)  
 19448 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%\* U+2719  
 19449 % U+271A HEAVY GREEK CROSS; \Plus (bding)  
 19450 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%\* U+271A  
 19451 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bding)  
 19452 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%\* U+271B  
 19453 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bding)  
 19454 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%\* U+271C  
 19455 % U+271D LATIN CROSS; \Cross (bding)  
 19456 \DeclareTextCommand{\textCross}{PU}{\9047\035}%\* U+271D  
 19457 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bding)  
 19458 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%\* U+271E  
 19459 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bding)  
 19460 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%\* U+271F  
 19461 % U+2720 MALTESE CROSS; \CrossMaltese (bding)  
 19462 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%\* U+2720  
 19463 % U+2721 STAR OF DAVID; \DavidStar (bding)  
 19464 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%\* U+2721  
 19465 %\* \textDavidStar -> \davidstar (wasysym)  
 19466 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bding)  
 19467 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%\* U+2722  
 19468 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bding)  
 19469 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%\* U+2723  
 19470 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bding)  
 19471 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%\* U+2724  
 19472 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bding)  
 19473 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%\* U+2725  
 19474 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bding)  
 19475 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%\* U+2726  
 19476 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bding)  
 19477 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%\* U+2727  
 19478 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bding)  
 19479 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%\* U+272A  
 19480 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bding)  
 19481 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%\* U+272B  
 19482 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bding)  
 19483 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%\* U+272C  
 19484 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bding)  
 19485 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%\* U+272D  
 19486 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bding)  
 19487 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%\* U+272E  
 19488 % U+272F PINWHEEL STAR; \FiveStarConvex (bding)  
 19489 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%\* U+272F  
 19490 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bding)  
 19491 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%\* U+2730

19492 % U+2731 HEAVY ASTERISK; \AsteriskBold (bding)  
 19493 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%\* U+2731  
 19494 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bding)  
 19495 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%\* U+2732  
 19496 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bding)  
 19497 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%\* U+2734  
 19498 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bding)  
 19499 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%\* U+2735  
 19500 % U+2736 SIX POINTED BLACK STAR; \SixStar (bding)  
 19501 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%\* U+2736  
 19502 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)  
 19503 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%\* U+2737  
 19504 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)  
 19505 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%\* U+2738  
 19506 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)  
 19507 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%\* U+2739  
 19508 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)  
 19509 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%\* U+273A  
 19510 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)  
 19511 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%\* U+273B  
 19512 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;  
 19513 % \SixFlowerOpenCenter (bding)  
 19514 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%\* U+273C  
 19515 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)  
 19516 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%\* U+273D  
 19517 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)  
 19518 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%\* U+273E  
 19519 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)  
 19520 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%\* U+273F  
 19521 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)  
 19522 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%\* U+2740  
 19523 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)  
 19524 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%\* U+2741  
 19525 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)  
 19526 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%\* U+2742  
 19527 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)  
 19528 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%\* U+2743  
 19529 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)  
 19530 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%\* U+2744  
 19531 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)  
 19532 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%\* U+2745  
 19533 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)  
 19534 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%\* U+2746  
 19535 % U+2747 SPARKLE; \Sparkle (bding)  
 19536 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%\* U+2747  
 19537 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)  
 19538 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%\* U+2748  
 19539 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)  
 19540 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%\* U+2749  
 19541 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;

19542 % \EightFlowerPetalRemoved (bding)  
 19543 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%\* U+274A  
 19544 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
 19545 % \EightAsterisk (bding)  
 19546 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%\* U+274B  
 19547 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)  
 19548 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%\* U+274D  
 19549 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;  
 19550 % \SquareShadowBottomRight (bding)  
 19551 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%\* U+274F  
 19552 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;  
 19553 % \SquareShadowTopRight (bding)  
 19554 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%\* U+2750  
 19555 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;  
 19556 % \SquareCastShadowBottomRight (bding)  
 19557 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%\* U+2751  
 19558 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;  
 19559 % \SquareCastShadowTopRight (bding)  
 19560 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%\* U+2752  
 19561 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (bding)  
 19562 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%\* U+2756  
 19563 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bding)  
 19564 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%\* U+2758  
 19565 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bding)  
 19566 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%\* U+2759  
 19567 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bding)  
 19568 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%\* U+275A

### 51.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

19569 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)  
 19570 \DeclareTextCommand{\textperp}{PU}{\9047\302}%\* U+27C2  
 19571 % \notperp (mathabx)  
 19572 \DeclareTextCommand{\textnotperp}{PU}{\9047\302\83\070}%\* U+27C2 U+0338  
 19573 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)  
 19574 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%\* U+27C7  
 19575 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)  
 19576 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%\* U+27D1  
 19577 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)  
 19578 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%\* U+27DC  
 19579 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 19580 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%\* U+27E6  
 19581 %\* \textlbrackdbl -> \lbracket (stmaryrd)  
 19582 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 19583 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%\* U+27E7  
 19584 %\* \textrbrackdbl -> \rrbracket (stmaryrd)

### 51.2.32 Supplemental Arrows-A: U+27F0 to U+27FF

19585 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;  
 19586 % \circlearrowleft (AmS)  
 19587 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%\* U+27F2  
 19588 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)  
 19589 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%\* U+27F3  
 19590 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)  
 19591 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%\* U+27F5  
 19592 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)  
 19593 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%\* U+27F6

19594 % U+27F7 LONG LEFT RIGHT ARROW; \longlefttrightarrow (AmS)  
 19595 \DeclareTextCommand{\textlonglefttrightarrow}{PU}{\9047\367}%\* U+27F7  
 19596 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)  
 19597 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%\* U+27F8  
 19598 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \Longrightarrow (AmS)  
 19599 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%\* U+27F9  
 19600 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longlefttrightarrow (AmS)  
 19601 \DeclareTextCommand{\textLonglefttrightarrow}{PU}{\9047\372}%\* U+27FA  
 19602 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)  
 19603 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%\* U+27FC  
 19604 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmapsfrom (stmaryrd)  
 19605 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%\* U+27FD  
 19606 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmapsto (stmaryrd)  
 19607 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%\* U+27FE

### 51.2.33 Supplemental Arrows-B: U+2900 to U+297F

19608 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSymbol)  
 19609 \DeclareTextCommand{\textnwsearrow}{PU}{\9051\041}%\* U+2921  
 19610 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSymbol)  
 19611 \DeclareTextCommand{\textneswarrow}{PU}{\9051\042}%\* U+2922  
 19612 % U+2923 NORTH WEST ARROW WITH HOOK; \lhooknwarrow (MnSymbol)  
 19613 \DeclareTextCommand{\textlhooknwarrow}{PU}{\9051\043}%\* U+2923  
 19614 % U+2924 NORTH EAST ARROW WITH HOOK; \rhooknarrow (MnSymbol)  
 19615 \DeclareTextCommand{\textrhooknarrow}{PU}{\9051\044}%\* U+2924  
 19616 % U+2925 SOUTH EAST ARROW WITH HOOK; \lhooksearrow (MnSymbol)  
 19617 \DeclareTextCommand{\textlhooksearrow}{PU}{\9051\045}%\* U+2925  
 19618 % U+2926 SOUTH WEST ARROW WITH HOOK; \rhookswarrow (MnSymbol)  
 19619 \DeclareTextCommand{\textrhookswarrow}{PU}{\9051\046}%\* U+2926  
 19620 % U+2933 WAVE ARROW POINTING DIRECTLY RIGHT; \leadsto (wasysym)  
 19621 \DeclareTextCommand{\textleadsto}{PU}{\9051\063}%\* U+2933  
 19622 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;  
 19623 % \rcurvearrowne (MnSymbol)  
 19624 \DeclareTextCommand{\textrcurvearrowne}{PU}{\9051\064}%\* U+2934  
 19625 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWNWARDS;  
 19626 % \lcurvearrowse (MnSymbol)  
 19627 \DeclareTextCommand{\textlcurvearrowse}{PU}{\9051\065}%\* U+2935  
 19628 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFTWARDS;  
 19629 % \lcurvearrowsw (MnSymbol)  
 19630 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\9051\066}%\* U+2936  
 19631 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHTWARDS;  
 19632 % \rcurvearrowse (MnSymbol)  
 19633 \DeclareTextCommand{\textrcurvearrowse}{PU}{\9051\067}%\* U+2937  
 19634 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (MnSymbol)  
 19635 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\9051\070}%\* U+2938  
 19636 %\* \textlcurvearrowdown -> \RightTorque (marvosym)  
 19637 %\* \textlcurvearrowdown -> \Righttorque (marvosym)  
 19638 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;  
 19639 % \rcurvearrowdown (MnSymbol)  
 19640 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\9051\071}%\* U+2939

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19641 %* \texttrcurvearrowdown -> \LeftTorque (marvosym)
19642 %* \texttrcurvearrowdown -> \Lefttorque (marvosym)
19643 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSymbol)
19644 \DeclareTextCommand{\texttrcurvearrowleft}{PU}{\9051\072}%* U+293A
19645 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;
19646 % \rcurvearrowright (MnSymbol)
19647 \DeclareTextCommand{\texttrcurvearrowright}{PU}{\9051\073}%* U+293B
19648 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrightharpoon (mathabx)
19649 \DeclareTextCommand{\textleftrightharpoon}{PU}{\9051\112}%* U+294A
19650 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightleftharpoon (mathabx)
19651 \DeclareTextCommand{\textrightleftharpoon}{PU}{\9051\113}%* U+294B
19652 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;
19653 % \updownharpoonrightleft (MnSymbol)
19654 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\9051\114}%* U+294C
19655 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;
19656 % \updownharpoonleftright (MnSymbol)
19657 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\9051\115}%* U+294D
19658 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS
19659 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)
19660 \DeclareTextCommand{\textleftleftharpoons}{PU}{\9051\142}%* U+2962
19661 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS
19662 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)
19663 \DeclareTextCommand{\textupupharpoons}{PU}{\9051\143}%* U+2963
19664 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHT-
19665 % WARDS HARPOON
19666 % WITH BARB DOWN; \rightrightarpoons (mathabx)
19667 \DeclareTextCommand{\textrightarpoons}{PU}{\9051\144}%* U+2964
19668 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWN-
19669 % WARDS HARPOON
19670 % WITH BARB RIGHT; \downdownharpoons (mathabx)
19671 \DeclareTextCommand{\textdowndownharpoons}{PU}{\9051\145}%* U+2965
19672 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;
19673 % \leftbarharpoon (mathabx)
19674 \DeclareTextCommand{\textleftbarharpoon}{PU}{\9051\152}%* U+296A
19675 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW
19676 % LONG DASH; \barleftharpoon (mathabx)
19677 \DeclareTextCommand{\textbarleftharpoon}{PU}{\9051\153}%* U+296B
19678 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE
19679 % LONG DASH; \rightbarharpoon (mathabx)
19680 \DeclareTextCommand{\textrightbarharpoon}{PU}{\9051\154}%* U+296C
19681 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW
19682 % LONG DASH; \barrightharpoon (mathabx)
19683 \DeclareTextCommand{\textbarrightharpoon}{PU}{\9051\155}%* U+296D
19684 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWN-
19685 % WARDS HARPOON
19686 % WITH BARB RIGHT; \updownharpoons (mathabx)
19687 \DeclareTextCommand{\textupdownharpoons}{PU}{\9051\156}%* U+296E
19688 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UP-
19689 % WARDS HARPOON
19690 % WITH BARB RIGHT; \downupharpoons (mathabx)
19691 \DeclareTextCommand{\textdownupharpoons}{PU}{\9051\157}%* U+296F
19692 % U+297F DOWN FISH TAIL
19693 \DeclareTextCommand{\textmoo}{PU}{\9051\177\83\066}%* U+297F U+0336

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### 51.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

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19690 % U+2987 Z NOTATION LEFT IMAGE BRACKET; \llparenthesis (stmaryrd)
19691 \DeclareTextCommand{\textllparenthesis}{PU}{\9051\207}%* U+2987
19692 % U+2988 Z NOTATION RIGHT IMAGE BRACKET; \rrparenthesis (stmaryrd)
19693 \DeclareTextCommand{\textrrparenthesis}{PU}{\9051\210}%* U+2988
19694 % U+29B0 REVERSED EMPTY SET; \invdiameter (wasysym)
19695 \DeclareTextCommand{\textinvdiameter}{PU}{\9051\260}%* U+29B0
19696 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)
19697 \DeclareTextCommand{\textobar}{PU}{\9051\266}%* U+29B6
19698 %* \textobar -> \textvarobar (stmaryrd)
19699 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)
19700 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%* U+29B8
19701 %* \textobslash -> \circledbslash (txfonts/pxfonts)
19702 %* \textobslash -> \obackslash (mathabx)
19703 %* \textobslash -> \varobslash (stmaryrd)
19704 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF
19705 % DIVIDED BY VERTICAL BAR; \obot (mathabx)
19706 \DeclareTextCommand{\textobot}{PU}{\9051\272}%* U+29BA
19707 %* \textobot -> \odplus (ulsy)
19708 % U+29BB CIRCLE WITH SUPERIMPOSED X; \NoChemicalCleaning (mar-
      vosym)
19709 \DeclareTextCommand{\textNoChemicalCleaning}{PU}{\9051\273}%* U+29BB
19710 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)
19711 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%* U+29C0
19712 %* \textolessthan -> \varolessthan (stmaryrd)
19713 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)
19714 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%* U+29C1
19715 %* \textogreaterthan -> \varogreaterthan (stmaryrd)
19716 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)
19717 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%* U+29C4
19718 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)
19719 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%* U+29C5
19720 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)
19721 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%* U+29C6
19722 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)
19723 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%* U+29C7
19724 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)
19725 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%* U+29C8
19726 % U+29D3 BLACK BOWTIE; \Valve (marvosym)
19727 \DeclareTextCommand{\textValve}{PU}{\9051\323}%* U+29D3
19728 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)
19729 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%* U+29DF
19730 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)
19731 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%* U+29E2

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### 51.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF

```

19732 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)
19733 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%* U+2A04
19734 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)
19735 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%* U+2A07
19736 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)
19737 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%* U+2A08
19738 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,
19739 % pxfonts, wasysym)
19740 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%* U+2A1D
19741 % U+2A1F Z NOTATION SCHEMA COMPOSITION; \fatsemi (stmaryrd)
19742 \DeclareTextCommand{\textfatsemi}{PU}{\9052\037}%* U+2A1F

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19743 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)
19744 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%* U+2A22
19745 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)
19746 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%* U+2A2A
19747 %* \textminusdot -> \divdot (mathabx)
19748 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (math-
    abx)
19749 \DeclareTextCommand{\textdottimes}{PU}{\9052\060}%* U+2A30
19750 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;
19751 % \dtimes (mathdesign)
19752 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%* U+2A32
19753 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)
19754 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%* U+2A38
19755 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)
19756 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%* U+2A3C
19757 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)
19758 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%* U+2A4E
19759 %* \textsqdoublecap -> \doublesqcap (MnSymbol)
19760 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)
19761 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%* U+2A40
19762 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)
19763 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%* U+2A4F
19764 %* \textsqdoublecup -> \doublesqcup (MnSymbol)
19765 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)
19766 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%* U+2A55
19767 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)
19768 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%* U+2A56
19769 %* \textdoublevee -> \merge (stmaryrd)
19770 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;
19771 % \doublebarwedge (AmS)
19772 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%* U+2A5E
19773 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;
19774 % \veedoublebar (mahtabx)
19775 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%* U+2A63
19776 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)
19777 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%* U+2A66
19778 % \neqdot (MnSymbol)
19779 \DeclareTextCommand{\textneqdot}{PU}{\9052\146\83\070}%* U+2A66 U+0338
19780 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)
19781 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%* U+2A74
19782 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)
19783 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%* U+2A7D
19784 % \nleqslant (txfonts/pxfonts)
19785 \DeclareTextCommand{\textnleqslant}{PU}{\9052\175\83\070}%* U+2A7D U+0338
19786 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)
19787 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%* U+2A7E
19788 % \ngeqslant (txfonts/pxfonts)
19789 \DeclareTextCommand{\textngeqslant}{PU}{\9052\176\83\070}%* U+2A7E U+0338
19790 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)
19791 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%* U+2A85
19792 % \nlessapprox (txfonts/pxfonts)
19793 \DeclareTextCommand{\textnlessapprox}{PU}{\9052\205\83\070}%* U+2A85 U+0338
19794 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)
19795 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%* U+2A86
19796 % \ngtrapprox (txfonts/pxfonts)
19797 \DeclareTextCommand{\textngtrapprox}{PU}{\9052\206\83\070}%* U+2A86 U+0338
19798 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)

```

```

19799 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%* U+2A87
19800 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;
19801 % \gneq (AmS)
19802 \DeclareTextCommand{\textgtrneq}{PU}{\9052\210}%* U+2A88
19803 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)
19804 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%* U+2A89
19805 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)
19806 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%* U+2A8A
19807 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-THAN;
19808 % \lesseqqgtr (AmS)
19809 \DeclareTextCommand{\textlesseqqgtr}{PU}{\9052\213}%* U+2A8B
19810 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-THAN;
19811 % \gtreqless (AmS)
19812 \DeclareTextCommand{\textgtreqless}{PU}{\9052\214}%* U+2A8C
19813 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)
19814 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%* U+2A95
19815 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)
19816 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%* U+2A96
19817 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)
19818 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%* U+2AA6
19819 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)
19820 \DeclareTextCommand{\textrightangle}{PU}{\9052\247}%* U+2AA7
19821 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-
      Symbol)
19822 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%* U+2AAF
19823 % \npreceq (txfonts/pxfonts)
19824 \DeclareTextCommand{\textnpreceq}{PU}{\9052\257\83\070}%* U+2AAF U+0338
19825 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-
      Symbol)
19826 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%* U+2AB0
19827 % \nsucceq (txfonts/pxfonts)
19828 \DeclareTextCommand{\textnsucceq}{PU}{\9052\260\83\070}%* U+2AB0 U+0338
19829 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \prec-
      neq (mathabx)
19830 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%* U+2AB1
19831 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succ-
      neq (mathabx)
19832 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%* U+2AB2
19833 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)
19834 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%* U+2AB3
19835 % \npreceqq (txfonts/pxfonts)
19836 \DeclareTextCommand{\textnpreceqq}{PU}{\9052\263\83\070}%* U+2AB3 U+0338
19837 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)
19838 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%* U+2AB4
19839 % \nsucceqq (txfonts/pxfonts)
19840 \DeclareTextCommand{\textnsucceqq}{PU}{\9052\264\83\070}%* U+2AB4 U+0338
19841 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)
19842 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%* U+2AB5
19843 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)
19844 \DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%* U+2AB6
19845 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)
19846 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%* U+2AB7
19847 % \nprecapprox (txfonts/pxfonts)
19848 \DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%* U+2AB7 U+0338
19849 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)
19850 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%* U+2AB8
19851 % \nsuccapprox (txfonts/pxfonts)

```

```

19852 \DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%* U+2AB8 U+0338
19853 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnap-
      prox (AmS)
19854 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%* U+2AB9
19855 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnap-
      prox (AmS)
19856 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\272}%* U+2ABA
19857 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)
19858 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%* U+2AC5
19859 % \nsubseteqq (txfonts/pxfonts, mathabx)
19860 \DeclareTextCommand{\textnsubseteqq}{PU}{\9052\305\83\070}%* U+2AC5 U+0338
19861 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)
19862 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%* U+2AC6
19863 % \nsupseteqq (mathabx)
19864 \DeclareTextCommand{\textnsupseteqq}{PU}{\9052\306\83\070}%* U+2AC6 U+0338
19865 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE
19866 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%* U+2AE3
19867 %* \textdashV -> \leftVdash (MnSymbol)
19868 % \ndashV (mathabx)
19869 \DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%* U+2AE3 U+0338
19870 %* \textndashV -> \nleftVdash (MnSymbol)
19871 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)
19872 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%* U+2AE4
19873 %* \textDashv -> \leftmodels (MnSymbol)
19874 % \nDashv (mathabx)
19875 \DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%* U+2AE4 U+0338
19876 %* \textnDashv -> \nleftmodels (MnSymbol)
19877 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;
19878 % \DashV (mathabx)
19879 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%* U+2AE5
19880 %* \textDashV -> \leftModels (MnSymbol)
19881 % \nDashV (mathabx)
19882 \DeclareTextCommand{\textnDashV}{PU}{\9052\345\83\070}%* U+2AE5 U+0338
19883 %* \textnDashV -> \nleftModels (MnSymbol)
19884 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)
19885 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%* U+2AEA
19886 % \ndownmodels (MnSymbol)
19887 \DeclareTextCommand{\textndownmodels}{PU}{\9052\352\83\070}%* U+2AEA U+0338
19888 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)
19889 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%* U+2AEB
19890 % \nupmodels (MnSymbol)
19891 \DeclareTextCommand{\textnupmodels}{PU}{\9052\353\83\070}%* U+2AEB U+0338
19892 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)
19893 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%* U+2AEF
19894 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;
19895 % \interleave (stmaryrd)
19896 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%* U+2AF4
19897 % U+2AFD DOUBLE SOLIDUS OPERATOR; \sslash (stmaryrd)
19898 \DeclareTextCommand{\textsslash}{PU}{\9052\375}%* U+2AFD
19899 %* \textsslash -> \varparallel (txfonts/pxfonts)

```

### 51.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

```

19900 % U+2B20 WHITE PENTAGON; \pentagon (wasysym)
19901 \DeclareTextCommand{\textpentagon}{PU}{\9053\040}%* U+2B20
19902 % U+2B21 WHITE HEXAGON; \varhexagon (wasysym)
19903 \DeclareTextCommand{\textvarhexagon}{PU}{\9053\041}%* U+2B21

```

### 51.2.37 Latin Extended-C: U+2C60 to U+2C7F

19904 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J  
19905 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%\* U+2C7C

### 51.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

19906 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)  
19907 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%\* U+2E13  
19908 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)  
19909 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18  
19910 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)  
19911 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%\* U+2E2D

### 51.2.39 Modifier Tone Letters: U+A700 to U+A71F

19912 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)  
19913 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B  
19914 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;  
19915 % \textdownstep (tipa)  
19916 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

### 51.2.40 Latin Extended-D: U+A720 to U+A7FF

19917 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)  
19918 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727  
19919 %\* \textPUheng -> \textheng (tipx)  
19920 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)  
19921 \DeclareTextCommand{\textPULhookfour}{PU}{\9247\054}% U+A72C  
19922 %\* \textPULhookfour -> \textlhookfour (tipx)  
19923 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)  
19924 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730  
19925 %\* \textPUscf -> \textscf (tipx)  
19926 % U+A735 LATIN SMALL LETTER AO; \textao lig (tipx)  
19927 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735  
19928 %\* \textPUaolig -> \textao lig (tipx)  
19929 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)  
19930 \DeclareTextCommand{\textoo}{PU}{\9247\117}%\* U+A74F  
19931 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT  
19932 \DeclareTextCommand{\textcircumlow}{PU}{\9247\210}% U+A788

### 51.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

19933 % U+FB01 LATIN SMALL LIGATURE FI; fi  
19934 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
19935 % U+FB02 LATIN SMALL LIGATURE FL; fl  
19936 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 51.2.42 Musical Symbols: U+1D100 to U+1D1FF

19937 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)  
19938 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%\* U+1D13B  
19939 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)  
19940 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%\* U+1D13C  
19941 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)  
19942 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%\* U+1D13D  
19943 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)  
19944 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%\* U+1D13E  
19945 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)  
19946 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%\* U+1D13F  
19947 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)  
19948 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%\* U+1D140

19949 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)  
 19950 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%\* U+1D15D  
 19951 %\* \textfullnote -> \Ganz (harmony)  
 19952 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)  
 19953 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%\* U+1D15E  
 19954 %\* \texthalfnote -> \Halb (harmony)  
 19955 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)  
 19956 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%\* U+1D15F  
 19957 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)  
 19958 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%\* U+1D160  
 19959 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)  
 19960 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%\* U+1D161  
 19961 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)  
 19962 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%\* U+1D162

#### 51.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

19963 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)  
 19964 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%\* U+1F30D  
 19965 % U+1F319 CRESCENT MOON; \Moon (marvosym)  
 19966 \DeclareTextCommand{\textMoon}{PU}{\9330\074\9337\031}%\* U+1F319  
 19967 % U+1F468 MAN; \ManFace (marvosym)  
 19968 \DeclareTextCommand{\textManFace}{PU}{\9330\075\9334\150}%\* U+1F468  
 19969 % U+1F469 WOMAN; \WomanFace (marvosym)  
 19970 \DeclareTextCommand{\textWomanFace}{PU}{\9330\075\9334\151}%\* U+1F469  
 19971 %\* \textWomanFace -> \Womanface (marvosym)  
 19972 % U+1F4E0 FAX MACHINE; \Fax (marvosym)  
 19973 \DeclareTextCommand{\textFax}{PU}{\9330\075\9334\340}%\* U+1F4E0  
 19974 %\* \textFax -> \Faxmachine (marvosym)  
 19975 % U+1F525 FIRE; \Fire (ifsym)  
 19976 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%\* U+1F525

#### 51.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

19977 % U+1F6B2 BICYCLE; \Bicycle (marvosym)  
 19978 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%\* U+1F6B2  
 19979 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)  
 19980 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%\* U+1F6B9  
 19981 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)  
 19982 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%\* U+1F6BA

#### 51.2.45 Miscellaneous

19983 \DeclareTextCommand{\SS}{PU}{SS}%  
 19984 % \textcopyleft (textcomp)  
 19985 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD  
 19986 % \ccnc (ccllicenses)  
 19987 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%\* U+0024 U+20E0  
 19988 % \ccnd (ccllicenses)  
 19989 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%\* U+003D U+20DD  
 19990 % \ccsa (ccllicenses)  
 19991 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%\* U+27F2 U+20DD  
 19992 % \Info (marvosym, china2e)  
 19993 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\9040\336}%\* U+1D422 U+20DE  
 19994 % \CESign (marvosym)  
 19995 \DeclareTextCommand{\textCESign}{PU}{\80\103\80\105}%\* U+0043 U+0045  
 19996 %\* \textCESign -> \CESign (marvosym)

#### 51.2.46 Aliases

Aliases (german.sty)

```

19997 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%
19998 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%
19999 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%
20000 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%
20001 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}%
20002 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}%
20003 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%
20004 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%

Aliases (math names)

20005 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
20006 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
20007 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*
20008 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
20009 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
20010 </puenc>

```

### 51.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

20011 <*puvnenc>

20012 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
20013 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
20014 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
20015 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
20016 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
20017 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
20018 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
20019 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
20020 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
20021 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4
20022 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
20023 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF

20024 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
20025 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
20026 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0
20027 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3
20028 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
20029 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF
20030 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7
20031 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}% U+1EB1
20032 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3
20033 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5
20034 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5
20035 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD
20036 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}% U+1EA7
20037 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9
20038 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB
20039 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
20040 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9
20041 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8
20042 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB
20043 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
20044 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF
20045 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7
20046 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}% U+1EC1

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20047 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3  
 20048 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5  
 20049 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 20050 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
 20051 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
 20052 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9  
 20053 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
 20054 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 20055 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
 20056 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
 20057 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF  
 20058 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 20059 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1  
 20060 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9  
 20061 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}% U+1ED3  
 20062 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5  
 20063 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7  
 20064 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB  
 20065 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3  
 20066 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}% U+1EDD  
 20067 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF  
 20068 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1  
 20069 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 20070 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
 20071 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 20072 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7  
 20073 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 20074 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9  
 20075 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1  
 20076 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}% U+1EEB  
 20077 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED  
 20078 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF  
 20079 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 20080 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 20081 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
 20082 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7  
 20083 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9  
 20084 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
 20085 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
 20086 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}% U+00C0  
 20087 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2  
 20088 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
 20089 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE  
 20090 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6  
 20091 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}% U+1EB0  
 20092 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2  
 20093 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4  
 20094 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4  
 20095 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC  
 20096 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6  
 20097 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8  
 20098 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA  
 20099 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
 20100 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
 20101 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}% U+00C8  
 20102 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA  
 20103 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC



```

20104 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE
20105 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6
20106 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0
20107 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2
20108 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4
20109 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
20110 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA
20111 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}% U+00CC
20112 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8
20113 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
20114 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
20115 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
20116 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}% U+00D2
20117 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE
20118 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
20119 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0
20120 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8
20121 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2
20122 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4
20123 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6
20124 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA
20125 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2
20126 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}% U+1EDC
20127 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE
20128 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0
20129 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
20130 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
20131 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9
20132 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6
20133 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
20134 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8
20135 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0
20136 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}% U+1EEA
20137 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
20138 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
20139 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
20140 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
20141 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2
20142 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
20143 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
20144 </puvnenc>

```

## 51.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

20145 <*puarenc>
20146 % U+0621;afii57409;ARABIC LETTER HAMZA
20147 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
20148 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
20149 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
20150 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
20151 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
20152 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
20153 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
20154 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
20155 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625

```

20156 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE  
 20157 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626  
 20158 % U+0627;afii57415;ARABIC LETTER ALEF  
 20159 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627  
 20160 % U+0628;afii57416;ARABIC LETTER BEH  
 20161 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628  
 20162 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA  
 20163 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629  
 20164 % U+062A;afii57418;ARABIC LETTER TEH  
 20165 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A  
 20166 % U+062B;afii57419;ARABIC LETTER THEH  
 20167 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B  
 20168 % U+062C;afii57420;ARABIC LETTER JEEM  
 20169 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C  
 20170 % U+062D;afii57421;ARABIC LETTER HAH  
 20171 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D  
 20172 % U+062E;afii57422;ARABIC LETTER KHAH  
 20173 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E  
 20174 % U+062F;afii57423;ARABIC LETTER DAL  
 20175 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F  
 20176 % U+0630;afii57424;ARABIC LETTER THAL  
 20177 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630  
 20178 % U+0631;afii57425;ARABIC LETTER REH  
 20179 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631  
 20180 % U+0632;afii57426;ARABIC LETTER ZAIN  
 20181 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632  
 20182 % U+0633;afii57427;ARABIC LETTER SEEN  
 20183 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633  
 20184 % U+0634;afii57428;ARABIC LETTER SHEEN  
 20185 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634  
 20186 % U+0635;afii57429;ARABIC LETTER SAD  
 20187 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635  
 20188 % U+0636;afii57430;ARABIC LETTER DAD  
 20189 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636  
 20190 % U+0637;afii57431;ARABIC LETTER TAH  
 20191 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637  
 20192 % U+0638;afii57432;ARABIC LETTER ZAH  
 20193 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638  
 20194 % U+0639;afii57433;ARABIC LETTER AIN  
 20195 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639  
 20196 % U+063A;afii57434;ARABIC LETTER GHAIN  
 20197 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A  
 20198 % U+0640;afii57440;ARABIC TATWEEL  
 20199 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640  
 20200 % U+0641;afii57441;ARABIC LETTER FEH  
 20201 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641  
 20202 % U+0642;afii57442;ARABIC LETTER QAF  
 20203 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642  
 20204 % U+0643;afii57443;ARABIC LETTER KAF  
 20205 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643  
 20206 % U+0644;afii57444;ARABIC LETTER LAM  
 20207 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644  
 20208 % U+0645;afii57445;ARABIC LETTER MEEM  
 20209 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645  
 20210 % U+0646;afii57446;ARABIC LETTER NOON  
 20211 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646  
 20212 % U+0647;afii57470;ARABIC LETTER HEH

20213 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647  
 20214 % U+0648;afi57448;ARABIC LETTER WAW  
 20215 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648  
 20216 % U+0649;afi57449;ARABIC LETTER ALEF MAKSURA  
 20217 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649  
 20218 % U+064A;afi57450;ARABIC LETTER YEH  
 20219 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A  
  
 20220 % U+064B;afi57451;ARABIC FATHATAN  
 20221 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B  
 20222 % U+064C;afi57452;ARABIC DAMMATAN  
 20223 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C  
 20224 % U+064D;afi57453;ARABIC KASRATAN  
 20225 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D  
 20226 % U+064E;afi57454;ARABIC FATHA  
 20227 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E  
 20228 % U+064F;afi57455;ARABIC DAMMA  
 20229 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F  
 20230 % U+0650;afi57456;ARABIC KASRA  
 20231 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650  
 20232 % U+0651;afi57457;ARABIC SHADDA  
 20233 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651  
 20234 % U+0652;afi57458;ARABIC SUKUN  
 20235 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652  
  
 Farsi  
 20236 % U+067E ARABIC LETTER PEH; afi57506  
 20237 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E  
 20238 % U+0686 ARABIC LETTER TCHEH; afi57507  
 20239 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686  
 20240 % U+0698 ARABIC LETTER JEH; afi57508  
 20241 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698  
 20242 % U+06A9 ARABIC LETTER KEHEH  
 20243 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9  
 20244 % U+06AF ARABIC LETTER GAF; afi57509  
 20245 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF  
 20246 % U+06CC ARABIC LETTER FARSI YEH  
 20247 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC  
  
 20248 % U+200C ZERO WIDTH NON-JOINER; afi61664  
 20249 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% U+200C  
 20250 % U+200D ZERO WIDTH JOINER; afi301  
 20251 \DeclareTextCommand{\noboundary}{PU}{\9040\015}% U+200D  
 20252 (/puarenc)  
 20253 (\*psdextra)  
 20254 \Hy@VersionCheck{psdextra.def}  
 20255 \newcommand\*{\psdmapshortnames}{%  
 20256 \let\MVPlus\textMVPlus  
 20257 \let\MVComma\textMVComma  
 20258 \let\MVMinus\textMVMinus  
 20259 \let\MVPeriod\textMVPeriod  
 20260 \let\MVDivision\textMVDivision  
 20261 \let\MVZero\textMVZero  
 20262 \let\MVOne\textMVOne  
 20263 \let\MVTwo\textMVTwo  
 20264 \let\MVThree\textMVThree  
 20265 \let\MVFour\textMVFour  
 20266 \let\MVFive\textMVFive

20267 \let\MVSix\textMVSix  
 20268 \let\MVSeven\textMVSeven  
 20269 \let\MVEight\textMVEight  
 20270 \let\MVNine\textMVNine  
 20271 \let\MVAt\textMVAt  
 20272 \let\copyright\textcopyright  
 20273 \let\twosuperior\texttwosuperior  
 20274 \let\threesuperior\textthreesuperior  
 20275 \let\onesuperior\textonesuperior  
 20276 \let\Thorn\textThorn  
 20277 \let\thorn\textthorn  
 20278 \let\hbar\texthbar  
 20279 \let\hausaB\texthausaB  
 20280 \let\hausaD\texthausaD  
 20281 \let\hausaK\texthausaK  
 20282 \let\barl\textbarl  
 20283 \let\inve\textinve  
 20284 \let\slashc\textslashc  
 20285 \let\scripta\textscripta  
 20286 \let\openo\textopeno  
 20287 \let\rtaild\textrtaild  
 20288 \let\reve\textreve  
 20289 \let\schwa\textschwa  
 20290 \let\niepsilon\textniepsilon  
 20291 \let\repsilon\textrepsilon  
 20292 \let\rhookrepsilon\text\rhookrepsilon  
 20293 \let\scriptg\textscriptg  
 20294 \let\scg\textscg  
 20295 \let\ipagamma\textipagamma  
 20296 \let\babygamma\textbabygamma  
 20297 \let\bari\textbari  
 20298 \let\niiota\textniiota  
 20299 \let\sci\textsci  
 20300 \let\scn\textscn  
 20301 \let\niphi\textniphi  
 20302 \let\longleg\textlongleg  
 20303 \let\scr\textscr  
 20304 \let\invscr\textinvscr  
 20305 \let\esh\textesh  
 20306 \let\baru\textbaru  
 20307 \let\niupsilon\textniupsilon  
 20308 \let\scriptv\textscriptv  
 20309 \let\turnv\textturnv  
 20310 \let\turnw\textturnw  
 20311 \let\turny\textturny  
 20312 \let\scy\textscy  
 20313 \let\yogh\textyogh  
 20314 \let\glotstop\textglotstop  
 20315 \let\revglotstop\textrevglotstop  
 20316 \let\invglotstop\textinvglotstop  
 20317 \let\Gamma\textGamma  
 20318 \let\Delta\textDelta  
 20319 \let\Theta\textTheta  
 20320 \let\Lambda\textLambda  
 20321 \let\Xi\textXi  
 20322 \let\Pi\textPi  
 20323 \let\Sigma\textSigma

20324 \let\Upsilon\textUpsilon  
 20325 \let\Phi\textPhi  
 20326 \let\Psi\textPsi  
 20327 \let\Omega\textOmega  
 20328 \let\alpha\textalpha  
 20329 \let\beta\textbeta  
 20330 \let\gamma\textgamma  
 20331 \let\delta\textdelta  
 20332 \let\epsilon\textepsilon  
 20333 \let\zeta\textzeta  
 20334 \let\eta\texteta  
 20335 \let\theta\texttheta  
 20336 \let\iota\textiota  
 20337 \let\kappa\textkappa  
 20338 \let\lambda\textlambda  
 20339 \let\mugreek\textmugreek  
 20340 \let\nu\textnu  
 20341 \let\xi\textxi  
 20342 \let\pi\textpi  
 20343 \let\rho\rho  
 20344 \let\varsigma\textvarsigma  
 20345 \let\sigma\textsigma  
 20346 \let\tau\texttau  
 20347 \let\upsilon\textupsilon  
 20348 \let\phi\textphi  
 20349 \let\chi\textchi  
 20350 \let\psi\textpsi  
 20351 \let\omega\textomega  
 20352 \let\scd\textscd  
 20353 \let\scu\textscu  
 20354 \let\iinferior\textiinferior  
 20355 \let\rinferior\extrinferior  
 20356 \let\uiinferior\textuiinferior  
 20357 \let\vinferior\textvinferior  
 20358 \let\betainferior\textbetainferior  
 20359 \let\gammainferior\textgammainferior  
 20360 \let\rhoinferior\textrhoinferior  
 20361 \let\phiinferior\textphiinferior  
 20362 \let\chiinferior\textchiinferior  
 20363 \let\barsci\textbarsci  
 20364 \let\barp\textbarp  
 20365 \let\barscu\textbarscu  
 20366 \let\htrtaild\texthtrtaild  
 20367 \let\dagger\textdagger  
 20368 \let\bullet\textbullet  
 20369 \let\hdotfor\texthdotfor  
 20370 \let\prime\textprime  
 20371 \let\second\textsecond  
 20372 \let\third\textthird  
 20373 \let\backprime\textbackprime  
 20374 \let\lefttherefore\textlefttherefore  
 20375 \let\fourth\textfourth  
 20376 \let\diamonddots\textdiamonddots  
 20377 \let\zerosuperior\textzerosuperior  
 20378 \let\isuperior\textisuperior  
 20379 \let\foursuperior\textfoursuperior  
 20380 \let\fivesuperior\textfivesuperior

20381 \let\sixsuperior\textsixsuperior  
 20382 \let\sevensuperior\textsevensuperior  
 20383 \let\eightsuperior\texteightsuperior  
 20384 \let\ninesuperior\textninesuperior  
 20385 \let\plussuperior\textplussuperior  
 20386 \let\minussuperior\textminussuperior  
 20387 \let\equalsuperior\textequalsuperior  
 20388 \let\parenleftsuperior\textparenleftsuperior  
 20389 \let\parenrightsuperior\textparenrightsuperior  
 20390 \let\nsuperior\textnsuperior  
 20391 \let\zeroinferior\textzeroinferior  
 20392 \let\oneinferior\textoneinferior  
 20393 \let\twoinferior\texttwoinferior  
 20394 \let\threeinferior\textthreeinferior  
 20395 \let\fourinferior\textfourinferior  
 20396 \let\fiveinferior\textfiveinferior  
 20397 \let\sixinferior\textsixinferior  
 20398 \let\seveninferior\textseveninferior  
 20399 \let\eightinferior\texteightinferior  
 20400 \let\nineinferior\textnineinferior  
 20401 \let\plusinferior\textplusinferior  
 20402 \let\minusinferior\textminusinferior  
 20403 \let\equalsinferior\textequalsinferior  
 20404 \let\parenleftinferior\textparenleftinferior  
 20405 \let\parenrightinferior\textparenrightinferior  
 20406 \let\ainferior\textainferior  
 20407 \let\einferior\texteinferior  
 20408 \let\oinferior\textoinferior  
 20409 \let\xinferior\textxinferior  
 20410 \let\schwainferior\textschwainferior  
 20411 \let\hinferior\texthinferior  
 20412 \let\kinferior\textkinferior  
 20413 \let\linferior\textlinferior  
 20414 \let\minferior\textminferior  
 20415 \let\ninferior\textninferior  
 20416 \let\pinferior\textpinferior  
 20417 \let\sinferior\textsinferior  
 20418 \let\tinferior\texttinferior  
 20419 \let\Deleatur\textDeleatur  
 20420 \let\hslash\texthslash  
 20421 \let\Im\textIm  
 20422 \let\ell\textell  
 20423 \let\wp\textwp  
 20424 \let\Re\textRe  
 20425 \let\mho\textmho  
 20426 \let\riota\textriota  
 20427 \let\Finv\textFinv  
 20428 \let\aleph\textaleph  
 20429 \let\beth\textbeth  
 20430 \let\gimel\textgimel  
 20431 \let\daleth\textdaleth  
 20432 \let\xfax\textfax  
 20433 \let\Game\textGame  
 20434 \let\leftarrow\textleftarrow  
 20435 \let\uparrow\textuparrow  
 20436 \let\rightarrow\textrightarrow  
 20437 \let\downarrow\textdownarrow

20438 `\let\leftrightharrow\textleftrightharrow`  
 20439 `\let\updownarrow\textupdownarrow`  
 20440 `\let\newarrow\textnarrow`  
 20441 `\let\nearrow\textnearrow`  
 20442 `\let\searrow\textsearrow`  
 20443 `\let\swarrow\textswarrow`  
 20444 `\let\leftarrow\textnleftarrow`  
 20445 `\let\rightarrow\textnrightarrow`  
 20446 `\let\twoheadleftarrow\texttwoheadleftarrow`  
 20447 `\let\ntwoheadleftarrow\textntwoheadleftarrow`  
 20448 `\let\twoheaduparrow\texttwoheaduparrow`  
 20449 `\let\twoheadrightarrow\texttwoheadrightarrow`  
 20450 `\let\ntwoheadrightarrow\textntwoheadrightarrow`  
 20451 `\let\twoheaddownarrow\texttwoheaddownarrow`  
 20452 `\let\leftarrowtail\textleftarrowtail`  
 20453 `\let\rightarrowtail\textrightarrowtail`  
 20454 `\let\mapsto\textmapsto`  
 20455 `\let\hookleftarrow\texthookleftarrow`  
 20456 `\let\hookrightarrow\texthookrightarrow`  
 20457 `\let\looparrowleft\textlooparrowleft`  
 20458 `\let\looparrowright\textlooparrowright`  
 20459 `\let\leftrightharrow\textnleftrightharrow`  
 20460 `\let\lightning\textlightning`  
 20461 `\let\dlsh\textdlsh`  
 20462 `\let\curvearrowleft\textcurvearrowleft`  
 20463 `\let\curvearrowright\textcurvearrowright`  
 20464 `\let\leftharpoonup\textleftharpoonup`  
 20465 `\let\leftharpoondown\textleftharpoondown`  
 20466 `\let\upharpoonright\textupharpoonright`  
 20467 `\let\upharpoonleft\textupharpoonleft`  
 20468 `\let\rightarpoonup\textrightarpoonup`  
 20469 `\let\rightarpoondown\textrightarpoondown`  
 20470 `\let\downharpoonright\textdownharpoonright`  
 20471 `\let\downharpoonleft\textdownharpoonleft`  
 20472 `\let\rightleftarrows\textrightleftarrows`  
 20473 `\let\updownarrows\textupdownarrows`  
 20474 `\let\leftrightharrows\textleftrightharrows`  
 20475 `\let\leftleftarrows\textleftleftarrows`  
 20476 `\let\upuparrows\textupuparrows`  
 20477 `\let\righttrightarrows\textrighttrightarrows`  
 20478 `\let\downownarrows\textdownownarrows`  
 20479 `\let\leftrightharpoons\textleftrightharpoons`  
 20480 `\let\rightleftharpoons\textrightleftharpoons`  
 20481 `\let\leftarrow\textnleftarrow`  
 20482 `\let\rightarrow\textnrightarrow`  
 20483 `\let\leftarrow\textnleftarrow`  
 20484 `\let\leftarrow\textnleftarrow`  
 20485 `\let\Upward\textUpward`  
 20486 `\let\Rightward\textRightward`  
 20487 `\let\Downward\textDownward`  
 20488 `\let\Leftward\textLeftward`  
 20489 `\let\Updownarrow\textUpdownarrow`  
 20490 `\let\Narrow\textNarrow`  
 20491 `\let\Nearrow\textNearrow`  
 20492 `\let\Searrow\textSearrow`  
 20493 `\let\Swarrow\textSwarrow`  
 20494 `\let\Lleftarrow\textLleftarrow`

20495  $\text{\let\Rightarrow\textRightarrow}$   
 20496  $\text{\let\leftsquigarrow\textleftsquigarrow}$   
 20497  $\text{\let\rightsquigarrow\textrightsquigarrow}$   
 20498  $\text{\let\dashleftarrow\textdashleftarrow}$   
 20499  $\text{\let\dasheduparrow\textdasheduparrow}$   
 20500  $\text{\let\dashrightarrow\textdashrightarrow}$   
 20501  $\text{\let\dasheddownarrow\textdasheddownarrow}$   
 20502  $\text{\let\pointer\textpointer}$   
 20503  $\text{\let\downuparrows\textdownuparrows}$   
 20504  $\text{\let\leftarrowtriangle\textleftarrowtriangle}$   
 20505  $\text{\let\rightarrowtriangle\textrightarrowtriangle}$   
 20506  $\text{\let\leftrightarrowtriangle\textleftrightarrowtriangle}$   
 20507  $\text{\let\forall\textforall}$   
 20508  $\text{\let\complement\textcomplement}$   
 20509  $\text{\let\partial\textpartial}$   
 20510  $\text{\let\exists\textexists}$   
 20511  $\text{\let\nexists\textnexists}$   
 20512  $\text{\let\emptyset\textemptyset}$   
 20513  $\text{\let\triangle\texttriangle}$   
 20514  $\text{\let\nabla\textnabla}$   
 20515  $\text{\let\in\textin}$   
 20516  $\text{\let\notin\textnotin}$   
 20517  $\text{\let\smallin\textsmallin}$   
 20518  $\text{\let\ni\textni}$   
 20519  $\text{\let\notowner\textnotowner}$   
 20520  $\text{\let\smallowns\textsmallowns}$   
 20521  $\text{\let\prod\textprod}$   
 20522  $\text{\let\amalg\textamalg}$   
 20523  $\text{\let\sum\textsum}$   
 20524  $\text{\let\mp\textmp}$   
 20525  $\text{\let\dotplus\textdotplus}$   
 20526  $\text{\let\Divides\textDivides}$   
 20527  $\text{\let\DividesNot\textDividesNot}$   
 20528  $\text{\let\setminus\textsetminus}$   
 20529  $\text{\let\ast\textast}$   
 20530  $\text{\let\circ\textcirc}$   
 20531  $\text{\let\surd\textsurd}$   
 20532  $\text{\let\propto\textpropto}$   
 20533  $\text{\let\infty\textinfty}$   
 20534  $\text{\let\angle\textangle}$   
 20535  $\text{\let\measuredangle\textmeasuredangle}$   
 20536  $\text{\let\sphericalangle\textsphericalangle}$   
 20537  $\text{\let\mid\textmid}$   
 20538  $\text{\let\nmid\textnmid}$   
 20539  $\text{\let\parallel\textparallel}$   
 20540  $\text{\let\nparallel\textnparallel}$   
 20541  $\text{\let\wedge\textwedge}$   
 20542  $\text{\let\owedge\textowedge}$   
 20543  $\text{\let\vee\textvee}$   
 20544  $\text{\let\ovee\textovee}$   
 20545  $\text{\let\cap\textcap}$   
 20546  $\text{\let\cup\textcup}$   
 20547  $\text{\let\int\textint}$   
 20548  $\text{\let\iint\textiint}$   
 20549  $\text{\let\iiint\textiiint}$   
 20550  $\text{\let\oint\textoint}$   
 20551  $\text{\let\oiint\textoiint}$



20552 `\let\ointclockwise\textointclockwise`  
 20553 `\let\ointctrckwise\textointctrckwise`  
 20554 `\let\therefore\texttherefore`  
 20555 `\let\because\textbecause`  
 20556 `\let\vdotted\textvdotted`  
 20557 `\let\squaredots\textsquaredots`  
 20558 `\let\dotminus\textdotminus`  
 20559 `\let\eqcolon\texteqcolon`  
 20560 `\let\sim\textsim`  
 20561 `\let\backsim\textbacksim`  
 20562 `\let\nbacksim\textnbacksim`  
 20563 `\let\wr\textwr`  
 20564 `\let\nsim\textnsim`  
 20565 `\let\eqsim\texteqsim`  
 20566 `\let\neqsim\textneqsim`  
 20567 `\let\simeq\textsimeq`  
 20568 `\let\nsimeq\textnsimeq`  
 20569 `\let\cong\textcong`  
 20570 `\let\ncong\textncong`  
 20571 `\let\approx\textapprox`  
 20572 `\let\napprox\textnapprox`  
 20573 `\let\approxeq\textapproxeq`  
 20574 `\let\napproxeq\textnapproxeq`  
 20575 `\let\triplesim\texttriplesim`  
 20576 `\let\ntriplesim\textntriplesim`  
 20577 `\let\backcong\textbackcong`  
 20578 `\let\nbackcong\textnbackcong`  
 20579 `\let\asymp\textasymp`  
 20580 `\let\nasymp\textnasymp`  
 20581 `\let\Bumpeq\textBumpeq`  
 20582 `\let\NBumpeq\textNBumpeq`  
 20583 `\let\bumpeq\textbumpeq`  
 20584 `\let\Nbunpeq\textNbunpeq`  
 20585 `\let\doteq\textdoteq`  
 20586 `\let\ndoteq\textndoteq`  
 20587 `\let\doteqdot\textdoteqdot`  
 20588 `\let\NDoteq\textNDoteq`  
 20589 `\let\fallingdoteq\textfallingdoteq`  
 20590 `\let\Nfallingdoteq\textNfallingdoteq`  
 20591 `\let\risingdoteq\textrisingdoteq`  
 20592 `\let\Nrisingdoteq\textNrisingdoteq`  
 20593 `\let\colonequals\textcolonequals`  
 20594 `\let\equalscolon\textequalscolon`  
 20595 `\let\eqcirc\texteqcirc`  
 20596 `\let\neqcirc\textneqcirc`  
 20597 `\let\circeq\textcirceq`  
 20598 `\let\ncirceq\textncirceq`  
 20599 `\let\hateq\texthateq`  
 20600 `\let\Nhateq\textNhateq`  
 20601 `\let\triangleeq\texttriangleeq`  
 20602 `\let\neq\textneq`  
 20603 `\let\ne\textne`  
 20604 `\let\equiv\textequiv`  
 20605 `\let\nequiv\textnequiv`  
 20606 `\let\leq\textleq`  
 20607 `\let\le\textle`  
 20608 `\let\geq\textgeq`

20609  $\backslash\mathrm{ge}$  $\backslash\mathrm{textge}$   
 20610  $\backslash\mathrm{leqq}$  $\backslash\mathrm{textleqq}$   
 20611  $\backslash\mathrm{nleqq}$  $\backslash\mathrm{textnleqq}$   
 20612  $\backslash\mathrm{geqq}$  $\backslash\mathrm{textgeqq}$   
 20613  $\backslash\mathrm{ngeqq}$  $\backslash\mathrm{textngeqq}$   
 20614  $\backslash\mathrm{lneqq}$  $\backslash\mathrm{textlneqq}$   
 20615  $\backslash\mathrm{gneqq}$  $\backslash\mathrm{textgneqq}$   
 20616  $\backslash\mathrm{ll}$  $\backslash\mathrm{textll}$   
 20617  $\backslash\mathrm{nll}$  $\backslash\mathrm{textnll}$   
 20618  $\backslash\mathrm{gg}$  $\backslash\mathrm{textgg}$   
 20619  $\backslash\mathrm{ngg}$  $\backslash\mathrm{textngg}$   
 20620  $\backslash\mathrm{between}$  $\backslash\mathrm{textbetween}$   
 20621  $\backslash\mathrm{nless}$  $\backslash\mathrm{textnless}$   
 20622  $\backslash\mathrm{ngtr}$  $\backslash\mathrm{textngtr}$   
 20623  $\backslash\mathrm{nleq}$  $\backslash\mathrm{textnleq}$   
 20624  $\backslash\mathrm{ngeq}$  $\backslash\mathrm{textngeq}$   
 20625  $\backslash\mathrm{lesssim}$  $\backslash\mathrm{textlesssim}$   
 20626  $\backslash\mathrm{gtrsim}$  $\backslash\mathrm{textgtrsim}$   
 20627  $\backslash\mathrm{nlesssim}$  $\backslash\mathrm{textnlesssim}$   
 20628  $\backslash\mathrm{ngtrsim}$  $\backslash\mathrm{textngtrsim}$   
 20629  $\backslash\mathrm{lessgtr}$  $\backslash\mathrm{textlessgtr}$   
 20630  $\backslash\mathrm{gtrless}$  $\backslash\mathrm{textgtrless}$   
 20631  $\backslash\mathrm{ngtrless}$  $\backslash\mathrm{textngtrless}$   
 20632  $\backslash\mathrm{nlessgtr}$  $\backslash\mathrm{textnlessgtr}$   
 20633  $\backslash\mathrm{prec}$  $\backslash\mathrm{textprec}$   
 20634  $\backslash\mathrm{succ}$  $\backslash\mathrm{textsucc}$   
 20635  $\backslash\mathrm{preccurlyeq}$  $\backslash\mathrm{textpreccurlyeq}$   
 20636  $\backslash\mathrm{succcurlyeq}$  $\backslash\mathrm{textsucccurlyeq}$   
 20637  $\backslash\mathrm{precsim}$  $\backslash\mathrm{textprecsim}$   
 20638  $\backslash\mathrm{nprecsim}$  $\backslash\mathrm{textnprecsim}$   
 20639  $\backslash\mathrm{succsim}$  $\backslash\mathrm{textsuccsim}$   
 20640  $\backslash\mathrm{nsuccsim}$  $\backslash\mathrm{textnsuccsim}$   
 20641  $\backslash\mathrm{nprec}$  $\backslash\mathrm{textnprec}$   
 20642  $\backslash\mathrm{nsucc}$  $\backslash\mathrm{textnsucc}$   
 20643  $\backslash\mathrm{subset}$  $\backslash\mathrm{textsubset}$   
 20644  $\backslash\mathrm{supset}$  $\backslash\mathrm{textsupset}$   
 20645  $\backslash\mathrm{nsubset}$  $\backslash\mathrm{textnsubset}$   
 20646  $\backslash\mathrm{nsupset}$  $\backslash\mathrm{textnsupset}$   
 20647  $\backslash\mathrm{subseteq}$  $\backslash\mathrm{textsubseteq}$   
 20648  $\backslash\mathrm{supseteq}$  $\backslash\mathrm{textsupseteq}$   
 20649  $\backslash\mathrm{nsubseteq}$  $\backslash\mathrm{textnsubseteq}$   
 20650  $\backslash\mathrm{nsupseteq}$  $\backslash\mathrm{textnsupseteq}$   
 20651  $\backslash\mathrm{subsetneq}$  $\backslash\mathrm{textsubsetneq}$   
 20652  $\backslash\mathrm{supsetneq}$  $\backslash\mathrm{textsupsetneq}$   
 20653  $\backslash\mathrm{cupdot}$  $\backslash\mathrm{textcupdot}$   
 20654  $\backslash\mathrm{cupplus}$  $\backslash\mathrm{textcupplus}$   
 20655  $\backslash\mathrm{sqsubset}$  $\backslash\mathrm{textsqsubset}$   
 20656  $\backslash\mathrm{nsqsubset}$  $\backslash\mathrm{textnsqsubset}$   
 20657  $\backslash\mathrm{sqsupset}$  $\backslash\mathrm{textsqsupset}$   
 20658  $\backslash\mathrm{nsqsupset}$  $\backslash\mathrm{textnsqsupset}$   
 20659  $\backslash\mathrm{sqsubseq}$  $\backslash\mathrm{textsqsubseq}$   
 20660  $\backslash\mathrm{nsqsubseq}$  $\backslash\mathrm{textnsqsubseq}$   
 20661  $\backslash\mathrm{sqsupseq}$  $\backslash\mathrm{textsqsupseq}$   
 20662  $\backslash\mathrm{nsqsupseq}$  $\backslash\mathrm{textnsqsupseq}$   
 20663  $\backslash\mathrm{sqcap}$  $\backslash\mathrm{textsqcap}$   
 20664  $\backslash\mathrm{sqcup}$  $\backslash\mathrm{textsqcup}$   
 20665  $\backslash\mathrm{oplus}$  $\backslash\mathrm{textoplus}$

20666  $\backslash\text{let}\backslash\text{ominus}\backslash\text{textominus}$   
 20667  $\backslash\text{let}\backslash\text{otimes}\backslash\text{textotimes}$   
 20668  $\backslash\text{let}\backslash\text{oslash}\backslash\text{textoslash}$   
 20669  $\backslash\text{let}\backslash\text{odot}\backslash\text{textodot}$   
 20670  $\backslash\text{let}\backslash\text{circledcirc}\backslash\text{textcircledcirc}$   
 20671  $\backslash\text{let}\backslash\text{circledast}\backslash\text{textcircledast}$   
 20672  $\backslash\text{let}\backslash\text{circleddash}\backslash\text{textcircleddash}$   
 20673  $\backslash\text{let}\backslash\text{boxplus}\backslash\text{textboxplus}$   
 20674  $\backslash\text{let}\backslash\text{boxminus}\backslash\text{textboxminus}$   
 20675  $\backslash\text{let}\backslash\text{boxtimes}\backslash\text{textboxtimes}$   
 20676  $\backslash\text{let}\backslash\text{boxdot}\backslash\text{textboxdot}$   
 20677  $\backslash\text{let}\backslash\text{vdash}\backslash\text{textvdash}$   
 20678  $\backslash\text{let}\backslash\text{dashv}\backslash\text{texdashv}$   
 20679  $\backslash\text{let}\backslash\text{ndashv}\backslash\text{texndashv}$   
 20680  $\backslash\text{let}\backslash\text{top}\backslash\text{texttop}$   
 20681  $\backslash\text{let}\backslash\text{ndownvdash}\backslash\text{texndownvdash}$   
 20682  $\backslash\text{let}\backslash\text{bot}\backslash\text{textbot}$   
 20683  $\backslash\text{let}\backslash\text{nupvdash}\backslash\text{texnupvdash}$   
 20684  $\backslash\text{let}\backslash\text{vDash}\backslash\text{textvDash}$   
 20685  $\backslash\text{let}\backslash\text{VDash}\backslash\text{textVDash}$   
 20686  $\backslash\text{let}\backslash\text{Vdash}\backslash\text{textVdash}$   
 20687  $\backslash\text{let}\backslash\text{nVdash}\backslash\text{texnVdash}$   
 20688  $\backslash\text{let}\backslash\text{VDash}\backslash\text{textVDash}$   
 20689  $\backslash\text{let}\backslash\text{nvDash}\backslash\text{texnvDash}$   
 20690  $\backslash\text{let}\backslash\text{nvDash}\backslash\text{texnvDash}$   
 20691  $\backslash\text{let}\backslash\text{nVdash}\backslash\text{texnVdash}$   
 20692  $\backslash\text{let}\backslash\text{nVDash}\backslash\text{texnVDash}$   
 20693  $\backslash\text{let}\backslash\text{lhs}\backslash\text{texlhs}$   
 20694  $\backslash\text{let}\backslash\text{rhs}\backslash\text{texrhs}$   
 20695  $\backslash\text{let}\backslash\text{unlhs}\backslash\text{texunlhs}$   
 20696  $\backslash\text{let}\backslash\text{unrhs}\backslash\text{texunrhs}$   
 20697  $\backslash\text{let}\backslash\text{multimapdotbothA}\backslash\text{textmultimapdotbothA}$   
 20698  $\backslash\text{let}\backslash\text{multimapdotbothB}\backslash\text{textmultimapdotbothB}$   
 20699  $\backslash\text{let}\backslash\text{multimap}\backslash\text{textmultimap}$   
 20700  $\backslash\text{let}\backslash\text{veebar}\backslash\text{textveebar}$   
 20701  $\backslash\text{let}\backslash\text{barwedge}\backslash\text{textbarwedge}$   
 20702  $\backslash\text{let}\backslash\text{star}\backslash\text{textstar}$   
 20703  $\backslash\text{let}\backslash\text{divideontimes}\backslash\text{textdivideontimes}$   
 20704  $\backslash\text{let}\backslash\text{bowtie}\backslash\text{textbowtie}$   
 20705  $\backslash\text{let}\backslash\text{ltimes}\backslash\text{textltimes}$   
 20706  $\backslash\text{let}\backslash\text{rtimes}\backslash\text{textrtimes}$   
 20707  $\backslash\text{let}\backslash\text{leftthreetimes}\backslash\text{textleftthreetimes}$   
 20708  $\backslash\text{let}\backslash\text{rightthreetimes}\backslash\text{textrightthreetimes}$   
 20709  $\backslash\text{let}\backslash\text{backsimeq}\backslash\text{textbacksimeq}$   
 20710  $\backslash\text{let}\backslash\text{nbacksimeq}\backslash\text{texnbacksimeq}$   
 20711  $\backslash\text{let}\backslash\text{curlyvee}\backslash\text{textcurlyvee}$   
 20712  $\backslash\text{let}\backslash\text{curlywedge}\backslash\text{textcurlywedge}$   
 20713  $\backslash\text{let}\backslash\text{Subset}\backslash\text{textSubset}$   
 20714  $\backslash\text{let}\backslash\text{nSubset}\backslash\text{texnSubset}$   
 20715  $\backslash\text{let}\backslash\text{Supset}\backslash\text{textSupset}$   
 20716  $\backslash\text{let}\backslash\text{nSupset}\backslash\text{texnSupset}$   
 20717  $\backslash\text{let}\backslash\text{Cap}\backslash\text{textCap}$   
 20718  $\backslash\text{let}\backslash\text{Cup}\backslash\text{textCup}$   
 20719  $\backslash\text{let}\backslash\text{pitchfork}\backslash\text{textpitchfork}$   
 20720  $\backslash\text{let}\backslash\text{lessdot}\backslash\text{textlessdot}$   
 20721  $\backslash\text{let}\backslash\text{gtrdot}\backslash\text{textgtrdot}$   
 20722  $\backslash\text{let}\backslash\text{lll}\backslash\text{textlll}$

20723 \let\ggg\textggg  
 20724 \let\lesseqgtr\textlesseqgtr  
 20725 \let\gtreqless\textgtreqless  
 20726 \let\curlyeqprec\textcurlyeqprec  
 20727 \let\ncurlyeqprec\textncurlyeqprec  
 20728 \let\curlyeqsucc\textcurlyeqsucc  
 20729 \let\ncurlyeqsucc\textncurlyeqsucc  
 20730 \let\mpreccurlyeq\textmpreccurlyeq  
 20731 \let\msucccurlyeq\textmsucccurlyeq  
 20732 \let\mqsubseteq\textmqsubseteq  
 20733 \let\mqsupseteq\textmqsupseteq  
 20734 \let\sqsubsetneq\textsqsubsetneq  
 20735 \let\sqsupsetneq\textsqsupsetneq  
 20736 \let\lnsim\textlnsim  
 20737 \let\gnsim\textgnsim  
 20738 \let\precnsim\textprecnsim  
 20739 \let\succnsim\textsuccnsim  
 20740 \let\ntriangleright\textntriangleright  
 20741 \let\ntriangleright\textntriangleright  
 20742 \let\ntrianglerighteq\textntrianglerighteq  
 20743 \let\ntrianglerighteq\textntrianglerighteq  
 20744 \let\vdots\textvdots  
 20745 \let\cdots\textcdots  
 20746 \let\udots\textudots  
 20747 \let\ddots\textddots  
 20748 \let\barin\textbarin  
 20749 \let\diameter\textdiameter  
 20750 \let\backneg\textbackneg  
 20751 \let\wasylozenge\textwasylozenge  
 20752 \let\invbackneg\textinvbackneg  
 20753 \let\clock\textclock  
 20754 \let\ulcorner\textulcorner  
 20755 \let\urcorner\texturcorner  
 20756 \let\llcorner\textllcorner  
 20757 \let\lrcorner\textlrcorner  
 20758 \let\frown\textfrown  
 20759 \let\smile\textsmile  
 20760 \let\Keyboard\textKeyboard  
 20761 \let\langle\textlangle  
 20762 \let\rangle\textrangle  
 20763 \let\APLinv\textAPLinv  
 20764 \let\Tumbler\textTumbler  
 20765 \let\notslash\textnotslash  
 20766 \let\notbackslash\textnotbackslash  
 20767 \let\boxbackslash\textboxbackslash  
 20768 \let\APLleftarrowbox\textAPLleftarrowbox  
 20769 \let\APLrightarrowbox\textAPLrightarrowbox  
 20770 \let\APLuparrowbox\textAPLuparrowbox  
 20771 \let\APLdownarrowbox\textAPLdownarrowbox  
 20772 \let\APLinput\textAPLinput  
 20773 \let\Request\textRequest  
 20774 \let\Beam\textBeam  
 20775 \let\hexagon\texthexagon  
 20776 \let\APLbox\textAPLbox  
 20777 \let\ForwardToIndex\textForwardToIndex  
 20778 \let\RewindToIndex\textRewindToIndex  
 20779 \let\bbslash\textbbslash

20780 \let\CircledA\textCircledA  
 20781 \let\CleaningF\textCleaningF  
 20782 \let\CleaningFF\textCleaningFF  
 20783 \let\CleaningP\textCleaningP  
 20784 \let\CleaningPP\textCleaningPP  
 20785 \let\CuttingLine\textCuttingLine  
 20786 \let\UParrow\textUParrow  
 20787 \let\bigtriangleup\textbigtriangleup  
 20788 \let\Forward\textForward  
 20789 \let\triangleright\texttriangleright  
 20790 \let\RHD\textRHD  
 20791 \let\DOWNarrow\textDOWNarrow  
 20792 \let\bigtriangledown\textbigtriangledown  
 20793 \let\Rewind\textRewind  
 20794 \let\triangleleft\texttriangleleft  
 20795 \let\LHD\textLHD  
 20796 \let\diamond\textdiamond  
 20797 \let\lozenge\textlozenge  
 20798 \let\LEFTCIRCLE\textLEFTCIRCLE  
 20799 \let\RIGHTCIRCLE\textRIGHTCIRCLE  
 20800 \let\openbullet\textopenbullet  
 20801 \let\boxbar\textboxbar  
 20802 \let\bigcircle\textbigcircle  
 20803 \let\Cloud\textCloud  
 20804 \let\FiveStar\textFiveStar  
 20805 \let\FiveStarOpen\textFiveStarOpen  
 20806 \let\Phone\textPhone  
 20807 \let\boxempty\textboxempty  
 20808 \let\Checkedbox\textCheckedbox  
 20809 \let\Crossedbox\textCrossedbox  
 20810 \let\Coffeecup\textCoffeecup  
 20811 \let\HandCuffLeft\textHandCuffLeft  
 20812 \let\HandCuffRight\textHandCuffRight  
 20813 \let\HandLeft\textHandLeft  
 20814 \let\HandRight\textHandRight  
 20815 \let\Radioactivity\textRadioactivity  
 20816 \let\Biohazard\textBiohazard  
 20817 \let\Ankh\textAnkh  
 20818 \let\YinYang\textYinYang  
 20819 \let\frownie\textfrownie  
 20820 \let\smiley\textsmiley  
 20821 \let\blacksmiley\textblacksmiley  
 20822 \let\sun\textsun  
 20823 \let\leftmoon\textleftmoon  
 20824 \let\rightmoon\textrightmoon  
 20825 \let\mercury\textmercury  
 20826 \let\earth\textearth  
 20827 \let\male\textmale  
 20828 \let\jupiter\textjupiter  
 20829 \let\saturn\textsaturn  
 20830 \let\uranus\texturanus  
 20831 \let\neptune\textneptune  
 20832 \let\pluto\textpluto  
 20833 \let\aries\textaries  
 20834 \let\taurus\texttaurus  
 20835 \let\gemini\textgemini  
 20836 \let\cancer\textcancer

20837 \let\leo\textleo  
 20838 \let\virgo\textvirgo  
 20839 \let\libra\textlibra  
 20840 \let\scorpio\textscorpio  
 20841 \let\sagittarius\textsagittarius  
 20842 \let\capricornus\textcapricornus  
 20843 \let\aquarius\textaquarius  
 20844 \let\pisces\textpisces  
 20845 \let\quarternote\textquarternote  
 20846 \let\twonotes\texttwonotes  
 20847 \let\sixteenthnote\textsixteenthnote  
 20848 \let\flat\textflat  
 20849 \let\natural\textnatural  
 20850 \let\sharp\textsharp  
 20851 \let\recycle\textrecycle  
 20852 \let\Wheelchair\textWheelchair  
 20853 \let\Flag\textFlag  
 20854 \let\MineSign\textMineSign  
 20855 \let\ds military\textds military  
 20856 \let\ds medical\textds medical  
 20857 \let\ds juridical\textds juridical  
 20858 \let\ds chemical\textds chemical  
 20859 \let\ds biological\textds biological  
 20860 \let\ds commercial\textds commercial  
 20861 \let\manstar\textmanstar  
 20862 \let\danger\textdanger  
 20863 \let\FemaleFemale\textFemaleFemale  
 20864 \let\MaleMale\textMaleMale  
 20865 \let\FemaleMale\textFemaleMale  
 20866 \let\Hermaphrodite\textHermaphrodite  
 20867 \let\Neutral\textNeutral  
 20868 \let\hexstar\texthexstar  
 20869 \let\SunCload\textSunCload  
 20870 \let\Rain\textRain  
 20871 \let\noway\textnoway  
 20872 \let\Mountain\textMountain  
 20873 \let\Tent\textTent  
 20874 \let\ScissorRight\textScissorRight  
 20875 \let\ScissorRightBrokenTop\textScissorRightBrokenTop  
 20876 \let\ScissorHollowRight\textScissorHollowRight  
 20877 \let\PhoneHandset\textPhoneHandset  
 20878 \let\Tape\textTape  
 20879 \let\Plane\textPlane  
 20880 \let\Envelope\textEnvelope  
 20881 \let\Peace\textPeace  
 20882 \let\WritingHand\textWritingHand  
 20883 \let\PencilRightDown\textPencilRightDown  
 20884 \let\PencilRight\textPencilRight  
 20885 \let\PencilRightUp\textPencilRightUp  
 20886 \let\NibRight\textNibRight  
 20887 \let\NibSolidRight\textNibSolidRight  
 20888 \let\Checkmark\textCheckmark  
 20889 \let\CheckmarkBold\textCheckmarkBold  
 20890 \let\XSolid\textXSolid  
 20891 \let\XSolidBold\textXSolidBold  
 20892 \let\XSolidBrush\textXSolidBrush  
 20893 \let\PlusOutline\textPlusOutline

20894 \let\Plus\textPlus  
 20895 \let\PlusThinCenterOpen\textPlusThinCenterOpen  
 20896 \let\PlusCenterOpen\textPlusCenterOpen  
 20897 \let\Cross\textCross  
 20898 \let\CrossOpenShadow\textCrossOpenShadow  
 20899 \let\CrossOutline\textCrossOutline  
 20900 \let\CrossMaltese\textCrossMaltese  
 20901 \let\DavidStar\textDavidStar  
 20902 \let\FourAsterisk\textFourAsterisk  
 20903 \let\JackStar\textJackStar  
 20904 \let\JackStarBold\textJackStarBold  
 20905 \let\ClowerTips\textClowerTips  
 20906 \let\FourStar\textFourStar  
 20907 \let\FourStarOpen\textFourStarOpen  
 20908 \let\FiveStarOpenCircled\textFiveStarOpenCircled  
 20909 \let\FiveStarCenterOpen\textFiveStarCenterOpen  
 20910 \let\FiveStarOpenDotted\textFiveStarOpenDotted  
 20911 \let\FiveStarOutline\textFiveStarOutline  
 20912 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy  
 20913 \let\FiveStarConvex\textFiveStarConvex  
 20914 \let\FiveStarShadow\textFiveStarShadow  
 20915 \let\AsteriskBold\textAsteriskBold  
 20916 \let\AsteriskCenterOpen\textAsteriskCenterOpen  
 20917 \let\EightStarTaper\textEightStarTaper  
 20918 \let\EightStarConvex\textEightStarConvex  
 20919 \let\SixStar\textSixStar  
 20920 \let\EightStar\textEightStar  
 20921 \let\EightStarBold\textEightStarBold  
 20922 \let\TwelveStar\textTwelveStar  
 20923 \let\SixteenStarLight\textSixteenStarLight  
 20924 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved  
 20925 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter  
 20926 \let\Asterisk\textAsterisk  
 20927 \let\SixFlowerAlternate\textSixFlowerAlternate  
 20928 \let\FiveFlowerPetal\textFiveFlowerPetal  
 20929 \let\FiveFlowerOpen\textFiveFlowerOpen  
 20930 \let\EightFlowerPetal\textEightFlowerPetal  
 20931 \let\SunshineOpenCircled\textSunshineOpenCircled  
 20932 \let\SixFlowerAltPetal\textSixFlowerAltPetal  
 20933 \let\SnowflakeChevron\textSnowflakeChevron  
 20934 \let\Snowflake\textSnowflake  
 20935 \let\SnowflakeChevronBold\textSnowflakeChevronBold  
 20936 \let\Sparkle\textSparkle  
 20937 \let\SparkleBold\textSparkleBold  
 20938 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds  
 20939 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved  
 20940 \let\EightAsterisk\textEightAsterisk  
 20941 \let\CircleShadow\textCircleShadow  
 20942 \let\SquareShadowBottomRight\textSquareShadowBottomRight  
 20943 \let\SquareTopRight\textSquareTopRight  
 20944 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight  
 20945 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight  
 20946 \let\DiamandSolid\textDiamandSolid  
 20947 \let\RectangleThin\textRectangleThin  
 20948 \let\Rectangle\textRectangle  
 20949 \let\RectangleBold\textRectangleBold  
 20950 \let\perp\textperp

20951 `\let\notperp\textnotperp`  
 20952 `\let\veedot\textveedot`  
 20953 `\let\wedgedot\textwedgedot`  
 20954 `\let\leftspoon\textleftspoon`  
 20955 `\let\lbrackdbl\textlbrackdbl`  
 20956 `\let\rbrackdbl\textrbrackdbl`  
 20957 `\let\circlearrowleft\textcirclearrowleft`  
 20958 `\let\circlearrowright\textcirclearrowright`  
 20959 `\let\longleftarrow\textlongleftarrow`  
 20960 `\let\longrightarrow\textlongrightarrow`  
 20961 `\let\longleftarrowright\textlongleftarrowright`  
 20962 `\let\Longleftarrow\textLongleftarrow`  
 20963 `\let\Longrightarrow\textLongrightarrow`  
 20964 `\let\Longleftarrowright\textLongleftarrowright`  
 20965 `\let\longmapsto\textlongmapsto`  
 20966 `\let\Longmapsfrom\textLongmapsfrom`  
 20967 `\let\Longmapsto\textLongmapsto`  
 20968 `\let\nwsearrow\textnwsearrow`  
 20969 `\let\neswarrow\textneswarrow`  
 20970 `\let\lhooknwarrow\textlhooknwarrow`  
 20971 `\let\rhooknearrow\textrhooknearrow`  
 20972 `\let\lhooksearrow\textlhooksearrow`  
 20973 `\let\rhookswarrow\textrhookswarrow`  
 20974 `\let\leadsto\textleadsto`  
 20975 `\let\rcurvearrowne\textrcurvearrowne`  
 20976 `\let\lcurvearrowse\textlcurvearrowse`  
 20977 `\let\lcurvearrowsw\textlcurvearrowsw`  
 20978 `\let\rcurvearrowse\textrcurvearrowse`  
 20979 `\let\lcurvearrowdown\textlcurvearrowdown`  
 20980 `\let\rcurvearrowdown\textrcurvearrowdown`  
 20981 `\let\rcurvearrowleft\textrcurvearrowleft`  
 20982 `\let\rcurvearrowright\textrcurvearrowright`  
 20983 `\let\leftrightharpoon\textleftrightharpoon`  
 20984 `\let\rightrightarpoon\textrighttrightarpoon`  
 20985 `\let\updownharpoonrightleft\textupdownharpoonrightleft`  
 20986 `\let\updownharpoonleftright\textupdownharpoonleftright`  
 20987 `\let\leftleftharpoons\textleftleftharpoons`  
 20988 `\let\upupharpoons\textupupharpoons`  
 20989 `\let\righttrightharpoons\textrighttrightharpoons`  
 20990 `\let\downdownharpoons\textdowndownharpoons`  
 20991 `\let\leftbarharpoon\textleftbarharpoon`  
 20992 `\let\barleftharpoon\textbarleftharpoon`  
 20993 `\let\rightbarharpoon\textrightbarharpoon`  
 20994 `\let\barriightharpoon\textbarriightharpoon`  
 20995 `\let\updownharpoons\textupdownharpoons`  
 20996 `\let\downupharpoons\textdownupharpoons`  
 20997 `\let\moo\textmoo`  
 20998 `\let\llparenthesis\textllparenthesis`  
 20999 `\let\rrparenthesis\textrrparenthesis`  
 21000 `\let\invdiameter\textinvdiameter`  
 21001 `\let\obar\textobar`  
 21002 `\let\obslash\textobslash`  
 21003 `\let\obot\textobot`  
 21004 `\let\NoChemicalCleaning\textNoChemicalCleaning`  
 21005 `\let\olessthan\textolessthan`  
 21006 `\let\ogreaterthan\textogreaterthan`  
 21007 `\let\boxslash\textboxslash`



21008  $\backslash\text{boxslash}\text{boxslash}$   
 21009  $\backslash\text{boxast}\text{boxast}$   
 21010  $\backslash\text{boxcircle}\text{boxcircle}$   
 21011  $\backslash\text{boxbox}\text{boxbox}$   
 21012  $\backslash\text{Valve}\text{Valve}$   
 21013  $\backslash\text{multimapboth}\text{multimapboth}$   
 21014  $\backslash\text{shuffle}\text{shuffle}$   
 21015  $\backslash\text{uplus}\text{uplus}$   
 21016  $\backslash\text{bigdoublewedge}\text{bigdoublewedge}$   
 21017  $\backslash\text{bigdoublevee}\text{bigdoublevee}$   
 21018  $\backslash\text{Join}\text{Join}$   
 21019  $\backslash\text{fatsemi}\text{fatsemi}$   
 21020  $\backslash\text{circplus}\text{circplus}$   
 21021  $\backslash\text{minusdot}\text{minusdot}$   
 21022  $\backslash\text{dotimes}\text{dotimes}$   
 21023  $\backslash\text{dtimes}\text{dtimes}$   
 21024  $\backslash\text{odiv}\text{odiv}$   
 21025  $\backslash\text{invneg}\text{invneg}$   
 21026  $\backslash\text{sqdoublecap}\text{sqdoublecap}$   
 21027  $\backslash\text{capdot}\text{capdot}$   
 21028  $\backslash\text{sqdoublecup}\text{sqdoublecup}$   
 21029  $\backslash\text{doublewedge}\text{doublewedge}$   
 21030  $\backslash\text{doublevee}\text{doublevee}$   
 21031  $\backslash\text{doublebarwedge}\text{doublebarwedge}$   
 21032  $\backslash\text{veedoublebar}\text{veedoublebar}$   
 21033  $\backslash\text{eqdot}\text{eqdot}$   
 21034  $\backslash\text{neqdot}\text{neqdot}$   
 21035  $\backslash\text{coloncolonequals}\text{coloncolonequals}$   
 21036  $\backslash\text{leqslant}\text{leqslant}$   
 21037  $\backslash\text{nleqslant}\text{nleqslant}$   
 21038  $\backslash\text{geqslant}\text{geqslant}$   
 21039  $\backslash\text{ngeqslant}\text{ngeqslant}$   
 21040  $\backslash\text{lessapprox}\text{lessapprox}$   
 21041  $\backslash\text{nlessapprox}\text{nlessapprox}$   
 21042  $\backslash\text{gtrapprox}\text{gtrapprox}$   
 21043  $\backslash\text{ngtrapprox}\text{ngtrapprox}$   
 21044  $\backslash\text{lneq}\text{lneq}$   
 21045  $\backslash\text{gneq}\text{gneq}$   
 21046  $\backslash\text{lnapprox}\text{lnapprox}$   
 21047  $\backslash\text{gnapprox}\text{gnapprox}$   
 21048  $\backslash\text{lesseqqgtr}\text{lesseqqgtr}$   
 21049  $\backslash\text{gtreqqlless}\text{gtreqqlless}$   
 21050  $\backslash\text{eqslantless}\text{eqslantless}$   
 21051  $\backslash\text{eqslantgtr}\text{eqslantgtr}$   
 21052  $\backslash\text{leftslice}\text{leftslice}$   
 21053  $\backslash\text{rightslice}\text{rightslice}$   
 21054  $\backslash\text{preceq}\text{preceq}$   
 21055  $\backslash\text{npreceq}\text{npreceq}$   
 21056  $\backslash\text{succeq}\text{succeq}$   
 21057  $\backslash\text{nsucceq}\text{nsucceq}$   
 21058  $\backslash\text{precneq}\text{precneq}$   
 21059  $\backslash\text{succneq}\text{succneq}$   
 21060  $\backslash\text{preceqq}\text{preceqq}$   
 21061  $\backslash\text{npreceqq}\text{npreceqq}$   
 21062  $\backslash\text{succeqq}\text{succeqq}$   
 21063  $\backslash\text{nsucceqq}\text{nsucceqq}$   
 21064  $\backslash\text{precneqq}\text{precneqq}$

21065 \let\succneqq\textsuccneqq  
 21066 \let\precapprox\textprecapprox  
 21067 \let\nprecapprox\textnprecapprox  
 21068 \let\succapprox\textsuccapprox  
 21069 \let\nsuccapprox\textnsuccapprox  
 21070 \let\precnapprox\textprecnapprox  
 21071 \let\succnapprox\textsuccnapprox  
 21072 \let\subseteqq\textsubseteqq  
 21073 \let\nsubseteqq\textnsubseteqq  
 21074 \let\supseteqq\textsupseteqq  
 21075 \let\nsupseteqq\textnsupseteqq  
 21076 \let\dashV\textdashV  
 21077 \let\ndashV\textndashV  
 21078 \let\Dashv\textDashv  
 21079 \let\ndashv\textndashv  
 21080 \let\DashV\textDashV  
 21081 \let\ndashV\textndashV  
 21082 \let\downmodels\textdownmodels  
 21083 \let\ndownmodels\textndownmodels  
 21084 \let\upmodels\textupmodels  
 21085 \let\nupmodels\textnupmodels  
 21086 \let\upspoon\textupspoon  
 21087 \let\interleave\textinterleave  
 21088 \let\slash\textslash  
 21089 \let\pentagon\textpentagon  
 21090 \let\varhexagon\textvarhexagon  
 21091 \let\jinferior\textjinferior  
 21092 \let\slashdiv\textslashdiv  
 21093 \let\fivedots\textfivedots  
 21094 \let\oo\textoo  
 21095 \let\GaPa\textGaPa  
 21096 \let\HaPa\textHaPa  
 21097 \let\ViPa\textViPa  
 21098 \let\AcPa\textAcPa  
 21099 \let\SePa\textSePa  
 21100 \let\ZwPa\textZwPa  
 21101 \let\fullnote\textfullnote  
 21102 \let\halfnote\texthalfnote  
 21103 \let\Vier\textVier  
 21104 \let\Acht\textAcht  
 21105 \let\Sech\textSech  
 21106 \let\Zwdr\textZwdr  
 21107 \let\Mundus\textMundus  
 21108 \let\Moon\textMoon  
 21109 \let\ManFace\textManFace  
 21110 \let\WomanFace\textWomanFace  
 21111 \let\Fax\textFax  
 21112 \let\Fire\textFire  
 21113 \let\Bicycle\textBicycle  
 21114 \let\Gentsroom\textGentsroom  
 21115 \let\Ladiesroom\textLadiesroom  
 21116 \let\ccnc\textccnc  
 21117 \let\ccsa\textccsa  
 21118 \let\Info\textInfo  
 21119 \let\CESign\textCESign  
 21120 \let\neg\textneg  
 21121 \let\times\texttimes

```

21122 \let\div\textdiv
21123 \let\pm\textpm
21124 \let\cdot\textcdot
21125 }% \psdmapshortnames
21126 \newcommand*{\psdaliasnames}{%
21127 \let\epsdice\HyPsd@DieFace
21128 \let\fcdice\HyPsd@DieFace
21129 \let\MoonPha\HyPsd@MoonPha
21130 \let\mathdollar\textdollar
21131 \let\EyesDollar\textdollar
21132 \let\binampersand\textampersand
21133 \let\with\textampersand
21134 \let\mathunderscore\textunderscore
21135 \let\textvertline\textbar
21136 \let\mathsterling\textsterling
21137 \let\pounds\textsterling
21138 \let\brokenvert\textbrokenbar
21139 \let\mathsection\textsection
21140 \let\S\textsection
21141 \let\mathparagraph\textparagraph
21142 \let\MultiplicationDot\textperiodcentered
21143 \let\Squaredot\textperiodcentered
21144 \let\vartimes\textmultiply
21145 \let\MVMultiplication\textmultiply
21146 \let\eth\dh
21147 \let\crossd\textcrd
21148 \let\textbard\textcrd
21149 \let\bard\textcrd
21150 \let\textcrh\texthbar
21151 \let\crossh\texthbar
21152 \let\planck\texthbar
21153 \let\eng\ng
21154 \let\engma\ng
21155 \let\crossb\textcrb
21156 \let\textbarb\textcrb
21157 \let\barb\textcrb
21158 \let\Florin\textflorin
21159 \let\hv\texthvlig
21160 \let\hausak\texthtk
21161 \let\crossnilambda\textcrlambda
21162 \let\barlambda\textcrlambda
21163 \let\lambdabar\textcrlambda
21164 \let\lambdaslash\textcrlambda
21165 \let\textnrleg\textPUnrleg
21166 \let\textpipevar\textpipe
21167 \let\textdoublepipevar\textdoublepipe
21168 \let\textdoublebarpipevar\textdoublebarpipe
21169 \let\textcrg\textgslash
21170 \let\textdblig\textPUdblig
21171 \let\textqplig\textPUqplig
21172 \let\textcentoldstyle\textslashc
21173 \let\textbarc\textslashc
21174 \let\inva\textturna
21175 \let\vara\textscripta
21176 \let\invscripta\textturnscripta
21177 \let\rotvara\textturnscripta
21178 \let\hookb\texthtb

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21179 \let\hausab\texthtb  
 21180 \let\varopeno\textopeno  
 21181 \let\curlyc\textctc  
 21182 \let\taild\textrtaild  
 21183 \let\hookd\texthtd  
 21184 \let\hausad\texthtd  
 21185 \let\er\textrhooschwa  
 21186 \let\epsi\textniepsilon  
 21187 \let\hookrepsilon\texthookrepsilon  
 21188 \let\closedrepsilon\textcloserepsilon  
 21189 \let\barj\textbardotlessj  
 21190 \let\hookg\texthtg  
 21191 \let\varg\textscriptg  
 21192 \let\vod\textipagamma  
 21193 \let\invh\textturnh  
 21194 \let\udesc\textturnh  
 21195 \let\hookh\texthth  
 21196 \let\voicedh\texthth  
 21197 \let\hookheng\texththeng  
 21198 \let\ibar\textbari  
 21199 \let\vari\textniota  
 21200 \let\tildel\textltilde  
 21201 \let\latfric\textbeltl  
 21202 \let\tail\textrtail  
 21203 \let\lz\textlyoghlig  
 21204 \let\invm\textturnm  
 21205 \let\rotm\textturnm  
 21206 \let\legm\textturnmrleg  
 21207 \let\labdentalnas\textltailm  
 21208 \let\emgma\textltailm  
 21209 \let\nj\textltailn  
 21210 \let\enya\textltailn  
 21211 \let\tailn\textrtailn  
 21212 \let\closedniomega\textcloseomega  
 21213 \let\varomega\textcloseomega  
 21214 \let\invr\textturnr  
 21215 \let\rotr\textturnr  
 21216 \let\invlegr\textturnlonglegr  
 21217 \let\tailinvr\textturnrrtail  
 21218 \let\legr\textlonglegr  
 21219 \let\tailr\textrtailr  
 21220 \let\flapr\textfishhookr  
 21221 \let\flap\textfishhookr  
 21222 \let\tails\textrtails  
 21223 \let\curlyesh\textctesh  
 21224 \let\clickt\textturnt  
 21225 \let\tailt\textrtailt  
 21226 \let\ubar\textbaru  
 21227 \let\rotOmega\textniupsilon  
 21228 \let\invv\textturnv  
 21229 \let\pwedge\textturnv  
 21230 \let\invw\textturnw  
 21231 \let\rotw\textturnw  
 21232 \let\invy\textturny  
 21233 \let\roty\textturny  
 21234 \let\tailz\textrtailz  
 21235 \let\curlyz\textctz

21236 \let\curlyyogh\textctyogh  
 21237 \let\ejective\textglotstop  
 21238 \let\glottal\textglotstop  
 21239 \let\reveject\textrevglotstop  
 21240 \let\clickc\textstretchc  
 21241 \let\textstretchcvar\textstretchc  
 21242 \let\clickb\textbullseye  
 21243 \let\textObullseye\textbullseye  
 21244 \let\textctjvar\textctj  
 21245 \let\textturnsck\textturnk  
 21246 \let\dz\textdzlig  
 21247 \let\tesh\textteshlig  
 21248 \let\digamma\textdigammagreek  
 21249 \let\hardsign\cyrhrdsn  
 21250 \let\softsign\cyrsoftsn  
 21251 \let\hebsin\hebshin  
 21252 \let\textsck\textPUsc  
 21253 \let\textscm\textPUscm  
 21254 \let\textscp\textPUscp  
 21255 \let\textrevscr\textPUrevscr  
 21256 \let\textrhooca\textPURhooka  
 21257 \let\textrhooke\textPURhooka  
 21258 \let\textrhookepsilon\textPURhookepsilon  
 21259 \let\textrhookepsilon\textPURhookepsilon  
 21260 \let\textdoublevertline\textbardbl  
 21261 \let\dag\textdagger  
 21262 \let\ddagger\textdaggerdbl  
 21263 \let\ddag\textdaggerdbl  
 21264 \let\mathellipsis\textellipsis  
 21265 \let\EurDig\texteuro  
 21266 \let\EURdig\texteuro  
 21267 \let\EurHv\texteuro  
 21268 \let\EURhv\texteuro  
 21269 \let\EurCr\texteuro  
 21270 \let\EURcr\texteuro  
 21271 \let\EurTm\texteuro  
 21272 \let\EURtm\texteuro  
 21273 \let\Eur\texteuro  
 21274 \let\Denarius\textDeleatur  
 21275 \let\agemO\textmho  
 21276 \let\EstimatedSign\textestimated  
 21277 \let\Ecommerce\textestimated  
 21278 \let\bindnasrepma\textinvamp  
 21279 \let\parr\textinvamp  
 21280 \let\MVRightArrow\textrightarrow  
 21281 \let\MVRightarrow\textrightarrow  
 21282 \let\MVArrowDown\textdownarrow  
 21283 \let\Force\textdownarrow  
 21284 \let\textglobrise\textnearrow  
 21285 \let\textglobfall\textsearrow  
 21286 \let\Lightning\textlightning  
 21287 \let\Conclusion\textrightarrow  
 21288 \let\dashedleftarrow\textdashleftarrow  
 21289 \let\dashedrightarrow\textdashrightarrow  
 21290 \let\varnothing\textemptyset  
 21291 \let\owns\textni  
 21292 \let\notni\textnotowner

21293 \let\varprop\textpropto  
 21294 \let\varangle\textsphericalangle  
 21295 \let\AngleSign\textsphericalangle  
 21296 \let\AngleSign\textsphericalangle  
 21297 \let\notdivides\textnmid  
 21298 \let\varowedge\textowedge  
 21299 \let\varovee\textovee  
 21300 \let\varint\textint  
 21301 \let\varoint\textoint  
 21302 \let\downtherefore\textbecause  
 21303 \let\textdotdiv\textdotminus  
 21304 \let\AC\textsim  
 21305 \let\wreath\textwr  
 21306 \let\nthickapprox\textnapprox  
 21307 \let\VHF\texttriplesim  
 21308 \let\notasymp\textnasymp  
 21309 \let\Doteq\textdoteqdot  
 21310 \let\corresponds\texthateq  
 21311 \let\Corresponds\texthateq  
 21312 \let\nequal\textneq  
 21313 \let\Congruent\textequiv  
 21314 \let\NotCongruent\textnequiv  
 21315 \let\notequiv\textnequiv  
 21316 \let\LessOrEqual\textleq  
 21317 \let\LargerOrEqual\textgeq  
 21318 \let\apprle\textless sim  
 21319 \let\apprge\textgtr sim  
 21320 \let\varoplus\textoplus  
 21321 \let\varominus\textominus  
 21322 \let\varotimes\textotimes  
 21323 \let\varoslash\textoslash  
 21324 \let\varodot\textodot  
 21325 \let\ocirc\textcircledcirc  
 21326 \let\varocircle\textcircledcirc  
 21327 \let\varoast\textcircledast  
 21328 \let\oasterisk\textcircledast  
 21329 \let\rightvdash\textvdash  
 21330 \let\leftvdash\textdashv  
 21331 \let\nleftvdash\textndashv  
 21332 \let\downvdash\texttop  
 21333 \let\upvdash\textbot  
 21334 \let\nperp\textnupvdash  
 21335 \let\models\textvDash  
 21336 \let\rightmodels\textvDash  
 21337 \let\rightVdash\textVdash  
 21338 \let\rightModels\textVDash  
 21339 \let\nrightvdash\textnvdash  
 21340 \let\nrightmodels\textnvDash  
 21341 \let\nmodels\textnvDash  
 21342 \let\nrightVdash\textnVdash  
 21343 \let\nrightModels\textnVDash  
 21344 \let\lessclosed\textlhd  
 21345 \let\gtrclosed\textrhd  
 21346 \let\leqclosed\textunlhd  
 21347 \let\trianglelefteq\textunlhd  
 21348 \let\geqclosed\textunrhd  
 21349 \let\trianglerighteq\textunrhd

21350 \let\Bowtie\textbowtie  
 21351 \let\varcurlyvee\textcurlyvee  
 21352 \let\varcurlywedge\textcurlywedge  
 21353 \let\doublecap\textCap  
 21354 \let\doublecup\textCup  
 21355 \let\varsubsetneq\textsubsetneq  
 21356 \let\varsupsetneq\textsupsetneq  
 21357 \let\llessclosed\texttriangleleft  
 21358 \let\lgreaterclosed\texttriangleright  
 21359 \let\Clocklogo\textclock  
 21360 \let\ClockLogo\textclock  
 21361 \let\baro\textstmaryrdbaro  
 21362 \let\varparallelinv\textbbslash  
 21363 \let\CleaningA\textCircledA  
 21364 \let\Kutline\textCuttingLine  
 21365 \let\CutLine\textCuttingLine  
 21366 \let\Cutline\textCuttingLine  
 21367 \let\MoveUp\textUParrow  
 21368 \let\APLup\textbigtriangleup  
 21369 \let\Bleech\textbigtriangleup  
 21370 \let\MoveDown\textDOWNarrow  
 21371 \let\APLdown\textbigtriangledown  
 21372 \let\Diamond\textdiamond  
 21373 \let\varbigcirc\textbigcircle  
 21374 \let\Telefon\textPhone  
 21375 \let\Box\textboxempty  
 21376 \let\CheckedBox\textCheckedbox  
 21377 \let\XBox\textCrossedbox  
 21378 \let\CrossedBox\textCrossedbox  
 21379 \let\rightpointleft\textHandLeft  
 21380 \let\leftpointright\textHandRight  
 21381 \let\PointingHand\textHandRight  
 21382 \let\Pointinghand\textHandRight  
 21383 \let\Radiation\textRadioactivity  
 21384 \let\Yinyang\textYinYang  
 21385 \let\YingYang\textYinYang  
 21386 \let\Yingyang\textYinYang  
 21387 \let\Frowny\textfrownie  
 21388 \let\Smiley\textsmiley  
 21389 \let\Sun\textsun  
 21390 \let\Mercury\textmercury  
 21391 \let\textfemale\textPUfemale  
 21392 \let\female\textPUfemale  
 21393 \let\venus\textPUfemale  
 21394 \let\Venus\textPUfemale  
 21395 \let\Female\textPUfemale  
 21396 \let\Earth\textearth  
 21397 \let\mars\textmale  
 21398 \let\Mars\textmale  
 21399 \let\Male\textmale  
 21400 \let\Jupiter\textjupiter  
 21401 \let\Saturn\textsaturn  
 21402 \let\Uranus\texturanus  
 21403 \let\Neptune\textneptune  
 21404 \let\Pluto\textpluto  
 21405 \let\Aries\textaries  
 21406 \let\Taurus\texttaurus

21407 \let\Gemini\textgemini  
 21408 \let\Cancer\textcancer  
 21409 \let\Leo\textleo  
 21410 \let\Virgo\textvirgo  
 21411 \let\Libra\textlibra  
 21412 \let\Scorpio\textscorpio  
 21413 \let\Sagittarius\textsagittarius  
 21414 \let\Capricorn\textcapricornus  
 21415 \let\Aquarius\textaquarius  
 21416 \let\Pisces\textpisces  
 21417 \let\spadesuit\textspadesuitblack  
 21418 \let\Heart\textheartsuitwhite  
 21419 \let\heartsuit\textheartsuitwhite  
 21420 \let\diamondsuit\textdiamondsuitwhite  
 21421 \let\clubsuit\textclubsuitblack  
 21422 \let\eighthnote\textmusicalnote  
 21423 \let\Recycling\textrecycle  
 21424 \let\VarFlag\textFlag  
 21425 \let\textxswup\textdsmilitary  
 21426 \let\textuncrfemale\textPUuncrfemale  
 21427 \let\Football\textSoccerBall  
 21428 \let\CutLeft\textScissorRightBrokenBottom  
 21429 \let\Cutright\textScissorRightBrokenBottom  
 21430 \let\RightScissors\textScissorRight  
 21431 \let\Leftscissors\textScissorRight  
 21432 \let\Letter\textEnvelope  
 21433 \let\Writinghand\textWritingHand  
 21434 \let\checkmark\textCheckmark  
 21435 \let\davidstar\textDavidStar  
 21436 \let\llbracket\textlbrackdbl  
 21437 \let\rrbracket\textrrbrackdbl  
 21438 \let\RightTorque\textlcurvearrowdown  
 21439 \let\Righttorque\textlcurvearrowdown  
 21440 \let\LeftTorque\textrcurvearrowdown  
 21441 \let\Lefttorque\textrcurvearrowdown  
 21442 \let\textvarobar\textobar  
 21443 \let\circledbslash\textobslash  
 21444 \let\obackslash\textobslash  
 21445 \let\varobslash\textobslash  
 21446 \let\odplus\textobot  
 21447 \let\varolessthan\textolessthan  
 21448 \let\varogreaterthan\textogreaterthan  
 21449 \let\divdot\textminusdot  
 21450 \let\doublesqcap\textsqdoublecap  
 21451 \let\doublesqcup\textsqdoublecup  
 21452 \let\merge\textdoublevee  
 21453 \let\leftVdash\textdashV  
 21454 \let\leftVdash\textndashV  
 21455 \let\leftmodels\textDashv  
 21456 \let\leftmodels\textnDashv  
 21457 \let\leftModels\textDashV  
 21458 \let\leftModels\textnDashV  
 21459 \let\varparallel\textsslash  
 21460 \let\textheng\textPUheng  
 21461 \let\textlhookfour\textPUlhookfour  
 21462 \let\textscf\textPUscf  
 21463 \let\textaoilig\textPUaoilig



```
21464 \let\Ganz\textfullnote
21465 \let\Halb\texthalfnote
21466 \let\Womanface\textWomanFace
21467 \let\Faxmachine\textFax
21468 \let\CEsign\textCESign
21469 }% \psdaliasnames
21470 \psdextra
```

## 52 End of file hycheck.tex

```
21471 \*check>
21472 \typeout{}
21473 \begin{document}
21474 \end{document}
21475 \</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, 2157		
\” . . . . .	202, 227, 3391, 14728, 15088, 15100, 15112, 15238, 15324, 15338, 15346, 15361, 15373, 15390, 15404, 15415, 15416, 15430, 15442, 15449, 15500, 15541, 15568, 15597, 15770, 15784, 15792, 15806, 15820, 15837, 15851, 15862, 15863, 15878, 15890, 15898, 16156, 16818, 16820, 16831, 16883, 16885, 16917, 16931, 17087, 17101, 17345, 17347, 17362, 17365, 17367, 17369, 17371, 17373, 17383, 17385, 17387, 17389, 17396, 17399, 17401, 17403, 17409, 17411, 17417, 17419, 17425, 17427, 17634, 17636, 17786, 17788, 17802, 17804, 17824		
\# . . . . .	552, 2242, 2243, 4839, 4850, 4852, 4868, 4900, 4960, 9109, 9111, 9964, 9973, 10008, 10849, 12453, 12464, 12500, 12731, 12740, 12780, 14648		
\\$ . . . . .	184, 209, 322, 553, 4841, 4959		
\% . . . . .	554, 2157, 2217, 2218, 4838, 4847, 4849, 4901, 9111		
\& . . . . .	185, 210, 555, 4842, 4853, 4855, 12510		
\’ . . . . .	203, 228, 3331, 3345, 3386, 3388, 3389, 3390, 3391, 3396, 3397, 3399, 3404, 3410, 3414, 3415, 3418, 3461, 3462, 3467, 3468, 3469, 3470, 3471, 3472, 3473, 3474, 3476, 3480, 3493, 14726, 15085, 15097, 15109, 15318, 15334, 15342, 15355, 15369, 15375, 15384, 15400, 15409, 15410, 15424, 15438, 15444, 15468, 15470, 15471, 15472, 15475, 15477, 15478, 15479, 15487, 15538, 15565, 15594, 15764, 15780, 15788, 15800, 15816, 15822, 15831, 15847, 15856, 15857, 15872, 15886, 15892, 15912, 15914, 16028, 16030, 16048, 16050, 16084, 16086, 16096,		
	16098, 16158, 16160, 16281, 16283, 16289, 16291, 16294, 16297, 16751, 16753, 16755, 16757, 16759, 16761, 16763, 16766, 16822, 16824, 16826, 16828, 16887, 16890, 16892, 16921, 16941, 17091, 17111, 17650, 17652, 17674, 17676, 17714, 17716, 17782, 17784, 20024, 20029, 20034, 20039, 20044, 20049, 20054, 20059, 20064, 20069, 20074, 20079, 20084, 20089, 20094, 20099, 20104, 20109, 20114, 20119, 20124, 20129, 20134, 20139		
\( . . . . .	190, 215, 323, 773, 776, 778, 2159, 14794, 15158		
\) . . . . .	191, 216, 324, 745, 751, 754, 2160, 14795, 15160		
\* . . . . .	326		
\+ . . . . .	200, 225, 327		
\- . . . . .	201, 226		
\. . . . .	198, 223, 320, 1302, 3733, 4160, 15091, 15103, 15115, 15179, 15473, 15480, 15498, 15544, 15571, 15603, 15680, 15681, 15920, 15922, 15950, 15952, 15970, 15972, 16009, 16040, 16042, 16162, 16164, 16349, 16351, 16357, 16359, 17566, 17568, 17578, 17580, 17618, 17620, 17626, 17628, 17678, 17680, 17686, 17688, 17718, 17720, 17722, 17724, 17734, 17736, 17742, 17744, 17790, 17792, 17798, 17800, 17806, 17808, 17830		
\/ . . . . .	194, 219, 686, 687, 688, 756, 1926, 8507		
\: . . . . .	189, 214		
\; . . . . .	199, 224, 8803		
\< . . . . .	196, 221		
\= . . . . .	167, 173, 180, 183, 15093, 15105, 15117, 15493, 15548, 15575, 15602, 15900, 15902, 15942, 15944, 15994, 15996, 15997, 16068, 16070, 16128, 16130, 16361, 16363, 17379, 17381, 17405, 17407, 17622, 17624		
\> . . . . .	197, 222		
\? . . . . .	328		
\@ . . . . .	3382		
\@@ . . . . .	2598		
\@@BOOKMARK . . . . .	14709, 14712, 14770, 14838, 14845		
\@@ListBox . . . . .	13103, 13127, 13619, 13653, 13967, 14010		
\@@Menu . . . . .	13318, 13326		
\@@PasswordField . . . . .	13267, 13273		
\@@Radio . . . . .	13088, 13109, 13316, 13340, 13604, 13625, 13952, 13973		
\@@TextField . . . . .	13269, 13284		
\@@commahyperpage . . . . .	8614, 8615		
\@@hyper@creadexternallink . . . . .	5208, 5210		
\@@hyperref . . . . .	5062, 5063		
\@@latextohtmlX . . . . .	3210, 5425		
\@@wrindex . . . . .	8542, 8543		
\@@writetorep . . . . .	14569, 14575		
\@Alph . . . . .	7119, 7121		
\@BIBLABEL . . . . .	7962, 7968, 7974		
\@BOOKMARK . . . . .	14709, 14711		
\@CITE . . . . .	8039, 8047		
\@CITEX . . . . .	8041		
\@CheckBox . . . . .	6222, 10914, 13201, 13233, 13371, 13741, 14112		
\@ChoiceMenu . . . . .	6219, 10917, 13041, 13236, 13306, 13556, 13904		
\@Form . . . . .	5883, 10904, 12825, 13223, 13250, 13449, 13825		
\@Gauge . . . . .	6228, 10908, 13009, 13227, 13255, 13392, 13822		
\@Localurlfalse . . . . .	10857		
\@Localurltrue . . . . .	10854		
\@M . . . . .	1208, 2655, 4946, 7574		
\@MM . . . . .	7724		
\@PackageError . . . . .	264		
\@PackageInfo . . . . .	267		
\@PackageInfoNoLine . . . . .	268		
\@PackageWarning . . . . .	265		
\@PackageWarningNoLine . . . . .	266		
\@PushButton . . . . .	6225, 10920, 13134, 13239, 13352, 13663, 14026		
\@Refstar . . . . .	8918, 8925		
\@Reset . . . . .	6234, 10923, 13178, 13242, 13368, 13716, 14083		
\@Roman . . . . .	647		
\@SCTR . . . . .	8662, 8714		
\@SetMaxRnhefLabel . . . . .	8036		

<code>\@Submit</code> . . 6231, 10926, 13161, 13245, 13365, 13693, 14060	<code>\@citedatax@opt</code> . . . 8181, 8187	<code>\@extra@b@citeb</code> . . . . .
<code>\@TextField</code> . 6216, 10911, 13013, 13230, 13258, 13526, 13867	<code>\@citeseppen</code> . . . . . 8166, 8172	. . . 7947, 7950, 7967, 7972, 7992, 8040, 8062, 8078, 8085
<code>\@addchap</code> . . . . . 15045	<code>\@citex</code> . . . . . 8068	<code>\@extra@b@info</code> . 7946, 7949, 7953
<code>\@addtoreset</code> . 8436, 8437, 8451, 8659	<code>\@clubpenalty</code> . . . . . 7576	<code>\@fifthoffive</code> . . 4347, 4778, 5096, 8869, 8988
<code>\@afterheading</code> . . . . . 15062	<code>\@commahyperpage</code> . 8609, 8614	<code>\@filebordercolor</code> 3776, 4249, 9512, 9514, 10538, 10540, 11057, 11059, 12123
<code>\@alph</code> . . . . . 7115, 7117	<code>\@ctrerr</code> . . . . . 7092, 7101	<code>\@filecolor</code> . . . 3702, 3714, 9533, 10147, 10164, 10556, 11063
<code>\@anchorcolor</code> 3712, 9933, 10028, 10971, 12421, 12701	<code>\@currDisplay</code> . . . . 5971, 13053, 13116, 13335, 13349, 13568, 13632, 13916, 13983	<code>\@firstoffive</code> . . 4774, 4783, 8908, 8993
<code>\@arabic</code> 1178, 1183, 1187, 7027, 7043, 7114	<code>\@currValue</code> . . 5973, 5975, 13114, 13121, 13335, 13346, 13630, 13640, 13981, 13998, 14443	<code>\@firstofone</code> . . . . . 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 636, 673, 829, 1044, 1055, 1288, 1292, 1296, 1634, 4138, 4665, 5849, 5855, 6121, 6923, 7112, 7124, 7191, 7828, 7910, 8051, 8074, 8256, 8497, 9821, 13422, 14198, 14215, 14233
<code>\@auxout</code> 2592, 5109, 5372, 6442, 6444, 7204, 7232, 7982, 7997, 8013, 8023, 8053, 8076, 8102, 8108, 8132	<code>\@currentHlabel</code> . . . . . 7165	<code>\@firstoftwo</code> . . . 656, 1002, 1170, 1842, 6412, 15011
<code>\@backslashchar</code> . . . . . 869, 872, 875, 1432, 2119, 2123, 2126, 2264, 2281, 2287, 2291, 2299, 4863, 9124, 9134	<code>\@currentHref</code> . . . . . . . . 2600, 5401, 6324, 7008, 7145, 7147, 7156, 7158, 7165, 7246, 7248, 7258, 7309, 7320, 7322, 7361, 7380, 7384, 7393, 7419, 7511, 7542, 7567, 7640, 7650, 7652, 7653, 7709, 7737, 7835, 7861, 7865, 7892, 7894, 8111, 8295, 8318, 8331, 8338, 8406, 8430, 8432, 14559, 14950, 14963, 14974, 15004, 15021, 15056	<code>\@fnsymbol</code> . . . . . 7113
<code>\@baseurl</code> 3719, 3721, 5266, 9645, 9648, 9918, 9920, 10206, 10208, 10726, 10736, 10822, 10824, 11360, 11362, 11752, 11766, 12406, 12408, 12607, 12621, 12687, 12689	<code>\@currentlabel</code> 7288, 7727, 8104, 8111, 8411, 8418, 8668, 8720	<code>\@footnotemark</code> 7583, 7646, 7664, 7746, 7758, 7760, 7772, 7773, 7803, 7805
<code>\@begintheorem</code> 7476, 7480, 7506, 7513, 7537, 7544	<code>\@currentlabelname</code> . 2590, 7641, 7710, 7738, 7840	<code>\@footnotetext</code> . . . . . . . . 7582, 7589, 7623, 7663, 7759, 7761, 7775, 7776, 7796
<code>\@bibitem</code> . . . . . 7989, 8020	<code>\@currentlabstr</code> . . . . 2589, 2597	<code>\@for</code> . . . 3752, 5491, 8048, 8071, 13050, 13112, 13324, 13331, 13341, 13565, 13628, 13913, 13979
<code>\@biblabel</code> . . . . . 7962, 8009	<code>\@curropt</code> . 13050, 13051, 13112, 13113, 13324, 13331, 13332, 13334, 13341, 13342, 13344, 13565, 13566, 13628, 13629, 13913, 13914, 13979, 13980	<code>\@fourthoffive</code> 4777, 5097, 8983, 8990
<code>\@bookmarkopenstatus</code> . . 4663, 4680, 14630	<code>\@dblarg</code> . . . . . 7830, 7912	<code>\@gobble</code> . . . . . 49, 56, 117, 576, 577, 578, 579, 616, 617, 618, 619, 659, 660, 661, 670, 672, 833, 1009, 1042, 1053, 1194, 1198, 1201, 1571, 1632, 1651, 1664, 1668, 1731, 1794, 1795, 1802, 1807, 1821, 1826, 2445, 2627, 2900, 2912, 4126, 4335, 4390, 4829, 5834, 6111, 6377, 6381, 6398, 6400, 6416, 6417, 6420, 6421, 6423, 6897, 6917, 6921, 7465, 7493, 7526, 7817, 7907, 8294, 9048, 9823, 11240, 11243, 13450, 13826, 14616, 14617, 14618, 14619
<code>\@bookmarkopenlevel</code> . . 3673, 3675, 4666	<code>\@definecounter</code> . . . . 8391, 8392	<code>\@gobblefour</code> . . . 582, 696, 1328,
<code>\@bsphack</code> . . . . 2585, 5102, 8106	<code>\@ehc</code> . . 2953, 3068, 3093, 3126, 3164, 3171, 3182, 3188, 4388, 5008, 5230, 5595, 5719, 5915, 5948, 6158, 6207, 13143, 13189, 13673, 13727, 14036, 14094	
<code>\@capstartfalse</code> . . . . . 7855	<code>\@ehd</code> . . 63, 283, 289, 304, 7816, 7906	
<code>\@caption</code> 7820, 7832, 7875, 7912, 7914	<code>\@elt</code> . . . 7015, 7017, 7018, 7023	
<code>\@capter</code> 2594, 7815, 7819, 7823, 7830, 7837, 7891, 7905, 7909, 7912	<code>\@endForm</code> . 5884, 10907, 13008, 13226, 13254, 13499, 13852	
<code>\@car</code> . . . 1714, 1730, 1748, 1768, 3652, 5501, 9597, 9608	<code>\@endparent</code> . . 7474, 7502, 7533	
<code>\@cdr</code> . . . . . 9598, 9609	<code>\@eqnqr</code> . . . . . 7403	
<code>\@chapter</code> . . . . . 14969, 14970	<code>\@eqnstarfalse</code> . . . . 7375, 7406	
<code>\@cite</code> . . 8039, 8070, 8167, 8173	<code>\@eqnstartrue</code> . . . . . 7403	
<code>\@cite@opt</code> 8168, 8174, 8178, 8188	<code>\@eqnswtrue</code> . . . . . 7336, 7345	
<code>\@citea</code> . 8042, 8049, 8050, 8069, 8072, 8073	<code>\@esphack</code> 2606, 5113, 8116, 8554	
<code>\@citeb</code> . 8048, 8051, 8053, 8055, 8059, 8062, 8071, 8074, 8076, 8078, 8082, 8085		
<code>\@citebordercolor</code> . . 3775, 4251		
<code>\@citecolor</code> . . . . . 3713		
<code>\@citedata@opt</code> 8169, 8175, 8177		
<code>\@citedatax</code> . . . . . 8184, 8189		

1329, 1330, 3929, 8783	8471, 9167, 10798, 11440,	2569, 2570, 2571, 2572,
\@gobbleopt . . . . . 6423, 6425	11441, 12236, 13450, 13826,	2573, 2574, 2575, 2576,
\@gobbletwo 580, 663, 689, 697,	14207, 14626	2722, 3033, 3034, 3035,
698, 846, 1327, 1749, 1826,	\@indexfile . . . 8546, 8561, 8569,	3036, 3037, 3038, 3039,
1830, 2785, 3927, 3928,	8573, 8578	3040, 3520, 3532, 5601,
4339, 5780, 6402, 6411,	\@inlabeledfalse . . . . . 7555	5602, 5603, 5604, 5926,
6419, 6423, 8971, 14960	\@inmathwarn . . . . . 546, 547	5927, 7177, 7402, 7405,
\@harvarditem . . . . . 8121, 8123	\@inpenc@undefined@ . . . . 2319	8096, 8097, 8098, 8099
\@hyper@C@anchor . . 5316, 5317	\@labels . . . . . 7571	\@namerefstar . . . . . 4816, 8913
\@hyper@itemfalse . . 6953, 6971,	\@latex@ . . . . . 6527, 6528	\@nameuse 2594, 3030, 5607, 5918
6985	\@latex@error . . . . . 7816, 7906	\@ne 1177, 2972, 3114, 4651, 4978,
\@hyper@itemtrue . . . . . 6954	\@latex@warning . . . 5089, 8058,	10470, 10475, 11339, 12261,
\@hyper@launch . . . 5236, 5245,	8081, 8844, 8864, 8881, 8999	13861
9537, 10561, 11132, 12141	\@libibitem . . . . . 7963, 8008	\@newctr . . . . . 8396, 8397
\@hyper@linkfile . . . 5217, 5220,	\@linkbordercolor . . 3777, 4246,	\@newl@bel . . . 5355, 6490, 7949
5224, 5256	9461, 10961	\@newlistfalse . . . . . 7552
\@hyper@readexternallink 5211,	\@linkcolor . . . . . 3711, 11799	\@nil 294, 311, 491, 495, 500, 504,
5215	\@linkdim 474, 9982, 9983, 9991,	519, 1626, 1629, 1637, 1714,
\@hyperdef . . . . . 5070, 5071	9992, 9993, 10062, 10063,	1732, 1750, 1766, 1768,
\@hyperpage . . . . . 8606, 8607	10075, 10076, 10077, 10099,	1771, 1774, 1777, 2328,
\@hyperref . . . . . 5051, 5062	10100, 10113, 10114, 10115,	2330, 2346, 2348, 3652,
\@ifclasslater . . . . . 15068, 15073	10139, 10140, 10153, 10154,	4885, 4889, 4894, 5283,
\@ifclassloaded 2577, 4805, 7176,	10155, 12474, 12475, 12483,	5291, 5297, 5299, 5501,
7213, 8031, 8642, 8646,	12484, 12485, 12749, 12750,	6102, 6105, 6124, 6515,
9826, 15067, 15072	12763, 12764, 12765	6518, 6525, 6527, 6528,
\@ifnextchar . . 12, 88, 103, 123,	\@listctr . . . . . 7998, 8024	6640, 6688, 6689, 6691,
690, 4953, 5051, 5070, 5171,	\@m . . . 1191, 8050, 8073, 11287	6714, 6731, 6785, 6787,
5883, 6216, 6219, 6222,	\@mainaux . . 6440, 6441, 6880,	7304, 7313, 7315, 7327,
6225, 6228, 6231, 6234,	6888, 13418, 13442	8593, 8595, 8602, 8625,
6423, 6496, 6505, 7762,	\@makecaption 7856, 7858, 7925	8628, 8638, 8848, 8851,
7780, 8121, 8179, 11777,	\@makefnmark . . . . . 7655, 7808	9007, 9038, 9120, 9126,
12052, 12066, 14709, 14712	\@makefntext . . . . . 7728	9130, 9136, 9597, 9598,
\@ifpackagelater 238, 1064, 2608,	\@makeother . . . . . 166, 167,	9608, 9609, 11205, 11207,
7167, 8461	179, 180, 182, 183, 188, 189,	14205, 14218, 14224, 14658,
\@ifpackageloaded . . . . . 505,	190, 191, 192, 193, 194, 195,	14661, 14664, 14673, 14676,
899, 1063, 2580, 3005, 3629,	196, 197, 198, 199, 200, 201,	14685
3633, 4307, 4493, 6994,	202, 203, 4853, 9096, 14798,	\@nbreakfalse . . . . . 6487, 7574
7166, 7179, 7241, 7274,	14801, 14828, 14831	\@nocnterr . . . . . 8450, 8464
7278, 7298, 7332, 7459,	\@makeschapterhead . . . . 15059,	\@nocounterr . . . . . 8449, 8463
7660, 7676, 7716, 7888,	15061	\@noparitemfalse . . . . . 7553
8091, 8164, 8403, 8460,	\@mem@titleref . . . . . 4812	\@number . . . . . 7112, 7191, 8256
8502, 8503, 8504, 8652,	\@mem@titleref@nolink . . . . 4812	\@onx . . . 8453, 8467, 8470, 8472
8917, 9061, 9065, 12679	\@menubordercolor . 3778, 4248,	\@onelevel@sanitize . 2778, 2782,
\@ifpackagewith 3511, 4308, 8426	9883, 9885, 10632, 10634,	2987, 3651, 4365, 4395,
\@ifstar . . . 66, 4800, 4803, 4812,	11170, 11172, 12045	4416, 4919, 5278, 5281,
4816, 6359, 6363, 6429,	\@menucolor . 3716, 9898, 10643,	5294, 5308, 5591, 5827,
6433, 8925, 8951, 8971	11176	5911, 6741, 6743, 7152,
\@ifundefined . . . . . 34, 362, 966,	\@minipagefalse . . . . . 7551	8324, 8894, 10327, 14655
976, 1005, 1008, 2874, 3023,	\@mkboth . . . 663, 8765, 14960,	\@oparg . 7476, 7480, 7506, 7513,
3529, 3565, 3573, 3580,	15048, 15050	7537, 7544
3602, 3650, 4275, 5590,	\@mpfn . . . . . 7586, 7781, 7793	\@outlinefile 14628, 14717, 14812,
5910, 6850, 6963, 6998,	\@mpfootnotetext . . 7589, 7602,	14814, 14816, 14894, 14896,
7013, 7280, 7301, 7302,	7603, 7665	14898
7355, 7386, 7414, 7451,	\@mycount . . . . . 14774, 14784	\@pagerefstar . . 4803, 8910, 8941
7821, 7839, 7956, 8039,	\@namedef 1308, 2548, 2550, 2552,	\@pagesetref . . . . . 8860
8055, 8078, 8400, 8441,	2554, 2556, 2558, 2560,	\@parboxrestore 7726, 7848, 7920
8449, 8450, 8463, 8464,	2562, 2564, 2566, 2568,	\@parcount . . . . . 14776, 14784

\@part . . . . .	14987, 14994	9715, 10184, 10186, 10669,	12131
\@pdfauthor . . . . .	3945, 4254, 9705,	10671, 11657, 11661, 12534,	\@pdfstartpage 4147, 4149, 4265,
10188, 10673, 11413, 11678,	12538	12536	9653, 9657, 10214, 10219,
\@pdfborder . . . . .		\@pdfnonfullscreenpagemode . . .	10729, 10733, 11352, 11356,
. . . . .	3594, 3790, 3791, 3792,	9667, 10243, 10705, 11371,	11702, 11707, 12557, 12562
3799, 3803, 3826, 3828,		11731, 12586	\@pdfstartview 4154, 4156, 4263,
4746, 9391, 10345, 10959,		\@pdfnumcopies . . . . .	9655, 9657, 10216, 10220,
11544, 11639, 12043, 12056,		10259, 10261, 10721, 10723,	10731, 10733, 11354, 11704,
12071, 12092, 12120, 12151,		11387, 11389, 11747, 11749,	11708, 12559, 12563
12180, 12267, 12355, 12515		12602, 12604	\@pdfsubject . . . . .
\@pdfborderstyle . . . . .		\@pdfpageduration . . . . .	3991, 4259, 9707,
. . . . .	3595, 3807, 3808, 3809,	9769, 9774, 10771, 10773,	10193, 10663, 11415, 11676,
3818, 3822, 3830, 3832,		10776, 11296, 11298, 11301,	12543
4747, 6073, 9392, 10346,		11583, 11585, 11593	\@pdftempa . . . . .
10960, 11545, 11640, 12044,		\@pdfpagelayout . . . . .	5222, 5223, 5226
12057, 12072, 12093, 12121,		9693, 10271,	\@pdftempwordfile . . . . .
12152, 12181, 12268, 12356,		10745, 11392, 11394, 11761,	5213, 5223
12516		12616	\@pdftempwordrun . . . . .
\@pdfcreationdate . . . . .	3978, 4257,	\@pdfpagemode . . . . .	5214, 5226
9709, 9711, 10180, 10182,		. . . . .	\@pdftitle . . . . .
10665, 10667, 11653, 11655,		. . . . .	3939, 4253, 9706,
12530, 12532		. . . . .	10178, 10662, 11414, 11675,
\@pdfcreator . . . . .	3973, 4256, 9708,	. . . . .	12528
10179, 10664, 11416, 11677,		. . . . .	\@pdftrapped 4002, 4005, 4008,
12529		. . . . .	4017, 4026, 4261, 9722,
\@pdfdirection . . . . .	9668, 10244,	. . . . .	9724, 10679, 10681, 11680
10706, 11372, 11732, 12587		. . . . .	\@pdfview . . . . .
\@pdfduplex 9674, 10250, 10712,		. . . . .	4128, 9373, 9381,
11378, 11738, 12593		. . . . .	10295, 10299, 10303, 10307,
\@pdfhighlight . . . . .		. . . . .	10311, 10315, 10316, 10319,
. . . . .	3782, 4252, 9411, 9413,	. . . . .	10320, 10323, 10327, 10329,
9472, 9508, 9510, 9545,		. . . . .	10344, 10958, 10968, 10980,
9547, 9879, 9881, 11543,		. . . . .	11481, 11501, 12182, 12269,
11638, 12042, 12091, 12119,		. . . . .	12357, 12629
12150		. . . . .	\@pdfviewarea . . . . .
\@pdfhighlight . . . . .	9470	. . . . .	9669, 10245,
\@pdfkeywords 3997, 4260, 9721,		. . . . .	10707, 11373, 11733, 12588
10177, 10678, 11421, 11679,		. . . . .	\@pdfviewclip 9670, 10246, 10708,
12527		. . . . .	11374, 11734, 12589
\@pdflang 4238, 4267, 9694, 9696,		. . . . .	\@pdfviewparams . . . . .
10272, 10274, 10746, 10748,		. . . . .	4130, 4132,
11762, 11764, 12617, 12619		. . . . .	11481, 11501, 12183, 12270,
\@pdfm@dest 10289, 10348, 10352		. . . . .	12358, 12630
\@pdfm@mark . . . . .	6868, 10288,	. . . . .	\@percentchar 4848, 4849, 4901,
10340, 10360, 10374, 10376,		. . . . .	14632
10390, 10392, 10397, 10398,		. . . . .	\@processme . . . . .
10428, 10452, 10454, 10459,		. . . . .	5959, 5960, 9747,
10477, 10500, 10532, 10566,		. . . . .	9753, 9771, 9777, 9793,
10597, 10626, 10660, 10727,		. . . . .	9799, 11780, 11781, 11892,
10754, 13829, 13830, 13831,		. . . . .	11893, 11896, 11897
13850, 13894, 13900, 13989,		. . . . .	\@protected@testopt . . . . .
14003, 14018, 14024, 14049,		. . . . .	693
14056, 14074, 14080, 14102,		. . . . .	\@protected@testopt@xargs . . . . .
14108, 14131, 14137, 14142,		. . . . .	694
14174, 14182, 14865		. . . . .	\@refstar . . . . .
\@pdfmoddate 3984, 4258, 9713,		. . . . .	4800, 8907
		. . . . .	\@runbordercolor . . . . .
		. . . . .	3779, 4250,
		. . . . .	9549, 9551, 10572, 10574,
		. . . . .	11151, 11153, 12154
		. . . . .	\@runcolor . . . . .
		. . . . .	3717, 9569, 10588,
		. . . . .	11157
		. . . . .	\@safe@activesfalse . . . . .
		. . . . .	645, 4780
		. . . . .	\@safe@activestrue . . . . .
		. . . . .	644, 4779
		. . . . .	\@savsf . . . . .
		. . . . .	9376, 9384
		. . . . .	\@schapter . . . . .
		. . . . .	14957, 14958
		. . . . .	\@secondoffive 4348, 4775, 4788,
		. . . . .	8870, 8871, 8911
		. . . . .	\@secondoftwo . . . . .
		. . . . .	626,
		. . . . .	635, 1000, 1173, 1700, 1840,

4347, 4348, 15013		
\@sect . . . . .	15008, 15009	
\@seqncr . . . . .	7403	
\@serial@counter . . . . .	14724, 14772, 14774, 14775	
\@seteqlabel . . . . .	8427, 8428	
\@setminipage . . . . .	7850, 7922	
\@setref . . . . .	4783, 4788, 8839, 8840, 8877	
\@sharp . . . . .	7304, 7310	
\@skiphyperrfalse . . . . .	6972, 7978, 7990	
\@skiphyperrtrue . . . . .	7964, 7990	
\@spaces . . . . .	271	
\@spart . . . . .	15000, 15001	
\@ssect . . . . .	14943, 14944	
\@startlos . . . . .	8777, 8784, 8833	
\@starttoc . . . . .	6474	
\@tempa . . . . .	7475, 7476, 7479, 7483, 7505, 7512, 7516, 7536, 7543, 7547, 7678, 7682, 7685, 7697	
\@tempb . . . . .	7431, 7435	
\@tempboxa . . . . .	9980, 9982, 9991, 10060, 10062, 10065, 10066, 10075, 10081, 10082, 10097, 10099, 10102, 10103, 10113, 10119, 10120, 10137, 10139, 10142, 10143, 10153, 10159, 10160, 12472, 12474, 12483, 12747, 12749, 12763	
\@tempcnta . . . . .	14581, 14582, 14583, 14584, 14585, 14587, 14590, 14591, 14592, 14598, 14600, 14602, 14693, 14694, 14695, 14698, 14699, 14700, 14701, 14702, 14916, 14917, 14918	
\@tempdima . . . . .	2658, 6256, 6257, 6258, 6259, 6260, 6261, 6262, 6263, 9366, 13049, 13054, 13056, 13092, 13093, 13094, 13098, 13099, 13100, 13101, 13564, 13569, 13571, 13608, 13609, 13610, 13614, 13615, 13616, 13617, 13912, 13917, 13919, 13956, 13957, 13958, 13962, 13963, 13964, 13965	
\@tempdimb . . . . .	13053, 13054, 13568, 13569, 13916, 13917	
\@tempswafalse . . . . .	8183	
\@tempswatrue . . . . .	8153, 8156, 8159, 8180	
\@temptokena . . . . .	3498, 3503, 3506, 3508	
\@tfor . . . . .	7432	
\@the@H@page . . . . .	8223, 8259, 8261, 8262	
\@thefnmark . . . . .	7587, 7598, 7689, 7727, 7744, 7751, 7782, 7794, 7801	
\@thirdoffive . . . . .	4776, 8914	
\@thm . . . . .	7485, 7486, 7519	
\@topnewpage . . . . .	15059	
\@topsep . . . . .	7473, 7501, 7532	
\@topsepadd . . . . .	7474, 7502, 7533	
\@typeset@protect . . . . .	14929	
\@undefined . . . . .	375, 378, 699, 3502, 6413, 6448, 6461, 6473, 6703, 6721, 6766, 7815, 7879, 7884, 7890, 7905, 8902, 9364, 9577, 9586, 10931, 11327, 11341	
\@undottedtocline . . . . .	8829	
\@unprocessedoptions . . . . .	4626	
\@urlbordercolor . . . . .	3780, 4247, 9474, 9476, 10603, 10605, 11083, 11085, 12094	
\@urlcolor . . . . .	3715, 9493, 9987, 10000, 10107, 10124, 10617, 11089, 12479, 12492, 12758, 12771	
\@urltype . . . . .	9953, 9958, 10827, 10853, 10988, 11002, 12441, 12446, 12720, 12725	
\@vpageref . . . . .	8935	
\@whilenum . . . . .	1344	
\@wrindex . . . . .	8510, 8511, 8542	
\@writefile . . . . .	8109	
\@x@sf . . . . .	7648, 7657, 7807, 7809	
\@xfootnote . . . . .	7780	
\@xfootnotemark . . . . .	7595, 7798	
\@xfootnotenext . . . . .	7584, 7791	
\@xp . . . . .	8417, 8452, 8453, 8466, 8467, 8469, 8470	
\@xxxii . . . . .	5127	
\[ . . . . .	192, 217, 321, 3796, 3814, 5020	
\{ . . . . .	329, 351, 549, 2159, 11472, 14650	
\} . . . . .	330, 356, 550, 2160, 11472, 14651	
\] . . . . .	193, 218	
\^ . . . . .	186, 211, 319, 2257, 2258, 3409, 4836, 4837, 4845, 15086, 15098, 15110, 15320, 15336, 15344, 15357, 15371, 15386, 15402, 15412, 15413, 15426, 15440, 15489, 15539, 15566, 15595, 15766, 15782, 15790, 15802, 15818, 15833, 15849, 15859, 15860, 15874, 15888, 15916, 15918, 15962, 15964, 15978,	
	15980, 16017, 16019, 16020, 16100, 16102, 16148, 16150, 16152, 16154, 17810, 17812	
\_ . . . . .	187, 212, 557, 4840, 4857, 4858	
\' . . . . .	166, 172, 179, 182, 3345, 3479, 3482, 3484, 3492, 14649, 15084, 15096, 15108, 15316, 15332, 15340, 15353, 15367, 15382, 15398, 15406, 15407, 15422, 15436, 15485, 15537, 15564, 15593, 15762, 15778, 15786, 15798, 15814, 15829, 15845, 15853, 15854, 15870, 15884, 16285, 16287, 16914, 16943, 17084, 17113, 17778, 17780, 17856, 17858, 20026, 20031, 20036, 20041, 20046, 20051, 20056, 20061, 20066, 20071, 20076, 20081, 20086, 20091, 20096, 20101, 20106, 20111, 20116, 20121, 20126, 20131, 20136, 20141	
\  . . . . .	188, 213, 325, 2065, 2158, 2199, 3291, 4290, 8506, 9095, 9105	
\~ . . . . .	556, 1346, 2307, 3403, 3411, 3412, 3413, 4409, 4861, 15087, 15099, 15111, 15322, 15351, 15359, 15388, 15420, 15428, 15491, 15540, 15567, 15596, 15768, 15796, 15804, 15835, 15868, 15876, 15989, 15991, 15992, 16124, 16126, 17770, 17772, 17840, 17842, 17864, 17866, 20028, 20033, 20038, 20043, 20048, 20053, 20058, 20063, 20068, 20073, 20078, 20083, 20088, 20093, 20098, 20103, 20108, 20113, 20118, 20123, 20128, 20133, 20138, 20143	
		<b>Numbers</b>
\3 . . . . .	533, 1390, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 2421, 2558, 2566, 2568, 14793, 15316, 15318, 15320, 15322, 15324, 15326, 15328, 15330, 15332, 15334, 15336, 15338, 15340, 15342, 15344, 15346, 15348, 15349, 15351, 15353, 15355, 15357, 15359, 15361, 15363, 15365, 15367, 15369, 15371, 15373, 15375, 15377, 15378, 15380,	



15382, 15384, 15386, 15388,  
15390, 15392, 15394, 15396,  
15398, 15400, 15402, 15404,  
15406, 15407, 15409, 15410,  
15412, 15413, 15415, 15416,  
15418, 15420, 15422, 15424,  
15426, 15428, 15430, 15432,  
15434, 15436, 15438, 15440,  
15442, 15444, 15446, 15447,  
15449, 15534, 15762, 15764,  
15766, 15768, 15770, 15772,  
15774, 15776, 15778, 15780,  
15782, 15784, 15786, 15788,  
15790, 15792, 15794, 15796,  
15798, 15800, 15802, 15804,  
15806, 15808, 15812, 15814,  
15816, 15818, 15820, 15822,  
15824, 15825, 15827, 15829,  
15831, 15833, 15835, 15837,  
15839, 15841, 15843, 15845,  
15847, 15849, 15851, 15853,  
15854, 15856, 15857, 15859,  
15860, 15862, 15863, 15865,  
15868, 15870, 15872, 15874,  
15876, 15878, 15880, 15882,  
15884, 15886, 15888, 15890,  
15892, 15895, 15896, 15898,  
16231, 16235, 16239, 16242,  
16244, 16246, 16248, 16249,  
16251, 16253, 16255, 16257,  
16259, 16261, 16263, 16266,  
16268, 16270, 16272, 16274,  
16276, 16278, 16279, 16281,  
16283, 16285, 16287, 16289,  
16291, 16294, 16297, 16692,  
16695, 16698, 16700, 16703,  
16706, 16709, 16712, 16714,  
16716, 16718, 16720, 16722,  
16724, 16725, 16727, 16729,  
16731, 16733, 16735, 16863,  
16865, 16867, 16869, 16871,  
16873, 16875, 16877, 16879,  
16881, 16883, 16885, 16887,  
16889, 16890, 16892, 16894,  
16896, 16898, 16900, 16903,  
16905, 16907, 16909, 16912,  
17315, 17317, 17319, 17321,  
17323, 17325, 17327, 17329,  
17331, 17333, 17335, 17337,  
17339, 17341, 17343, 17345,  
17347, 17349, 17351, 17353,  
17355, 17357, 17359, 17362,  
17365, 17367, 17369, 17371,  
17373, 17375, 17377, 17379,  
17381, 17383, 17385, 17387,  
17389, 17391, 17393, 17396,  
17399, 17401, 17403, 17405,

17407, 17409, 17411, 17413,  
17415, 17417, 17419, 17421,  
17423, 17425, 17427, 17429,  
17431, 17433, 17435, 17437,  
17439, 17441, 17443, 17445,  
17447, 17449, 17451, 17453,  
17455, 17457, 17459, 17461,  
17463, 17465, 17467, 17469,  
17471, 17473, 17475, 17477,  
17479, 17481, 17483, 17485,  
17488, 17490, 17492, 17494,  
17844, 17846, 17848, 17850,  
17852, 17854, 17856, 17858,  
17860, 17862, 17864, 17866,  
18222, 18225, 18228, 18231,  
18234, 18237, 18240, 18242,  
18244, 18246, 18248, 18251,  
18254, 18257, 18259, 18262,  
18265, 18267, 18270, 18273,  
18276, 18279, 18281, 18283,  
18285, 18287, 18289, 18291,  
18293, 18295, 18298, 18301,  
18303, 18306, 18308, 18311,  
18313, 18315, 18317, 18364,  
18402, 18407, 18780, 18782,  
18784, 18787, 18790, 18792,  
18794, 18796, 18798, 18800,  
18803, 18806, 18808, 18810,  
18812, 18814, 18817, 18820,  
18822, 18824, 18826, 18828,  
18831, 18834, 18836, 18838,  
18840, 18842, 18844, 18846,  
18848, 18850, 18852, 18855,  
18858, 18860, 18862, 18864,  
18866, 18869, 18873, 18876,  
18879, 18881, 18883, 18885,  
18887, 18956, 18959, 19035,  
19037, 19039, 19041, 19043,  
19045, 19047, 19049, 19051,  
19053, 19055, 19057, 19059,  
19061, 19063, 19065, 19067,  
19069, 19071, 19073, 19075,  
19077, 19079, 19081, 19083,  
19085, 19087, 19089, 19091,  
19093, 19095, 19097, 19099,  
19101, 19103, 19105, 19107,  
19109, 19111, 19113, 19115,  
19117, 19119, 19121, 19123,  
19152, 19155, 19157, 19159,  
19162, 19164, 19166, 19168,  
19171, 19173, 19391, 19393,  
19395, 19397, 19399, 19570,  
19572, 19574, 19576, 19578,  
19580, 19583, 19587, 19589,  
19591, 19593, 19595, 19597,  
19599, 19601, 19603, 19605,  
19607, 19711, 19714, 19717,

19719, 19721, 19723, 19725,  
19727, 19729, 19731, 19858,  
19860, 19862, 19864, 19866,  
19869, 19872, 19875, 19879,  
19882, 19885, 19887, 19889,  
19891, 19893, 19896, 19898,  
19973, 19985, 19987, 19989,  
19991, 19993, 20013, 20014,  
20015, 20019, 20020, 20021,  
20024, 20026, 20028, 20039,  
20041, 20045, 20046, 20047,  
20048, 20049, 20050, 20051,  
20052, 20054, 20055, 20056,  
20057, 20058, 20059, 20060,  
20061, 20062, 20063, 20064,  
20065, 20066, 20067, 20068,  
20069, 20070, 20071, 20072,  
20074, 20075, 20076, 20077,  
20078, 20079, 20080, 20081,  
20082, 20083, 20084, 20086,  
20088, 20099, 20101, 20105,  
20106, 20107, 20108, 20109,  
20110, 20111, 20112, 20114,  
20115, 20116, 20117, 20118,  
20119, 20120, 20121, 20122,  
20123, 20124, 20125, 20126,  
20127, 20128, 20129, 20130,  
20131, 20132, 20134, 20135,  
20136, 20137, 20138, 20139,  
20140, 20141, 20142, 20143,  
20247

\9 . 536, 1410, 1413, 1444, 2349,  
2364, 2373, 2401, 2421,  
2458, 2462, 2476, 2480,  
2488, 2493, 2496, 2530,  
2534, 2537, 2540, 2550,  
2552, 2554, 2556, 2558,  
2560, 2562, 2564, 2566,  
2568, 15534, 17496, 17498,  
17500, 17502, 17504, 17506,  
17509, 17512, 17515, 17518,  
17520, 17522, 17524, 17526,  
17528, 17530, 17532, 17534,  
17536, 17539, 17541, 17544,  
17546, 17549, 17551, 17555,  
17559, 17562, 17564, 17566,  
17568, 17570, 17572, 17574,  
17576, 17578, 17580, 17582,  
17584, 17586, 17588, 17590,  
17592, 17594, 17596, 17599,  
17602, 17605, 17608, 17610,  
17612, 17614, 17616, 17618,  
17620, 17622, 17624, 17626,  
17628, 17630, 17632, 17634,  
17636, 17638, 17640, 17642,  
17644, 17646, 17648, 17650,  
17652, 17654, 17656, 17658,

17660, 17662, 17664, 17666,  
17668, 17670, 17672, 17674,  
17676, 17678, 17680, 17682,  
17684, 17686, 17688, 17690,  
17692, 17694, 17696, 17698,  
17700, 17703, 17706, 17709,  
17712, 17714, 17716, 17718,  
17720, 17722, 17724, 17726,  
17728, 17730, 17732, 17734,  
17736, 17738, 17740, 17742,  
17744, 17746, 17748, 17750,  
17752, 17754, 17756, 17758,  
17760, 17762, 17764, 17766,  
17768, 17770, 17772, 17774,  
17776, 17778, 17780, 17782,  
17784, 17786, 17788, 17790,  
17792, 17794, 17796, 17798,  
17800, 17802, 17804, 17806,  
17808, 17810, 17812, 17814,  
17816, 17818, 17820, 17822,  
17824, 17826, 17828, 17830,  
17832, 17834, 17836, 17838,  
17840, 17842, 17844, 17846,  
17848, 17850, 17852, 17854,  
17856, 17858, 17860, 17862,  
17864, 17866, 17868, 17870,  
17872, 17874, 17877, 17879,  
17881, 17883, 17885, 17887,  
17889, 17892, 17896, 17898,  
17900, 17903, 17905, 17907,  
17909, 17911, 17913, 17915,  
17917, 17919, 17921, 17923,  
17925, 17927, 17929, 17931,  
17933, 17935, 17937, 17939,  
17941, 17943, 17945, 17947,  
17949, 17951, 17953, 17955,  
17957, 17959, 17961, 17963,  
17965, 17967, 17969, 17971,  
17973, 17975, 17977, 17979,  
17981, 17983, 17985, 17987,  
17989, 17991, 17993, 17995,  
17997, 17999, 18001, 18003,  
18005, 18007, 18009, 18011,  
18013, 18015, 18017, 18019,  
18021, 18023, 18025, 18027,  
18029, 18031, 18033, 18044,  
18047, 18049, 18051, 18053,  
18055, 18057, 18059, 18061,  
18064, 18066, 18068, 18070,  
18072, 18074, 18076, 18079,  
18081, 18083, 18087, 18089,  
18091, 18093, 18095, 18097,  
18099, 18101, 18105, 18107,  
18109, 18111, 18113, 18115,  
18117, 18119, 18121, 18123,  
18125, 18127, 18129, 18131,  
18133, 18135, 18137, 18139,

18141, 18143, 18147, 18151,  
18153, 18155, 18157, 18160,  
18163, 18165, 18167, 18169,  
18171, 18173, 18176, 18178,  
18180, 18182, 18184, 18186,  
18188, 18190, 18192, 18194,  
18196, 18198, 18202, 18205,  
18207, 18210, 18213, 18216,  
18219, 18222, 18225, 18228,  
18231, 18234, 18237, 18240,  
18242, 18244, 18246, 18248,  
18251, 18254, 18257, 18259,  
18262, 18265, 18267, 18270,  
18273, 18276, 18279, 18281,  
18283, 18285, 18287, 18289,  
18291, 18293, 18295, 18298,  
18301, 18303, 18306, 18308,  
18311, 18313, 18315, 18317,  
18319, 18321, 18323, 18325,  
18327, 18329, 18332, 18334,  
18336, 18338, 18340, 18342,  
18345, 18348, 18350, 18352,  
18354, 18356, 18358, 18360,  
18362, 18364, 18366, 18368,  
18370, 18372, 18374, 18376,  
18379, 18381, 18383, 18385,  
18390, 18392, 18395, 18397,  
18400, 18402, 18405, 18407,  
18410, 18412, 18414, 18417,  
18419, 18421, 18424, 18427,  
18429, 18431, 18434, 18437,  
18439, 18441, 18444, 18446,  
18449, 18451, 18453, 18456,  
18458, 18460, 18462, 18464,  
18466, 18469, 18471, 18473,  
18476, 18478, 18480, 18483,  
18485, 18487, 18489, 18491,  
18494, 18496, 18498, 18500,  
18502, 18504, 18507, 18510,  
18513, 18515, 18518, 18520,  
18522, 18524, 18526, 18528,  
18530, 18532, 18534, 18538,  
18540, 18542, 18543, 18546,  
18549, 18553, 18554, 18558,  
18559, 18562, 18564, 18566,  
18568, 18570, 18572, 18574,  
18576, 18578, 18580, 18582,  
18584, 18586, 18589, 18591,  
18593, 18596, 18599, 18601,  
18603, 18605, 18607, 18609,  
18611, 18613, 18615, 18617,  
18619, 18621, 18623, 18625,  
18627, 18629, 18631, 18633,  
18635, 18637, 18639, 18641,  
18643, 18645, 18647, 18649,  
18651, 18653, 18655, 18657,  
18659, 18661, 18663, 18665,

18667, 18669, 18671, 18673,  
18675, 18678, 18681, 18684,  
18687, 18690, 18694, 18698,  
18700, 18702, 18704, 18706,  
18708, 18711, 18714, 18717,  
18720, 18722, 18725, 18728,  
18732, 18735, 18737, 18740,  
18743, 18746, 18750, 18753,  
18756, 18759, 18762, 18766,  
18770, 18772, 18774, 18776,  
18778, 18780, 18782, 18784,  
18787, 18790, 18792, 18794,  
18796, 18798, 18800, 18803,  
18806, 18808, 18810, 18812,  
18814, 18817, 18820, 18822,  
18824, 18826, 18828, 18831,  
18834, 18836, 18838, 18840,  
18842, 18844, 18846, 18848,  
18850, 18852, 18855, 18858,  
18860, 18862, 18864, 18866,  
18869, 18873, 18876, 18879,  
18881, 18883, 18885, 18887,  
18889, 18891, 18893, 18895,  
18897, 18901, 18903, 18905,  
18907, 18909, 18911, 18913,  
18915, 18917, 18919, 18921,  
18923, 18926, 18929, 18931,  
18934, 18937, 18939, 18942,  
18945, 18947, 18949, 18951,  
18953, 18956, 18959, 18961,  
18963, 18965, 18968, 18970,  
18972, 18974, 18976, 18978,  
18980, 18982, 18984, 18986,  
18988, 18990, 18992, 18994,  
18996, 18998, 19000, 19002,  
19004, 19006, 19008, 19010,  
19013, 19015, 19017, 19019,  
19021, 19023, 19025, 19027,  
19029, 19031, 19033, 19035,  
19037, 19039, 19041, 19043,  
19045, 19047, 19049, 19051,  
19053, 19055, 19057, 19059,  
19061, 19063, 19065, 19067,  
19069, 19071, 19073, 19075,  
19077, 19079, 19081, 19083,  
19085, 19087, 19089, 19091,  
19093, 19095, 19097, 19099,  
19101, 19103, 19105, 19107,  
19109, 19111, 19113, 19115,  
19117, 19119, 19121, 19123,  
19125, 19130, 19134, 19138,  
19141, 19143, 19145, 19149,  
19152, 19155, 19157, 19159,  
19162, 19164, 19166, 19168,  
19171, 19173, 19177, 19179,  
19181, 19183, 19186, 19189,  
19192, 19196, 19198, 19200,



19202, 19205, 19210, 19213,  
 19215, 19217, 19222, 19225,  
 19228, 19230, 19233, 19235,  
 19237, 19240, 19247, 19250,  
 19255, 19258, 19261, 19264,  
 19267, 19270, 19273, 19276,  
 19279, 19282, 19285, 19288,  
 19291, 19294, 19297, 19300,  
 19303, 19306, 19309, 19313,  
 19316, 19319, 19321, 19323,  
 19325, 19327, 19329, 19332,  
 19334, 19336, 19338, 19340,  
 19342, 19345, 19347, 19350,  
 19352, 19355, 19357, 19359,  
 19361, 19363, 19365, 19367,  
 19369, 19371, 19373, 19375,  
 19377, 19379, 19381, 19383,  
 19386, 19388, 19391, 19393,  
 19395, 19397, 19399, 19401,  
 19405, 19409, 19411, 19413,  
 19415, 19417, 19419, 19422,  
 19424, 19427, 19429, 19431,  
 19433, 19435, 19437, 19440,  
 19442, 19444, 19446, 19448,  
 19450, 19452, 19454, 19456,  
 19458, 19460, 19462, 19464,  
 19467, 19469, 19471, 19473,  
 19475, 19477, 19479, 19481,  
 19483, 19485, 19487, 19489,  
 19491, 19493, 19495, 19497,  
 19499, 19501, 19503, 19505,  
 19507, 19509, 19511, 19514,  
 19516, 19518, 19520, 19522,  
 19524, 19526, 19528, 19530,  
 19532, 19534, 19536, 19538,  
 19540, 19543, 19546, 19548,  
 19551, 19554, 19557, 19560,  
 19562, 19564, 19566, 19568,  
 19570, 19572, 19574, 19576,  
 19578, 19580, 19583, 19587,  
 19589, 19591, 19593, 19595,  
 19597, 19599, 19601, 19603,  
 19605, 19607, 19609, 19611,  
 19613, 19615, 19617, 19619,  
 19621, 19624, 19627, 19630,  
 19633, 19635, 19640, 19644,  
 19647, 19649, 19651, 19654,  
 19657, 19660, 19663, 19666,  
 19669, 19672, 19675, 19678,  
 19681, 19684, 19687, 19689,  
 19691, 19693, 19695, 19697,  
 19700, 19706, 19709, 19711,  
 19714, 19717, 19719, 19721,  
 19723, 19725, 19727, 19729,  
 19731, 19733, 19735, 19737,  
 19740, 19742, 19744, 19746,  
 19749, 19752, 19754, 19756,

19758, 19761, 19763, 19766,  
 19768, 19772, 19775, 19777,  
 19779, 19781, 19783, 19785,  
 19787, 19789, 19791, 19793,  
 19795, 19797, 19799, 19802,  
 19804, 19806, 19809, 19812,  
 19814, 19816, 19818, 19820,  
 19822, 19824, 19826, 19828,  
 19830, 19832, 19834, 19836,  
 19838, 19840, 19842, 19844,  
 19846, 19848, 19850, 19852,  
 19854, 19856, 19858, 19860,  
 19862, 19864, 19866, 19869,  
 19872, 19875, 19879, 19882,  
 19885, 19887, 19889, 19891,  
 19893, 19896, 19898, 19901,  
 19903, 19905, 19907, 19909,  
 19911, 19913, 19916, 19918,  
 19921, 19924, 19927, 19930,  
 19932, 19934, 19936, 19938,  
 19940, 19942, 19944, 19946,  
 19948, 19950, 19953, 19956,  
 19958, 19960, 19962, 19964,  
 19966, 19968, 19970, 19973,  
 19976, 19978, 19980, 19982,  
 19985, 19987, 19989, 19991,  
 19993, 20025, 20027, 20029,  
 20030, 20031, 20032, 20033,  
 20034, 20035, 20036, 20037,  
 20038, 20040, 20042, 20043,  
 20044, 20045, 20046, 20047,  
 20048, 20050, 20052, 20055,  
 20057, 20059, 20060, 20061,  
 20062, 20063, 20064, 20065,  
 20066, 20067, 20068, 20070,  
 20072, 20074, 20075, 20076,  
 20077, 20078, 20080, 20081,  
 20082, 20083, 20085, 20087,  
 20089, 20090, 20091, 20092,  
 20093, 20094, 20095, 20096,  
 20097, 20098, 20100, 20102,  
 20103, 20104, 20105, 20106,  
 20107, 20108, 20110, 20112,  
 20115, 20117, 20119, 20120,  
 20121, 20122, 20123, 20124,  
 20125, 20126, 20127, 20128,  
 20130, 20132, 20134, 20135,  
 20136, 20137, 20138, 20140,  
 20141, 20142, 20143, 20249,  
 20251

\\_ . . . . . 332, 678, 935,  
 955, 3426, 3429, 4160, 8050,  
 8073, 15108, 15109, 15110,  
 15111, 15112, 15113, 15114,  
 15115, 15116, 15117, 15118,  
 15119, 15564, 15565, 15566,

15567, 15568, 15569, 15570,  
 15571, 15572, 15573, 15574,  
 15575, 15576, 15577, 15578,  
 15579, 15580, 15581, 15582,  
 15583, 15584, 15585, 15586,  
 15587, 15588, 15589, 15590

## A

\ABREVE . 20018, 20089, 20090,  
 20091, 20092, 20093  
 \abreve . . . 20012, 20029, 20030,  
 20031, 20032, 20033  
 \AC . . . . . 18447, 21304  
 \AccFancyVerbLineautorefname .  
 . . . . . 3453  
 \Accfootnoteautorefname . . 3433  
 \Acctheoremautorefname . . 3457  
 \Acht . . . . . 19957, 21104  
 \ACIRCUMFLEX 20019, 20094,  
 20095, 20096, 20097, 20098  
 \acircumflex 3484, 20013, 20034,  
 20035, 20036, 20037, 20038  
 \AcPa . . . . . 19943, 21098  
 \Acrobatmenu 2629, 4344, 6410,  
 9872, 10622, 11162, 12036  
 \active . . 1324, 1331, 1936, 4837,  
 4838, 4839, 4840, 4841,  
 4842, 4845, 4847, 4850,  
 4858, 14797, 14827  
 \add@accent . . . . . 548  
 \addcontentsline . . . 7844, 7916,  
 8292, 8297, 8385, 15064  
 \AddLineBeginAux . . . . . 5416  
 \addtocontents 8337, 8386, 8660,  
 8712, 15052, 15053  
 \addtocounter 7188, 7211, 7220,  
 7231, 7235, 7453, 10479  
 \addvspace . . . . . 15052, 15053  
 \adl@LT@array . . . . . 7302  
 \advance . . . . . 472,  
 473, 1345, 4986, 5136, 5149,  
 5451, 5779, 5825, 6257,  
 6258, 6261, 6262, 6613,  
 6621, 6658, 8195, 8205,  
 8208, 8222, 9622, 9992,  
 10076, 10114, 10154, 11323,  
 12484, 12764, 13056, 13099,  
 13100, 13508, 13571, 13615,  
 13616, 13861, 13919, 13963,  
 13964, 14582, 14584, 14585,  
 14591, 14600, 14701, 14917  
 \AE . . . . . 15328, 15774, 16289  
 \ae . . . . . 15394, 15841, 16291  
 \afterassignment . . . 1945, 1951,  
 1957, 6034  
 \AfterBeginDocument . 362, 376  
 \aftergroup . . . . . 7731  
 \agemO . . . . . 18077, 21275



\boxempty	19185, 20807	\capitalmacron	15602	\checkmark	19438, 21434
\boxminus	18701, 20674	\capitalnewtie	15605	\CheckmarkBold	19439, 20889
\boxplus	18699, 20673	\capitalogonek	15592	\checkpackage	9, 7229, 8447
\boxslash	19716, 21007	\capitalring	15599	\chi	16876, 20349
\boxtimes	18703, 20675	\capitaltie	15604	\chiinferior	20362
\brokenvert	15705, 21138	\capitaltilde	15596	\ChoiceBox	5829
\bullet	8795, 8803, 8813, 8821, 18371, 20368	\Capricorn	19298, 21414	\ChoiceMenu	6218
\Bumpeq	18493, 20581	\capricornus	19296, 20842	\circ	18369, 20530
\bumpeq	18497, 20583	\caption	7814, 7816, 7904, 7906	\circeq	18529, 20597
<b>C</b>		\catcode	172, 173, 184, 185, 186, 187, 206, 826, 827, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 1024, 1324, 1331, 1936, 2065, 2066, 2199, 2200, 2256, 2257, 2258, 4696, 4698, 4836, 4837, 4838, 4839, 4840, 4841, 4842, 4845, 4847, 4850, 4858, 4868, 4959, 4960, 9095, 11559, 11560, 14726, 14728, 14797, 14800, 14827, 14830	\circlearrowleft	19586, 20957
\C	15509, 17165, 17168	\ccnc	19986, 21116	\circlearrowright	19588, 20958
\c	901, 905, 911, 3403, 3411, 3412, 3413, 6518, 6525, 15092, 15104, 15116, 15330, 15396, 15519, 15545, 15572, 15591, 15776, 15843, 15974, 15976, 16022, 16024, 16032, 16034, 16052, 16054, 16088, 16090, 16104, 16106, 16112, 16114, 16353, 16355, 17225, 17228, 17590, 17592, 17638, 17640	\ccnd	19988	\CircledA	19009, 20780
\c@footnote	7597, 7680, 7688, 7800	\ccsa	19990, 21117	\circledast	18693, 20671
\c@Hy@tempcnt	4971, 4972, 4978, 4986	\cdot	21124	\circledbslash	19701, 21443
\c@note	8198	\cdots	18880, 20745	\circledcirc	18689, 20670
\c@overlay	8198	\CESign	19994, 21119	\circleddash	18697, 20672
\c@page	6613, 6621, 6638, 6658, 6659, 6663, 6675, 6677, 6682, 6689, 6691, 6693, 6722, 8195, 8199, 8201, 8205, 8208, 8209, 8222, 8252	\CESign	19996, 21468	\CircleShadow	19547, 20941
\c@secnumdepth	14977, 14995, 15010	\cf@encoding	1649	\circplus	19743, 21020
\c@slide	8198	\chapterautorefname	3302, 3320, 3338, 3356, 3374, 3392, 3410, 3439, 3468, 3486, 9081	\citation	8053, 8076, 8102
\c@slidesection	8661, 8789, 8790	\chapternumberline	14614, 14619	\citeauthoryear	8168, 8174
\c@slidesubsection	8713	\char	13489, 14730, 14767	\citeN	8165
\c@tocdepth	3643, 3648	\chardef	276, 309, 2864, 2865, 2866, 2867, 3114, 3116, 4621, 4651, 11819, 11822, 11828	\CJK@char	1327
\calc@bm@number	14839, 14915	\check@bm@number	14850, 14858, 14908, 14916	\CJK@charx	1328
\calculate@pdfview	4124, 4127	\CheckBox	6221	\CJK@CJK	1316
\Cancer	19280, 21408	\CheckCommand	7677	\CJK@eight	1527, 1530, 1644
\cancer	19278, 20836	\checkcommand	42, 7230, 7791, 7798, 7805, 7904, 7914, 8008, 8020, 8385, 8388, 8448, 8877	\CJK@five	1527, 1529, 1644
\Cap	18813, 20717	\CheckedBox	19190, 21376	\CJK@four	1526, 1529, 1643
\cap	18409, 20545	\Checkedbox	19188, 20808	\CJK@hundred	1593
\capdot	19760, 21027	\checklatex	4, 7790, 7903, 8007, 8384, 8876	\CJK@hundredmillion	1556
\capitalacute	15594	\Checkmark	19436, 20888	\CJK@ignorespaces	1326
\capitalbreve	15601			\CJK@kern	1314
\capitalcaron	15600			\CJK@minus	1518
\capitalcedilla	15591			\CJK@nine	1527, 1531, 1644
\capitalcircumflex	15595			\CJK@null	1620
\capitaldieresis	15597			\CJK@one	1526, 1528, 1643
\capitaldotaccent	15603			\CJK@punctchar	1329
\capitalgrave	15593			\CJK@punctcharx	1330
\capitalhungarumlaut	15598			\CJK@seven	1527, 1530, 1644
				\CJK@six	1527, 1530, 1644
				\CJK@ten	1528, 1529, 1530, 1531, 1608
				\CJK@tenthousand	1541, 1562
				\CJK@thousand	1578
				\CJK@three	1526, 1529, 1643
				\CJK@two	1526, 1528, 1643
				\CJK@zero	1526, 1544, 1561, 1565, 1581, 1596, 1618
				\CJKdigits	1403
				\CJKkern	1315
				\CJKnumber	1402
				\cl@ckpt	7022
				\CleaningA	19011, 21363
				\CleaningF	19022, 20781
				\CleaningFF	19024, 20782
				\CleaningP	19046, 20783
				\CleaningPP	19048, 20784
				\clickb	16636, 21242

\clickc	16631, 21240	\cupdot	18650, 20653	\CYRCHRDSC	17291
\clickt	16573, 21224	\cupplus	18652, 20654	\cyrchrdsc	17293
\clock	18896, 20753	\curlyc	16403, 21181	\CYRCHVCRS	17296
\ClockLogo	18899, 21360	\curlyeqprec	18835, 20726	\cyrchvcrs	17299
\Clocklogo	18898, 21359	\curlyeqsucc	18839, 20728	\CYRD	16958
\close@pdfink	9425, 9450, 9459, 9494, 9534, 9570, 9899	\curlyesh	16570, 21223	\cyrd	3426, 3429, 3440, 3445, 3446, 17025
\closedniomega	16522, 21212	\curlyvee	18799, 20711	\CYRDJE	16919
\closedreveysilon	16435, 21188	\curlywedge	18802, 20712	\cyrdje	17089
\closeout	6440, 14717	\curlyyogh	16615, 21236	\CYRDZE	16925
\Cloud	19176, 20803	\curlyz	16608, 21235	\cyrdze	17095
\ClowerTips	20905	\CurrentBorderColor	9415, 9417, 9444, 9446, 9454, 9456, 9461, 10961, 10995, 10997, 11013, 11015, 11034, 11036, 11098, 11100, 11117, 11119	\CYRDZHE	16948
\clubpenalty	7574, 7576	\currentpdfbookmark	14689	\cyrdzhe	17118
\clubsuit	19315, 19317, 21421	\curu	17116	\CYRE	16914, 16917, 16960, 17353
\codeof	8132	\curvearrowleft	18204, 20462	\cyre	3423, 3429, 3430, 3443, 3455, 3456, 3457, 17027, 17084, 17087, 17355
\Coffeecup	19195, 20810	\curvearrowright	18206, 20463	\cyreref	17403
\coloncolonequals	19780, 21035	\CutLeft	19402, 21428	\CYREREV	17011, 17401
\colonequals	18521, 20593	\CutLine	19127, 21365	\cyrerev	17078
\color@begingroup	9338, 10443	\Cutline	19128, 21366	\CYRERY	17006, 17425
\color@endgroup	9345, 10450	\Cutright	19403, 21429	\cyrery	3421, 3423, 17073, 17427
\columnwidth	7725	\CuttingLine	19124, 20785	\CYRF	16991
\comma@entry	5820, 5827, 5829	\cyr	646, 3421, 3423, 3426, 3429, 3432, 3433, 3434, 3435, 3436, 3437, 3438, 3439, 3440, 3441, 3443, 3445, 3446, 3447, 3448, 3449, 3450, 3451, 3452, 3453, 3454, 3455, 3456, 3457, 3458	\cyrf	17058
\comma@parse	5819	\CYRA	16950, 17341, 17345	\CYRFITA	17156
\complement	18320, 20508	\cyra	3423, 3430, 3432, 3437, 3440, 3445, 3446, 3452, 3456, 17017, 17343, 17347	\cyrfit	17158
\Conclusion	18271, 21287	\CYRABHCH	17305, 17310	\CYRG	16921, 16956
\cong	18465, 20569	\cyrabhch	17307, 17313	\cyrg	3439, 17023, 17091
\Congruent	18547, 21313	\CYRABHCHDSC	17309	\CYRGDSC	17421
\contentsline	6449, 6450, 6462, 8338, 8342, 8386, 8388	\cyrabhchdsc	17312	\cyrgdsc	17423
\copy	5145, 5147, 5158, 5166, 9348, 9905, 10427, 10453	\CYRABHDZE	17375	\CYRGHCRS	17208
\copyright	20272	\cyrabhdze	17377	\cyrghcrs	17210
\Corresponds	18536, 21311	\CYRABHHA	17260	\CYRGHK	17213
\corresponds	18535, 21310	\cyrabhha	17262	\cyrghk	17216
\count@	865, 867, 868, 871, 874, 877, 880, 1343, 1344, 1345, 1346, 1946, 3659, 3660, 3665, 3666, 5450, 5451, 5466, 5762, 5777, 5779, 5803, 5825, 5841, 9617, 9618, 9619, 9620, 9621, 9622, 9625, 11319, 11320, 11321, 11322, 11323, 11326	\CYRAE	17349	\CYRGUP	17204
\Cross	19455, 20897	\cyrae	17351	\cyrgup	17206
\crossb	16173, 21155	\CYRB	16952	\CYRH	16993
\CrossClowerTips	19472	\cyrb	3437, 17019	\cyrh	17060
\crossd	15937, 21147	\CYRBYUS	17140	\CYRHDSC	17282
\CrossedBox	19194, 21378	\cyrbyus	17142	\cyrhdsc	17284
\Crossedbox	19191, 20809	\CYRC	16995	\CYRHHK	17429
\crossh	15986, 21151	\cyr	646, 3421, 3423, 3426, 3429, 3432, 3433, 3434, 3435, 3436, 3437, 3438, 3439, 3440, 3441, 3443, 3445, 3446, 3447, 3448, 3449, 3450, 3451, 3452, 3453, 3454, 3455, 3456, 3457, 3458	\cyrhkh	17431
\CrossMaltese	19461, 20900	\CYRCH	16997, 17417	\CYRHRDSN	17004
\crossnilambda	16204, 21161	\cyrch	3429, 3430, 3438, 17064, 17419	\cyrhrdsn	17070, 17071, 21249
\CrossOpenShadow	19457, 20898	\CYRCHLDSC	17333	\CYRI	16943, 16966, 16969, 17379, 17383
\CrossOutline	19459, 20899	\cyrchldsc	17335	\cyri	3423, 3426, 3430, 3436, 3441, 3443, 17033, 17036, 17113, 17381, 17385
\Cube	621			\CYRIE	16923
\Cup	18816, 20718			\cyrie	17093
\cup	18411, 20546			\CYRII	16928, 16931
				\cyrii	17098, 17101
				\CYRIOTBYUS	17144
				\cyriotbyus	17146
				\CYRIOTE	17128

\cyriote	17130	\cyro	3426, 3429, 3432, 3433, 3443, 3452, 3453, 3455, 3456, 3457, 17046, 17389	\cyrthousands	17190
\CYRIOTLYUS	17136	\CYROMEGA	17120	\CYRTSHE	16939
\cyriotlyus	17138	\cyromega	17122	\cyrtshe	17109
\CYRISHRT	16968	\CYROMEGARND	17174	\CYRU	16946, 16989, 17405, 17409, 17413
\cyrishrt	17035	\cyromegarnd	17176	\cyr	3433, 3435, 3449, 3450, 3453, 3457, 17056, 17407, 17411, 17415
\CYRISHRTDSC	17192	\CYROMEGATITLO	17178	\CYRUK	17170
\cyrishrtdsc	17194	\cyromegatitlo	17180	\cyruk	17172
\CYRIZH	17160, 17165	\CYROT	17182	\CYRUSHRT	16945
\cyrizh	17162, 17168	\cyrot	17184	\cyrushrt	17115
\CYRJE	16933	\CYROTLD	17391, 17396	\CYRV	16954
\cyrje	17103	\cyrotld	17393, 17399	\cyrv	3421, 3423, 17021
\CYRK	16941, 16971	\CYRP	16981	\CYRY	17274
\cyrk	3432, 3433, 3435, 3449, 3450, 3452, 3453, 3454, 17038, 17111	\cyrp	3426, 3429, 3430, 3434, 3435, 3441, 3443, 3447, 3448, 3449, 3450, 17048	\cyr	17276
\CYRKBEAK	17244	\CYRpalochka	17315	\CYRYA	17015
\cyrkbeak	17246	\CYRPHK	17256	\cyr	17082
\CYRKDSC	17230	\cyrphk	17258	\CYRYAT	17124
\cyrkdsc	17232	\CYRPSI	17152	\cyr	17126
\CYRKHCERS	17240	\cyrpsi	17154	\CYRYHCERS	17278
\cyrkhcers	17242	\CYRR	16983	\cyr	17280
\CYRKHK	17321	\cyr	3421, 3423, 3426, 3429, 3430, 3436, 3440, 3441, 3443, 3445, 3446, 3451, 3452, 3453, 3454, 3455, 3456, 3457, 17050	\CYRYI	16930
\cyrkhk	17323	\CYRTICK	17200	\cyr	17100
\CYRKOPPA	17186	\cyr	17202	\CYRYO	16916
\cyrkoppa	17188	\CYRS	16985, 17265	\cyr	17086
\CYRKSI	17148	\cyr	3426, 3429, 3432, 3433, 3436, 3451, 3452, 3453, 3454, 3458, 17052, 17268	\CYRYU	17013
\cyrksi	17150	\CYRSCHWA	17357, 17362	\cyr	17080
\CYRKVCERS	17235	\cyr	17359, 17365	\CYRZ	16964, 17225, 17371
\cyrkvcers	17238	\CYRSDSC	17264, 17265	\cyr	3440, 3445, 3446, 17031, 17228, 17373
\CYRL	16973	\cyr	17267	\CYRZDSC	17224
\cyr	3437, 3439, 3441, 3443, 17040	\CYRSEMISFTSN	17196	\cyr	17227
\CYRLDSC	17325	\cyr	17198	\CYRZH	16962, 17317, 17367
\cyrldsc	17327	\CYRSFTSN	17009	\cyr	3423, 3443, 17029, 17319, 17369
\CYRLJE	16935	\cyr	17075, 17076, 21250	\CYRZHDSC	17219
\cyr	17105	\CYRSH	16999	\cyr	17222
\CYRLYUS	17132	\cyr	17066		
\cyrlyus	17134	\CYRSHCH	17001		
\CYRM	16975	\cyr	17068		
\cyr	3426, 3430, 3456, 3457, 17042	\CYRSHHA	17301		
\CYRMDSC	17337	\cyr	17303		
\cyrmdsc	17339	\CYRT	16987		
\CYRN	16977	\cyr	3426, 3429, 3435, 3437, 3449, 3450, 3451, 3452, 3453, 3454, 3455, 3456, 3457, 17054		
\cyr	3423, 3429, 3430, 3432, 3433, 3435, 3443, 3449, 3450, 17044	\CYRTDSC	17270		
\CYRNDSC	17248	\cyr	17272		
\cyrndsc	17250	\CYRTETSE	17286		
\CYRNG	17252	\cyr	17288		
\cyrng	17254				
\CYRNHK	17329				
\cyrnhk	17331				
\CYRNJE	16937				
\cyrnje	17107				
\CYRO	16979, 17387				

## D

\d	902, 906, 912, 3481, 3485, 3487, 3488, 3489, 3490, 3491, 3493, 15095, 15107, 15119, 15513, 15558, 15585, 17570, 17572, 17582, 17584, 17630, 17632, 17654, 17656, 17662, 17664, 17682, 17684, 17690, 17692, 17726, 17728, 17738, 17740, 17746, 17748, 17774, 17776, 17794, 17796, 17814, 17816, 17832, 17834, 17836, 17838, 17844, 17846, 17848, 17850, 17852, 17854, 17860, 17862, 20025, 20030, 20035, 20040, 20045, 20050, 20055, 20060, 20065, 20070, 20075, 20080, 20085, 20090, 20095,
----	---



	20100, 20105, 20110, 20115, 20120, 20125, 20130, 20135, 20140		3198, 3203, 3208, 3213, 3562, 3570, 3578, 3588		3941, 3947, 3969, 3975, 3981, 3987, 3993, 3999, 4032, 4039, 4073, 4124, 4125, 4145, 4152, 4162, 4192, 4193, 4196, 4199, 4202, 4205, 4208, 4211, 4214, 4237, 4240, 4243, 4967, 4996, 5002, 5014, 5444, 5532, 5588, 5890, 5895, 5908, 5936, 5978, 5981, 5984, 5988, 5991, 5995, 5998, 6002, 6006, 6010, 6013, 6017, 6020, 6023, 6026, 6029, 6066, 6082, 6085, 6088, 6091, 6094, 6097, 6127, 6130, 6133, 6136, 6155, 6161, 6176, 6182, 6199, 6204, 6210, 6819, 6830, 11398, 11404, 11903, 11905, 11908, 11910, 11912, 11921, 11929, 11936, 11938, 11940, 11942, 11944, 11946, 11955, 11965, 11967, 11969, 11970, 11976, 11985, 11987, 11989, 11991, 11993, 11995, 11997, 11999, 12001, 12003, 12005, 12007, 12009, 12011, 12013, 12015, 12016, 12017, 12018, 12019, 12020, 12021, 12022, 12023, 12024, 12025, 12026
\dad	20189	\DefaultHeightofCheckBox	6270, 13206, 13746, 14117	\Deleatur	18043, 20419
\dag	17890, 21261	\DefaultHeightofChoiceMenu	6272, 13046, 13561, 13909	\Delta	16773, 20318
\dagger	20367	\DefaultHeightofReset	6268, 13180, 13718, 14085	\delta	16838, 20331
\dal	20175	\DefaultHeightofSubmit	6266, 13163, 13695, 14062	\Denarius	18045, 21274
\daleth	18094, 20431	\DefaultHeightofText	6274, 13022, 13535, 13876	\dest@name	5364
\damma	20229	\DefaultHeightofTextMultiline	6275, 13020, 13533, 13874	\df@tag	8409, 8415
\danger	19366, 20862	\DefaultOptionsofCheckBox	6280, 13208, 13748, 14119	\DH	15348, 15794
\dasheddownarrow	18305, 20501	\DefaultOptionsofComboBox	6283	\dh	15418, 15865, 15866, 21146
\dashedleftarrow	18299, 21288	\DefaultOptionsofListBox	6282	\dhal	20177
\dashedrightarrow	18304, 21289	\DefaultOptionsofPopdownBox	6284	\DiamondSolid	20946
\dasheduparrow	18300, 20499	\DefaultOptionsofPushButton	6279, 13138, 13667, 14030	\diameter	18888, 20749
\dashleftarrow	18297, 20498	\DefaultOptionsofRadio	6285	\Diamond	19160, 21372
\dashrightarrow	18302, 20500	\DefaultOptionsofReset	6278, 13183, 13721, 14088	\diamond	19158, 20796
\DashV	19878, 21080	\DefaultOptionsofSubmit	6277, 13166, 13698, 14065	\diamonddots	17934, 20376
\Dashv	19871, 21078	\DefaultOptionsofText	6281, 13027, 13540, 13881	\diamondsuit	19312, 19314, 21420
\dashV	21076	\DefaultWidthofCheckBox	6271, 13205, 13745, 14116	\digamma	16901, 21248
\dashv	18710, 20678	\DefaultWidthofChoiceMenu	6273, 13045, 13560, 13908	\dimen@	511, 512, 516, 1952, 2029, 2030, 2033, 2035, 4276, 4277, 4279, 4286, 4287, 5135, 5136, 5139, 5148, 5149, 5153, 6035, 6044, 6047, 6060, 11286, 11287, 11289, 11861, 11876, 11879
\DavidStar	19463, 20901	\DefaultWidthofReset	6269, 13179, 13717, 14084	\dimexpr	523, 2325, 2327, 2335, 2340, 2343, 2345, 2359,
\davidstar	19465, 21435	\DefaultWidthofSubmit	6267, 13162, 13694, 14061		
\ddag	17894, 21263	\DefaultWidthofText	6276, 13017, 13530, 13871		
\ddagger	15192, 17891, 17893, 21262	\define@key	2763, 2765, 2808, 2823, 2826, 2829, 2837, 2840, 2850, 2853, 2856, 2873, 2885, 2887, 2890, 2893, 2910, 2914, 2917, 2920, 2923, 2926, 2929, 2932, 2935, 2960, 3016, 3022, 3111, 3219, 3230, 3233, 3240, 3269, 3288, 3291, 3528, 3585, 3597, 3612, 3637, 3640, 3644, 3672, 3677, 3681, 3684, 3691, 3703, 3710, 3720, 3723, 3726, 3730, 3745, 3754, 3764, 3771, 3782, 3789, 3806, 3896, 3905, 3935,		
\ddots	18884, 20747				
\declare@shorthand	1078, 1079, 1084, 1085, 1090, 1100, 1101, 1102, 1107, 1108, 1113, 1114, 1119, 1124, 1125, 1130, 1135, 1136, 1137, 1138, 1139, 1140, 1145, 1146, 1151, 1152, 1157, 1158				
\DeclareFontEncoding	15083, 15483				
\DeclareFontFamily	972, 982				
\DeclareFontShape	973, 983				
\DeclareFontSubstitution	974, 984				
\DeclareLocalOptions	4304				
\DeclareRobustCommand	4799, 4802, 4811, 4815, 4950, 5037, 5039, 5041, 5050, 6215, 6218, 6221, 6224, 6227, 6230, 6233, 6358, 6362, 6428, 6432, 8924, 8950, 8969, 14933				
\DeclareTextAccent	15084, 15085, 15086, 15087, 15088, 15089, 15090, 15091, 15092, 15093, 15094, 15095				
\DeclareVoidOption	3072, 3086, 3096, 3101, 3106, 3119, 3129, 3134, 3139, 3145, 3174, 3191,				

2361, 2364, 2365, 2372, 2375, 2378, 2379, 2380, 2381, 2391, 2396, 2404, 2408, 2413, 2423, 2426, 2431, 2434, 2439, 2440, 6060	\ding ..... 620, 6102, 6105	\downarrow ..... 18247, 20478	\eightsuperior ..... 20383	
\DingObject ..... 13640	\discretionary ..... 689	\downarrowdownharpoons .... 19668, 20990	\einferior ..... 20407	
\div ..... 21122	\divdot ..... 19747, 21449	\downharpoonleft . 18230, 20471	\ejective ..... 16619, 21237	
\divide ..... 9618, 11320	\divideontimes ... 18781, 20703	\downharpoonright 18227, 20470	\ell ..... 18056, 20422	
\Divides ..... 18361, 20526	\DividesNot ..... 18363, 20527	\downmodels ..... 19884, 21082	\em ..... 604	
\DJ ..... 3493, 15349, 15932	\dj ..... 3490, 3491, 15935	\downtherefore ... 18435, 21302	\emgma ..... 16501, 21208	
\dlsh ..... 18201, 20461	\do 1344, 2780, 2785, 2790, 3752, 3784, 3785, 3786, 3787, 3836, 3837, 3838, 3839, 3840, 3841, 3844, 3845, 3846, 3847, 3848, 3849, 3852, 3853, 3856, 3857, 3858, 3859, 3860, 3863, 3864, 3865, 3866, 3867, 3870, 3871, 3872, 3873, 3874, 3877, 3878, 3879, 3880, 3881, 3884, 3885, 3888, 3889, 3890, 3893, 3894, 3900, 3901, 3902, 3903, 4230, 4231, 4232, 4233, 4234, 4235, 5492, 7435, 8048, 8071, 13050, 13112, 13324, 13331, 13341, 13565, 13628, 13913, 13979, 14796, 14826	\dth@counter . 7503, 7504, 7534, 7535, 7562	\downvdash ..... 18718, 21332	\empty ..... 1326, 3647
\documentclass ..... 2, 9224	\dth@everypar ..... 7550	\dp 5135, 5143, 5156, 6260, 6263, 7723, 9982, 10062, 10099, 10139, 11862, 11865, 12474, 12749, 13856	\emptyset ..... 18328, 20512	
\dospecials ..... 14805, 14835	\dtimes ..... 19751, 21023	\dsbiological ..... 19360, 20859	\enc@html ..... 5894, 5897	
\Doteq ..... 18508, 21309	\dvipdfm@setdim 13853, 13896, 13995, 14020, 14051, 14076, 14104, 14133	\dschemical ..... 19358, 20858	\enc@update ..... 545	
\doteq ..... 18501, 20585	\dz ..... 16667, 21246	\dscommercial .... 19362, 20860	\END .. 1674, 1675, 1701, 1702, 1717, 1718, 1735, 1736, 1753, 1754, 2138, 2144, 2149, 2251, 2253, 9744, 9757, 9761, 9768, 9781, 9785, 9791, 9803, 9807	
\doteqdot ..... 18506, 20587		\dsjuridical ..... 19356, 20857	\end ..... 625, 21474	
\dotminus ..... 18440, 20558		\dsmedical ..... 19354, 20856	\endeqnarray .. 7377, 7399, 7406	
\dotplus ..... 18359, 20525		\dsmilitary ..... 19351, 20855	\endequation ..... 7331, 7365	
\dots ..... 560		\dth@counter . 7503, 7504, 7534, 7535, 7562	\endForm ..... 5884	
\dottimes ..... 19748, 21022		\dth@everypar ..... 7550	\endinput . 64, 3083, 3158, 4476, 4581, 8837, 11487, 12812, 14923	
\doublebarwedge .. 19771, 21031		\dtimes ..... 19751, 21023	\endlinechar .... 920, 941, 4835	
\doublecap ..... 18815, 21353		\dvipdfm@setdim 13853, 13896, 13995, 14020, 14051, 14076, 14104, 14133	\endNoHyper ..... 6392	
\doublecup ..... 18818, 21354		\dz ..... 16667, 21246	\EndPreamble ..... 12815	
\doublesqcap ..... 19759, 21450			\endsubeqnarray ... 7410, 7421	
\doublesqcup ..... 19764, 21451			\eng ..... 16065, 21153	
\doublevav ..... 17490			\engma ..... 16066, 21154	
\doublevee ..... 19767, 21030			\ensuremath ..... 673	
\doublewedge .... 19765, 21029			\Envelope ..... 19418, 20880	
\doubleyod ..... 17494			\enya ..... 16505, 21210	
\DOWNarrow .... 19144, 20791			\epsdice ..... 622, 21127	
\Downarrow ..... 18272, 20487			\epsi ..... 16424, 21186	
\downarrow ..... 20437			\epsilon ..... 16840, 20332	
			\eqcirc ..... 18525, 20595	
			\eqcolon ..... 18443, 20559	
			\eqdot ..... 19776, 21033	
			\eqnarray .... 7376, 7378, 7403	
			\eqsim ..... 18457, 20565	
			\eqslantgtr ..... 19815, 21051	
			\eqslantless ..... 19813, 21050	
			\equal ..... 8129	
			\equalscolon .... 18523, 20594	
			\equalsinferior ..... 20403	
			\equalsuperior ..... 20387	
			\equation 7330, 7339, 7343, 7352	
			\equationautorefname ..... .. 3295, 3313, 3331, 3349, 3367, 3385, 3403, 3421, 3422, 3461, 3479, 9070, 9074	
			\equiv ..... 18545, 20604	
			\Equivalence ..... 18277	
			\er ..... 16420, 21185	
			\errmessage ..... 3525	
			\es@Roman ..... 647	

\es@save@dot	1302	13312, 13329, 13347, 13355,	\Fld@bordercolor	5876, 6134,
\escapechar	529, 850, 4423, 7428,	13360, 13376, 13385		14337, 14339, 14365, 14373,
	14656, 14837, 14888	\Field@Width		14375, 14393, 14402, 14404,
\esh	16560, 20305			14431, 14433, 14462, 14471,
\EstimatedSign	18084, 21276	\figureautorefname		14473, 14498, 14506, 14508,
\eta	16844, 20334			14534, 14542, 14544
\eTeX	569, 12820	3334, 3352, 3370, 3388,	\Fld@bordersep	5877, 6083
\etex@unexpanded	1877, 1884	3406, 3436, 3464, 3482, 9077		
\eTeXversion	9577, 9579, 9581	\filename@area	\Fld@borderstyle	5879, 6067, 6068, 6069,
\eth	15866, 21146			6079, 14331, 14363, 14391,
\Eur	18042, 21273	\filename@base		14425, 14460, 14496, 14550
\EURcr	18039, 21270		\Fld@borderwidth	5878, 6030, 6254, 6257,
\EurCr	18038, 21269	\filename@ext		6258, 6261, 6262, 13099,
\EURdig	18035, 21266			13100, 13615, 13616, 13963,
\EurDig	18034, 21265	5259, 5260, 5262,		13964, 14331, 14363, 14391,
\EURhvf	18037, 21268	5263		14425, 14460, 14496, 14550
\EurHv	18036, 21267	\filename@parse	\Fld@calculate@code	6142, 14274,
\EURtm	18041, 21272			14276
\EurTm	18040, 21271	5258	\Fld@cbsymbol	5880, 6095, 14345
\evensidemargin	8279	\find@pdfink		5870, 5871, 6027,
\everypar	7576			13098, 13614, 13962, 14347,
\ExecuteOptions	4291, 4292, 4296	\Finv		14412, 14441, 14481, 14532
\exists	18324, 20510		\Fld@checkedfalse	5866
\ext@figure	8644	\Fire		\Fld@checkequals
\ext@table	8643			5970, 13051,
\extra@b@citeb	8055	\fivedots		13113, 13332, 13342, 13566,
\extrasvietnam	3571			13629, 13914, 13980
\extrasvietnamese	3563	\FiveFlowerOpen	\Fld@choices	
\EyesDollar	15619, 21131			5759, 5767, 5769, 5773,
		\FiveFlowerPetal		5782, 5790, 5795, 5843,
				5845, 5853, 5854, 14414
		\fiveinferior	\Fld@color	5874, 6137, 14348,
				14413, 14442, 14482
		\FiveStar	\Fld@default	5784, 5787, 5789,
				6086, 13015, 13031, 13043,
		\FiveStarCenterOpen		13083, 13111, 13203, 13261,
				13279, 13293, 13301, 13308,
		19178, 20804		13334, 13344, 13374, 13384,
				13528, 13545, 13558, 13599,
		\FiveStarOutline		13627, 13743, 13869, 13886,
				13906, 13947, 13975, 14114,
		\FiveStarOutlineHeavy		14443, 14444, 14445, 14483
			\Fld@DingDef	6095, 6098, 6100
		20912		\Fld@disabledfalse
				5867
		\FiveStarShadow	\Fld@export	5597, 5600, 5607,
				5899
		19490, 20914	\Fld@findlength	13311, 13322
		\fivesuperior		\Fld@flags
				5666, 5668, 5679, 5681,
		\Flag		5695, 5697, 5727, 5729,
				5752, 5754, 14329, 14361,
		\flap		14389, 14423, 14458, 14494,
				14530
		\flapr	\Fld@format@code	6140, 14266,
				14268
		\flat	\Fld@getmethodfalse	5919
				\Fld@getmethodtrue
		19335, 20848		5921
		\Fld@@@additionalactions		
		14261,		
		14304, 14308		
		\Fld@@@DingDef		
		6102, 6105, 6124		
		\Fld@additionalactions		
		14351, 14380, 14415, 14450,		
		14485, 14520, 14552		
		\Fld@align		
		5873, 6089, 14330,		
		14390, 14459		
		\Fld@altname		
		6005, 6007, 14240,		
		14242, 14314, 14316		
		\Fld@annotflags		
		5652, 5654,		
		14325, 14357, 14385, 14419,		
		14454, 14490, 14526		
		\Fld@annotnames		
		14312, 14327,		
		14359, 14387, 14421, 14456,		
		14492, 14528		
		\Fld@bcolor		
		5875, 6131, 14341,		
		14343, 14406, 14408, 14435,		
		14437, 14463, 14475, 14477		
		\fid@bcolor		
		14394		

## F

\fa	20201
\fallingdoteq	20589
\fallingdotseq	18512
\FancyVerbLineautorefname	3308, 3326, 3344, 3362,
	3380, 3398, 3416, 3451,
	3454, 3474, 3492, 9087
\farsikaf	20243
\farsiya	20247
\fatha	20227
\fatsemi	19741, 21019
\Fax	19972, 21111
\fax	18096, 20432
\Faxmachine	19974, 21467
\fbox	13493, 13496
\fcdice	623, 21128
\Female	19245, 21395
\female	19239, 19242, 21392
\FemaleFemale	19368, 20863
\FemaleMale	19372, 20865
\Field@addtoks	5958, 5989, 5992,
	6177, 6200
\Field@boolkey	5445, 5533, 5952,
	5982, 5985
\Field@toks	5956, 5957, 5959,
	13263, 13280, 13291, 13302,



\Fld@height . 6024, 13018, 13035,  
13046, 13101, 13118, 13130,  
13163, 13180, 13206, 13215,  
13531, 13551, 13561, 13617,  
13645, 13659, 13695, 13718,  
13746, 13758, 13872, 13888,  
13909, 13965, 13977, 14013,  
14062, 14085, 14117, 14125  
\Fld@hiddenfalse . . . . . 5555  
\Fld@hiddenttrue . . . . . 5556  
\Fld@invisiblefalse . . . . . 5551  
\Fld@invisibletrue . . . . . 5552  
\Fld@keystroke@code . . . . 6143,  
14262, 14264  
\Fld@listcount . . . 13110, 13115,  
13126, 13626, 13631, 13646,  
13652, 13974, 13982, 13986,  
13991, 14002, 14009  
\Fld@loc . . . . . 5979  
\Fld@mappingname . 6009, 6011,  
14244, 14246, 14318, 14320  
\Fld@maxlen . 5872, 6018, 14486  
\Fld@menulength . . 5868, 6021,  
13048, 13052, 13098, 13323,  
13324, 13327, 13563, 13567,  
13614, 13911, 13915, 13962  
\Fld@name . 6003, 13014, 13042,  
13135, 13202, 13260, 13265,  
13276, 13277, 13288, 13289,  
13298, 13299, 13307, 13328,  
13345, 13353, 13358, 13373,  
13382, 13527, 13557, 13664,  
13742, 13868, 13905, 14027,  
14113, 14239, 14313  
\Fld@norotatefalse . . . . . 5568  
\Fld@norotatetrue . . . . . 5567  
\Fld@noviewfalse . . . . . 5571  
\Fld@noviewtrue . . . . . 5572  
\Fld@nozoomfalse . . . . . 5564  
\Fld@nozoomtrue . . . . . 5563  
\Fld@onblur@code . 6145, 14282,  
14284  
\Fld@onclick@code . 6139, 6211,  
14379  
\Fld@onenter@code 6148, 14294,  
14296  
\Fld@onexit@code . 6149, 14298,  
14300  
\Fld@onfocus@code 6144, 14278,  
14280  
\Fld@onmousedown@code 6146,  
14286, 14288  
\Fld@onmouseup@code . . 6147,  
14290, 14292  
\Fld@pageobjref . 13012, 13501,  
13512, 13866, 14195, 14326,  
14358, 14386, 14420, 14455,  
14491, 14527  
\Fld@printfalse . . . . . 5560  
\Fld@printrtrue . . . . . 5559  
\Fld@radiosymbol . . 5881, 6098,  
14439  
\Fld@rotation 5882, 6128, 14333,  
14335, 14364, 14369, 14371,  
14392, 14398, 14400, 14427,  
14429, 14461, 14467, 14469,  
14497, 14502, 14504, 14533,  
14538, 14540  
\Fld@submitflags . . . 5634, 5636,  
14518  
\Fld@temp . . 6101, 6103, 6106,  
6107, 6116, 6117  
\Fld@validate@code 6141, 14270,  
14272  
\Fld@value 5785, 5792, 5794, 6092,  
13016, 13031, 13044, 13082,  
13083, 13529, 13545, 13559,  
13598, 13599, 13870, 13886,  
13907, 13946, 13947, 14484  
\Fld@width . 6014, 13017, 13030,  
13035, 13045, 13081, 13092,  
13094, 13118, 13130, 13150,  
13162, 13170, 13179, 13193,  
13205, 13211, 13215, 13530,  
13544, 13551, 13560, 13597,  
13608, 13610, 13645, 13659,  
13680, 13694, 13702, 13717,  
13731, 13745, 13752, 13758,  
13871, 13885, 13888, 13908,  
13945, 13956, 13958, 13977,  
14013, 14044, 14061, 14069,  
14084, 14098, 14116, 14123,  
14125  
\float@caption . . . . 7824, 7896  
\float@makebox . . . . 7898, 7899  
\floatingpenalty . . . . . 7724  
\Florin . . . . . 16188, 21158  
\fiq . . . . . 654  
\fiqq . . . . . 652  
\fmtname . . . . . 7  
\fmtversion . . . . . 7  
\font . . . . . 5123  
\fontencoding . . . 537, 541, 576,  
13485  
\fontfamily . . . . . 577, 13484  
\fontseries 578, 7468, 7496, 7527,  
13486  
\fontshape . . . . 579, 4762, 13487  
\fontsize . . . . . 580  
\Football . . 19387, 19389, 21427  
\footins . . . . . 7718  
\footnote . . . . . 5421  
\footnoteautorefname . . . . .  
. . 3296, 3314, 3332, 3350,  
3368, 3386, 3404, 3425,  
3428, 3462, 3480, 9071, 9075  
\footnotesep . . . . . 7722, 7729  
\footnotesize . . . . . 609, 7720  
\footnotetext . . . . . 7680  
\footref . . . . . 7748, 7749  
\forall . . . . . 18318, 20507  
\Force . . . . . 18149, 21283  
\foreignlanguage . . . . . 635  
\Form . . . . . 5883  
\Form@action 5893, 13252, 14516  
\Form@boolkey . . . . . 5887  
\Form@htmlfalse . . . 5886, 5905  
\Form@htmltrue . . . . . 5898  
\Form@method 5917, 5925, 13252  
\Foward . . . . . 19137, 20788  
\FowardToIndex . . 18955, 20777  
\FourAsterisk . . . . 19466, 20902  
\fourinferior . . . . . 20395  
\FourStar . . . . . 19474, 20906  
\FourStarOpen . . . 19476, 20907  
\foursuperior . . . . . 20379  
\fourth . . . . . 17932, 20375  
\frown . . . . . 18908, 20758  
\frownie . . . . . 19221, 20819  
\Frowny . . . . . 19223, 21387  
\frq . . . . . 655  
\frqq . . . . . 653  
\fullnote . . . . . 19949, 21101  
\futurelet . . . . . 708, 1668  
\FV@SetLineNo . . . . . 7169  
\FV@StepLineNo . . . 7168, 7170,  
7171  

## G

\G . . 15508, 15547, 15574, 16299,  
16301, 16303, 16305, 16311,  
16313, 16314, 16321, 16323,  
16329, 16331, 16333, 16335  
\g@addto@macro . . . 6580, 6752,  
7957, 8234, 8237, 8240,  
8289, 9811, 10788, 11310,  
11610, 12185, 12271, 12333,  
12635, 12826  
\G@refundefinedtrue 5088, 8057,  
8080, 8842, 8862, 8879, 8997  
\gaf . . . . . 20245  
\Game . . . . . 18098, 20433  
\Gamma . . . . . 16771, 20317  
\gamma . . . . . 16836, 20330  
\gammainferior . . . . . 20359  
\Ganz . . . . . 19951, 21464  
\GaPa . . . . . 19937, 21095  
\Gauge . . . . . 6227  
\ge . . . . . 18557, 20609



<code>\hinferior</code> . . . . .	20411	<code>\hvtex@parse@trans</code> 11189, 11211	<code>\Hy@appendixstring</code> 7060, 7082
<code>\hoffset</code> . . . . .	8275	<code>\hvtex@produce@trans</code> . . . 11250, 11256	<code>\Hy@AtBeginDocument</code> . . . . .
<code>\hookb</code> . . . . .	16395, 21178	<code>\hvtex@token</code> . . . 11208, 11219, 11225, 11232, 11237, 11240, 11243, 11245	. . . 365, 1074, 2944, 3004, 3079, 3154, 3210, 3600, 4273, 4316, 4333, 4472, 4478, 4577, 4730, 4820, 6326, 6437, 6886, 7175, 8092, 8916, 9064, 9333, 9819, 10438, 10953, 12360, 12398, 13415, 13416
<code>\hookd</code> . . . . .	16409, 21183	<code>\hvtex@trans@code</code> 11193, 11194, 11195, 11196, 11197, 11198, 11199, 11212, 11258, 11259, 11261, 11263, 11265, 11267, 11269, 11271, 11273, 11274, 11275, 11276, 11277, 11279	<code>\Hy@AtBeginDocumentHook</code> 366, 371, 377, 378
<code>\hookg</code> . . . . .	16442, 21190	<code>\hvtex@trans@effect@Blinds</code> . . . . . 11193	<code>\Hy@AtEndOfPackage</code> . . . . 368, 908, 2578, 3564, 3572, 3579, 4460, 4486, 4492, 4682
<code>\hookh</code> . . . . .	16462, 21195	<code>\hvtex@trans@effect@Box</code> 11194	<code>\Hy@AtEndOfPackageHook</code> 369, 372, 374, 375
<code>\hookheng</code> . . . . .	16466, 21197	<code>\hvtex@trans@effect@Dissolve</code> . . . . . 11195	<code>\Hy@author</code> . . . . . 6507, 6511
<code>\hookleftarrow</code> . . . . 18187, 20455		<code>\hvtex@trans@effect@Glitter</code> . . . . . 11196	<code>\Hy@babelnormalise</code> 5051, 5053
<code>\hookrelepsilon</code> . . . 16431, 21187		<code>\hvtex@trans@effect@R</code> . . 11199	<code>\Hy@backout</code> . 4829, 6377, 6381, 7931
<code>\hookrightarrow</code> . . 18189, 20456		<code>\hvtex@trans@effect@Split</code> 11197	<code>\Hy@backreffalse</code> 433, 3260, 3282, 4484
<code>\hphantom</code> . . . . .	619	<code>\hvtex@trans@effect@Wipe</code> 11198	<code>\Hy@backreftrue</code> 3253, 3257, 3279
<code>\href</code> 662, 4950, 5420, 5421, 6418		<code>\hvtex@trans@par</code> 11232, 11236, 11238, 11241, 11244	<code>\Hy@BeginAnnot</code> . 10468, 10485, 10526, 10563, 10595, 10624
<code>\href@</code> . . . . .	4953, 4956, 4961	<code>\hvtex@trans@params</code> . . . 11226, 11228, 11252	<code>\Hy@bibcite</code> . . . . . 7954, 7958
<code>\href@split</code> . . . . .	4961, 4962	<code>\Hy@@@CleanupFile</code> . 5297, 5299	<code>\Hy@bookmarksdepth</code> . . . 3643, 3648, 3660, 3666, 14567
<code>\hsize</code> . . . . .	7725	<code>\Hy@@@DefNameKey</code> . 2805, 2807	<code>\Hy@bookmarksnumberedfalse</code> . . . . . 434
<code>\hskip</code> . . 1955, 2042, 2703, 2704, 4947, 6254, 13400		<code>\Hy@@@Escapeform</code> 14205, 14218, 14224	<code>\Hy@bookmarksopenfalse</code> . . 435
<code>\hslash</code> . . . . .	18052, 20420	<code>\Hy@@@SectionAnchor</code> . . . . 14930, 14933	<code>\Hy@bookmarkstrue</code> . . . . . 436
<code>\hspace</code> . . . . .	658, 8135, 8136	<code>\Hy@@@temp</code> . . 3688, 3690, 6151, 6153	<code>\Hy@bookmarkstype</code> 3678, 3680, 8305, 14578
<code>\hss</code> . . . . .	5140, 5152, 8283, 14940	<code>\Hy@@@VersionCheck</code> . . 292, 311	<code>\Hy@boolkey</code> . 2732, 2824, 2827, 2830, 2851, 2854, 2857, 2888, 2891, 2894, 2911, 2915, 2918, 2921, 2924, 2927, 2930, 2933, 2936, 3017, 3231, 3234, 3289, 3586, 3598, 3613, 3638, 3641, 3682, 3685, 3746, 3906, 4194, 4197, 4200, 4203, 4206, 4209, 4212, 4220, 4241, 4244, 6820
<code>\ht</code> 5144, 5148, 5157, 6256, 6259, 9991, 10066, 10075, 10082, 10103, 10113, 10120, 10143, 10153, 10160, 11861, 12483, 12763, 13854		<code>\Hy@Cabspace</code> . 6600, 6686, 6802, 6879	<code>\Hy@BorderArrayPatch</code> . . 11916, 11919, 12184, 12634
<code>\htmladdimg</code> . . . . .	5419	<code>\Hy@Acrobatmenu</code> . . 4361, 4402, 9873, 10623, 11164, 12038	<code>\Hy@breaklinks@unsupported</code> . . . . . 2899, 11470
<code>\htmladdnormallink</code> . . . . .	5420	<code>\Hy@activeanchorfalse</code> 4833, 9439, 9935, 9950, 10029, 10039, 10355, 10884, 10901, 10972, 10985, 11504, 12423, 12438, 12703, 12717	<code>\Hy@breaklinksfalse</code> . . . . . 437
<code>\htmladdnormallinkfoot</code> . . . 5421		<code>\Hy@activeanchortrue</code> 9435, 9932, 9946, 10027, 10036, 10351, 10880, 10898, 10970, 10982, 11494, 12420, 12434, 12700, 12713	<code>\Hy@breaklinksunhbox</code> . . 11815, 11869
<code>\htmlref</code> . . . . .	5422	<code>\Hy@ActiveCarriageReturn</code> 4869, 4872	<code>\Hy@CatcodeWrapper</code> . . . 4691, 4750, 4794, 4823
<code>\htrtaild</code> . . . . .	20366	<code>\Hy@AllowHyphens</code> 4943, 11492, 11524, 11848	<code>\Hy@chapapp</code> 7061, 7082, 7109, 14961, 14972, 15054
<code>\huge</code> . . . . .	606	<code>\Hy@AlphNoErr</code> 7065, 7078, 7080	
<code>\huge</code> . . . . .	610	<code>\Hy@AnchorName</code> . . . . .	
<code>\Hurl</code> . . . . .	5036, 5038, 5040	. . 5073, 5075, 5078, 5080, 5104, 5106, 5110, 5115, 5117	
<code>\hv</code> . . . . .	16191, 21159		
<code>\hv@pdf@char</code> . . . 14725, 14790, 14791, 14792, 14793			
<code>\hvtex@buffer</code> . . . 11205, 11209, 11217, 11220, 11229, 11233, 11249			
<code>\hvtex@gettoken</code> . 11204, 11218, 11222, 11231, 11235			
<code>\hvtex@gettoken@</code> . 11205, 11207			
<code>\hvtex@par@dimension</code> . . 11200, 11241			
<code>\hvtex@par@direction</code> . . . 11201, 11244			
<code>\hvtex@par@duration</code> . . . . 11202, 11236			
<code>\hvtex@par@motion</code> 11203, 11238			
<code>\hvtex@param@dimension</code> 11213, 11242, 11260, 11263			
<code>\hvtex@param@direction</code> . 11214, 11245, 11271, 11279			
<code>\hvtex@param@duration</code> . 11215, 11237, 11284, 11286			
<code>\hvtex@param@motion</code> . . 11216, 11239, 11260, 11267			

\Hy@chapterstring . . . 7056, 7058, 7061, 7108	6347, 6348, 6349, 6350, 6351, 6352, 6353, 6531, 6754, 7787, 8491, 8589, 8590, 9257, 9361, 9729, 9730, 9731, 9732, 9733, 9734, 9735, 9736, 9737, 9738, 9868, 10194, 10195, 10196, 10197, 10198, 10199, 10200, 10201, 10202, 10203, 10466, 10686, 10687, 10688, 10689, 10690, 10691, 10692, 10693, 10694, 10695, 10813, 10955, 11422, 11423, 11424, 11425, 11426, 11427, 11428, 11429, 11430, 11431, 11689, 11690, 11691, 11692, 11693, 11694, 11695, 11696, 11697, 11698, 12251, 12544, 12545, 12546, 12547, 12548, 12549, 12550, 12551, 12552, 12553	\Hy@EndWrap 4692, 4694, 4695, 4728
\Hy@CheckOptionValue . 2775, 2812		\Hy@Error . . . . . 264, 280, 286, 300, 2948, 3065, 3090, 3123, 3161, 3168, 3179, 3185, 4386, 5004, 5228, 5592, 5716, 5912, 5944, 6156, 6205, 13141, 13187, 13671, 13725, 14034, 14092
\Hy@CJKbookmarksfalse . . . 439		\Hy@escapeform . 13034, 13117, 13129, 13153, 13171, 13194, 13214, 13549, 13635, 13657, 13684, 13705, 13733, 13756, 13893, 13985, 14016, 14048, 14072, 14100, 14130, 14199, 14229, 14236
\Hy@cjkp . . . . 1337, 1339, 1360		\Hy@escapestring 14196, 14264, 14268, 14272, 14276, 14280, 14284, 14288, 14292, 14296, 14300, 14345, 14379, 14439, 14483, 14484, 14516
\Hy@CleanupFile . . . 5295, 9500, 10528, 11049, 12110		\Hy@EveryPageAnchor . . 8247, 8290
\Hy@colorlink 3592, 4754, 4762, 4766, 9334, 9420, 9493, 9533, 9569, 9898, 9933, 9956, 9987, 10000, 10028, 10044, 10069, 10085, 10107, 10124, 10147, 10164, 10439, 10517, 10556, 10588, 10617, 10643, 10971, 10993, 11063, 11089, 11124, 11157, 11176, 11522, 11799, 11801, 12421, 12444, 12479, 12492, 12701, 12723, 12758, 12771	\Hy@DistillerDestFix . . . . 8248, 11435, 11437	\Hy@EveryPageBoxHook . . . . . 6557, 6561, 6565, 8289, 10788, 11310, 11610
\Hy@colorlinksfalse . . . . . 3589	\Hy@draftfalse . . . . . 395	\Hy@EveryPageHook 6556, 6560, 6752, 9811
\Hy@ColorList . . . . . 3751, 3752	\Hy@drafttrue . . . . . 396	\Hy@ExchangeLeftParenthesis . . . . . 9120, 9126
\Hy@CounterExists . 6914, 6927, 6930	\Hy@driver 475, 2904, 3076, 3088, 3098, 3103, 3108, 3121, 3131, 3136, 3141, 3148, 3151, 3177, 3193, 3200, 3205, 3215, 3960, 4494, 4497, 4501, 4504, 4508, 4511, 4513, 4517, 4523, 4527, 4530, 4534, 4539, 4543, 4546, 4550, 4553, 4555, 4559, 4564, 4568, 4571, 4574, 4585, 4588, 4591, 4600, 4601, 4612, 4614, 4620, 4622, 4624	\Hy@ExchangeRightParenthesis . . . . . 9130, 9136
\Hy@currentbookmarklevel 14573, 14583, 14584, 14590, 14597, 14690, 14693, 14698, 14702		\Hy@false 2626, 2742, 3245, 3281, 5941
\Hy@debugfalse . . . . . 429		\Hy@finalfalse . . . . . 396
\Hy@debugtrue . . . . . 428		\Hy@finaltrue . . . . . 395
\Hy@defaultbp . . . . 6030, 6032		\Hy@FirstPage . . . . . 4372
\Hy@defaultbpAux . 6034, 6039, 6053	\Hy@dth@currentHref 7511, 7542, 7567	\Hy@FirstPageHook . . . . . 6558, 6572, 6573, 6577, 6580, 6851, 6852, 12185, 12271, 12333, 12635, 12826
\Hy@defaultdriver . . 4566, 4591, 4601, 4612	\Hy@dviErrMsg . . . 3043, 3045, 3048, 3054, 3067	\Hy@FixNotFirstPage 9902, 9903, 9911
\Hy@DefFormAction 5891, 5893	\Hy@dviModetrue . . 3052, 3057	\Hy@float@caption . . 7825, 7875, 7889
\Hy@DefNameKey . . 2804, 3783, 3835, 3843, 3851, 3855, 3862, 3869, 3876, 3883, 3887, 3892, 3899, 4229	\Hy@dvpdftmxOutlineOpentru . . . . . 4652, 4659	\Hy@float@currentHref . . 7879, 7882, 7884, 7890, 7892, 7894
\Hy@DEST . . . . . 11816, 11883	\Hy@EndAnnot . . 10474, 10520, 10559, 10591, 10620, 10646	\Hy@footnote@currentHref . . . . 6325, 7612, 7617, 7632, 7637, 7640, 7652, 7654, 7693, 7734, 7737
\Hy@destlabelfalse . . . . . 440	\Hy@endcolorlink . . . . . 3593, 4758, 4763, 4767, 9343, 9426, 9933, 9970, 9994, 10002, 10028, 10052, 10073, 10087, 10111, 10126, 10151, 10166, 10448, 10476, 10971, 11044, 11065, 11091, 11126, 11159, 11178, 11549, 11808, 12421, 12460, 12486, 12494, 12701, 12737, 12762, 12773	\Hy@FormObjects 13453, 13764, 13818, 13828, 14141, 14191
\Hy@DestName . . . . 9381, 9388		\Hy@frenchlinksfalse . . . . 3591
\Hy@DestRename . . 5360, 5385, 5389		\Hy@Gin@setfile . . . 8486, 8488
\Hy@DisableOption . 2761, 4353, 4354, 4355, 4357, 4360, 4465, 4491, 4628, 4629, 4630, 4631, 4632, 4633, 4634, 4635, 4636, 4637, 4638, 4639, 4640, 4641, 4642, 4643, 4644, 4645, 4690, 4743, 4771, 4772, 4831, 4832, 5415, 6330, 6331, 6332, 6333, 6334, 6335, 6336, 6337, 6338, 6339, 6340, 6341, 6342, 6343, 6344, 6345, 6346,		\Hy@GlobalStepCount 473, 6686, 7139, 7162, 8265, 8700, 8751

\Hy@gtemp . . . . .	823, 824, 4424, 4430, 4432, 5789, 5790, 5794, 5795, 5806, 5820, 7669, 7674, 9144, 9146, 14257, 14259	\Hy@linktoc@section 2861, 2865, 2871	\Hy@OutlineRerunCheck . 14714, 14813, 14895
\Hy@href . . . . .	4953, 4955	\Hy@linktocpagefalse . . . . . 448	\Hy@PageAnchorSlide . . . 8207, 8245, 8258
\Hy@href@nextactionraw . . . . .	4990, 5013, 5015, 5016, 5018, 5023, 5027, 5029, 9489, 9529, 9565, 9894, 10513, 10552, 10584, 10613, 10639, 11008, 11078, 11146, 12135, 12164	\Hy@Localanchornamefalse . . 449	\Hy@PageAnchorSlidesPlain 8194, 8244, 8253
\Hy@href@page 4968, 4970, 4974, 4975, 4977, 4984, 4987, 9525, 10547, 12131		\Hy@LT@currentHref 7309, 7320	\Hy@pageanchortrue . . . . . 455
\Hy@hyperfiguresfalse . . . . . 442		\Hy@LT@footnotetext 7692, 7701	\Hy@pagecounter 478, 480, 7201, 8265, 8267
\Hy@hyperfootnotetrue . . . 444		\Hy@make@anchor . 8404, 8410, 8416	\Hy@pageheight . . . 4287, 12273, 12362
\Hy@hyperindextrue . . . . . 445		\Hy@make@cdf@tag@@ 8408, 8423	\Hy@param . . 7107, 7108, 7109, 7136, 7140
\Hy@hypertextnamesfalse . . 2582		\Hy@make@cdf@tag@@@ . . 8414, 8424	\Hy@pdfafalse . . . . . 471
\Hy@hypertextnametrue . . . 446		\Hy@MakeCurrentHref . . 7150, 7163	\Hy@pdfcenterwindowfalse . 438
\Hy@ifStringEndsWith . . 5263, 5275		\Hy@MakeCurrentHrefAuto 7161, 7243, 8405, 14558, 14945, 14961, 14972, 15002, 15016, 15054	\Hy@pdfdisplaydoctitlefalse . 470
\Hy@imPLICITtrue . . . . . 447		\Hy@MakeRemoteAction . 4973, 9503, 10531, 12113	\Hy@pdfencoding@pdfdoc . 2999
\Hy@Info . . . . .	267, 2750, 4435, 4437, 4440, 4442, 4445, 4447, 4450, 4452, 4455, 4457, 4675, 4681, 4759, 4764, 4768, 4912, 4939, 5499, 6287, 6289, 6292, 6294, 6297, 6299, 6302, 6304, 6307, 6309, 6312, 6314, 6317, 6319, 8032, 8093, 8310, 8327	\Hy@maketitle@end . 7764, 7769, 7771	\Hy@pdfescapeformfalse . . . 441
\Hy@InfoNoLine 268, 4467, 4469, 9182, 12680		\Hy@maketitle@optarg 7762, 7767	\Hy@pdfffitwindowfalse . . . 443
\Hy@IsNotEmpty . . 5367, 5368, 5391		\Hy@Match . . . . . 315, 317, 3222, 3732, 3792, 3809, 4168, 5018, 6069	\Hy@pdfmarkerrorfalse . . 11779
\Hy@LastPage . . . . . 4375		\Hy@MaybeStopNow 3144, 4297, 4300	\Hy@pdfmarkerrortrue . . 11949, 11958
\Hy@level . 14579, 14581, 14592, 14597, 14598, 14599, 14630		\Hy@Message . . . . .	\Hy@pdfmenubartrue . . . . . 450
\Hy@levelcheck . . . 14580, 14595		269, 3078, 3153, 4471, 4576, 4620, 10905, 10909, 10912, 10915, 10918, 10921, 10924, 10927, 13010, 13224, 13228, 13231, 13234, 13237, 13240, 13243, 13246, 13256, 13393, 13823	\Hy@pdfminorversion . . . . .
\Hy@linkcounter . . . . . 477, 479, 7139, 7140, 7162, 7163, 8430, 8700, 8701, 8705, 8751, 8752, 8756		\Hy@naturalnamesfalse . . . . 451	. . . 9156, 9162, 9165, 9173, 9192, 9215, 9236, 9251, 9255
\Hy@linkfileprefix . . 3722, 5247, 9973, 10849, 12464, 12740		\Hy@nestingfalse . . . . . 452	\Hy@pdfnewwindowfalse . . . 454
\Hy@LinkMath . . 11513, 11515, 11520, 11552, 11840, 11842, 11847, 11849, 11855, 11857		\Hy@newline@author . . . . . 6550	\Hy@pdfnewwindowsetfalse 453, 4217
\Hy@linktoc . 2859, 2861, 2869, 2871, 2881, 8351		\Hy@newline@title . . . . . 6549	\Hy@pdfnewwindowsettrue 4219, 4992
\Hy@linktoc@all . . . . . 2867		\Hy@next . . . 6702, 6712, 6717, 14971, 14980, 14983	\Hy@pdfnewwindowtrue . . 4993
\Hy@linktoc@none . . . . . 2864		\Hy@nextfalse . . . . . 4404, 8501	\Hy@pdfpagehiddenfalse . . . 457
\Hy@linktoc@page . . 2859, 2866, 2869		\Hy@NextPage . . . . . 4366	\Hy@pdfpagelabelsfalse . . . 6587
		\Hy@nexttrue 4405, 4406, 4407, 8502, 8503, 8504	\Hy@pdfpagelabelstrue . . . . 456
		\Hy@number . . 4137, 4141, 4149	\Hy@pdfstringdef 822, 5764, 5772
		\Hy@numberline . 14574, 14611, 14612, 14613, 14614	\Hy@pdfstringfalse . . 458, 6355
		\Hy@ObsoletePaperOption 2833, 2841	\Hy@pdfstringtrue . . . 675, 6327
		\Hy@ocgcolor 9337, 9351, 10442, 10456	\Hy@pdftoolbartrue . . . . . 464
		\Hy@ocgcolorlinksfalse 3590, 4738	\Hy@pdfusetitlefalse . . . . . 467
		\Hy@org@chapter . 14969, 14984	\Hy@pdfversion 3030, 3041, 5766, 9178, 9186, 9192, 9215, 9218, 9236, 9238, 9252, 9255, 14251
		\Hy@OrgMakeLabel 12795, 12802	\Hy@pdfwindowuitrue . . . . . 469
		\Hy@OutlineName . 14849, 14904	\Hy@plainpagesfalse . . . . . 459
			\Hy@PrevPage . . . . . 4369
			\Hy@ProvideTheHCounter 7012
			\Hy@ps@CR 12315, 12322, 12327, 12328, 12345, 12366, 12367, 12368, 12374, 12381, 12388, 12395
			\Hy@psdextrafalse . . . . . 463
			\Hy@pstringB 9645, 9650, 10726, 10738, 11752, 11768, 12607, 12623



\Hy@pstringD 9502, 9527, 10530, 10549, 12112, 12133	10342, 10885, 10902, 10973, 10986, 11485, 11505, 12424, 12439, 12704, 12718	\Hy@scanauthor . . . 6505, 6510
\Hy@pstringdef 9091, 9380, 9404, 9464, 9501, 9502, 9539, 9540, 9645, 10293, 10494, 10529, 10530, 10564, 10565, 10596, 10726, 10992, 11070, 11133, 11134, 11752, 11947, 11956, 12085, 12111, 12112, 12143, 12144, 12607, 14222, 14848, 14864	\Hy@RestoreSavedSpaceFactor . . 2646, 9981, 10061, 10098, 10138, 12473, 12748	\Hy@scanoptauthor . 6505, 6506
\Hy@pstringDest . . . 9380, 9381, 10293, 10340, 11947, 11948, 11952, 11956, 11957, 11961	\Hy@RestoreSpaceFactor . . . . . . . 2637, 2663, 2668, 9980, 9988, 9995, 10060, 10070, 10078, 10097, 10108, 10116, 10137, 10148, 10156, 11519, 11555, 11846, 11854, 11881, 12472, 12480, 12487, 12747, 12759, 12766, 12803, 12807	\Hy@scantitle . . . . 6496, 6501
\Hy@pstringF . . . . . . . 9499, 9500, 9501, 9521, 9539, 9558, 9563, 10527, 10528, 10529, 10544, 10564, 10577, 10582, 11048, 11049, 11053, 11133, 11140, 11144, 12109, 12110, 12111, 12128, 12143, 12159, 12162	\Hy@ReturnAfterElseFiFiEnd . . . . . . . 483, 1911	\Hy@secnum@part 14990, 14992, 14995
\Hy@pstringName 14848, 14849, 14864, 14878	\Hy@ReturnAfterFiFiEnd . 482, 1903, 1917, 2010, 2017	\Hy@SectionAnchorHref . . 672, 14928, 14950, 15021
\Hy@pstringP 9540, 9563, 10565, 10582, 11134, 11144, 12144, 12162	\Hy@ReturnEnd . 481, 482, 483, 1923, 2022	\Hy@SectionHShift 14927, 14936, 14946, 15017
\Hy@pstringURI . . . 9464, 9485, 10596, 10609, 10992, 11004, 11070, 11074, 12085, 12097	\Hy@safe@activesfalse 484, 4784, 4789, 5196, 8986	\Hy@seminarslidesfalse . . . 8650
\Hy@PutCatalog 6748, 6756, 6868	\Hy@safe@activetrue . . . . . 484, 4413, 4782, 4787, 4865, 4902, 4910, 4938, 5055, 5194, 5353, 5363, 7106, 8344, 8892, 8975, 14806, 14836	\Hy@seminarssidetrue . . . . 8647
\Hy@Raisedlink 2650, 7007, 7245, 7266, 7267, 7268, 7271, 7321, 7361, 7366, 7369, 7392, 7564, 7615, 7635, 7706, 7732, 7863, 7942, 7966, 7971, 7991, 8406, 8431, 12173, 12256, 12514, 12678, 14559, 14937, 14962, 14973, 15003, 15055	\Hy@SaveCatcodeSettings . 918, 967, 977, 991	\Hy@setbreaklinks . . 2896, 2900, 2912, 9152, 10283
\Hy@raiselinksfalse . . 460, 8094	\Hy@saved@currentHref . . 7650, 7653	\Hy@SetCatcodes 181, 231, 4295
\Hy@RemoveDurPageAttr 9768, 9781	\Hy@saved@footnotemark 7758, 7773	\Hy@SetNewWindow 4223, 9523, 9560, 10551, 10579, 11141, 12127, 12158
\Hy@RemoveHidPageAttr 9791, 9803	\Hy@saved@footnotetext . 7759, 7776	\Hy@setouterhbox . 11814, 11845
\Hy@RemovePercentCr . . 4885, 4889, 4894	\Hy@saved@hook . . . 6535, 6545	\Hy@setpagesizetrue . . . . . 461
\Hy@RemoveTransPageAttr 9743, 9757	\Hy@saved@refstepcounter 6993, 7295	\Hy@setpdfborder . . . . . . . 3825, 9410, 9469, 9507, 9544, 9878, 10505, 10537, 10571, 10602, 10631, 11012, 11033, 11056, 11082, 11116, 11150, 11169
\Hy@reserved@a 5170, 7379, 7412, 13259, 13309, 13372	\Hy@SavedSpaceFactor . . . . . . . 2633, 2635, 2640, 2641, 2647, 12800	\Hy@setpdfversiontrue . . . . 3029
\Hy@RestoreCatcodes 205, 4293, 4627	\Hy@SaveLastskip . . 2671, 9378, 9924, 9939, 10021, 10033, 10290, 10872, 10888, 10963, 10976, 11475, 11489, 12413, 12427, 12693, 12707	\Hy@setref@link . . . . 8848, 8851
\Hy@RestoreCatcodeSettings 962, 969, 979, 993	\Hy@SaveSavedSpaceFactor 2645, 9979, 10059, 10096, 10136, 12471, 12746	\Hy@SlidesFormatOptionalPage . 6616, 8193, 8212, 8216
\Hy@RestoreLastskip 2671, 9382, 9936, 9951, 10030, 10040,	\Hy@SaveSpaceFactor . . . . . . . 2634, 2654, 2665, 9978, 9990, 10058, 10072, 10095, 10110, 10135, 10150, 11517, 11553, 11838, 11850, 11858, 12470, 12482, 12745, 12761, 12798, 12805	\Hy@SlidesPage 6623, 8226, 8227, 8233, 8235, 8238, 8241

4043,	4044,	4045,	4046,	3259,	3270,	3272,	3274,	\Hy@UseMaketitleInfos ..	6551,
4047,	4048,	4049,	4050,	3275,	3277,	3281,	4871,	9702,	10175, 10658, 11411,
4051,	4215,	4216,	4393,	4872,	4883,	4887,	5056,	11650,	12525
4397,	4398,	4399,	4400,	5060,	5182,	5183,	5195,	\Hy@UseMaketitleString .	6532,
4499,	4501,	4506,	4508,	5199,	5896,	5897,	5937,	6552,	6553
4511,	4525,	4527,	4532,	5938,	5941,	5945,	6692,	\Hy@UseNameKey .....	
4534,	4541,	4543,	4548,	6694,	6732,	6734,	6879,	..	2817, 9667, 9668, 9669,
4550,	4553,	4613,	4614,	6881,	7430,	7432,	7433,	9670,	9671, 9672, 9673,
5489,	5493,	5494,	5505,	7436,	7437,	7438,	7820,	9674,	9693, 10243, 10244,
5589,	5590,	5591,	5593,	7825,	7830,	8304,	8305,	10245,	10246, 10247, 10248,
5597,	5909,	5910,	5911,	8323,	8324,	8330,	8664,	10249,	10250, 10271, 10705,
5913,	5917,	5918,	6067,	8665,	8716,	8717,	9957,	10706,	10707, 10708, 10709,
6079,	6150,	6166,	6167,	9958,	10853,	11001,	11002,	10710,	10711, 10712, 10745,
6168,	6169,	6170,	6171,	12445,	12446,	12724,	12725,	11371,	11372, 11373, 11374,
6172,	6173,	6175,	6181,	14577,	14578,	14601,	14603,	11375,	11376, 11377, 11378,
6187,	6188,	6189,	6190,	14622,	14623,	14631,	14655,	11731,	11732, 11733, 11734,
6191,	6192,	6193,	6194,	14657,	14658,	14660,	14661,	11735,	11736, 11737, 11738,
6195,	6196,	6197,	6643,	15044,	15069,	15074,	15077,	11761,	12586, 12587, 12588,
6646,	6655,	6657,	6661,	15080				12589,	12590, 12591, 12592,
6665,	6709,	6711,	7015,	\Hy@tempb ..	6693, 6694,	6733,		12593,	12616
7016,	7037,	7195,	7198,	6734,	14602,	14603,	14631	\Hy@varioref@refstepcounter ...	
7201,	7207,	7333,	7339,	\Hy@tempcolor ..	11531, 11533,			.....	7286, 7293
7460,	7485,	7742,	7748,	11546,	11622,	11624,	11636	\Hy@varioref@undefined .	7277,
8358,	8359,	8367,	8368,	\Hy@TempPageAnchor ..	8196,			7281,	8981
8598,	8599,	9194,	9197,	8252,	8262,	8266,	8282	\Hy@VerboseAnchor	4935, 9379,
9198,	9214,	9232,	9660,	\Hy@Test@Alph ....	7095, 7119			9925,	9940, 10022, 10034,
9689,	9691,	10213,	10218,	\Hy@Test@alph ....	7086, 7115			10291,	10873, 10889, 10964,
10224,	10228,	10231,	10236,	\Hy@testname .....				10977,	11476, 11490, 12414,
10267,	10269,	10698,	10741,	..	9396, 9397, 9402, 9404,			12428,	12694, 12708
10743,	11652,	11655,	11659,	9405,	9419,	10486,	10487,	\Hy@verbosefalse .....	429, 468
11660,	11666,	11667,	11673,	10492,	10494,	10496,	10512,	\Hy@VerboseGlobalTemp	4911,
11701,	11706,	11712,	11716,	11020,	11021,	11026,	11030,	4912,	4913, 4914, 4918
11719,	11724,	11757,	11759,	11103,	11104,	11109,	11113,	\Hy@VerboseLinkInfo	4918, 4919,
11820,	11821,	11825,	11913,	11627,	11628,	11633,	11644	4922,	4929
11914,	11922,	11923,	12027,	\Hy@texhtfalse .....	462			\Hy@VerboseLinkStart .....	
12028,	12556,	12561,	12567,	\Hy@texhttrue .....	3073, 4495			..	4907, 9442, 9452, 9955,
12571,	12574,	12579,	12612,	\Hy@TheSlideOptionalPage	8211,			10007,	10043, 10055, 10483,
12614,	14204,	14205,	14846,	8215,	8220,	8229		10829,	10852, 10991, 11096,
14852,	14860,	14875		\Hy@title .....	6498, 6502			11508,	11620, 12443, 12499,
\Hy@temp@A .....	735,			\Hy@tocdestname ..	8346, 8348,			12722,	12779
736,	1895,	1897,	1908,	8355,	8363, 8370, 8374, 8376			\Hy@VerboseLinkStop	4923, 9427
1915,	1916,	1919,	4036,	\Hy@toclevel ..	8315, 8319, 8332			\Hy@verbostrue .....	428
4038,	7032,	7035,	7036,	\Hy@true	2625, 2738, 2740, 3275,			20254	
7037,	7038,	8520,	8521,	3277,	5938			\Hy@VersionChecked ..	276, 309,
8522,	8529,	8557,	8558,	\Hy@typexmlfalse .....	465			4621,	4623
8559,	8568,	9195,	9206,	\Hy@undefinedname	9393, 9400,			\Hy@vt@PutCatalog	6785, 6787
9207,	9208,	9209,	9212,	9402,	10481, 10490, 10492,			\Hy@VTeXversion ..	6765, 6777,
9217,	9220,	9246		10989,	11024, 11026, 11107,			11052,	11182, 11318, 14727
\Hy@temp@B .....	1896, 1897			11109,	11618, 11631, 11633			\Hy@WarnHTMLFieldOption ..	
\Hy@temp@menu ...	9875, 9893,			\Hy@unicodefalse ....	466, 802,			. 5963,	5996, 5999, 6183
10625,	10638,	11163,	11166,	812,	2955, 2956, 2964, 3977,			\Hy@Warning .....	265, 340,
12037,	12046			3983,	7197, 8257, 14253			506,	1835, 2755, 2770, 2795,
\Hy@tempa ..	2733, 2735, 2737,			\Hy@unicodetrue ...	2956, 6813,			2875,	2983, 2988, 3604,
2738,	2740,	2742,	2744,	6827				3656,	3735, 3798, 3817,
2747,	2750,	2751,	3241,	\Hy@useHidKeyfalse .....	3744			3953,	3961, 4012, 4059,
3242,	3243,	3245,	3246,	\Hy@useHidKeytrue .....	3748			4067,	4178, 4734, 4979,
3248,	3249,	3251,	3255,						

5022, 5179, 5319, 5546,  
 5901, 5964, 6072, 6823,  
 6838, 8296, 8961, 9011,  
 9398, 10324, 10328, 10488,  
 11022, 11105, 11399, 11405,  
 11629, 11950, 11959, 14586,  
 14604  
 \Hy@WarningNoLine . . . . .  
 . . . 266, 2834, 2902, 3009,  
 3707, 3768, 3912, 4028,  
 4280, 4351, 4503, 4512,  
 4529, 4545, 4554, 6479,  
 6588, 6779, 6893, 7182,  
 8306, 8478, 9228, 11787  
 \Hy@WarningPageBorderColor .  
 . . . 3765, 3767, 3769  
 \Hy@WarningPageColor . 3704,  
 3706, 3708  
 \Hy@WarnOptionDisabled 2767,  
 2769  
 \Hy@WarnOptionValue . . 2748,  
 2754, 3262, 3284  
 \Hy@wrapper@babel 4411, 4429  
 \Hy@WrapperDef . . 4421, 9374,  
 9923, 9938, 10020, 10032,  
 10289, 10871, 10887, 10962,  
 10975, 11474, 11488, 12412,  
 12426, 12692, 12706  
 \Hy@writebookmark 2630, 8316,  
 8684, 8692, 8702, 8735,  
 8743, 8753, 14563, 14705  
 \Hy@xspace@end . . . . .  
 . . 4314, 4319, 4323, 4328,  
 4331, 4336, 4337, 4338,  
 4340, 4341, 4342, 4343,  
 4344, 6366, 6367, 6369,  
 6372, 6374, 6375, 6376,  
 6380, 6383, 6386, 6388,  
 6389, 6390, 9458, 9493,  
 9533, 9569, 10000, 10071,  
 10086, 10109, 10125, 10149,  
 10165, 10522, 10558, 10590,  
 10619, 10645, 10833, 10843,  
 11064, 11090, 11125, 11158,  
 11177, 11848, 11856, 12481,  
 12492, 12760, 12772, 12804  
 \HyAnn@AbsPageLabel . . 13500,  
 13507, 13548, 13634, 13656,  
 13683, 13704, 13732, 13755  
 \HyAnn@Count . . 13505, 13506,  
 13508, 13509, 13510, 13513,  
 13515, 13517  
 \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  
 . . . . . 7019, 7031  
 \HyCnt@ProvideTheHCounter . .  
 . . . . . 7003, 7012  
 \HyColor@FieldBColor . . 6131,  
 6134  
 \HyColor@FieldColor . . . . 6137  
 \HyColor@HyperrefBorderColor  
 . . . . . 3755, 3773  
 \HyColor@HyperrefColor . . . . .  
 . . 3692, 3711, 3712, 3713,  
 3714, 3715, 3716, 3717  
 \HyColor@UseColor . 4756, 9340,  
 9351, 10445, 10456  
 \HyField@@AddToFields . 13435,  
 13439  
 \HyField@@PDFChoices . 5784,  
 5785, 5800  
 \HyField@@SetFlag . 5479, 5481  
 \HyField@@UseFlag . 5469, 5471  
 \HyField@AddToFields . . 13405,  
 13434, 13552, 13647, 13661,  
 13688, 13713, 13737, 13760  
 \HyField@AdvanceAnnotCount .  
 . . . . . 13860, 13890, 13987,  
 14017, 14045, 14073, 14101,  
 14127  
 \HyField@afields . 13402, 13424,  
 13425, 13427, 13462  
 \HyField@AfterAuxOpen . 13415,  
 13422, 13440  
 \HyField@AnnotCount . . 13858,  
 13861, 13864  
 \HyField@AuxAddToFields . . . .  
 13414, 13419, 13423, 13443  
 \HyField@FlagsAnnot 5639, 5658,  
 5672, 5685, 5701, 5733  
 \HyField@FlagsCheckBox 5671,  
 13210, 13751, 14122  
 \HyField@FlagsChoice . . . 5732,  
 13091, 13607, 13955  
 \HyField@FlagsPushButton 5657,  
 13149, 13168, 13192, 13679,  
 13700, 13730, 14043, 14067,  
 14097  
 \HyField@FlagsRadioButton . . .  
 5684, 13087, 13603, 13951  
 \HyField@FlagsSubmit . . 5605,  
 13169, 13701, 14068  
 \HyField@FlagsText 5700, 13029,  
 13543, 13884  
 \HyField@NeedAppearancesfalse  
 . . . . . 5929, 5942  
 \HyField@NeedAppearancetrue  
 . . . 5932, 5935, 5939  
 \HyField@NewBitsetFlag . 5437,  
 5440, 5448  
 \HyField@NewFlag . 5435, 5511,  
 5512, 5513, 5514, 5515,  
 5516, 5517, 5518, 5519,  
 5520, 5521, 5522, 5523,  
 5524, 5525, 5526, 5527,  
 5528, 5529, 5530, 5535,  
 5536, 5537, 5538, 5539,  
 5540, 5541, 5542, 5543,  
 5576, 5578, 5579, 5581,  
 5582, 5584, 5585, 5586, 5587  
 \HyField@NewFlagOnly . 5439,  
 5577, 5580, 5583  
 \HyField@NewOption 5436, 5442  
 \HyField@PDFAFlagWarning . .  
 . . 5545, 5553, 5557, 5561,  
 5565, 5569, 5573  
 \HyField@PDFChoices . . 5757,  
 13128, 13654, 14011



\HyField@PrintFlags . . . . .	\HyInfo@AddonUnsupportedtrue . . . . .	\HyOrg@elt . . . . .
.. 5486, 5632, 5650, 5664,	.. 10173, 11397, 12523	\HyOrg@float@makebox . . . . .
5677, 5693, 5725, 5750	\HyInfo@do . . . . .	7898
\HyField@SetFlag . . . . .	\HyInfo@GenerateAddons 4100,	\HyOrg@hyperpage . . . . .
5624, 5629, 5663, 5691	9703, 10659, 11651	8496, 8498,
\HyField@SetKeys . . . . .	\HyInfo@Key . . . . .	8499
13058, 13061, 13080, 13137,	.. 4064, 4065, 4073, 4078,	\HyOrg@languageshortands . . . . .
13165, 13182, 13207, 13539,	4083, 4086, 4093, 4107, 4111	.. 1033, 1047, 1058, 1068
13573, 13576, 13595, 13666,	\HyInfo@KeyEscaped 4063, 4064	\HyOrg@make@df@tag@@ . . . . .
13697, 13720, 13747, 13880,	\HyInfo@trapped@false . . . . .	8421
13921, 13924, 13943, 14029,	4023	\HyOrg@make@df@tag@@@ 8422
14064, 14087, 14118	\HyInfo@trapped@true 4001, 4022	\HyOrg@maketitle . . . . .
\HyField@TheAnnotCount 13863,	\HyInfo@trapped@unknown 4007,	7768
13895, 13900, 13992, 14004,	4024	\HyOrg@subequations 7447, 7454
14019, 14024, 14050, 14056,	\HyInfo@TrappedUnsupported . . . . .	\HyOrg@title . . . . .
14075, 14080, 14103, 14108,	.. 4025, 4029, 10176, 11412,	6494, 6499, 6503
14132, 14137	12526	\HyOrg@TX@endtabularx . . . . .
\HyField@UseFlag . . . . .	\HyInfo@Value . . . . .	7661
.. 5468, 5609, 5610, 5611,	4077, 4079	\HyOrg@url . . . . .
5612, 5613, 5614, 5615,	\HyLang@addto 3496, 3512, 3530,	5035
5616, 5619, 5620, 5621,	3563, 3571	\HyPat@NonNegativeReal . . . . .
5622, 5625, 5626, 5627,	\HyLang@afrikaans . . . . .	.. 3793, 3794, 3795, 3796,
5630, 5641, 5642, 5643,	3294	3812, 3814, 4159, 4169,
5644, 5645, 5646, 5647,	\HyLang@DeclareLang . . . . .	4170, 4171, 4173, 4174, 4175
5648, 5649, 5660, 5661,	.. 3510, 3539, 3540, 3541,	\HyPat@ObjRef 5019, 5020, 5033,
5662, 5674, 5675, 5676,	3542, 3543, 3544, 3545,	9153, 10284, 11471
5687, 5688, 5689, 5690,	3546, 3547, 3548, 3549,	\hyper@@@anchor 4335, 5045, 5047,
5692, 5703, 5704, 5705,	3550, 3551, 3552, 3553,	5078, 5080, 5115, 5117,
5706, 5707, 5708, 5709,	3554, 3555, 3556, 3557,	5316, 6367, 6382, 6398,
5710, 5721, 5724, 5735,	3558, 3559, 3560, 3561	7611, 7616, 7631, 7636,
5736, 5737, 5738, 5740,	\HyLang@english . . . . .	7704, 7707, 7733, 7861,
5742, 5743, 5746, 5749	3312	7864, 7881, 8197, 8252,
\HyInd@@@wrindex . . . . .	\HyLang@french . . . . .	8262, 8267, 8683, 8691,
8550, 8556	3330	8701, 8734, 8742, 8752
\HyInd@@hyperpage 8596, 8606	\HyLang@german . . . . .	\hyper@@@link . . . . .
\HyInd@@wrindex . . . . .	3348	4905, 4963, 5068,
8511, 8512	\HyLang@italian . . . . .	5096, 5170, 7950, 8096,
\HyInd@EncapChar . . . . .	3366	8097, 8098, 8146, 8148,
8506	\HyLang@magyar . . . . .	8150, 8853, 8868, 8971
\HyInd@hyperpage . . . . .	3384	\hyper@@@normalise . . . . .
8602	\HyLang@portuges . . . . .	4874, 4878,
\HyInd@org@wrindex 8510, 8514,	\HyLang@russian . . . . .	4882
8524, 8530, 8532, 8535	3420	\hyper@anchor . . . . .
\HyInd@pagelink . . . . .	\HyLang@spanish . . . . .	.. 5343, 6370, 6384, 6448,
8611, 8617,	3460	6461, 9430, 9923, 10020,
8619, 8622	\HyLang@vietnamese 3478, 3563,	10347, 10887, 10962, 11474,
\HyInd@ParenLeft . . . . .	3571	12412, 12692
8558	\HyLinguex@OrgB . . . . .	\hyper@anchorend . . . . .
\HyInd@ParenRight . . . . .	900, 904	.. 4323, 4331,
8529, 8559, 8568	\HyLinguex@OrgC . . . . .	4338, 6354, 6372, 6386,
\HyInd@removespaces 8625, 8628,	901, 905	6401, 7008, 7247, 7322,
8638	\HyLinguex@OrgD . . . . .	7367, 7369, 7393, 7419,
\HyInfo@AddonHandler . . . . .	\HyLinguex@Restore . . . . .	7568, 7944, 7969, 7972,
4054,	903, 916,	7992, 8125, 8406, 8432,
4057	970, 980	9437, 9948, 10038, 10354,
\HyInfo@AddonList . . . . .	\HyNew@float@makebox . . . . .	10882, 10984, 11496, 12436,
4081, 4082,	7876,	12715, 14559, 14706, 14938,
4116, 4123	7899	14963, 14974, 15004, 15056
\HyInfo@Addons . . . . .	\HyOpt@CheckDvi . . . . .	\hyper@anchorstart . . . . .
4102, 4118,	.. 3061, 3097, 3102, 3107,	.. 4337, 6354, 6371, 6385,
9726, 10683, 11682, 11686	3130, 3135, 3140, 3192,	6400, 7008, 7246, 7322,
	3199, 3204, 3209, 3214	7361, 7393, 7419, 7565,
	\HyOpt@DriverFallback . . . . .	7942, 7967, 7972, 7992,
	3218,	8125, 8406, 8432, 9433,
	3221, 3222, 3226, 4590, 4595	9938, 10032, 10350, 10871,
	\HyOpt@DriverType 4563, 4565,	
	4592, 4602, 4604, 4620	
	\HyOrg@addtoreset . . . . .	
	8436, 8438,	
	8465	
	\HyOrg@appendix . . . . .	
	7064, 7083	
	\HyOrg@author 6495, 6508, 6512	

10975, 11488, 12426, 12706,  
14559, 14706, 14938, 14963,  
14974, 15004, 15056

\hyper@chars . . . . .  
. . . 4899, 9465, 9928, 9942,  
9962, 9984, 9998, 10012,  
10092, 10132, 10838, 10859,  
10875, 10892, 10967, 10979,  
11071, 12086, 12430, 12450,  
12476, 12490, 12504, 12710,  
12729, 12752, 12769, 12784

\hyper@currentanchor . . . 11493,  
11502, 11525, 11542

\hyper@currentlinktype . . 11526,  
11530, 11534

\hyper@destlabel@hook . . 5359,  
5366

\hyper@hash . 4851, 4852, 4900,  
5239, 5251, 5268, 5271,  
6321, 10832

\hyper@image 5041, 5042, 10010,  
11129, 11615, 12502, 12782

\hyper@last . . . . . 6468, 6473

\hyper@link . . 4336, 5186, 6368,  
6369, 6383, 6393, 6399,  
9451, 10006, 10054, 10521,  
10828, 11095, 11619, 12498,  
12778

\hyper@link@ . 4343, 5171, 5177,  
6366, 6380, 6406

\hyper@linkend 4323, 4331, 4340,  
6374, 6388, 6403, 7656,  
7936, 7939, 8355, 8363,  
8370, 8374, 8376, 9450,  
9968, 10051, 10520, 10522,  
10864, 11042, 11528, 12458,  
12735

\hyper@linkfile . . . . .  
. . . 4342, 5264, 6376, 6390,  
6405, 9497, 9972, 10130,  
10524, 10848, 11046, 12107,  
12462, 12739

\hyper@linkstart . . . . .  
. . . 4339, 6373, 6387, 6402,  
7654, 7932, 7939, 8355,  
8363, 8370, 8374, 8376,  
9441, 9954, 10042, 10482,  
10522, 10851, 10990, 11507,  
12442, 12721

\hyper@linkurl 4341, 5040, 5239,  
5246, 5267, 5271, 6375,  
6389, 6404, 9462, 9973,  
9975, 10008, 10090, 10593,  
10836, 10849, 11068, 11130,  
11616, 12083, 12463, 12467,  
12500, 12740, 12742, 12780

\hyper@livelink . . . . 6368, 6393

\hyper@makecurrent 7004, 7104,  
7308, 7359, 7390, 7418,  
7510, 7541, 7651, 7837, 7891

\hyper@normalise . . 4866, 4870

\hyper@nat@current . . . . 7933

\hyper@nat@anchorend . . . . 7944

\hyper@nat@anchorstart . . . 7941

\hyper@nat@linkbreak . . . . 7938

\hyper@nat@linkend . . . . . 7935

\hyper@nat@linkstart . . . . . 7930

\hyper@newdestlabel 5351, 5373,  
5412, 5417

\hyper@normalise . . 4291, 4296,  
4843, 4953, 4956, 5037,  
5039, 5041, 5062, 5891

\hyper@pageduration 9764, 9813,  
10770, 10790, 11295, 11312,  
11582, 11612

\hyper@pagehidden . 9788, 9814,  
10781, 10791, 11305, 11313,  
11599, 11613

\hyper@pagetransition 9740, 9812,  
10759, 10789, 11184, 11311,  
11565, 11611

\hyper@quote . . . . .  
. . . 6323, 9930, 9944, 9959,  
9964, 9985, 9999, 10013,  
10832, 10842, 10855, 10878,  
10896, 12418, 12432, 12447,  
12453, 12477, 12491, 12505,  
12698, 12711, 12726, 12731,  
12754, 12770, 12785

\hyper@readexternallink . 5191,  
5204

\hyper@refstepcounter . . . 6984,  
6987, 6995

\hyper@tilde . 4860, 4861, 4862,  
6322

\hyperbaseurl . 3719, 3720, 6417

\hypercalcbp . . . . . 486, 486

\hypercalcbpdef . 488, 525, 4156,  
4166

\hyperdef . . . . . 5070, 6419

\HyperDestLabelReplace . 5403,  
5410, 5413

\HyperDestNameFilter . . . . .  
. . . . . 4272, 4939, 5410,  
9380, 9405, 9930, 9944,  
9964, 10008, 10293, 10495,  
10832, 10842, 10860, 10878,  
10896, 10968, 10980, 11029,  
11112, 11947, 11956, 12418,  
12432, 12453, 12500, 12698,  
12711, 12731, 12780, 14784,  
14848, 14864

\HyperDestRename . 5383, 5401,  
5414

\HyperFirstAtBeginDocument . .  
. . . 6445, 6447, 6469, 6472

\hypergetpageref . . . . . 7240

\hypergetref . . . . . 7239

\HyperGlobalCurrentHref 7125,  
7127, 7135, 7136, 7140,  
7143, 7147, 7153, 7154, 7158

\hyperimage . . 5041, 5419, 8488

\hyperindexformat . . . . . 8495

\hyperlink . . . 4904, 6420, 8634,  
8773, 8781, 8796, 8804,  
8814, 8822, 8829

\hyperlinkfileprefix . 3722, 3723,  
3724, 12684

\HyperLocalCurrentHref . . . . .  
. . . 7143, 7145, 7151, 7152,  
7153, 7154, 7156

\hyperpage . . 6426, 8496, 8497,  
8499, 8592

\HyperRaiseLinkDefault . 2632,  
2659

\HyperRaiseLinkHook 2631, 2660

\HyperRaiseLinkLength . . 2658,  
2659, 2662

\hyperref 5050, 5426, 5427, 6422,  
8928, 8932, 8942, 8956

\hypersetup . . 2976, 3020, 3548,  
4040, 4292, 6416

\hypertarget . . . . . 5043, 6421

\HyPL@@@CheckThePage 6713,  
6731

\HyPL@@CheckThePage . 6689,  
6691

\HyPL@Alph . . . . . 6608

\HyPL@alph . . . . . 6609

\HyPL@arabic . . . . . 6605

\HyPL@CheckThePage . . 6640,  
6688

\HyPL@Entry 6881, 6889, 6897,  
6899

\HyPL@EveryPage . 6628, 6752

\HyPL@Format 6704, 6705, 6706,  
6707, 6708, 6720

\HyPL@found 6703, 6710, 6714,  
6721, 6731, 6733

\HyPL@Labels 6599, 6743, 6744,  
6746, 6748, 6799, 6800,  
6892, 6900, 6901

\HyPL@LastNumber 6603, 6659,  
6682

\HyPL@LastPrefix . . 6604, 6653,  
6684

\HyPL@LastType . . 6602, 6644,  
6683

\HyPL@page . 6622, 6631, 6634,  
6640, 6649

\HyPL@Prefix .....  
... 6649, 6651, 6653, 6667,  
6670, 6672, 6684, 6698, 6736  
\HyPL@Roman ..... 6606  
\HyPL@roman ..... 6607  
\HyPL@SetPageLabels ... 6742,  
6807, 6895  
\HyPL@SlidesOptionalPage 6615,  
6619, 6624  
\HyPL@SlidesSetPage 6610, 6612,  
6632, 6639  
\HyPL@StorePageLabel .. 6667,  
6669, 6739, 6797, 6876  
\HyPL@thisLabel .. 6596, 6598,  
6630, 6634, 6635  
\HyPL@Type . 6637, 6644, 6648,  
6666, 6674, 6683, 6697, 6735  
\HyPL@Useless .... 6740, 6746  
\HyPsd@@@autoref . 1756, 1758,  
1761  
\HyPsd@@@CJKdigits ... 1626,  
1629, 1637  
\HyPsd@@@nameref 1738, 1740,  
1743  
\HyPsd@@@pageref . 1720, 1722,  
1725  
\HyPsd@@@ref . 1704, 1706, 1709  
\HyPsd@@@UTFviii@four 2374,  
2377  
\HyPsd@@@AppendItalcorr . 1925  
\HyPsd@@@autoref .. 1753, 1754  
\HyPsd@@@autorefname .. 1774,  
1777  
\HyPsd@@@CJKdigits 1618, 1620,  
1623  
\HyPsd@@@CJKNumber .....  
... 1519, 1521, 1524, 1577,  
1592, 1605, 1607, 1611  
\HyPsd@@@ConvertToUnicode ..  
..... 2253  
\HyPsd@@@ding 2512, 2516, 2527  
\HyPsd@@@GetNextTwoTokens ..  
..... 2251  
\HyPsd@@@GlyphProcessWarning  
..... 2111, 2114  
\HyPsd@@@GreekNum 1181, 1190,  
1289, 1293, 1297  
\HyPsd@@@hspace ... 1674, 1675  
\HyPsd@@@LetCommand . 1798,  
1819  
\HyPsd@@@nameref .. 1735, 1736  
\HyPsd@@@pageref .. 1717, 1718  
\HyPsd@@@ProtectSpacesFi 1847,  
1851, 1869, 1875, 1880  
\HyPsd@@@ref ..... 1701, 1702  
\HyPsd@@@RemoveBraces .. 1893  
\HyPsd@@@RemoveBracesFi 1890,  
1893  
\HyPsd@@@RemoveCmdPrefix ...  
..... 2068, 2071  
\HyPsd@@@ReplaceFi 2138, 2144,  
2149  
\HyPsd@@@UTFviii@four .. 2358,  
2363  
\HyPsd@add@accent . 548, 1663  
\HyPsd@AfterCountRemove ...  
..... 1945, 2025  
\HyPsd@AfterDimenRemove ...  
..... 1951, 2028  
\HyPsd@AfterSkipRemove 1957,  
2040  
\HyPsd@AMScsfix . 657, 1684,  
1686  
\HyPsd@AppendItalcorr . 1909,  
1916, 1925  
\HyPsd@autoref ..... 667, 1753  
\HyPsd@autorefname 1765, 1771  
\HyPsd@babel@danish .... 1077  
\HyPsd@babel@dutch .... 1083  
\HyPsd@babel@finnish .... 1089  
\HyPsd@babel@frenchb ... 1094  
\HyPsd@babel@german ... 1099  
\HyPsd@babel@macedonian 1106  
\HyPsd@babel@ngerman .. 1112  
\HyPsd@babel@portuges .. 1118  
\HyPsd@babel@russian ... 1123  
\HyPsd@babel@slovene ... 1129  
\HyPsd@babel@spanish ... 1134  
\HyPsd@babel@swedish ... 1144  
\HyPsd@babel@ukrainian . 1150  
\HyPsd@babel@usorbian .. 1156  
\HyPsd@BabelPatch . 643, 1032,  
1067  
\HyPsd@CatcodeWarning 1961,  
1985, 1988, 1991, 1994, 2052  
\HyPsd@Char ..... 2255  
\HyPsd@CharOctByte ... 2275,  
2277, 2280, 2289, 2294  
\HyPsd@CharSurrogate .. 2269,  
2286  
\HyPsd@CharTwoByte .. 2267,  
2274  
\HyPsd@CheckCatcodes .. 721,  
1935  
\HyPsd@CJK@Unicode .. 1401,  
1405  
\HyPsd@CJKActiveChars 1341,  
1356  
\HyPsd@CJKdigit .. 1630, 1640  
\HyPsd@CJKdigits . 1403, 1616  
\HyPsd@CJKhook ... 674, 1312,  
1323  
\HyPsd@CJKhook@bookmarks .  
..... 1318, 1352  
\HyPsd@CJKhook@unicode 1320,  
1400  
\HyPsd@CJKNumber 1402, 1516  
\HyPsd@CJKNumberFour .....  
... 1534, 1538, 1542, 1555,  
1559, 1563, 1569  
\HyPsd@CJKNumberLarge 1547,  
1554  
\HyPsd@CJKNumberThree 1575,  
1579, 1585  
\HyPsd@CJKNumberTwo 1590,  
1594, 1600  
\HyPsd@ConvertToUnicode 790,  
2201  
\HyPsd@DecimalToOctal . 1333,  
1364  
\HyPsd@DecimalToOctalFirst ..  
..... 1407, 1443  
\HyPsd@DecimalToOctalSecond  
... 1408, 1417, 1480, 2531,  
2537, 2540  
\HyPsd@DefCommand 704, 705,  
706, 707, 1787  
\HyPsd@DieFace . 621, 622, 623,  
2452, 21127, 21128  
\HyPsd@DieFaceLarge 2460, 2469  
\HyPsd@ding ..... 620, 2502  
\HyPsd@DisableCommands 1014,  
1016  
\HyPsd@DoConvert . 2203, 2213  
\HyPsd@DoEscape ..... 2227  
\HyPsd@doxspace ... 762, 2174  
\HyPsd@empty .. 747, 749, 753,  
754, 756, 764, 771  
\HyPsd@End ..... 721,  
725, 1848, 1851, 1854, 1857,  
1860, 1873, 1883, 1890,  
1893, 1938, 1946, 1952,  
1958, 2011, 2018, 2025,  
2028, 2040  
\HyPsd@EndWithElse 1653, 1662  
\HyPsd@EscapeTeX .. 801, 811,  
2156  
\HyPsd@fi 1865, 1871, 1875, 1881  
\HyPsd@GetNextTwoTokens 2251  
\HyPsd@GetOneByte ..... 2246  
\HyPsd@GetTwoBytes .... 2242  
\HyPsd@GLYPHERR 727, 1650,  
1664, 1671  
\HyPsd@GlyphProcess 729, 2099,  
2112  
\HyPsd@GlyphProcessWarning .  
..... 2106, 2110  
\HyPsd@GobbleFiFi 1655, 1661

\HyPsd@GreekNum . 1170, 1173, 1175  
\HyPsd@Greeknumeral . . 1166, 1172  
\HyPsd@greeknumeral 1165, 1169  
\HyPsd@GreekNumI 1193, 1219, 1262, 1288  
\HyPsd@GreekNumII 1197, 1241, 1285, 1292  
\HyPsd@GreekNumIII . . . 1200, 1264, 1296  
\HyPsd@GreekNumIV 1209, 1287  
\HyPsd@GreekNumV 1212, 1291  
\HyPsd@GreekNumVI 1214, 1295  
\HyPsd@GreekPatch . 640, 1162, 1164  
\HyPsd@HighA . . . . 1411, 1420  
\HyPsd@HighB . . . . 1421, 1426  
\HyPsd@HighC . . . . 1427, 1430  
\HyPsd@HighD . . . . 1423, 1435  
\HyPsd@href . . . . . 662, 1700  
\HyPsd@hspace . . . . . 658, 1674  
\HyPsd@hspacetest . 1677, 1679, 1682  
\HyPsd@ifnextchar 690, 691, 692, 1824  
\HyPsd@ignorespaces 671, 1023  
\HyPsd@inmathwarn . 547, 1647  
\HyPsd@ITALCORR . . 682, 686, 1671  
\HyPsd@langshort@system 1038, 1041  
\HyPsd@LanguageShorthands . . . . 1034, 1039, 1051  
\HyPsd@LetCommand 708, 709, 1787  
\HyPsd@LetUnexpandableSpace . 677, 678, 679, 680, 1667, 1670  
\HyPsd@LoadExtra . . . 985, 988, 3018  
\HyPsd@LoadStringEnc . . 2980, 3000, 3002, 3006, 3008, 6818  
\HyPsd@LoadUnicode 975, 2939, 2945, 2947, 2954, 6812  
\HyPsd@MoonPha . . 2483, 2501, 21129  
\HyPsd@nameref . . . . 666, 1735  
\HyPsd@pageref . . . . 665, 1717  
\HyPsd@pdfencoding . . . . . 791, 2938, 2941, 2963, 2975, 2978, 2979, 2984, 2999, 6814, 6816, 6833, 6836  
\HyPsd@pdfencoding@auto 791, 2969, 2979, 2996, 6816, 6835  
\HyPsd@pdfencoding@pdfdoc . . . . 2962, 2984, 2997  
\HyPsd@pdfencoding@unicode . . . . 2966, 2998, 6814, 6832  
\HyPsd@PrerenderUnicode . . . . 3922, 3938, 3944, 3950, 3972, 3990, 3996, 4076  
\HyPsd@protected@testopt 693, 694, 1828  
\HyPsd@ProtectSpaces 714, 1845, 1866, 1915  
\HyPsd@ref . . . . . 664, 1701  
\HyPsd@RemoveBraces . . . 716, 1887, 1904, 1912, 1918  
\HyPsd@RemoveCmdPrefix 2061, 2067  
\HyPsd@RemoveMask 724, 1854, 1860, 1873, 1883  
\HyPsd@RemoveSpaceWarning . . . . 2035, 2047, 2073  
\HyPsd@ReplaceSpaceWarning . . . . 2030, 2042, 2086  
\HyPsd@Rest . . . . . 1939, 2007, 2015, 2018, 2026, 2031, 2037, 2043, 2049  
\HyPsd@RussianPatch 642, 1305  
\HyPsd@SanitizeForOutFile . . . . . 14623, 14654  
\HyPsd@SanitizeOut@BraceLeft . . 14658, 14664, 14673  
\HyPsd@SanitizeOut@BraceRight . . 14661, 14676, 14685  
\HyPsd@SPACEOPTI . 718, 734, 735, 737, 739, 741, 742, 781, 783, 1981, 2185  
\HyPsd@spaceopti . . . 783, 2130  
\HyPsd@SpanishPatch 641, 1299  
\HyPsd@String 715, 717, 720, 722, 728, 730, 1898, 1899, 1909, 1969, 1971, 1975, 1976, 1980, 1981, 1996, 1997, 2029, 2041, 2100, 2101  
\HyPsd@StringSubst . . 731, 733, 739, 745, 748, 751, 754, 773, 776, 778, 2153  
\HyPsd@Subst . . . . . 727, 736, 740, 746, 752, 756, 760, 765, 766, 767, 768, 769, 770, 774, 777, 2137, 2154, 2169, 2170, 2171  
\HyPsd@temp . . . . . 794, 796, 797, 799, 800, 807, 809, 810, 2961, 2962, 2963, 2966, 2969, 2975, 2987, 2991, 6831, 6832, 6833, 6835, 6836, 6841  
\HyPsd@ToBigChar 851, 852, 861  
\HyPsd@ToBigChars . . 804, 843  
\HyPsd@tocsection . . . . . 1687, 1688, 1689, 1690, 1691, 1692, 1693, 1695  
\HyPsd@UnescapedString . 796, 845, 846, 852  
\HyPsd@UnexpandableSpace . . . . 1670, 1856, 1880, 2031, 2043  
\HyPsd@unichar . . . 2316, 2383, 2389, 2394  
\HyPsd@unichar@first@byte 2402, 2422  
\HyPsd@unichar@octtwo . 2424, 2432, 2438  
\HyPsd@unichar@second@byte . . . . . 2410, 2430  
\HyPsd@UnicodeReplacementCharacter 2386, 2421, 2455, 2485, 2490, 2498, 2505, 2508, 2518, 2576  
\HyPsd@utf@viii@undeferr . 544, 2444  
\HyPsd@UTFviii 538, 2304, 2309  
\HyPsd@UTFviii@@three . 2339, 2348  
\HyPsd@UTFviii@@two . . 2324, 2330  
\HyPsd@UTFviii@ccxliv@def . . . . . 2314, 2320  
\HyPsd@UTFviii@ccxliv@undef . . . . . 2313, 2319  
\HyPsd@UTFviii@four 2312, 2357  
\HyPsd@UTFviii@three . . 2311, 2338  
\HyPsd@UTFviii@two 2310, 2323  
\HyPsd@Warning . . 1832, 2053, 2074, 2087, 2116, 2122  
\HyPsd@XeTeXBigCharsfalse . . . . . 818, 832, 837  
\HyPsd@XeTeXBigCharstrue 831, 840, 3937, 3943, 3949, 3971, 3989, 3995, 4075, 14256, 14621  
\HyPsd@XSPACE 684, 761, 1671  
\HyPsd@xspace . . 759, 761, 762  
\HyRef@@StarSetRef 8896, 8901  
\HyRef@autopageref 8953, 8955  
\HyRef@autopagerefname 8952, 8956, 8958  
\HyRef@autoref . . . . 8971, 8973  
\HyRef@autosetref . . 8976, 8979  
\HyRef@CaseStar . . 9040, 9046  
\HyRef@currentHtag 8992, 9010, 9013, 9019, 9026, 9032, 9047  
\HyRef@MakeUppercaseFirstOfFive . . . . . 8919, 8921

<code>\HyRef@name</code> 9008, 9009, 9014, 9021, 9039, 9040, 9041, 9043	8558, 8788, 8981, 11331, 11833, 14364, 14392, 14461, 14497, 14533, 14731	<code>\ifHy@breaklinks</code> . . . . 389, 2901, 11509, 11550, 11844, 11867
<code>\HyRef@Ref</code> . . . . . 8925, 8927		<code>\ifHy@CJKbookmarks</code> 391, 1317
<code>\HyRef@ShowKeysInit</code> . . . 9049, 9062, 9066	<code>\ifcat</code> 1940, 1967, 1974, 1979, 1984, 1987, 1990, 1993, 5327, 5329	<code>\ifHy@colorlinks</code> 392, 4745, 6306, 12399
<code>\HyRef@ShowKeysRef</code> 8980, 9048	<code>\ifdim</code> . . 1682, 2029, 2033, 2041, 2045, 2674, 2693, 4277, 4649, 9832, 9836, 9841, 9845, 9852, 9855, 9859, 9862, 10799, 10800, 10805, 10806, 10938, 10941, 10945, 10948, 11862, 11876, 12237, 12238, 12243, 12244, 13054, 13092, 13093, 13569, 13608, 13609, 13917, 13956, 13957	<code>\ifHy@destlabel</code> . . . . . 393, 5350
<code>\HyRef@StarSetRef</code> . 8890, 8908, 8911, 8914, 8919		<code>\ifHy@draft</code> . . . . . 394, 4334
<code>\HyRef@StripStar</code> . . 9007, 9038		<code>\ifHy@DviMode</code> 3042, 3062, 3220
<code>\HyRef@testreftype</code> . 8985, 9004		<code>\ifHy@DvipdfmxOutlineOpen</code> . . . . . . . 4647, 14866
<code>\HyRef@thisref</code> . . . . 8982, 8985		<code>\ifHy@frenchlinks</code> . . . 400, 4761
<code>\HyTmp@found</code> 5811, 5821, 5824		<code>\ifHy@href@ismap</code> . . 5001, 9486, 10610, 11005, 11075, 12098
<code>\HyTmp@key</code> . . . . . 5805, 5806		<code>\ifHy@hyperfigures</code> . . 398, 4434, 6286, 8485
<code>\HyTmp@optitem</code> . . 5761, 5777, 5804, 5809, 5815, 5836, 5847		<code>\ifHy@hyperfootnotes</code> 401, 7580
<code>\HyTmp@optlist</code> . . . . .	<code>\ifetex@unexpanded</code> . . . . . 1839	<code>\ifHy@hyperindex</code> . . . 402, 4444, 6296, 8492
. . 5760, 5775, 5776, 5807, 5808, 5813, 5814, 5822, 5823, 5843, 5845, 5852, 5855	<code>\iffalse</code> . . . . . 838, 5930	<code>\ifHy@hypertexnames</code> 403, 7111, 7193, 8250, 8681, 8732
<code>\HyXeTeX@CheckUnicode</code> 3908, 3919, 3936, 3942, 3948, 3970, 3988, 3994, 4074, 6846	<code>\IfFileExists</code> . . 232, 6478, 9219, 12812	<code>\ifHy@implicit</code> . 404, 4466, 14921
	<code>\ifFld@checked</code> . . . 5864, 13379, 14350	<code>\ifHy@linktocpage</code> . . . 405, 2858, 2868
	<code>\ifFld@comb</code> . . . . . 5711	<code>\ifHy@localanchorname</code> . . . 406, 7144, 7155
	<code>\ifFld@combo</code> 5739, 5744, 13067, 13096, 13582, 13612, 13930, 13960	<code>\ifHy@naturalnames</code> . 408, 7123, 8682, 8733
	<code>\ifFld@disabled</code> . . . . 5865, 13380	<code>\ifHy@nesting</code> . 409, 4439, 5044, 5077, 5114, 5325, 6291, 7605, 7625, 7703, 7860
	<code>\ifFld@edit</code> . . . . . 5745	<code>\ifHy@next</code> . . . 1075, 4408, 8509
	<code>\ifFld@fileselect</code> . . . . . 5714	<code>\ifHy@ocgcolorlinks</code> . . . . .
	<code>\ifFld@hidden</code> . . . 13030, 13081, 13150, 13170, 13193, 13211, 13278, 13290, 13300, 13383, 13544, 13597, 13680, 13702, 13731, 13752, 13885, 13945, 14044, 14069, 14098, 14123	. . . 412, 3603, 4731, 4741, 6311, 9172, 9258, 9336, 9344, 10358, 10441, 10449
	<code>\ifFld@multiline</code> . . . 5712, 13019, 13285, 13532, 13873	<code>\ifHy@pageanchor</code> . . . 413, 7180, 7192, 7207, 8249
	<code>\ifFld@multiselect</code> . . . . . 5783	<code>\ifHy@pdfa</code> 432, 4358, 4733, 5227, 5544, 6154, 6203, 6316, 9409, 9481, 9519, 9556, 9890, 10504, 10536, 10570, 10601, 10630, 11011, 11032, 11055, 11081, 11115, 11149, 11168, 11971, 12987, 13140, 13186, 13470, 13670, 13724, 13842, 14033, 14091, 14306, 14353, 14522
	<code>\ifFld@password</code> . . . 5713, 13266	<code>\ifHy@pdfcenterwindow</code> . . . 390, 9665, 10241, 10703, 11369, 11729, 12584
	<code>\ifFld@popdown</code> . . 5531, 13068, 13583, 13931	<code>\ifHy@pdfdisplaydoctitle</code> . . 431, 9666, 10242, 10704, 11370, 11730, 12585
	<code>\ifFld@radio</code> 13064, 13086, 13315, 13579, 13602, 13927, 13950	<code>\ifHy@pdfescapeform</code> 397, 14200, 14230
	<code>\ifFld@readonly</code> . . 13287, 13297, 13381	<code>\ifHy@pdffitwindow</code> . . 399, 9664, 10240, 10702, 11368, 11728,
	<code>\ifForm@html</code> . . . . . 5885	
	<code>\ifhmode</code> 2635, 2639, 2692, 2701, 4945, 7461, 7487, 7520, 7648, 7657, 7807, 7809, 9375, 9383, 11868, 12797	
	<code>\ifHy@activeanchor</code> . . 384, 5340	
	<code>\ifHy@backref</code> . 385, 4454, 4826, 6301, 8103, 8139	
	<code>\ifHy@bookmarks</code> . . . 386, 4674	
	<code>\ifHy@bookmarksnumbered</code> 387, 8676, 8727, 14610	
	<code>\ifHy@bookmarksopen</code> 388, 4664	

  

**I**

<code>\i</code> . . . 15243, 15407, 15410, 15413, 15416, 15680, 15854, 15857, 15860, 15863, 15992, 15997, 16002, 16007, 16011, 16248, 16313, 16319		
<code>\ibar</code> . . . . . 16470, 21198		
<code>\if</code> 1696, 2619, 6657, 6665, 7436, 7437, 11258, 11261, 11265, 11269, 11273, 11275, 11277, 14304		
<code>\if@eqnstar</code> . . . . . 7374, 7382		
<code>\if@filesw</code> 2587, 5108, 5371, 6438, 6483, 6877, 6887, 7189, 7979, 7994, 8010, 8022, 8052, 8075, 8102, 8107, 8126, 8544, 13417, 13441, 14624, 14811, 14893		
<code>\if@hyper@item</code> . . . . 6969, 6982		
<code>\if@inlabel</code> . . . . . 7554		
<code>\if@Localurl</code> . . . . . 10819, 10865		
<code>\if@mid@expandable</code> . . . . . 656		
<code>\if@minipage</code> . . . . . 7849, 7921		
<code>\if@nmbrlist</code> . . . . . 6954		
<code>\if@nobreak</code> . . . . . 7573		
<code>\if@skiphyperref</code> . . . 6970, 6980		
<code>\if@twocolumn</code> . . . . . 15058		
<code>\if@twoside</code> . . . . . 15047		
<code>\ifcase</code> 333, 1226, 1248, 1271, 1365, 1414, 1436, 1439, 1445, 1481, 1525, 1641, 2352, 2484, 2966, 3653, 4623, 5607, 5712, 5841, 5918, 7087, 7096, 8351, 8521,		



12583	\ifmeasuring@ . . . . . 6994, 7005	\IJ . . . . . 15239, 16013
\ifHy@pdfmarkerror 11776, 11784	\ifmmode . . . . . 11512, 11839	\ij . . . . . 15450, 16015
\ifHy@pdfmenubar . . . 407, 9662, 10238, 10700, 11366, 11726, 12581	\ifnum . . . 244, 868, 871, 874, 877, 880, 1052, 1177, 1180, 1191, 1192, 1196, 1204, 1208, 1211, 1221, 1243, 1266, 1406, 1517, 1533, 1537, 1557, 1570, 1573, 1586, 1588, 1601, 1603, 1609, 2263, 2266, 2342, 2385, 2388, 2400, 2454, 2457, 2470, 2504, 2507, 2510, 2514, 2529, 2533, 2536, 2640, 3147, 3150, 3176, 3654, 3655, 4658, 4665, 4978, 5766, 5837, 5848, 6614, 6638, 6659, 6675, 6777, 7066, 7069, 8199, 8209, 8790, 8828, 9173, 9178, 9192, 9196, 9201, 9218, 9238, 9581, 9588, 9594, 9602, 10470, 10475, 11052, 11182, 11318, 11326, 11328, 11329, 11339, 11342, 11440, 11442, 11562, 12261, 13454, 13646, 13986, 13991, 14002, 14251, 14333, 14364, 14369, 14392, 14398, 14427, 14461, 14467, 14486, 14497, 14502, 14533, 14538, 14567, 14583, 14727, 14797, 14800, 14827, 14830, 14868, 14977, 14995, 15010	\immediate . . . 6440, 6441, 6442, 6444, 6485, 6790, 6880, 6888, 7204, 7232, 7982, 7997, 8013, 8023, 8053, 8076, 8102, 8132, 9260, 9275, 9290, 11445, 12258, 13396, 13418, 13460, 14717, 14783, 14814, 14816, 14896, 14898
\ifHy@pdfnewwindow 411, 4226, 11052	\ifodd . . . . . 2366, 2371, 8276	\in . . . . . 18335, 20515
\ifHy@pdfnewwindowset . . 410, 4224	\ifpdf 242, 3044, 3087, 4500, 4567	\in@ . . . . . 7037
\ifHy@pdfpagehidden . 415, 3747, 9792, 10784, 11307, 11605	\ifpdfstringunicode . . . 539, 542	\incr@eqnum . . . . . 7334, 7347
\ifHy@pdfpagelabels . 414, 6584, 6797, 6875	\ifportrait . . . . . 9831	\indent . . . . . 7466, 7494
\ifHy@pdfstring . . 416, 999, 6974	\ifthenelse . . . . . 8129	\index . . . . . 660
\ifHy@pdftoolbar . . . . 424, 9661, 10237, 10699, 11365, 11725, 12580	\iftrue . . . 841, 1846, 1868, 2148, 5933, 14979	\indexentry . . . 8547, 8562, 8570, 8574, 8579
\ifHy@pdfusetitle . . . . 426, 6493	\ifvmode . . . . . 2651, 2673, 2682	\Info . . . . . 19992, 21118
\ifHy@pdfwindowui . . 430, 9663, 10239, 10701, 11367, 11727, 12582	\ifvoid . . . . . 7315, 7319, 7558	\infty . . . . . 18378, 20533
\ifHy@plainpages 417, 4449, 7194, 8251	\ifvtex . . . . . 3050, 3146, 3175	\input . . . . . 968, 978, 992, 3566, 3574, 3581, 4622, 12176, 12259, 12350, 12519
\ifHy@psdextra . . . 423, 629, 989	\ifvtexdvi . . . . . 3051	\InputIfFileExists . 4294, 14807, 14841, 14886, 14888
\ifHy@psize . . . . . 418	\ifvtexhtml . . . . . 4542, 4573	\inputlineno . . . . . 4915, 5332
\ifHy@raiselinks 419, 9977, 10057, 10094, 10134, 12469, 12744	\ifvtexpdf . . . . . 4584	\insert . . . . . 7718
\ifHy@seminarslides . . . . . 420	\ifvtexps . . . . . 4587	\int . . . . . 18413, 20547
\ifHy@setpagesize . . . 421, 9820, 10796, 10935, 12234	\ifxetex . . . . . 795, 828, 3047, 3120, 3909, 3952, 4526, 4570, 4648, 5122	\IntCalcAdd . . . . . 2292
\ifHy@setpdfversion . . 3021, 9177	\ignorespaces . . . 671, 7275, 7456, 7739, 7845, 7856, 7859, 7917, 7925, 7987, 8002, 8018, 8027, 8137, 8661, 8713	\IntCalcDec . . . . . 1428, 2480
\ifHy@stoppedearly . . . . . 382	\iiint . . . . . 18418, 20549	\intcalcDec . . . . . 2462
\ifHy@texht . . . . . 422, 4521, 4773, 4821, 5955, 5987, 6174, 6198, 6354, 8836	\iinferior . . . . . 20354	\IntCalcDiv . . . 1422, 1431, 1436, 1539, 1548, 1560, 1577, 1592, 1607, 2276, 2282, 2288
\ifHy@typexml 383, 4459, 4748, 4792, 6439, 14815, 14897	\iint . . . . . 18416, 20548	\intcalcDiv 1412, 2283, 2290, 2293
\ifHy@unicode . . . 425, 534, 567, 570, 630, 732, 744, 772, 780, 789, 1176, 1336, 2055, 2076, 2089, 2118, 2124, 2384, 2453, 2503, 2937, 2977, 3910, 6821, 14252		\IntCalcMod . . 1424, 1433, 1439, 1543, 1549, 1564, 1580, 1595, 1609, 1611, 2278, 2283, 2284, 2290, 2293, 2295
\ifHy@useHidKey . . . 3743, 9789, 10782, 11306, 11600		\intcalcMod . . . . . 1414
\ifHy@verbose . 427, 4908, 4924, 4936, 5487, 8321, 9181		\intcalcNum . . . 2484, 2512, 2516
\ifHyField@NeedAppearances . . . . . 5928, 5930, 5933, 12989, 13472, 13844		\IntCalcSub . . . 2478, 2531, 2534, 2537, 2540
\ifHyInfo@AddonUnsupported . . . . . 4052, 4066, 4101		\intcalcSub . . . . . 2270, 2460
\IfHyperBoolean . . . . . 2723		\interfootnotelinepenalty . . 7721
\IfHyperBooleanExists 2717, 2724		\interleave . . . . . 19895, 21087
\ifHyPsd@XeTeXBigChars . 836, 838, 841, 844		\interlinepenalty . . . . . 7721
\ifin@ . . . . . 7039		\inva . . . . . 16383, 21174

`\invneg` ..... 19755, 21025  
`\invr` ..... 16528, 21214  
`\invsr` ..... 16555, 20304  
`\invsrta` ..... 16391, 21176  
`\invv` ..... 16590, 21228  
`\invw` ..... 16594, 21230  
`\invy` ..... 16598, 21232  
`\iota` ..... 16848, 20336  
`\ipagamma` ..... 16450, 20295  
`\isuperior` ..... 20378  
`\item` ... 6949, 6952, 8009, 8021, 8124  
`\Itemautorefname` ..... 9072  
`\itemautorefname` .. 3297, 3315, 3333, 3351, 3369, 3387, 3405, 3434, 3435, 3463, 3481, 9072, 9073, 9076  
`\itemindent` ..... 7559  
`\itshape` ..... 600

## J

`\j` ..... 16020, 16278, 16369  
`\JackStar` ..... 19468, 20903  
`\JackStarBold` .... 19470, 20904  
`\jarr` ..... 20225  
`\jeem` ..... 20169  
`\jeh` ..... 20241  
`\jinferior` ..... 21091  
`\jobname` .... 6441, 6478, 6485, 12812, 14716, 14807, 14814, 14841, 14886, 14888, 14896  
`\Join` ..... 19738, 21018  
`\Jupiter` ..... 19256, 21400  
`\jupiter` ..... 19254, 20828

## K

`\k` .. 15120, 15467, 15469, 15474, 15476, 15521, 15550, 15577, 15592, 15908, 15910, 15954, 15956, 16004, 16006, 16007, 16144, 16146, 16274, 16276, 17268, 17310, 17313  
`\kaf` ..... 20205  
`\kappa` ..... 16850, 20337  
`\kasra` ..... 20231  
`\keepPDF@SetupDoc` ... 12403, 12410  
`\kern` ... 1949, 2030, 2035, 2047, 7559, 8271, 8272, 8273, 8275, 8276, 8281, 14936  
`\kernel@ifnextchar` ..... 691  
`\Keyboard` ..... 18912, 20760  
`\kha` ..... 20173  
`\kinferior` ..... 20412  
`\Kutline` ..... 19126, 21364  
`\KV@href@pdfnewwindow` . 4999  
`\KV@href@pdfnewwindow@de-fault` ..... 5000

`\KV@Hyp@draft` ..... 2832  
`\KV@Hyp@nolinks` ..... 2832  
`\KV@Hyp@pdfnewwindow` . 4999  
`\KV@Hyp@pdfnewwindow@de-fault` ..... 5000  
`\kv@key` 4060, 4063, 4070, 5764, 5767, 5769, 5773, 5777  
`\kv@parse` ..... 5763  
`\kv@parse@normalized` 4085, 4092  
`\kv@processor@default` 4088, 4095  
`\kv@set@family@handler` .. 4053  
`\kv@value` 4058, 5765, 5772, 5773  
`\kvsetkeys` 3020, 3074, 3194, 3916, 4033, 4359, 4597, 4615, 4732, 5862, 9174, 11783, 13006, 13251, 13264, 13313, 13356, 13377, 13451, 13827

## L

`\L` ..... 15232, 16044  
`\l` ..... 15245, 16046  
`\l@slide` . 8661, 8771, 8776, 8780, 8787  
`\l@subslide` 8713, 8776, 8783, 8827  
`\labdentalnas` .... 16500, 21207  
`\label` ..... 659, 8294  
`\label@hyperref` ... 5084, 5086  
`\label@hook` ..... 5400  
`\label@hyperdef` .... 5070, 5100  
`\label@hyperref` 5051, 5083, 5423  
`\label@name` .. 5365, 5375, 5401  
`\labelsep` ..... 8136  
`\labelwidth` ..... 8135  
`\Ladiesroom` .... 19981, 21115  
`\lam` ..... 20207  
`\Lambda` ..... 16787, 20320  
`\lambda` ..... 16852, 20338  
`\lambdabar` ..... 16206, 21163  
`\lambdaslash` .... 16207, 21164  
`\langle` ..... 18914, 20761  
`\language@group` ..... 638  
`\languageshorthands` 1033, 1034, 1068  
`\LARGE` ..... 607  
`\Large` ..... 608  
`\large` 611, 8793, 8801, 8811, 8819  
`\LargerOrEqual` ... 18560, 21317  
`\lastbox` ..... 7557  
`\lastpage@putlabel` ..... 7175  
`\lastskip` 2674, 2678, 2685, 2693, 2697, 2704  
`\LaTeX` . 564, 566, 12818, 12819  
`\LaTeXe` ..... 565, 12819  
`\latfric` ..... 16482, 21201  
`\LayoutCheckField` 6242, 13212, 13753, 14128  
`\LayoutChoiceField` 6239, 13085, 13601, 13949

`\LayoutPushButtonField` . 6245, 13144, 13151, 13674, 13681, 14037, 14046  
`\LayoutTextField` . 6236, 13032, 13546, 13891  
`\lbrackdbl` ..... 20955  
`\lccode` ..... 351, 356, 867, 1346, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2307, 6114, 8506, 8507, 14641, 14642, 14643, 14644, 14645, 14646, 14647, 14648, 14649, 14650, 14651  
`\lcurvearrowdown` . 19634, 20979  
`\lcurvearrowse` .... 19626, 20976  
`\lcurvearrowsw` ... 19629, 20977  
`\ldots` ..... 559  
`\le` ..... 18552, 20607  
`\leadsto` ..... 19620, 20974  
`\leavevmode` .. 668, 2629, 4344, 4362, 4402, 5132, 5164, 5232, 6410, 7647, 7806, 8043, 8931, 8939, 8970, 9395, 9466, 9504, 9541, 9874, 9976, 10056, 10093, 10133, 10484, 10525, 10562, 10594, 10830, 10839, 10893, 11047, 11072, 11102, 11135, 11511, 11837, 12087, 12114, 12145, 12468, 12743, 13033, 13145, 13152, 13185, 13213, 13547, 13633, 13655, 13675, 13682, 13703, 13723, 13754, 13892, 13984, 14015, 14038, 14047, 14071, 14090, 14129, 14934  
`\Leftarrow` ..... 18264, 20484  
`\leftarrow` ..... 20434  
`\leftarrowtail` .... 18181, 20452  
`\leftarrowtriangle` . 18312, 20504  
`\leftbarharpoon` ... 19671, 20991  
`\LEFTCIRCLE` ... 19163, 20798  
`\leftharpoondown` . 18212, 20465  
`\leftharpoonup` ... 18209, 20464  
`\leftleftarrows` .... 18241, 20475  
`\leftleftharpoons` .. 19659, 20987  
`\leftModels` ..... 19880, 21457  
`\leftmodels` ..... 19873, 21455  
`\leftmoon` ..... 19232, 20823  
`\leftpointright` .... 19206, 21380  
`\Leftrightarrow` ... 18275, 20488  
`\leftrightarrow` .... 18150, 20438  
`\leftrightarrows` ... 18239, 20474  
`\leftrightarrowtriangle` ... 18316, 20506  
`\leftrightharpoon` .. 19648, 20983

<code>\leftrightharpoons</code> .	18250, 20479	<code>\lneqq</code> . . . . .	18569, 20614	13308, 13402, 13499, 13500,
<code>\Leftscissors</code> . . . . .	19407, 21431	<code>\lnsim</code> . . . . .	18857, 20736	13501, 13528, 13852, 13869
<code>\leftslice</code> . . . . .	19817, 21052	<code>\Longleftarrow</code> . . .	19596, 20962	<code>\ltx@firstofone</code> 3063, 5396, 5413,
<code>\leftspoon</code> . . . . .	19577, 20954	<code>\longleftarrow</code> . . . .	19590, 20959	6472, 14669, 14681
<code>\leftsquigarrow</code> . . .	18292, 20496	<code>\Longletrightarrow</code>	19600, 20964	<code>\ltx@firstoftwo</code> . . . . . 245, 338,
<code>\lefttherefore</code> . . . .	17930, 20374	<code>\longletrightarrow</code>	19594, 20961	346, 2471, 2719, 2726, 4807,
<code>\leftthreetimes</code> . . . .	18791, 20707	<code>\longlegr</code> . . . . .	20302	5288, 7606, 7626
<code>\LeftTorque</code> . . . . .	19641, 21440	<code>\Longmapsfrom</code> . . .	19604, 20966	<code>\ltx@GlobalAppendToMacro</code> . . .
<code>\Lefttorque</code> . . . . .	19642, 21441	<code>\Longmapsto</code> . . . . .	19606, 20967	. . . . . 1017, 5400
<code>\leftVdash</code> . . . . .	19867, 21453	<code>\longmapsto</code> . . . . .	19602, 20965	<code>\ltx@gobble</code> 273, 3069, 4320, 4329,
<code>\leftvdash</code> . . . . .	18712, 21330	<code>\Longrightarrow</code> . .	19598, 20963	4680, 5392, 5394, 6370,
<code>\legm</code> . . . . .	16497, 21206	<code>\longrightarrow</code> . . .	19592, 20960	6371, 6382, 6384, 6385,
<code>\legr</code> . . . . .	16540, 21218	<code>\looparrowleft</code> . . .	18191, 20457	6758, 12792, 13414, 14667,
<code>\Leo</code> . . . . .	19283, 21409	<code>\looparrowright</code> . . .	18193, 20458	14679
<code>\leo</code> . . . . .	19281, 20837	<code>\lower</code> 5139, 9983, 10063, 10100,		<code>\ltx@gobblefour</code> . . . . . 315
<code>\leq</code> . . . . .	18552, 20606	10140, 11865, 12475, 12750		<code>\ltx@gobblethree</code> . . . . . 8231
<code>\leqclosed</code> . . . . .	18763, 21346	<code>\lowercase</code> . . . . .	352, 357,	<code>\ltx@gobbletwo</code> 5412, 6373, 6387
<code>\leqq</code> . . . . .	18561, 20610	887, 1347, 2167, 2308, 2734,		<code>\ltx@ifclassloaded</code> . . 6611, 8192
<code>\leqslant</code> . . . . .	19782, 21036	3241, 3271, 4000, 4036,		<code>\ltx@ifempty</code> . . . . . 5178
<code>\lessapprox</code> . . . . .	19790, 21040	5436, 5437, 5440, 5445,		<code>\ltx@iffileloaded</code> . . . . 990, 6570
<code>\lessclosed</code> . . . . .	18757, 21344	5469, 5479, 5533, 5589,		<code>\ltx@ifpackagelater</code> . . 349, 9909
<code>\lessdot</code> . . . . .	18821, 20720	5909, 5982, 5985, 6115,		<code>\ltx@ifpackageloaded</code> 1313, 6477,
<code>\lesseqgtr</code> . . . . .	18830, 20724	8508, 11561, 14652		13504
<code>\lesseqgtr</code> . . . . .	19808, 21048	<code>\lozenge</code> . . . . .	19161, 20797	<code>\ltx@ifUndefined</code> . 239, 279, 285,
<code>\lessgtr</code> . . . . .	18602, 20629	<code>\lrcorner</code> . . . . .	18906, 20757	314, 637, 681, 757, 792, 910,
<code>\LessOrEqual</code> . . . .	18555, 21316	<code>\slide@flag</code> . . 8788, 8791, 8809,		911, 912, 1076, 1082, 1088,
<code>\lesssim</code> . . . . .	18592, 20625	8828, 8832		1093, 1098, 1105, 1111,
<code>\LetLtxMacro</code> 6357, 6361, 6427,		<code>\LT@array</code> . . . . .	7300	1117, 1122, 1128, 1133,
6431		<code>\LT@foot</code> . . . . .	7315, 7319	1143, 1149, 1155, 1161,
<code>\Letter</code> . . . . .	19420, 21432	<code>\LT@p@ftn</code> 7679, 7682, 7686, 7696		1300, 1306, 1683, 1778,
<code>\LHD</code> . . . . .	19156, 20795	<code>\LT@p@ftntext</code> . . . . 7677, 7684		1779, 1931, 2581, 2614,
<code>\lhd</code> . . . . .	18755, 20693	<code>\LT@start</code> . . . . .	7317, 7327	4315, 4317, 4405, 4406,
<code>\hooknwarrow</code> . . .	19612, 20970	<code>\ltimes</code> . . . . .	18786, 20705	4407, 4806, 4807, 5003,
<code>\hooksearrow</code> . . . .	19616, 20972	<code>\ltx@backslashchar</code> 319, 320, 321,		5361, 5392, 6533, 6933,
<code>\Libra</code> . . . . .	19289, 21411	322, 323, 324, 325, 326, 327,		7033, 7040, 7062, 7077,
<code>\libra</code> . . . . .	19287, 20839	328, 329, 331		7408, 7945, 8210, 8959,
<code>\Lightning</code> . . . . .	18199, 21286	<code>\ltx@empty</code> . . . . .	371, 372,	8960, 9005, 9006, 9008,
<code>\lightning</code> . . . . .	18197, 20460	475, 1937, 3043, 3218, 3226,		9009, 9179, 9210, 9443,
<code>\limits</code> . . . . .	4891	3595, 3740, 4123, 4147,		9453, 9851, 10937, 10994,
<code>\linferior</code> . . . . .	20413	4154, 4253, 4254, 4257,		11097, 11487, 11530, 11621,
<code>\listofslides</code> . . . . .	8762	4258, 4259, 4260, 4261,		11798, 13502, 14968, 14978
<code>\listslidenam</code> 8761, 8764, 8766,		4262, 4266, 4267, 4590,		<code>\ltx@ifundefined</code> 2528, 2718, 2719,
8768		4600, 4692, 5183, 5349,		2762, 5404, 7566, 8226, 9239
<code>\literalps@out</code> 2627, 11434, 11439,		5370, 5393, 5634, 5652,		<code>\ltx@leftbracechar</code> . . . . 329, 353
11491, 11497, 11523, 11529,		5666, 5679, 5695, 5727,		<code>\ltx@LocalAppendToMacro</code> 366,
11794, 11805, 11834, 11835,		5752, 5759, 5760, 6101,		369, 7025, 7041, 7046
11863, 11865, 11877, 11879,		6139, 6140, 6141, 6142,		<code>\ltx@one</code> . 244, 6613, 6614, 6621,
12174, 12257, 12320, 12517		6143, 6144, 6145, 6146,		8195, 8199, 8205, 8208,
<code>\ll</code> . . . . .	18573, 20616	6147, 6148, 6149, 6556,		8209, 8222, 9201, 13508
<code>\llap</code> . . . . .	5137	6557, 6558, 6561, 6573,		<code>\ltx@onelevel@sanitize</code> 7016, 7035
<code>\llbracket</code> . . . . .	19581, 21436	6582, 6599, 6604, 6610,		<code>\ltx@ReturnAfterElseFi</code> . . . 4873
<code>\llcorner</code> . . . . .	18904, 20756	6619, 6639, 7366, 8348,		<code>\ltx@ReturnAfterFi</code> . . . . .
<code>\Lleftarrow</code> . . . . .	18288, 20494	8359, 8368, 9194, 9214,		499, 2105, 4877, 4893, 8601,
<code>\lll</code> . . . . .	18825, 20722	9217, 9916, 10820, 10907,		8637, 9125, 9135, 14223
<code>\llparenthesis</code> . . . .	19690, 20998	11515, 11821, 11842, 12173,		<code>\ltx@rightbracechar</code> . . . 330, 358
<code>\lnapprox</code> . . . . .	19803, 21046	12256, 12514, 12678, 12685,		<code>\ltx@secondoftwo</code> . 240, 247, 251,
<code>\lneq</code> . . . . .	19798, 21044	13008, 13015, 13226, 13261,		335, 2473, 2718, 2719, 2728,



2730, 4806, 4807, 4809,  
5286, 7608, 7628  
`\ltx@space` . . . . . 332, 1834  
`\ltx@zero` 2161, 2162, 2163, 2164,  
2165, 2166, 9189, 9196,  
13506  
`\luatexrevision` . . . . . 9625  
`\luatexversion` . . . . . 9617, 9622  
`\lz` . . . . . 16489, 21203

## M

`\m@ne` . . 4423, 4927, 4986, 5451,  
7220, 7428, 10479, 14888,  
14977, 14992  
`\make@df@tag@@` . . . 8421, 8423  
`\make@df@tag@@@` . . 8422, 8424  
`\make@stripped@name` . . 6999,  
7356, 7387, 7415, 7426  
`\makeatletter` 3, 960, 1013, 6476  
`\MakeButtonField` . 6252, 13146,  
13154, 13172, 13190, 13195,  
13676, 13686, 13711, 13728,  
13735, 14039, 14042, 14070,  
14095, 14099  
`\MakeCheckField` . 6249, 13215,  
13758, 14125  
`\MakeChoiceField` . 6251, 13130,  
13659, 14013  
`\MakeFieldObject` 13395, 13482,  
13492, 13495  
`\MakeLowercase` . . . . . 628  
`\MakeLowercaseUnsupportedIn-`  
`PdfStrings` . . . . . 628  
`\MakeRadioField` . . 6248, 13118,  
13645, 13977  
`\makeslideheading` . . . . . 8671  
`\makeslidesubheading` . . . 8723  
`\maketag@@@` . . . . . 8410  
`\MakeTextField` . . . 6250, 13035,  
13551, 13888  
`\maketitle` . . . . . 7756, 7757  
`\MakeUppercase` 627, 8766, 8768,  
8922  
`\MakeUppercaseUnsupportedIn-`  
`PdfStrings` . . . . . 627  
`\Male` . . . . . 19253, 21399  
`\male` . . . . . 19249, 20827  
`\MaleMale` . . . . . 19370, 20864  
`\ManFace` . . . . . 19967, 21109  
`\manstar` . . . . . 19364, 20861  
`\mapsto` . . . . . 18185, 20454  
`\Mars` . . . . . 19252, 21398  
`\mars` . . . . . 19251, 21397  
`\MathBSuppress` . . 10840, 10844  
`\mathclose` . . . . . 7369  
`\mathdisplay` . . . . . 7337, 7346  
`\mathdisplay@push` . 7335, 7344

`\mathdollar` . . . . . 15618, 21130  
`\mathellipsis` . . . . . 17901, 21264  
`\mathopen` . . . . . 7360, 7391  
`\mathparagraph` . . 15740, 21141  
`\mathsection` . . . . 15708, 21139  
`\mathsterling` . . . . 15697, 21136  
`\mathunderscore` . . 15676, 21134  
`\mathversion` . . . . . 616  
`\maxdimen` . . . . . 3675, 13400  
`\MaybeStopEarly` 476, 3077, 3152,  
4470, 4575, 6908, 6911  
`\mbox` . . . 669, 8056, 8079, 9346,  
10451  
`\mddefault` . . . 7468, 7496, 7527  
`\mdseries` . . . . . 599  
`\meaning` . . . . . 62, 153,  
159, 2590, 6517, 7136, 7433,  
14852, 14860, 14875  
`\measuredangle` . . . 18382, 20535  
`\measuring@false` . . . . . 6994  
`\mediaheight` . . . . 10931, 10933,  
10939, 10946  
`\mediawidth` . . . . 10942, 10949  
`\meem` . . . . . 20209  
`\Mercury` . . . . . 19238, 21390  
`\mercury` . . . . . 19236, 20825  
`\merge` . . . . . 19769, 21452  
`\message` . . . . . 8789  
`\MessageBreak` . . . . .  
281, 287, 301, 302, 341, 342,  
507, 2061, 2082, 2095, 2118,  
2123, 2125, 2756, 2757,  
2771, 2793, 2796, 2798,  
2876, 2877, 2903, 2904,  
2949, 2950, 2951, 2989,  
2990, 3010, 3025, 3066,  
3091, 3124, 3162, 3169,  
3180, 3186, 3263, 3605,  
3736, 3737, 3799, 3800,  
3818, 3819, 3913, 3955,  
3963, 4013, 4068, 4069,  
4179, 4180, 4282, 4504,  
4505, 4513, 4514, 4530,  
4531, 4546, 4547, 4555,  
4556, 4735, 4980, 4981,  
5005, 5006, 5022, 5023,  
5490, 5495, 5504, 5547,  
5593, 5717, 5830, 5902,  
5913, 5945, 5946, 5965,  
6073, 6074, 6075, 6076,  
6589, 6824, 6839, 6840,  
7183, 8298, 8328, 8329,  
8330, 8331, 8332, 8480,  
9184, 9202, 9221, 9223,  
9229, 9231, 9234, 9241,  
9399, 10489, 11023, 11106,

11400, 11406, 11630, 13408,  
13410, 14588, 14606, 14719  
`\MF` . . . . . 574, 12821  
`\mho` . . . . . 20425  
`\mid` . . . . . 18389, 20537  
`\MineSign` . . . . . 19349, 20854  
`\mininferior` . . . . . 20414  
`\minusdot` . . . . . 19745, 21021  
`\minusinferior` . . . . . 20402  
`\minussuperior` . . . . . 20386  
`\models` . . . . . 18729, 21335  
`\moo` . . . . . 20997  
`\Moon` . . . . . 19965, 21108  
`\MoonPha` . . . 2487, 2492, 2495,  
2501, 21129  
`\Mountain` . . . . . 19396, 20872  
`\MoveDown` . . . . . 19146, 21370  
`\MoveUp` . . . . . 19131, 21367  
`\MP` . . . . . 575, 12822  
`\mp` . . . . . 18357, 20524  
`\mu` . . . . . 16854  
`\mugreek` . . . . . 20339  
`\multimap` . . . . . 18773, 20699  
`\multimapboth` . . . 19728, 21013  
`\multimapdotbothA` 18769, 20697  
`\multimapdotbothB` 18771, 20698  
`\MultiplicationDot` 15743, 21142  
`\multiply` . . . 9621, 11287, 11322  
`\Mundus` . . . . . 19963, 21107  
`\MVAarrowDown` . . 18148, 21282  
`\MVAt` . . . . . 15668, 20271  
`\MVComma` . . . . . 15636, 20257  
`\MVDivision` . . . . 15642, 20260  
`\MVEight` . . . . . 15660, 20269  
`\MVFive` . . . . . 15654, 20266  
`\MVFour` . . . . . 15652, 20265  
`\MVMinus` . . . . . 15638, 20258  
`\MVMultiplication` 15810, 21145  
`\MVNine` . . . . . 15662, 20270  
`\MVOne` . . . . . 15646, 20262  
`\MVPeriod` . . . . . 15640, 20259  
`\MVPlus` . . . . . 15634, 20256  
`\MVRightArrow` . . 18144, 21280  
`\MVRightarrow` . . . 18145, 21281  
`\MVSeven` . . . . . 15658, 20268  
`\MVSix` . . . . . 15656, 20267  
`\MVThree` . . . . . 15650, 20264  
`\MVTwo` . . . . . 15648, 20263  
`\MVZero` . . . . . 15644, 20261

## N

`\n` . . . . . 878  
`\nabla` . . . . . 18333, 20514  
`\name@of@eq` . . . . . 6967, 6997  
`\name@of@slide` . . . 6968, 6978  
`\nameref` . . . . . 666, 4811, 4815  
`\napprox` . . . . . 18472, 20572

<code>\napproxeq</code> . . . . .	18477, 20574	407, 408, 409, 410, 411, 412,	<code>\nLeftrightarrow</code> . .	18258, 20482
<code>\nasb</code> . . . . .	20221	413, 414, 415, 416, 417, 418,	<code>\nlefterightarrow</code> . .	18195, 20459
<code>\nasymp</code> . . . . .	18490, 20580	419, 420, 421, 422, 423, 424,	<code>\nleftVdash</code> . . . . .	19870, 21454
<code>\natural</code> . . . . .	19337, 20849	425, 426, 427, 430, 431, 432,	<code>\nleftvdash</code> . . . . .	18715, 21331
<code>\nbackcong</code> . . . . .	18486, 20578	836, 1075, 3021, 3042, 3743,	<code>\nleq</code> . . . . .	18588, 20623
<code>\nbacksim</code> . . . . .	18450, 20562	4052, 4647, 5001, 5443,	<code>\nleqq</code> . . . . .	18563, 20611
<code>\nbacksimeq</code> . . . . .	18797, 20710	5531, 5864, 5865, 5885,	<code>\nleqslant</code> . . . . .	19784, 21037
<code>\nBumpeq</code> . . . . .	18495, 20582	5928, 6969, 6970, 6994,	<code>\nless</code> . . . . .	18583, 20621
<code>\nbumpeq</code> . . . . .	18499, 20584	7374, 10819, 11776	<code>\nlessapprox</code> . . . . .	19792, 21041
<code>\ncirceq</code> . . . . .	18531, 20598	<code>\newlabel</code> 2593, 5110, 6454, 6455,	<code>\nlessclosed</code> . . . . .	18867, 21357
<code>\ncong</code> . . . . .	18468, 20570	6463, 6490, 7205, 7233	<code>\nlessgtr</code> . . . . .	18608, 20632
<code>\ncurlyeqprec</code> . . . . .	18837, 20727	<code>\newlabelxx</code> . . . . .	<code>\nlesssim</code> . . . . .	18598, 20627
<code>\ncurlyeqsucc</code> . . . . .	18841, 20729	6456, 6457	<code>\nll</code> . . . . .	18575, 20617
<code>\nDashV</code> . . . . .	19881, 21081	<code>\newlength</code> . . . . .	<code>\nmid</code> . . . . .	18391, 20538
<code>\nDashv</code> . . . . .	19874, 21079	14927	<code>\nmodels</code> . . . . .	18748, 21341
<code>\ndashV</code> . . . . .	19868, 21077	<code>\newline</code> . . . . .	<code>\noboundary</code> . . . . .	20251
<code>\ndashv</code> . . . . .	18713, 20679	562, 6538	<code>\nobreak</code> 2675, 2683, 2694, 2702,	
<code>\nDoteq</code> . . . . .	18509, 20588	<code>\newname</code> 7000, 7357, 7388, 7416,	7648, 7807	
<code>\ndoteq</code> . . . . .	18503, 20586	7429, 7438	<code>\nobreakspace</code> .	680, 8934, 8963,
<code>\ndownmodels</code> . . . . .	19886, 21083	<code>\newsavebox</code> . . . . .	8966	
<code>\ndownvdash</code> . . . . .	18719, 20681	10287, 11813	<code>\NoChemicalCleaning</code> . . .	19708,
<code>\ne</code> . . . . .	18541, 20603	<code>\newtie</code> . . .	21004	
<code>\Narrow</code> . . . . .	18282, 20491	15122, 15123, 15560,	<code>\noexpand</code> .	22, 93, 95, 108, 116,
<code>\narrow</code> . . . . .	18156, 20441	15587, 15605		169, 171, 172, 173, 176, 206,
<code>\neg</code> . . . . .	21120	<code>\newtoks</code> 90, 5956, 11648, 11888,		856, 1021, 1360, 1793, 1810,
<code>\Neptune</code> . . . . .	19265, 21403	11889		1940, 1967, 2321, 2681,
<code>\neptune</code> . . . . .	19263, 20831	<code>\newwrite</code> . .		2682, 2683, 2686, 2700,
<code>\neq</code> . . . . .	18541, 20602	6484, 14812, 14894		2701, 2702, 2705, 3524,
<code>\neqcirc</code> . . . . .	18527, 20596	<code>\nexists</code> . . . . .		3526, 3528, 3529, 3530,
<code>\neqdot</code> . . . . .	19778, 21034	18326, 20511		3532, 3548, 3754, 3755,
<code>\neqsim</code> . . . . .	18459, 20566	<code>\next</code> . .		3757, 4118, 4425, 4429,
<code>\nequal</code> . . . . .	18544, 21312	8130, 8131, 8132, 11250,		4430, 4597, 4885, 5058,
<code>\nequiv</code> . . . . .	18548, 20605	11252, 11254		5327, 5329, 5355, 5499,
<code>\neswarrow</code> . . . . .	19610, 20969	<code>\nfallingdoteq</code> . . . . .		6046, 6059, 6713, 6714,
<code>\netscape</code> . . . . .	10019	20590		6723, 6725, 6728, 6853,
<code>\Neural</code> . . . . .	19376	<code>\nfallingdotseq</code> . . . . .		7019, 7020, 7037, 7217,
<code>\Neutral</code> . . . . .	20867	18514		7218, 7220, 7245, 7246,
<code>\new@ifnextchar</code> . . . . .	692	<code>\nfss@text</code> 8843, 8863, 8880, 8998		7247, 7248, 7249, 7257,
<code>\new@pdfink</code> . .	9374, 9431, 9434	<code>\NG</code> . . . . .		7258, 7259, 7432, 7670,
<code>\new@refstepcounter</code>	7329, 7363	16062		7680, 7688, 7689, 7690,
<code>\newblock</code> . . . . .	8140	<code>\ng</code> .		7692, 7816, 7906, 7981,
<code>\newcommand</code> . . . . .	4, 9,	16064, 16065, 16066, 21153,		7996, 8012, 8197, 8346,
	42, 2628, 5124, 5130, 5162,	21154		8440, 8442, 8896, 8897,
	5360, 5383, 6414, 6418,	<code>\ngeq</code> . . . . .		9014, 9015, 9020, 9022,
	7876, 8448, 14689, 14692,	18590, 20624		9027, 9028, 9033, 9034,
	14697, 20255, 21126	<code>\ngeqq</code> . . . . .		9624, 10225, 11713, 11780,
<code>\newcount</code> . . . . .	477,	18567, 20613		12317, 12568, 13060, 13061,
	478, 2633, 4971, 5868, 6600,	<code>\ngeqslang</code> . . . . .		13062, 13063, 13575, 13576,
	13126, 13505, 13652, 13858,	19788		13577, 13578, 13923, 13924,
	14009, 14724	<code>\ngeqslant</code> . . . . .		13925, 13926, 14202
<code>\newcounter</code> .	6950, 7581, 10357,	21039		<code>\noexpandQ</code> . . . . .
	14639	<code>\ngg</code> . . . . .		1967
<code>\newdimen</code>	474, 5120, 5869, 5870	18579, 20619		<code>\nofrenchguillemets</code> . . .
<code>\newif</code> . .	382, 383, 384, 385, 386,	<code>\ngtr</code> . . . . .		699, 701
	387, 388, 389, 390, 391, 392,	18585, 20622		<code>\NoHy@OrgPageRef</code>
	393, 394, 397, 398, 399, 400,	<code>\ngtrapprox</code> . . . . .		6361, 6363,
	401, 402, 403, 404, 405, 406,	19796, 21043		6431, 6433
		<code>\ngtrclosed</code> . . . . .		<code>\NoHy@OrgRef</code>
		18870, 21358		6357, 6359, 6427,
		<code>\ngtrless</code> . . . . .		6429
		18606, 20631		<code>\NoHyper</code> . . . . .
		<code>\ngtrsim</code> . . . . .		6365
		18600, 20628		
		<code>\nhateq</code> . . . . .		
		18537, 20600		
		<code>\ni</code> . . . . .		
		18341, 20518		
		<code>\NibRight</code> . . . . .		
		19432, 20886		
		<code>\NibSolidRight</code> . . .		
		19434, 20887		
		<code>\niepsilon</code> . . . . .		
		16422, 20290		
		<code>\niota</code> . . . . .		
		16471, 20298		
		<code>\nineinferior</code> . . . . .		
		20400		
		<code>\ninesuperior</code> . . . . .		
		20384		
		<code>\ninferior</code> . . . . .		
		20415		
		<code>\nphi</code> . . . . .		
		16524, 20301		
		<code>\niupsilon</code> . . . . .		
		16582, 20307		
		<code>\nj</code> . . . . .		
		16504, 21209		
		<code>\nLeftarrow</code> . . . . .		
		18256, 20481		
		<code>\nleftarrow</code> . . . . .		
		18164, 20444		
		<code>\nleftModels</code> . . . . .		
		19883, 21458		
		<code>\nleftmodels</code> . . . . .		
		19876, 21456		

<code>\nohyperpage</code>	6409, 8591, 8593, 8595	<code>\nsuperior</code>	20390	<code>\narrow</code>	18154, 20440
<code>\nolinkurl</code>	5037	<code>\nSupset</code>	18811, 20716	<code>\nwsearrow</code>	19608, 20968
<code>\nolinkurl@</code>	5037, 5038	<code>\nsupset</code>	18636, 20646	<b>O</b>	
<code>\NomFancyVerbLineautorefname</code>	3452	<code>\nsupseteq</code>	18644, 20650	<code>\O</code>	15365, 15812, 16294
<code>\Nomfootnoteautorefname</code>	3432	<code>\nsupseteqq</code>	19863, 21075	<code>\o</code>	15434, 15882, 16297
<code>\Nomtheoremautorefname</code>	3456	<code>\nthickapprox</code>	18474, 21306	<code>\oasterisk</code>	18696, 21328
<code>\nonumber</code>	7403, 7406	<code>\ntriangleleft</code>	18865, 20740	<code>\obackslash</code>	19702, 21444
<code>\normalfont</code>	594, 7462, 7490, 7523	<code>\ntrianglelefteq</code>	18872, 20742	<code>\obar</code>	19696, 21001
<code>\normalsize</code>	612, 7852, 7924	<code>\ntriangleright</code>	18868, 20741	<code>\obeylines</code>	12316
<code>\notasymp</code>	18492, 21308	<code>\ntrianglerighteq</code>	18875, 20743	<code>\OBJ@acroform</code>	13478, 13479
<code>\notbackslash</code>	18928, 20766	<code>\ntriplesim</code>	18482, 20576	<code>\OBJ@Helv</code>	13457, 13466, 13817
<code>\NotCongruent</code>	18550, 21314	<code>\ntwoheadleftarrow</code>	18170, 20447	<code>\OBJ@OCG@print</code>	9289, 9292, 9300, 9327, 10375, 10377, 10390, 10394, 10403, 10432
<code>\notdivides</code>	18393, 21297	<code>\ntwoheadrightarrow</code>	18177, 20450	<code>\OBJ@OCG@view</code>	9274, 9292, 9326, 10359, 10361, 10374, 10394, 10431
<code>\note</code>	8240	<code>\nu</code>	16856, 20340	<code>\OBJ@OCGs</code>	9295, 9298, 9304, 9309, 9314, 10391, 10393, 10397, 10401, 10407, 10412, 10417
<code>\notequiv</code>	18551, 21315	<code>\null</code>	8121, 8129, 8885, 8994	<code>\OBJ@pdfdocencoding</code>	13455, 13798, 13814
<code>\notin</code>	18337, 20516	<code>\number</code>	1194, 1198, 1201, 1209, 1212, 1214, 1519, 1521, 1548, 1549, 2267, 2325, 2326, 2327, 2328, 2332, 2333, 2334, 2335, 2336, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2350, 2351, 2352, 2353, 2354, 2355, 2358, 2360, 2364, 2365, 2367, 2369, 2371, 2374, 2378, 2379, 2380, 2381, 2390, 2391, 2395, 2396, 2403, 2404, 2408, 2411, 2412, 2413, 2423, 2425, 2426, 2431, 2433, 2434, 2439, 2440, 4138, 4649, 4666, 5457, 7067, 7070, 7113, 7114, 7117, 7121, 9252, 9255, 10047, 10065, 10066, 10081, 10082, 10102, 10103, 10119, 10120, 10142, 10143, 10159, 10160	<code>\OBJ@ZaDb</code>	13456, 13465, 13807
<code>\notni</code>	18346, 21292	<code>\numberline</code>	7845, 7917, 14611, 14616	<code>\obot</code>	19705, 21003
<code>\notowner</code>	18344, 20519	<code>\numberwithin</code>	8445	<code>\obslash</code>	19699, 21002
<code>\notperp</code>	19571, 20951	<code>\numexpr</code>	2332, 2333, 2334, 2336, 2342, 2350, 2351, 2352, 2353, 2354, 2355, 2359, 2361, 2365, 2367, 2369, 2371, 2375, 2378, 2379, 2381, 2390, 2395, 2412, 2426, 2434, 2440, 4142	<code>\ocirc</code>	18691, 21325
<code>\notslash</code>	18925, 20765	<code>\nun</code>	20211	<code>\OCIRCUMFLEX</code>	20021, 20119, 20120, 20121, 20122, 20123
<code>\noway</code>	19394, 20871	<code>\nupmodels</code>	19890, 21085	<code>\ocircumflex</code>	20015, 20059, 20060, 20061, 20062, 20063
<code>\nparallel</code>	18396, 20540	<code>\nupvdash</code>	18724, 20683	<code>\oddsidemargin</code>	8277
<code>\nperp</code>	18726, 21334	<code>\nVDash</code>	18752, 20692	<code>\odiv</code>	19753, 21024
<code>\nprec</code>	18626, 20641	<code>\nVdash</code>	18749, 20691	<code>\odot</code>	18686, 20669
<code>\nprecapprox</code>	19847, 21067	<code>\nvDash</code>	18745, 20690	<code>\odplus</code>	19707, 21446
<code>\nprec curlyeq</code>	18843, 20730	<code>\nvdash</code>	18742, 20689	<code>\OE</code>	15234, 16080
<code>\npreceq</code>	19823, 21055	<code>\nVdash</code>	18736, 20687	<code>\oe</code>	15247, 16082
<code>\npreceqq</code>	19835, 21061	<code>\Nwarrow</code>	18280, 20490	<code>\offinterlineskip</code>	6564
<code>\nprec sim</code>	18620, 20638			<code>\ogreaterthan</code>	19713, 21006
<code>\nqsubseteq</code>	20732			<code>\OHORN</code>	20022, 20124, 20125, 20126, 20127, 20128
<code>\nqsupseteq</code>	20733			<code>\ohorn</code>	3479, 3486, 20016, 20064, 20065, 20066, 20067, 20068
<code>\NR@gettitle</code>	7842			<code>\oiint</code>	18423, 20551
<code>\nRightarrow</code>	18261, 20483			<code>\oinferior</code>	20408
<code>\nrightarrow</code>	18166, 20445			<code>\oint</code>	18420, 20550
<code>\nrightModels</code>	18754, 21343			<code>\ointclockwise</code>	18426, 20552
<code>\nrightmodels</code>	18747, 21340			<code>\ointctrlockwise</code>	18428, 20553
<code>\nrightVdash</code>	18751, 21342			<code>\oldb</code>	910
<code>\nrightvdash</code>	18744, 21339			<code>\oldc</code>	911
<code>\nrisingdoteq</code>	18519, 20592			<code>\oldcontentsline</code>	6449, 6452, 6462
<code>\nsim</code>	18455, 20564			<code>\oldd</code>	912
<code>\nsimeq</code>	18463, 20568			<code>\oldnewlabel</code>	6454, 6459, 6463
<code>\nsqsubset</code>	18656, 20656			<code>\olessthan</code>	19710, 21005
<code>\nsqsubseteq</code>	18664, 18847, 20660			<code>\OMEGA</code>	12817
<code>\nsqsupset</code>	18660, 20658			<code>\Omega</code>	16814, 20327
<code>\nsqsupseteq</code>	18668, 18849, 20662				
<code>\nSubset</code>	18807, 20714				
<code>\nsubset</code>	18634, 20645				
<code>\nsubseteq</code>	18642, 20649				
<code>\nsubseteqq</code>	19859, 21073				
<code>\nsucc</code>	18628, 20642				
<code>\nsuccapprox</code>	19851, 21069				
<code>\nsucc curlyeq</code>	18845, 20731				
<code>\nsucceq</code>	19827, 21057				
<code>\nsucceqq</code>	19839, 21063				
<code>\nsuccsim</code>	18624, 20640				

<code>\omega</code>	16880, 20351	14753, 14754, 14755, 14756,	<code>\PassOptionsToPackage</code>	3195,	
<code>\ominus</code>	18677, 20666	14757, 14758, 14759, 14760,		3252, 3256, 3278, 4309, 4616	
<code>\on@line</code>	8325, 8326	14761, 14762, 14763	<code>\pdf@addtoks</code>	11891, 11910,	
<code>\oneinferior</code>	20392	<code>\OrnamentDiamondSolid</code>		11916, 11925, 11932, 11936,	
<code>\onesuperior</code>	20275	<code>\oslash</code>		11938, 11940, 11942, 11944,	
<code>\oo</code>	19929, 21094	<code>\otimes</code>		11952, 11961, 11965, 11967,	
<code>\openbullet</code>	20800	<code>\ovee</code>		11969, 11972, 11981, 11985,	
<code>\openo</code>	16398, 20286	<code>\overlay</code>		11987, 11989, 11991, 11993,	
<code>\openout</code>	6441, 6485, 14814, 14896	<code>\owedge</code>		11995, 11997, 11999, 12001,	
<code>\oplus</code>	18674, 20665	<code>\owns</code>		12003, 12005, 12007, 12009,	
<code>\OpMode</code>	3147, 3150, 3163, 3176, 3181, 11339, 11442, 12261			12011, 12013, 12015, 12016,	
<code>\or</code>	336, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1280, 1281, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 1373, 1374, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, 1385, 1386, 1387, 1388, 1389, 1390, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1415, 1437, 1440, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1526, 1527, 1528, 1529, 1530, 1642, 1643, 1644, 2486, 2489, 2491, 2494, 5617, 5623, 5628, 5842, 7087, 7088, 7089, 7090, 7096, 7097, 7098, 7099, 8353, 8357, 8808, 8817, 11332, 14732, 14733, 14734, 14735, 14736, 14737, 14738, 14739, 14740, 14741, 14742, 14743, 14744, 14745, 14746, 14747, 14748, 14749, 14750, 14751, 14752,	<b>P</b>		12017, 12018, 12019, 12020, 12021, 12022, 12023, 12024, 12025, 12030	
		<code>\P</code>			
		<code>\p@</code>	2391, 2396, 5871, 5877, 7470, 7498, 7529, 9992, 10076, 10114, 10154, 11286, 12484, 12764, 13056, 13571, 13919, 15052, 15053	<code>\pdf@addtoksx</code>	11885, 11895, 11908
		<code>\p@equation</code>	8417	<code>\pdf@box</code>	11813, 11845, 11853, 11861, 11862, 11865, 11869, 11871, 11874
		<code>\PackageError</code>	61	<code>\pdf@defaulttoks</code>	11780, 11889, 11890, 11900
		<code>\PackageInfo</code>	9168, 9250, 13406	<code>\pdf@docset</code>	11648
		<code>\PackageWarning</code>	3024, 5828	<code>\pdf@endanchor</code>	9387, 9431, 9438
		<code>\pageautorefname</code>	3310, 3328, 3346, 3364, 3382, 3400, 3418, 3458, 3476, 3494, 8966, 9089	<code>\pdf@escapestring</code>	9144
		<code>\pagename</code>	8963	<code>\PDF@FinishDoc</code>	3080, 3081, 3155, 3156, 4269, 4346, 4473, 4474, 4578, 4579, 6408, 6581, 6582, 9700, 9916, 10174, 10657, 10820, 11410, 11649, 12524, 12685
		<code>\pageref</code>	665, 4480, 4802, 6361, 6362, 6431, 6432, 7183, 8952, 8956	<code>\pdf@ifdraftmode</code>	240, 243, 251, 6757, 9259, 9701, 9810, 13452, 14824
		<code>\paperheight</code>	4275, 9836, 9838, 9841, 9843, 9855, 9856, 10800, 10801, 10938, 10939, 10941, 12238, 12239	<code>\pdf@linktype</code>	11798, 11802, 11905, 11906
		<code>\paperwidth</code>	9832, 9834, 9845, 9847, 9852, 9853, 10799, 10801, 10942, 12237, 12239	<code>\pdf@rect</code>	11790, 11804, 11817
		<code>\par</code>	7461, 7488, 7521, 7844, 7872, 7915, 7925, 8123, 8143	<code>\PDF@SetupDoc</code>	4268, 4345, 6328, 6329, 6407, 9631, 9917, 10205, 10697, 10821, 11347, 11700, 12405, 12555, 12686
		<code>\paragraphautorefname</code>	3306, 3324, 3342, 3360, 3378, 3396, 3414, 3447, 3449, 3472, 3490, 9085	<code>\PDF@SetupDox</code>	9631
		<code>\parallel</code>	18394, 20539	<code>\pdf@strcmp</code>	1052
		<code>\parenleftinferior</code>	20404	<code>\pdf@toks</code>	11780, 11795, 11806, 11888, 11892, 11896
		<code>\parenleftsuperior</code>	20388	<code>\pdf@type</code>	11782, 11786, 11795, 11806, 11883, 11903
		<code>\parenrightinferior</code>	20405	<code>\pdfannotlink</code>	9365
		<code>\parenrightsuperior</code>	20389	<code>\pdfbookmark</code>	2628, 6413, 6414, 14690, 14695, 14700, 14704
		<code>\parr</code>	18103, 21279	<code>\pdfcatalog</code>	6760, 9296, 9646, 9688, 13479
		<code>\parskip</code>	6477	<code>\PDFdefaults</code>	11899
		<code>\partautorefname</code>	3300, 3318, 3336, 3354, 3372, 3390, 3408, 3438, 3466, 3484, 9079	<code>\pdfdest</code>	9389
		<code>\partial</code>	18322, 20509	<code>\pdfdraftmode</code>	244
		<code>\partnumberline</code>	14613, 14618		

\pdfendlink . 9428, 13551, 13645, 13660, 13687, 13712, 13736, 13759	\pdfmark@ . . . . . 11777, 11778	\PencilRightDown . 19426, 20883
\pdfescapestring . . . . . 14231	\pdfmatch . . . . . 333	\PencilRightUp . . . 19430, 20885
\pdfform . . . . . 9367	\pdfminorversion . . . . . 9165	\pentagon . . . . . 19900, 21089
\PDFForm@Name 14239, 14242, 14246, 14249	\PDFNextPage . . . . . 12052	\perp . . . . . 19569, 20950
\PDFForm@Check 13214, 13216, 13756, 13757, 14130, 14134, 14323	\PDFNextPage@ . . 12052, 12053	\phantom . . . . . 617
\PDFForm@List . 13129, 13131, 13657, 13658, 14016, 14021, 14383	\pdfobj 9260, 9275, 9290, 13460, 13765, 13799, 13808	\phantomsection . . . 4270, 6415, 8300, 14557, 14608, 14996
\PDFForm@Name 13542, 13596, 13669, 13750, 13883, 13944, 14032, 14121, 14238	\pdfobjcompresslevel 9189, 9243	\Phi . . . . . 16807, 20325
\PDFForm@Push . 13153, 13155, 13684, 13685, 14048, 14052, 14353	\PDFOpen . . . . . 12080	\phi . . . . . 16874, 20348
\PDFForm@Radio 13117, 13121, 13635, 13637, 13985, 13997, 14417	\pdfoptionpdfminorversion 9162	\phiinferior . . . . . 20361
\PDFForm@Reset 13194, 13196, 13733, 13734, 14100, 14105, 14522	\pdfoutline . . . . . 14905	\Phone . . . . . 19182, 20806
\PDFForm@Submit 13171, 13174, 13705, 13707, 14072, 14077, 14488	\pdfpageattr . 9744, 9748, 9749, 9759, 9768, 9772, 9773, 9783, 9791, 9794, 9795, 9805	\PhoneHandset . . . 19412, 20877
\PDFForm@Text . 13034, 13036, 13549, 13550, 13893, 13896, 14452	\pdfpageheight 9838, 9847, 9856, 9863	\Pi . . . . . 20322
\pdfhorigin . . . . . 9828	\pdfpageref . . . . . 13516	\pi . . . . . 16862, 20342
\pdfinfo . . . . . 9704	\pdfpageresources . . 9323, 9324	\pinferior . . . . . 20416
\pdflastannot . . . . . 9209	\pdfpagesattr . 9635, 9637, 9639	\Pisces . . . . . 19304, 21416
\pdflastform . . . . . 9368	\pdfpagewidth 9834, 9843, 9853, 9860	\pisces . . . . . 19302, 20844
\pdflastlink . . . . . 9212, 13436	\PDFPreviousPage . . . . 12065	\pitchfork . . . . . 18819, 20719
\pdflastobj 9206, 9274, 9289, 9295, 13478, 13798, 13807, 13817	\PDFPreviousPage@ . . . . 12066, 12068	\planck . . . . . 15987, 21152
\pdflastxform 9207, 9368, 13398, 13400	\pdfrefform . . . . . 9369	\Plane . . . . . 19416, 20879
\pdflastximage . . . . . 9208	\pdfrefobj . 13455, 13456, 13457	\Plus . . . . . 19449, 20894
\pdflinkmargin 9363, 9366, 9371	\pdfrefxform . . . . . 9369, 13400	\PlusCenterOpen . 19453, 20896
\pdfliteral . . . . 9347, 9349, 9354	\pdfstartlink . . . . . 9364, 9365, 9423, 9467, 9505, 9542, 9876, 13550, 13636, 13658, 13685, 13706, 13734, 13757	\plusinferior . . . . . 20401
\pdfm@box 10287, 13854, 13855, 13856, 13887, 13899, 13976, 14001, 14012, 14023, 14042, 14055, 14070, 14079, 14099, 14107, 14124, 14136	\pdfstringdef . . . . . 527, 823, 3939, 3945, 3951, 3973, 3978, 3984, 3991, 3997, 4077, 5789, 5794, 5820, 6541, 6649, 6651, 7198, 8223, 8259, 14257, 14622	\PlusOutline . . . . 19447, 20893
\pdfmark . . . 6871, 10225, 10234, 10264, 11478, 11498, 11537, 11572, 11589, 11601, 11635, 11672, 11684, 11713, 11722, 11753, 11777, 12039, 12054, 12069, 12081, 12088, 12115, 12146, 12568, 12577, 12608, 13035, 13118, 13130, 13154, 13172, 13195, 13215, 14856	\pdfstringdefDisableCommands . . . 909, 1011, 6411, 6536	\plussuperior . . . . . 20385
	\pdfstringdefPostHook 819, 1005	\PlusThinCenterOpen . . . 19451, 20895
	\pdfstringdefPreHook 676, 1005, 1017, 6535, 6545	\Pluto . . . . . 19268, 21404
	\pdfstringdefWarn . . . . 561, 562, 670, 1020, 1801, 1806, 1825, 1829	\pluto . . . . . 19266, 20832
	\pdftexrevision 9591, 9599, 9610	\pm . . . . . 21123
	\pdftexversion 9586, 9588, 9591, 9594, 9597, 9598, 9602, 9608, 9609, 13454	\pointer . . . . . 18307, 20502
	\pdfvorigin . . . . . 9829	\PointingHand . . . . 19207, 21381
	\pdfxform . . . . . 9367, 13396	\Pointinghand . . . . 19208, 21382
	\Peace . . . . . 19421, 20881	\pounds . . . . . 15698, 21137
	\peh . . . . . 20237	\Preamble . . . . . 12813
	\penalty 1943, 2655, 4946, 8050, 8073	\prec . . . . . 18610, 20633
	\PencilRight . . . . . 19428, 20884	\precapprox . . . . . 19845, 21066
		\preccurlyeq . . . . . 18614, 20635
		\preceq . . . . . 19821, 21054
		\preceqq . . . . . 19833, 21060
		\precnapprox . . . . . 19853, 21070
		\precneq . . . . . 19829, 21058
		\precneqq . . . . . 19841, 21064
		\precnsim . . . . . 18861, 20738
		\precsim . . . . . 18618, 20637
		\PrerenderUnicode . . . . . 3930
		\prime . . . . . 17906, 20370
		\process@me . 6515, 6527, 6528, 9634, 9643
		\ProcessKeyvalOptions . . . 4313
		\prod . . . . . 18349, 20521
		\propto . . . . . 18375, 20532
		\protect . . . . . 1941, 5088, 7845, 7917, 7981, 7996, 8012, 8128, 8135, 8136, 8338, 8386, 8661, 8713, 8842, 8862, 8868, 8879, 8997,



9927, 10024, 10891, 10966,  
12416, 12696, 14629, 14929,  
15052, 15053

\protected@edef 5182, 6615, 6709,  
7288, 7430, 7450, 8211,  
8215, 9396, 10486, 11020,  
11103, 11627

\protected@write ... 2592, 5109,  
5372, 8108, 8546, 8561,  
8569, 8573, 8578, 14628

\protected@xdef ... 7689, 7782

\providecommand .....  
.. 2609, 2610, 3630, 3631,  
3634, 3635, 4566, 4779,  
4780, 4899, 5042, 5359,  
5417, 6445, 6739, 6764,  
6889, 6928, 6931, 6934,  
6935, 6936, 6938, 6939,  
6940, 6941, 6943, 6944,  
6945, 6946, 6947, 6948,  
6957, 6958, 6959, 6960,  
6961, 6962, 7424, 7946,  
7947, 7962, 8040, 8643,  
8644, 8648, 8653, 8654,  
8761, 9070, 9071, 9072,  
9073, 9074, 9075, 9076,  
9077, 9078, 9079, 9080,  
9081, 9082, 9083, 9084,  
9085, 9086, 9087, 9088,  
9089, 9151, 9373, 9391,  
9392, 9915, 10018, 10019,  
10282, 10344, 10345, 10346,  
10817, 10936, 10958, 10959,  
10960, 11435, 11814, 11815,  
12172, 12180, 12181, 12182,  
12183, 12255, 12267, 12268,  
12269, 12270, 12314, 12355,  
12356, 12357, 12358, 12513,  
12515, 12516, 12629, 12630,  
12677, 13419, 14195

\psdaliasnames ... 21126, 21469

\psdmapshortnames 20255, 21125

\Psi ..... 16811, 20326

\psi ..... 16878, 20350

\PushButton ..... 6224

\put@me@back 5322, 5335, 5345

\pwedge ..... 16591, 21229

\pxfonts ..... 19899

## Q

\Q ..... 1936

\qaf ..... 20203

\quarternote ..... 19326, 20845

\quotedblbase ... 15214, 15453,  
17887, 19997

\quotesinglbase .. 15224, 15455,  
17881, 19999

## R

\r ... 881, 15089, 15101, 15113,  
15326, 15392, 15502, 15542,  
15569, 15599, 15772, 15839,  
16136, 16138, 17826, 17828

\ra ..... 20179

\Radiation ..... 19211, 21383

\Radioactivity .... 19209, 20815

\raff ..... 20223

\Rain ..... 19392, 20870

\raise .. 2662, 5153, 9993, 10077,  
10115, 10155, 11879, 12485,  
12765

\rangle ..... 18916, 20762

\rbrackdbl ..... 20956

\rcurvearrowdown . 19639, 20980

\rcurvearrowleft ... 19643, 20981

\rcurvearrowne ... 19623, 20975

\rcurvearrowright . 19646, 20982

\rcurvearrowse .... 19632, 20978

\Re ..... 18065, 20424

\ReadBookmarks .....  
.. 4312, 4349, 4487, 4683,  
4823, 14788, 14823

\real@setref ..... 8839, 8905

\realfootnote ..... 7779

\Rectangle ..... 19565, 20948

\RectangleBold ... 19567, 20949

\RectangleThin ... 19563, 20947

\recycle ..... 19341, 20851

\Recycling ..... 19343, 21423

\Ref ..... 8924, 8928, 8933

\ref 664, 4479, 4799, 5431, 6357,  
6358, 6427, 6428, 7744,  
7751, 8943, 12788

\ref@one ..... 5064, 5065

\rEfLiNK ..... 12789, 12790

\refstepcounter .....  
.. 6966, 6973, 6993, 7270,  
7293, 7294, 7295, 7304,  
7329, 7353, 7363, 7478, 7909

\rem@ptetc ..... 11562, 11564

\renewcommand ... 2584, 8462,  
14704

\Request ..... 18946, 20773

\RequirePackage ..... 22, 233,  
235, 236, 237, 255, 256, 257,  
258, 259, 260, 261, 262, 263,  
381, 1311, 1838, 2578, 3001,  
3075, 4461, 4462, 4751,  
4795, 4827, 5034, 5434,  
6397, 6555, 6805, 9222,  
10818, 12682, 14714

\RerunFileCheck ..... 14716

\Reset ..... 6233

\reset@font .. 8056, 8079, 8843,  
8863, 8880, 8998

\reve ..... 16412, 20288

\reveject ..... 16625, 21239

\revepsilon ..... 16426, 20291

\revglotstop ..... 16623, 20315

\revtex@checking ..... 8033

\Rewind ..... 19151, 20793

\RewindToIndex .. 18958, 20778

\RHD ..... 19142, 20790

\rhd ..... 18758, 20694

\rho ..... 16864, 20343

\rhoinferior ..... 20360

\rhooknearrow .... 19614, 20971

\rhookrepsilon ..... 20292

\rhookswarrow ... 19618, 20973

\Rightarrow . 8795, 18269, 20486

\rightarrow ..... 20436

\rightarrowtail .... 18183, 20453

\rightarrowtriangle 18314, 20505

\rightbarharpoon .. 19677, 20993

\RIGHTCIRCLE .. 19165, 20799

\rightharpoondown 18224, 20469

\rightharpoonup .. 18221, 20468

\rightleftarrows ... 18233, 20472

\rightleftharpoon .. 19650, 20984

\rightleftharpoons . 18253, 20480

\rightModels ..... 18741, 21338

\rightmodels ..... 18730, 21336

\rightmoon ..... 19234, 20824

\rightpointleft ... 19203, 21379

\rightrightarrows .. 18245, 20477

\rightrightarpoons 19665, 20989

\RightScissors .... 19406, 21430

\rightslice ..... 19819, 21053

\rightsquigarrow .. 18294, 20497

\rightthreetimes .. 18793, 20708

\RightTorque .... 19636, 21438

\Righttorque ..... 19637, 21439

\rightVdash ..... 18733, 21337

\rightvdash ..... 18709, 21329

\rinferior ..... 20355

\riota ..... 18078, 20426

\risingdotseq ..... 20591

\risingdotseq ..... 18517

\rlap ..... 5150, 9348, 10453

\rm ..... 605

\rmfamily ..... 595

\Roman ..... 6705

\roman ..... 6706

\romannumeral .... 1027, 1028

\rotm ..... 16493, 21205

\rotOmega ..... 16584, 21227

\rotr ..... 16529, 21215

\rotvara ..... 16392, 21177

\rotw ..... 16595, 21231

\roty ..... 16599, 21233

\rrbracket ..... 19584, 21437

\Rrightarrow ..... 18290, 20495



<code>\stockwidth</code> .. 9859, 9860, 10805, 10807, 10948, 10949, 12243, 12245	<code>\SunCloud</code> ..... 20869	<code>\textaleph</code> ..... 18089, 20428
<code>\stop@hyper</code> ..... 6379	<code>\SunCloud</code> ..... 19390	<code>\textAlpha</code> .. 1228, 16751, 16768
<code>\StringEncodingConvertTest</code> 797, 807	<code>\SunshineOpenCircled</code> ... 19525, 20931	<code>\textalpha</code> .. 1228, 16822, 16833, 20328
<code>\strip@period</code> ..... 2597	<code>\Supset</code> ..... 18809, 20715	<code>\textamalg</code> ..... 18352, 20522
<code>\strip@prefix</code> 62, 2590, 6517, 7136, 7433, 14852, 14860, 14875	<code>\supset</code> ..... 18632, 20644	<code>\textampersand</code> .... 555, 15156, 15623, 15624, 15625, 21132, 21133
<code>\strip@pt</code> ..... 516, 523, 4287, 6047, 6060, 9834, 9838, 9843, 9847, 11289, 14347, 14412, 14441, 14481, 14532	<code>\supseteq</code> ..... 18640, 20648	<code>\textangle</code> ..... 18381, 20534
<code>\strip@pt@and@otherjunk</code> 11497, 11529, 11564	<code>\supseteqq</code> ..... 19861, 21074	<code>\textangstrom</code> ..... 18081
<code>\strutbox</code> ..... 7723	<code>\supsetneq</code> ..... 18648, 20652	<code>\textAnkh</code> ..... 19215, 20817
<code>\sub@label</code> ..... 2584	<code>\surd</code> ..... 8803, 20531	<code>\textaolig</code> . 19926, 19928, 21463
<code>\subeqnarray</code> ..... 7409, 7411	<code>\Swarrow</code> ..... 18286, 20493	<code>\textAPLbox</code> ..... 18953, 20776
<code>\subequations</code> ..... 7447, 7448	<code>\swarrow</code> ..... 18162, 20443	<code>\textAPLdownarrowbox</code> . 18942, 20771
<code>\subfig@oldlabel</code> ..... 2586	<b>T</b>	<code>\textAPLinput</code> ... 18945, 20772
<code>\Submit</code> ..... 6230	<code>\T</code> ..... 20163	<code>\textAPLinvs</code> ..... 18919, 20763
<code>\SubmitObject</code> ..... 13708	<code>\t</code> .. 15121, 15532, 15559, 15586, 15604	<code>\textAPLleftarrowbox</code> ... 18934, 20768
<code>\SubmitPObject</code> ..... 13708	<code>\T@nameref</code> ..... 4816	<code>\textAPLrightarrowbox</code> .. 18937, 20769
<code>\subparagraphautorefname</code> .... .. 3307, 3325, 3343, 3361, 3379, 3397, 3415, 3448, 3450, 3473, 3491, 9086	<code>\T@pageref</code> ... 4786, 4803, 8941	<code>\textAPLuparrowbox</code> ... 18939, 20770
<code>\subpdfbookmark</code> ..... 14692	<code>\T@ref</code> ..... 4781, 4800	<code>\textapprox</code> ..... 18471, 20571
<code>\subsection</code> ..... 12509	<code>\T@temp</code> ..... 8034, 8037	<code>\textapproxeq</code> .... 18476, 20573
<code>\subsectionautorefname</code> ..... .. 3304, 3322, 3340, 3358, 3376, 3394, 3412, 3445, 3470, 3488, 9083	<code>\Ta</code> ..... 20191	<code>\textaquarius</code> .... 19300, 19301, 20843, 21415
<code>\Subset</code> ..... 18805, 20713	<code>\taa</code> ..... 20165	<code>\textaries</code> .. 19270, 19271, 20833, 21405
<code>\subset</code> ..... 18630, 20643	<code>\tableautorefname</code> .. 3299, 3317, 3335, 3353, 3371, 3389, 3407, 3437, 3465, 3483, 9078	<code>\textasciicircum</code> ..... 15735
<code>\subseteq</code> ..... 18638, 20647	<code>\tagform@</code> ..... 8416	<code>\textasciibreve</code> ... 15132, 15546, 15573, 16714
<code>\subseteqq</code> ..... 19857, 21072	<code>\taild</code> ..... 16406, 21182	<code>\textasciicaron</code> ... 15090, 15102, 15114, 15134, 15543, 15570, 16700
<code>\subsetneq</code> ..... 18646, 20651	<code>\tailinv</code> ..... 16537, 21217	<code>\textasciicircum</code> .. 15086, 15098, 15110, 15172, 15539, 15566, 15673
<code>\subsubsectionautorefname</code> .... .. 3305, 3323, 3341, 3359, 3377, 3395, 3413, 3446, 3471, 3489, 9084	<code>\taill</code> ..... 16486, 21202	<code>\textasciidieresis</code> . 15088, 15100, 15112, 15269, 15541, 15568, 15711
<code>\succ</code> ..... 18612, 20634	<code>\tailn</code> ..... 16509, 21211	<code>\textasciigrave</code> ... 15084, 15096, 15108, 15177, 15537, 15564, 15678
<code>\succapprox</code> ..... 19849, 21068	<code>\tailr</code> ..... 16543, 21219	<code>\textasciimacron</code> . 15093, 15105, 15117, 15282, 15548, 15575, 15724
<code>\succcurlyeq</code> ..... 18616, 20636	<code>\tails</code> ..... 16559, 21222	<code>\textasciitilde</code> 556, 4862, 15187, 15690
<code>\succeq</code> ..... 19825, 21056	<code>\tailt</code> ..... 16577, 21225	<code>\textast</code> ..... 18368, 20529
<code>\succeqq</code> ..... 19837, 21062	<code>\tailz</code> ..... 16605, 21234	<code>\textAsterisk</code> ..... 19516, 20926
<code>\succnapprox</code> ..... 19855, 21071	<code>\Tape</code> ..... 19414, 20878	<code>\textAsteriskBold</code> . 19493, 20915
<code>\succneq</code> ..... 19831, 21059	<code>\tatweel</code> ..... 20199	<code>\textasteriskcentered</code> .... 15633
<code>\succneqq</code> ..... 19843, 21065	<code>\tau</code> ..... 16870, 20346	<code>\textAsteriskCenterOpen</code> . 19495, 20916
<code>\succnsim</code> ..... 18863, 20739	<code>\Taurus</code> ..... 19274, 21406	<code>\textAsteriskRoundedEnds</code> 19540, 20938
<code>\succsim</code> ..... 18622, 20639	<code>\taurus</code> ..... 19272, 20834	
<code>\sukun</code> ..... 20235	<code>\tcheh</code> ..... 20239	
<code>\sum</code> ..... 18353, 20523	<code>\Telefon</code> ..... 19184, 21374	
<code>\Sun</code> ..... 19231, 21389	<code>\temp@online</code> .... 8325, 8328	
<code>\sun</code> ..... 19229, 20822	<code>\Tent</code> ..... 19398, 20873	
	<code>\tesh</code> ..... 16677, 21247	
	<code>\TeX</code> . 563, 564, 571, 573, 12816, 12818, 12820	
	<code>\texorpdfstring</code> .... 998, 6412	
	<code>\textAcht</code> ..... 19958, 21104	
	<code>\textAcPa</code> ..... 19944, 21098	
	<code>\textacute</code>	



<code>\textasymp</code> . . . . .	18489, 20579	<code>\textbigtriangleup</code> . . . . .	19134, 19135, 19136, 20787, 21368, 21369	<code>\textCheckmark</code> . . . . .	19437, 19438, 20888, 21434
<code>\textbabygamma</code> . . . . .	16455, 20296	<code>\textBiohazard</code> . . . . .	19213, 20816	<code>\textCheckmarkBold</code> . . . . .	19440, 20889
<code>\textbackcong</code> . . . . .	18485, 20577	<code>\textblacksmiley</code> . . . . .	19228, 20821	<code>\textChi</code> . . . . .	1278, 16810
<code>\textbackepsilon</code> . . . . .	16912	<code>\textblank</code> . . . . .	18961	<code>\textchi</code> . . . . .	1278, 16877, 20349
<code>\textbackneg</code> . . . . .	18891, 20750	<code>\textbot</code> . . . . .	18722, 18723, 20682, 21333	<code>\textchiinferior</code> . . . . .	17536, 20362
<code>\textbackprime</code> . . . . .	17913, 20373	<code>\textbowtie</code> . . . . .	18784, 18785, 20704, 21350	<code>\textcirc</code> . . . . .	18370, 20530
<code>\textbacksim</code> . . . . .	18449, 20561	<code>\textboxast</code> . . . . .	19721, 21009	<code>\textcirceq</code> . . . . .	18530, 20597
<code>\textbacksimeq</code> . . . . .	18796, 20709	<code>\textboxbackslash</code> . . . . .	18931, 20767	<code>\textcirclearrowleft</code> . . . . .	19587, 20957
<code>\textbackslash</code> . . . . .	551, 731, 2447, 15168, 15170, 15671	<code>\textboxbar</code> . . . . .	19171, 20801	<code>\textcirclearrowright</code> . . . . .	19589, 20958
<code>\textbaht</code> . . . . .	17496	<code>\textboxbox</code> . . . . .	19725, 21011	<code>\textcircled</code> . . . . .	15534, 15561, 15588, 18968, 18970, 18972, 18974, 18976, 18978, 18980, 18982, 18984, 18986, 18988, 18990, 18992, 18994, 18996, 18998, 19000, 19002, 19004, 19006, 19008, 19013, 19015, 19017, 19019, 19021, 19027, 19029, 19031, 19033, 19035, 19037, 19039, 19041, 19043, 19045, 19051, 19053, 19055, 19057, 19059, 19061, 19063, 19065, 19067, 19069, 19071, 19073, 19075, 19077, 19079, 19081, 19083, 19085, 19087, 19089, 19091, 19093, 19095, 19097, 19099, 19101, 19103, 19105, 19107, 19109, 19111, 19113, 19115, 19117, 19119, 19121, 19123
<code>\textbar</code> . . . . .	15183, 15685, 15686, 21135	<code>\textboxbslash</code> . . . . .	19719, 21008	<code>\textCircledA</code> . . . . .	19010, 19011, 20780, 21363
<code>\textbarb</code> . . . . .	16175, 21156	<code>\textboxcircle</code> . . . . .	19723, 21010	<code>\textcircledast</code> . . . . .	18694, 18695, 18696, 20671, 21327, 21328
<code>\textbarc</code> . . . . .	16380, 21173	<code>\textboxdot</code> . . . . .	18706, 20676	<code>\textcircledcirc</code> . . . . .	18690, 18691, 18692, 20670, 21325, 21326
<code>\textbard</code> . . . . .	15939, 21148	<code>\textboxempty</code> . . . . .	19186, 19187, 20807, 21375	<code>\textcircledddash</code> . . . . .	18698, 20672
<code>\textbardbl</code> . . . . .	17874, 17875, 21260	<code>\textboxminus</code> . . . . .	18702, 20674	<code>\textcircledP</code> . . . . .	18061
<code>\textbardotlessj</code> . . . . .	16437, 16438, 16439, 21189	<code>\textboxplus</code> . . . . .	18700, 20673	<code>\textCircleShadow</code> . . . . .	19548, 20941
<code>\textbarglotstop</code> . . . . .	16659, 16660	<code>\textboxslash</code> . . . . .	19717, 21007	<code>\textcircircplus</code> . . . . .	19744, 21020
<code>\textbari</code> . . . . .	16468, 16469, 16470, 20297, 21198	<code>\textboxtimes</code> . . . . .	18704, 20675	<code>\textcircircumflex</code> . . . . .	15136
<code>\textbarin</code> . . . . .	18887, 20748	<code>\textbraceleft</code> . . . . .	549, 2448, 15181, 15683	<code>\textcircircumlow</code> . . . . .	15554, 15581, 19932
<code>\textbarl</code> . . . . .	16198, 16199, 20282	<code>\textbraceright</code> . . . . .	550, 2448, 15185, 15688	<code>\textCleaningF</code> . . . . .	19023, 20781
<code>\textbarleftharpoon</code> . . . . .	19675, 20992	<code>\textbrokenbar</code> . . . . .	15265, 15704, 15705, 21138	<code>\textCleaningFF</code> . . . . .	19025, 20782
<code>\textbaro</code> . . . . .	16514, 16516	<code>\textbullet</code> . . . . .	15189, 17896, 20368	<code>\textCleaningP</code> . . . . .	19047, 20783
<code>\textbarp</code> . . . . .	17541, 20364	<code>\textbulletoperator</code> . . . . .	18372	<code>\textCleaningPP</code> . . . . .	19049, 20784
<code>\textbarrevglotstop</code> . . . . .	16663, 16664	<code>\textbullseye</code> . . . . .	16634, 16635, 16636, 16637, 21242, 21243	<code>\textclock</code> . . . . .	18897, 18898, 18899, 20753, 21359, 21360
<code>\textbarriightharpoon</code> . . . . .	19681, 20994	<code>\textBumpeq</code> . . . . .	18494, 20581	<code>\textcloseepsilon</code> . . . . .	16641, 16642
<code>\textbarsci</code> . . . . .	17539, 20363	<code>\textbumpeq</code> . . . . .	18498, 20583	<code>\textcloseomega</code> . . . . .	16520, 16521, 16522, 16523, 21212, 21213
<code>\textbarscu</code> . . . . .	17544, 20365	<code>\textcancer</code> . . . . .	19279, 19280, 20836, 21408	<code>\textcloserevepsilon</code> . . . . .	16433, 16434, 16435, 21188
<code>\textbaru</code> . . . . .	16579, 16580, 16581, 20306, 21226	<code>\textCap</code> . . . . .	18814, 18815, 20717, 21353	<code>\textCloud</code> . . . . .	19177, 20803
<code>\textbarwedge</code> . . . . .	18778, 20701	<code>\textcap</code> . . . . .	18410, 20545		
<code>\textbbslash</code> . . . . .	18965, 18966, 20779, 21362	<code>\textcapdot</code> . . . . .	19761, 21027		
<code>\textBeam</code> . . . . .	18949, 20774	<code>\textcapricornus</code> . . . . .	19297, 19298, 20842, 21414		
<code>\textbecause</code> . . . . .	18434, 18435, 20555, 21302	<code>\textccnc</code> . . . . .	19987, 21116		
<code>\textbeltl</code> . . . . .	16480, 16481, 16482, 21201	<code>\textccnd</code> . . . . .	19989		
<code>\textBeta</code> . . . . .	1229, 16770	<code>\textccsa</code> . . . . .	19991, 21117		
<code>\textbeta</code> . . . . .	1229, 15466, 16835, 20329	<code>\textcdj</code> . . . . .	16648		
<code>\textbetainferior</code> . . . . .	17528, 20358	<code>\textcdot</code> . . . . .	15465, 20009, 21124		
<code>\textbeth</code> . . . . .	18091, 20429	<code>\textcdots</code> . . . . .	18881, 20745		
<code>\textbetween</code> . . . . .	18582, 20620	<code>\textcedilla</code> . . . . .	15092, 15104, 15116, 15300, 15545, 15572, 15746		
<code>\textbf</code> . . . . .	588	<code>\textcelsius</code> . . . . .	15452, 18051		
<code>\textBicycle</code> . . . . .	19978, 21113	<code>\textcent</code> . . . . .	15257, 15694		
<code>\textbigcircle</code> . . . . .	15561, 15588, 19173, 19174, 20802, 21373	<code>\textcentoldstyle</code> . . . . .	16378, 21172		
<code>\textbigdoublevee</code> . . . . .	19737, 21017	<code>\textCESign</code> . . . . .	19995, 19996, 21119, 21468		
<code>\textbigdoublewedge</code> . . . . .	19735, 21016	<code>\textCheckedbox</code> . . . . .	19189, 19190, 20808, 21376		
<code>\textbigtriangledown</code> . . . . .	19149, 19150, 20792, 21371				

<code>\textClowerTips</code> . . .	19473, 20905	<code>\textcupplus</code> . . . . .	18653, 20654	<code>\textdigammagreek</code>	16900, 16901, 21248
<code>\textclubsuitblack</code> . .	2569, 19316, 19317, 21421	<code>\textcurlyeqprec</code> . .	18836, 20726	<code>\textdiscount</code> . . . . .	17929
<code>\textclubsuitwhite</code> . . . . .	19325	<code>\textcurlyeqsucc</code> . .	18840, 20728	<code>\textdiv</code> . . . . .	15463, 20007, 21122
<code>\textCoffeecup</code> . . . .	19196, 20810	<code>\textcurlyvee</code> . . . .	18800, 18801, 20711, 21351	<code>\textdivide</code>	15432, 15463, 15880, 20007
<code>\textcoloncolonequals</code> . . .	19781, 21035	<code>\textcurlywedge</code> . .	18803, 18804, 20712, 21352	<code>\textdivideontimes</code>	18782, 20703
<code>\textcolonequals</code> . .	18522, 20593	<code>\textcurrency</code> . . . .	15261, 15700	<code>\textDivides</code> . . . . .	18362, 20526
<code>\textcolonmonetary</code> . . . . .	18021	<code>\textcurvearrowleft</code>	18205, 20462	<code>\textDividesNot</code> . . .	18364, 20527
<code>\textcolor</code> . . . . .	626, 13450, 13493, 13496, 13826	<code>\textcurvearrowright</code> . . . .	18207, 20463	<code>\textdivorced</code> . . . . .	19381
<code>\textcommatailz</code> . .	16346, 16347	<code>\textCuttingLine</code> .	19125, 19126, 19127, 19128, 20785, 21364, 21365, 21366	<code>\textdlsh</code> . . . . .	18202, 20461
<code>\textcomplement</code> . .	18321, 20508	<code>\textdagger</code>	15191, 17889, 17890, 20367, 21261	<code>\textdollar</code> . . . . .	553, 15152, 15617, 15618, 15619, 21130, 21131
<code>\textcompwordmark</code> . . . .	17868	<code>\textdaggerdbl</code> . . .	15193, 17892, 17893, 17894, 21262, 21263	<code>\textdong</code> . . . . .	18031
<code>\textcong</code> . . . . .	18466, 20569	<code>\textdaleth</code> . . . . .	18095, 20431	<code>\textdotaccent</code> . . .	15091, 15103, 15115, 15138, 15544, 15571, 16716
<code>\textcopyleft</code> . . . .	19984, 19985	<code>\textdanger</code> . . . . .	19367, 20862	<code>\textdotbelow</code> . . .	15095, 15107, 15119, 15162, 15558, 15585, 16741
<code>\textcopyright</code> . . .	15271, 15713, 20272	<code>\textdasheddownarrow</code> . .	18306, 20501	<code>\textdotdiv</code> . . . . .	18442, 21303
<code>\textcorner</code> . . . . .	16734, 16735	<code>\textdasheduparrow</code>	18301, 20499	<code>\textdoteq</code> . . . . .	18502, 20585
<code>\textCR</code> . . . . .	15130, 15611	<code>\textdashleftarrow</code>	18298, 18299, 20498, 21288	<code>\textdoteqdot</code> . . .	18507, 18508, 20587, 21309
<code>\textcrb</code> . . . . .	16171, 16172, 16173, 16175, 16176, 21155, 21156, 21157	<code>\textdashrightarrow</code> . . . . .	18303, 18304, 20500, 21289	<code>\textdotminus</code> . . .	18441, 18442, 20558, 21303
<code>\textcrd</code> . . . . .	15934, 15936, 15937, 15939, 15940, 21147, 21148, 21149	<code>\textDashV</code>	19879, 19880, 21080, 21457	<code>\textdotplus</code> . . . . .	18360, 20525
<code>\textcrg</code> . . . . .	16264, 21169	<code>\textDashv</code>	19872, 19873, 21078, 21455	<code>\textdottimes</code> . . . .	19749, 21022
<code>\textcrh</code> . . . . .	15985, 21150	<code>\textdashV</code>	19866, 19867, 21076, 21453	<code>\textdoublebarpipe</code>	16238, 16239, 16240, 21168
<code>\textcrinvglotstop</code> .	16225, 16226	<code>\textdashv</code> . . . . .	18711, 18712, 20678, 21330	<code>\textdoublebarpipevar</code> . . .	16240, 21168
<code>\textcrlambda</code> . . . .	16202, 16203, 16204, 16205, 16206, 16207, 21161, 21162, 21163, 21164	<code>\textDavidStar</code> . .	19464, 19465, 20901, 21435	<code>\textdoublebarwedge</code> . . . .	19772, 21031
<code>\textCross</code> . . . . .	19456, 20897	<code>\textdblig</code> . . . . .	16370, 16372, 21170	<code>\textdoublegrave</code> .	15547, 15574, 16737
<code>\textCrossedbox</code> .	19192, 19193, 19194, 20809, 21377, 21378	<code>\textdctzlig</code> . . . . .	16671, 16672	<code>\textdoublepipe</code> . .	16234, 16235, 16236, 21167
<code>\textCrossMaltese</code> .	19462, 20900	<code>\textddagger</code> . . . . .	15194	<code>\textdoublepipevar</code>	16236, 21167
<code>\textCrossOpenShadow</code> . .	19458, 20898	<code>\textddots</code> . . . . .	18885, 20747	<code>\textdoublevee</code> . . .	19768, 19769, 21030, 21452
<code>\textCrossOutline</code> .	19460, 20899	<code>\textdegree</code>	15284, 15452, 15726	<code>\textdoublevline</code>	17875, 21260
<code>\textcrtwo</code> . . . . .	16222, 16223	<code>\textDeleatur</code> . . .	18044, 18045, 20419, 21274	<code>\textdoublewedge</code> .	19766, 21029
<code>\textctc</code> . . . . .	16401, 16402, 16403, 21181	<code>\textDelta</code> . . . . .	1231, 16774, 20318	<code>\textDOWNarrow</code>	19145, 19146, 20791, 21370
<code>\textctd</code> . . . . .	16344, 16345	<code>\textdelta</code> . . . . .	1231, 16839, 20331	<code>\textDownarrow</code> . .	18273, 20487
<code>\textctesh</code> . . . . .	16568, 16569, 16570, 21223	<code>\textDiamandSolid</code>	19562, 20946	<code>\textdownarrow</code> . . .	18147, 18148, 18149, 20437, 21282, 21283
<code>\textctj</code> . . . . .	16649, 16650, 21244	<code>\textdiameter</code> . . . .	18889, 20749	<code>\textdownarrowdownarrows</code> . . .	18248, 20478
<code>\textctjvar</code> . . . . .	16650, 21244	<code>\textdiamond</code> . . . .	19159, 19160, 20796, 21372	<code>\textdownarrowdownharpoons</code> .	19669, 20990
<code>\textctn</code> . . . . .	16364, 16365	<code>\textdiamonddots</code> .	17935, 20376	<code>\textdownharpoonleft</code> . . .	18231, 20471
<code>\textctt</code> . . . . .	16366, 16367	<code>\textdiamondsuitblack</code> . . .	2570, 19323	<code>\textdownharpoonright</code> . .	18228, 20470
<code>\textctyogh</code>	16613, 16614, 16615, 21236	<code>\textdiamondsuitwhite</code> . .	19313, 19314, 21420	<code>\textdownmodels</code> . .	19885, 21082
<code>\textctz</code> . . . . .	16606, 16607, 16608, 21235	<code>\textDigammagreek</code> . . . . .	16898		
<code>\textCup</code> . . . . .	18817, 18818, 20718, 21354				
<code>\textcup</code> . . . . .	18412, 20546				
<code>\textcupdot</code> . . . . .	18651, 20653				

<code>\textdownstep</code> . . . . .	19915, 19916	<code>\textEta</code> . . . . .	1235, 16755, 16780	<code>\textflq</code> . . . . .	654, 15459, 20003
<code>\textdownuparrows</code> . . . . .	18311, 20503	<code>\texteta</code> . . . . .	1235, 16826, 16845, 20334	<code>\textflqq</code> . . . . .	652, 15457, 20001
<code>\textdownupharpoons</code> . . . . .	19687, 20996	<code>\texteuro</code> . . . . .	15253, 18033, 18034, 18035, 18036, 18037, 18038, 18039, 18040, 18041, 18042, 21265, 21266, 21267, 21268, 21269, 21270, 21271, 21272, 21273	<code>\textforall</code> . . . . .	18319, 20507
<code>\textdsbiological</code> . . . . .	19361, 20859	<code>\textexclamdown</code> . . . . .	769, 1139, 15255, 15692	<code>\textForward</code> . . . . .	19138, 20788
<code>\textdschemical</code> . . . . .	19359, 20858	<code>\textexists</code> . . . . .	18325, 20510	<code>\textForwardToIndex</code> . . . . .	18956, 20777
<code>\textdscommercial</code> . . . . .	19363, 20860	<code>\textfallingdotseq</code> . . . . .	18513, 20589	<code>\textFourAsterisk</code> . . . . .	19467, 20902
<code>\textdsjuridical</code> . . . . .	19357, 20857	<code>\textfatsemi</code> . . . . .	19742, 21019	<code>\textfourfifths</code> . . . . .	18121
<code>\textdsmedical</code> . . . . .	19355, 20856	<code>\textFax</code> . . . . .	19973, 19974, 21111, 21467	<code>\textfourinferior</code> . . . . .	17973, 20395
<code>\textdsmilitary</code> . . . . .	19352, 19353, 20855, 21425	<code>\textfax</code> . . . . .	18097, 20432	<code>\textFourStar</code> . . . . .	19475, 20906
<code>\textdttimes</code> . . . . .	19752, 21023	<code>\textfemale</code> . . . . .	19241, 21391	<code>\textFourStarOpen</code> . . . . .	19477, 20907
<code>\textdyoghlig</code> . . . . .	16668, 16669	<code>\textFemaleFemale</code> . . . . .	19369, 20863	<code>\textfoursuperior</code> . . . . .	17941, 20379
<code>\textdzlig</code> . . . . .	16665, 16666, 16667, 21246	<code>\textFemaleMale</code> . . . . .	19373, 20865	<code>\textfourth</code> . . . . .	17933, 20375
<code>\textearth</code> . . . . .	19247, 19248, 20826, 21396	<code>\textfi</code> . . . . .	767, 15228, 19934	<code>\textfractionsolidus</code> . . . . .	15204, 17923
<code>\textEightAsterisk</code> . . . . .	19546, 20940	<code>\textField</code> . . . . .	6215	<code>\textfrown</code> . . . . .	18909, 20758
<code>\textEightFlowerPetal</code> . . . . .	19524, 20930	<code>\textFinv</code> . . . . .	18087, 20427	<code>\textfrownie</code> . . . . .	19222, 19223, 20819, 21387
<code>\textEightFlowerPetalRemoved</code> . . . . .	19543, 20939	<code>\textFire</code> . . . . .	19976, 21112	<code>\textfrq</code> . . . . .	655, 15460, 20004
<code>\texteightinferior</code> . . . . .	17981, 20399	<code>\textfishhookr</code> . . . . .	16545, 16546, 16547, 16548, 21220, 21221	<code>\textfrqq</code> . . . . .	653, 15458, 20002
<code>\textEightStar</code> . . . . .	19503, 20920	<code>\textfivedots</code> . . . . .	19911, 21093	<code>\textfullnote</code> . . . . .	19950, 19951, 21101, 21464
<code>\textEightStarBold</code> . . . . .	19505, 20921	<code>\textfiveeighths</code> . . . . .	18131	<code>\textGame</code> . . . . .	18099, 20433
<code>\textEightStarConvex</code> . . . . .	19499, 20918	<code>\textFiveFlowerOpen</code> . . . . .	19522, 20929	<code>\textGamma</code> . . . . .	1230, 16772, 20317
<code>\textEightStarTaper</code> . . . . .	19497, 20917	<code>\textFiveFlowerPetal</code> . . . . .	19520, 20928	<code>\textgamma</code> . . . . .	1230, 16837, 20330
<code>\texteightsuperior</code> . . . . .	17949, 20383	<code>\textfiveinferior</code> . . . . .	17975, 20396	<code>\textgammainferior</code> . . . . .	17530, 20359
<code>\texteinferior</code> . . . . .	17997, 20407	<code>\textfivesixths</code> . . . . .	18125	<code>\textGaPa</code> . . . . .	19938, 21095
<code>\textell</code> . . . . .	18057, 20422	<code>\textFiveStar</code> . . . . .	19179, 20804	<code>\textge</code> . . . . .	18559, 20609
<code>\textellipsis</code> . . . . .	559, 560, 15196, 17900, 17901, 21264	<code>\textFiveStarCenterOpen</code> . . . . .	19481, 20909	<code>\textgemini</code> . . . . .	19276, 19277, 20835, 21407
<code>\textemdash</code> . . . . .	765, 15198, 17872	<code>\textFiveStarConvex</code> . . . . .	19489, 20913	<code>\textGentsroom</code> . . . . .	19980, 21114
<code>\textemptyset</code> . . . . .	18329, 18330, 20512, 21290	<code>\textFiveStarOpen</code> . . . . .	19181, 20805	<code>\textgex</code> . . . . .	18558, 18560, 20608, 21317
<code>\textendash</code> . . . . .	766, 15200, 17870	<code>\textFiveStarOpenCircled</code> . . . . .	19479, 20908	<code>\textgexq</code> . . . . .	18566, 20612
<code>\textEnvelope</code> . . . . .	19419, 19420, 20880, 21432	<code>\textFiveStarOpenDotted</code> . . . . .	19483, 20910	<code>\textgexqlant</code> . . . . .	19787, 21038
<code>\textEpsilon</code> . . . . .	1232, 16753, 16776	<code>\textFiveStarOutline</code> . . . . .	19485, 20911	<code>\textgg</code> . . . . .	18578, 20618
<code>\textepsilon</code> . . . . .	567, 570, 1232, 16824, 16841, 20332	<code>\textFiveStarOutlineHeavy</code> . . . . .	19487, 20912	<code>\textggg</code> . . . . .	18828, 20723
<code>\texteqcirc</code> . . . . .	18526, 20595	<code>\textFiveStarShadow</code> . . . . .	19491, 20914	<code>\textgimel</code> . . . . .	18093, 20430
<code>\texteqcolon</code> . . . . .	18444, 20559	<code>\textfivesuperior</code> . . . . .	17943, 20380	<code>\textglobfall</code> . . . . .	18161, 21285
<code>\texteqdot</code> . . . . .	19777, 21033	<code>\textfl</code> . . . . .	768, 15230, 19936	<code>\textglobrise</code> . . . . .	18158, 21284
<code>\texteqsim</code> . . . . .	18458, 20565	<code>\textFlag</code> . . . . .	19347, 19348, 20853, 21424	<code>\textglotstop</code> . . . . .	16617, 16618, 16619, 16620, 20314, 21237, 21238
<code>\texteqslantgtr</code> . . . . .	19816, 21051	<code>\textflat</code> . . . . .	19336, 20848	<code>\textglq</code> . . . . .	650, 15455, 19999
<code>\texteqslantless</code> . . . . .	19814, 21050	<code>\textflorin</code> . . . . .	15202, 16187, 16188, 21158	<code>\textglqq</code> . . . . .	648, 15453, 19997
<code>\textequalscolon</code> . . . . .	18524, 20594			<code>\textgnapprox</code> . . . . .	19806, 21047
<code>\textequalsinferior</code> . . . . .	17989, 20403			<code>\textgneq</code> . . . . .	19802, 21045
<code>\textequalssuperior</code> . . . . .	17957, 20387			<code>\textgneqq</code> . . . . .	18572, 20615
<code>\textequiv</code> . . . . .	18546, 18547, 20604, 21313			<code>\textgnsim</code> . . . . .	18860, 20737
<code>\textEreversed</code> . . . . .	16184			<code>\textgravedbl</code> . . . . .	16729
<code>\textesh</code> . . . . .	16560, 16561, 20305			<code>\textgravemacron</code> . . . . .	15536, 15563, 15590, 17599, 17602, 17703, 17706
<code>\textestimated</code> . . . . .	18083, 18084, 18085, 21276, 21277			<code>\textgreater</code> . . . . .	15166, 15667

<code>\textgtrapprox</code> . . . . .	19795, 21042	<code>\texthttrtaild</code> 17548, 17549, 20366	<code>\textlambda</code> 1252, 16853, 20338
<code>\textgtrdot</code> . . . . .	18824, 20721	<code>\texthtscg</code> . . . . .	<code>\textlangle</code> . . . . .
<code>\textgtreqless</code> . . . . .	18834, 20725	<code>\texthtt</code> . . . . .	<code>\textlatin</code> . . . . .
<code>\textgtreqqlless</code> . . . . .	19812, 21049	<code>\textthungarumlaut</code> 15140, 15549, 15576, 16724	<code>\textlbrackdbl</code> . . . . .
<code>\textgtrless</code> . . . . .	18605, 20630	<code>\textthvlig</code> . 16189, 16190, 16191, 21159	20955, 21436
<code>\textgtrsim</code> 18596, 18597, 20626, 21319		<code>\texttiint</code> . . . . .	<code>\textlcurvearrowdown</code> . . . . .
<code>\textguarani</code> . . . . .	18049	<code>\texttiinferior</code> . . . . .	19635, 19636, 19637, 20979, 21438, 21439
<code>\texthalflength</code> . . . . .	16711, 16712	<code>\texttiint</code> . . . . .	<code>\textlcurvearrowse</code> . 19627, 20976
<code>\texthalfnote</code> . . . . .	19953, 19954, 21102, 21465	<code>\textilm</code> . . . . .	<code>\textlcurvearrowsw</code> 19630, 20977
<code>\textHandCuffLeft</code> . 19198, 20811		<code>\textin</code> . . . . .	<code>\textle</code> . . . . .
<code>\textHandCuffRight</code> 19200, 20812		<code>\textinfo</code> . . . . .	18554, 20607
<code>\textHandLeft</code> . . . 19202, 19203, 20813, 21379		<code>\textinfty</code> . . . . .	<code>\textleadsto</code> . . . . .
<code>\textHandRight</code> . . . 19205, 19206, 19207, 19208, 20814, 21380, 21381, 21382		<code>\textint</code> . . . . .	19621, 20974
<code>\textHaPa</code> . . . . .	19940, 21096	<code>\textinterleave</code> . . . . .	<code>\textLeftarrow</code> . . . . .
<code>\texthateq</code> . 18534, 18535, 18536, 20599, 21310, 21311		<code>\textinterrobang</code> . . . . .	18265, 20484
<code>\texthausaB</code> . . . . .	16178, 20279	<code>\textinterrobangdown</code> . . . . .	<code>\textleftarrow</code> . . . . .
<code>\texthausaD</code> . . . . .	16182, 20280	19909	18139, 20434
<code>\texthausaK</code> . . . . .	16193, 20281	<code>\textinvamp</code> 18101, 18102, 18103, 21278, 21279	<code>\textleftarrowtail</code> . . . . .
<code>\texthbar</code> . . 15984, 15985, 15986, 15987, 20278, 21150, 21151, 21152		<code>\textinvbackneg</code> . . . . .	18182, 20452
<code>\texthdotfor</code> . . . . .	17898, 20369	<code>\textinvbreve</code> . . . . .	<code>\textleftarrowtriangle</code> . . . . .
<code>\textheartsuitblack</code> . 2571, 19321		15511, 15551, 15578, 16307, 16309, 16316, 16318, 16319, 16325, 16327, 16337, 16339	18313, 20504
<code>\textheartsuitwhite</code> 19309, 19310, 19311, 21418, 21419		<code>\textinvdiameter</code> . . . . .	<code>\textleftbarharpoon</code> 19672, 20991
<code>\textheng</code> . 19917, 19919, 21460		<code>\textinve</code> . . . . .	<code>\textLEFTCIRCLE</code> 19164, 20798
<code>\textHermaphrodite</code> 19375, 20866		<code>\textinvglotstop</code> . 16627, 16628, 20316	<code>\textleftharpoondown</code> . . . . .
<code>\texthexagon</code> . . . . .	18951, 20775	<code>\textinvneg</code> . . . . .	20465
<code>\texthexstar</code> . . . . .	19386, 20868	<code>\textinvscr</code> 16555, 16556, 20304	<code>\textleftharpoonup</code> 18210, 20464
<code>\texthinferior</code> . . . . .	18005, 20411	<code>\textIota</code> . . . 1250, 16757, 16784, 16818	<code>\textleftleftarrows</code> . 18242, 20475
<code>\texthookleftarrow</code> . 18188, 20455		<code>\textiota</code> . . . 1250, 16828, 16849, 16883, 20336	<code>\textleftleftharpoons</code> . . . . .
<code>\texthookrightarrow</code> 18190, 20456		<code>\textIotadieresis</code> . . 16766, 16817	19660, 20987
<code>\textHslash</code> . . . . .	15982	<code>\textipagamma</code> . . 16451, 16452, 20295, 21192	<code>\textleftmoon</code> . . . . .
<code>\texthslash</code> . . . . .	18053, 20420	<code>\textisuperior</code> . . . . .	19233, 20823
<code>\textHT</code> . . . . .	15126, 15607	<code>\textit</code> . . . . .	<code>\textLeftrightarrow</code> 18276, 20488
<code>\texthtb</code> . . 16393, 16394, 16395, 16396, 21178, 21179		<code>\textJackStar</code> . . . . .	<code>\textleftrightharpoon</code> . 2574, 18151, 20438
<code>\texthtbardotlessj</code> . 16563, 16564		<code>\textJackStarBold</code> . 19471, 20904	<code>\textleftrightharpoons</code> 18240, 20474
<code>\texthtc</code> . . . . .	16179, 16180	<code>\textjinferior</code> . . . . .	<code>\textleftrightharpoontriangle</code> 18317, 20506
<code>\texthtd</code> . . 16407, 16408, 16409, 16410, 21183, 21184		<code>\textJoin</code> . . . . .	19649, 20983
<code>\texthtg</code> . . . 16440, 16441, 16442, 21190		<code>\textjupiter</code> 19255, 19256, 20828, 21400	<code>\textleftrightharpoons</code> . . . . .
<code>\texthth</code> . . 16460, 16461, 16462, 16463, 21195, 21196		<code>\textKappa</code> . . . . .	18251, 20479
<code>\texththeng</code> 16464, 16465, 16466, 21197		<code>\textkappa</code> . 1251, 16851, 20337	<code>\textleftslice</code> . . . . .
<code>\texthtk</code> . . 16194, 16195, 16196, 21160		<code>\textKeyboard</code> . . . . .	19818, 21052
<code>\texthtp</code> . . . . .	16212, 16213	<code>\textkinferior</code> . . . . .	<code>\textleftspoon</code> . . . . .
<code>\texthtq</code> . . . . .	16656, 16657	<code>\textKoppagreek</code> . . . . .	19578, 20954
		<code>\textkoppagreek</code> . . . . .	<code>\textleftsquigarrow</code> 18293, 20496
		<code>\textkra</code> . . . . .	<code>\textlefttherefore</code> . . 17931, 20374
		<code>\textLadiesroom</code> . . . . .	<code>\textleftthreetimes</code> . 18792, 20707
		<code>\textLambda</code> 1252, 16788, 20320	<code>\textlengthmark</code> . . 16708, 16709
			<code>\textleo</code> . . . 19282, 19283, 20837, 21409
			<code>\textleq</code> . . . 18553, 18555, 20606, 21316
			<code>\textleqq</code> . . . . .
			18562, 20610
			<code>\textleqslant</code> . . . . .
			19783, 21036
			<code>\textless</code> . . . . .
			15164, 15665
			<code>\textlessapprox</code> . . . . .
			19791, 21040
			<code>\textlessdot</code> . . . . .
			18822, 20720
			<code>\textlesseqgtr</code> . . . . .
			18831, 20724
			<code>\textlesseqqgtr</code> . . . . .
			19809, 21048
			<code>\textlessgtr</code> . . . . .
			18603, 20629
			<code>\textlessssim</code> 18593, 18594, 20625, 21318
			<code>\textLF</code> . . . . .
			15128, 15609

<code>\textLHD</code> . . . . .	19157, 20795	<code>\textmacronbelow</code> . . . . .	15094, 15106, 15118, 15175, 15557, 15584, 16743	<code>\textMVThree</code> . . . . .	15651, 20264
<code>\textlhd</code> . . . . .	18756, 18757, 20693, 21344	<code>\textmale</code> . . . . .	19250, 19251, 19252, 19253, 20827, 21397, 21398, 21399	<code>\textMVTwo</code> . . . . .	15649, 20263
<code>\textlhookfour</code> . . . . .	19920, 19922, 21461	<code>\textMaleMale</code> . . . . .	19371, 20864	<code>\textMVZero</code> . . . . .	15645, 20261
<code>\textlhooknarrow</code> . . . . .	19613, 20970	<code>\textManFace</code> . . . . .	19968, 21109	<code>\textnabla</code> . . . . .	18334, 20514
<code>\textlhooksearrow</code> . . . . .	19617, 20972	<code>\textmanstar</code> . . . . .	19365, 20861	<code>\textnaira</code> . . . . .	18025
<code>\textlhookt</code> . . . . .	16215, 16216	<code>\textmapsto</code> . . . . .	18186, 20454	<code>\textnapostrophe</code> . . . . .	16060
<code>\textlhtlongi</code> . . . . .	16550, 16551	<code>\textmarried</code> . . . . .	19379	<code>\textnapprox</code> . . . . .	18473, 18474, 20572, 21306
<code>\textlhtlongy</code> . . . . .	16682, 16683	<code>\textmd</code> . . . . .	589	<code>\textnapproxeq</code> . . . . .	18478, 20574
<code>\textlibra</code> . . . . .	19288, 19289, 20839, 21411	<code>\textmeasuredangle</code> . . . . .	18383, 20535	<code>\textnasymp</code> . . . . .	18491, 18492, 20580, 21308
<code>\textlightning</code> . . . . .	18198, 18199, 20460, 21286	<code>\textmercury</code> . . . . .	19237, 19238, 20825, 21390	<code>\textnatural</code> . . . . .	19338, 20849
<code>\textlinferior</code> . . . . .	18009, 20413	<code>\textmho</code> . . . . .	18076, 18077, 20425, 21275	<code>\textnbackcong</code> . . . . .	18487, 20578
<code>\textlira</code> . . . . .	18023	<code>\textmid</code> . . . . .	18390, 20537	<code>\textnbacksim</code> . . . . .	18451, 20562
<code>\textll</code> . . . . .	18574, 20616	<code>\textMineSign</code> . . . . .	19350, 20854	<code>\textnbacksimeq</code> . . . . .	18798, 20710
<code>\textllcorner</code> . . . . .	18905, 20756	<code>\textminferior</code> . . . . .	18011, 20414	<code>\textnBumpeq</code> . . . . .	18496, 20582
<code>\textLleftarrow</code> . . . . .	18289, 20494	<code>\textminus</code> . . . . .	15210, 18356	<code>\textnbumpeq</code> . . . . .	18500, 20584
<code>\textlll</code> . . . . .	18826, 20722	<code>\textminusdot</code> . . . . .	19746, 19747, 21021, 21449	<code>\textncirceq</code> . . . . .	18532, 20598
<code>\textllparenthesis</code> . . . . .	19691, 20998	<code>\textminusinferior</code> . . . . .	17987, 20402	<code>\textncong</code> . . . . .	18469, 20570
<code>\textlnapprox</code> . . . . .	19804, 21046	<code>\textminussuperior</code> . . . . .	17955, 20386	<code>\textncurlyeqprec</code> . . . . .	18838, 20727
<code>\textlneq</code> . . . . .	19799, 21044	<code>\textmoo</code> . . . . .	19689, 20997	<code>\textncurlyeqsucc</code> . . . . .	18842, 20729
<code>\textlneqq</code> . . . . .	18570, 20614	<code>\textMoon</code> . . . . .	19966, 21108	<code>\textnDashV</code> . . . . .	19882, 19883, 21081, 21458
<code>\textlnot</code> . . . . .	15278, 15720	<code>\textMountain</code> . . . . .	19397, 20872	<code>\textnDashv</code> . . . . .	19875, 19876, 21079, 21456
<code>\textlnsim</code> . . . . .	18858, 20736	<code>\texttmp</code> . . . . .	18358, 20524	<code>\textndashV</code> . . . . .	19869, 19870, 21077, 21454
<code>\textlogicalnot</code> . . . . .	15277, 15461, 15719, 20005	<code>\texttmu</code> . . . . .	1253, 15294, 15737	<code>\textndashv</code> . . . . .	18714, 18715, 20679, 21331
<code>\textLongleftarrow</code> . . . . .	19597, 20962	<code>\textmugreek</code> . . . . .	16855, 20339	<code>\textnDoteq</code> . . . . .	18510, 20588
<code>\textlongleftarrow</code> . . . . .	19591, 20959	<code>\textmultimap</code> . . . . .	18774, 20699	<code>\textndoteq</code> . . . . .	18504, 20586
<code>\textLongleftrightharrow</code> . . . . .	19601, 20964	<code>\textmultimapboth</code> . . . . .	19729, 21013	<code>\textndownmodels</code> . . . . .	19887, 21083
<code>\textlongleftrightharrow</code> . . . . .	19595, 20961	<code>\textmultimapdotbothA</code> . . . . .	18770, 20697	<code>\textndownvdash</code> . . . . .	18720, 20681
<code>\textlonglegr</code> . . . . .	16538, 16539, 16540, 20302, 21218	<code>\textmultimapdotbothB</code> . . . . .	18772, 20698	<code>\textne</code> . . . . .	18543, 20603
<code>\textLongmapsfrom</code> . . . . .	19605, 20966	<code>\textmultiply</code> . . . . .	15363, 15462, 15808, 15809, 15810, 20006, 21144, 21145	<code>\textNearrow</code> . . . . .	18283, 20491
<code>\textLongmapsto</code> . . . . .	19607, 20967	<code>\textMundus</code> . . . . .	19964, 21107	<code>\textnearrow</code> . . . . .	18157, 18158, 20441, 21284
<code>\textlongmapsto</code> . . . . .	19603, 20965	<code>\textmusicalnote</code> . . . . .	19328, 19329, 19330, 21422	<code>\textneg</code> . . . . .	15461, 20005, 21120
<code>\textLongrightarrow</code> . . . . .	19599, 20963	<code>\textMVAt</code> . . . . .	15669, 20271	<code>\textneptune</code> . . . . .	19264, 19265, 20831, 21403
<code>\textlongrightarrow</code> . . . . .	19593, 20960	<code>\textMVComma</code> . . . . .	15637, 20257	<code>\textneq</code> . . . . .	18542, 18544, 20602, 21312
<code>\textlongs</code> . . . . .	16170, 17830	<code>\textMVDivision</code> . . . . .	15643, 20260	<code>\textneqcirc</code> . . . . .	18528, 20596
<code>\textlooparrowleft</code> . . . . .	18192, 20457	<code>\textMVEight</code> . . . . .	15661, 20269	<code>\textneqdot</code> . . . . .	19779, 21034
<code>\textlooparrowright</code> . . . . .	18194, 20458	<code>\textMVFive</code> . . . . .	15655, 20266	<code>\textneqsim</code> . . . . .	18460, 20566
<code>\textlozenge</code> . . . . .	19162, 20797	<code>\textMVFour</code> . . . . .	15653, 20265	<code>\textnequiv</code> . . . . .	18549, 18550, 18551, 20605, 21314, 21315
<code>\textlptr</code> . . . . .	16694, 16695	<code>\textMVMinus</code> . . . . .	15639, 20258	<code>\textneswarrow</code> . . . . .	19611, 20969
<code>\textlquill</code> . . . . .	17925	<code>\textMVNine</code> . . . . .	15663, 20270	<code>\textNeutral</code> . . . . .	19377, 20867
<code>\textlrcorner</code> . . . . .	18907, 20757	<code>\textMVOne</code> . . . . .	15647, 20262	<code>\textnewtie</code> . . . . .	15560, 15587, 16739
<code>\textltailm</code> . . . . .	16498, 16499, 16500, 16501, 21207, 21208	<code>\textMVPeriod</code> . . . . .	15641, 20259	<code>\textnexists</code> . . . . .	18327, 20511
<code>\textltailn</code> . . . . .	16502, 16503, 16504, 16505, 21209, 21210	<code>\textMVPlus</code> . . . . .	15635, 20256	<code>\textnfallingdoteq</code> . . . . .	18515, 20590
<code>\textltilde</code> . . . . .	16477, 16478, 16479, 21200	<code>\textMVSeven</code> . . . . .	15659, 20268	<code>\textngeq</code> . . . . .	18591, 20624
<code>\textltimes</code> . . . . .	18787, 20705	<code>\textMVSix</code> . . . . .	15657, 20267	<code>\textngeqq</code> . . . . .	18568, 20613
<code>\textlyoghlig</code> . . . . .	16487, 16488, 16489, 21203			<code>\textngeqslant</code> . . . . .	19789, 21039
				<code>\textngg</code> . . . . .	18580, 20619
				<code>\textngtr</code> . . . . .	18586, 20622



<code>\textngtrapprox</code> . . .	19797, 21043	<code>\textnsimeq</code> . . . . .	18464, 20568	<code>\textobar</code> . .	19697, 19698, 21001, 21442
<code>\textngtrless</code> . . . . .	18607, 20631	<code>\textnsqsubset</code> . . . .	18657, 20656	<code>\textobot</code> . .	19706, 19707, 21003, 21446
<code>\textngtrsim</code> . . . . .	18601, 20628	<code>\textnsqsubseteq</code> . .	18665, 20660	<code>\textobslash</code>	19700, 19701, 19702, 19703, 21002, 21443, 21444, 21445
<code>\textnhateq</code> . . . . .	18538, 20600	<code>\textnsqsupset</code> . . . .	18661, 20658	<code>\textObullseye</code> . . . .	16637, 21243
<code>\textni</code> . . . .	18342, 18343, 20518, 21291	<code>\textnsqsupseteq</code> . .	18669, 20662	<code>\textodiv</code> . . . . .	19754, 21024
<code>\textNibRight</code> . . . .	19433, 20886	<code>\textnSubset</code> . . . . .	18808, 20714	<code>\textodot</code> . .	18687, 18688, 20669, 21324
<code>\textNibSolidRight</code>	19435, 20887	<code>\textnsubset</code> . . . . .	18635, 20645	<code>\textogonek</code>	15142, 15550, 15577, 16720
<code>\textniepsilon</code> . . .	16423, 16424, 20290, 21186	<code>\textnsubseq</code> . . . .	18643, 20649	<code>\textogreaterthan</code>	19714, 19715, 21006, 21448
<code>\textniiota</code> .	16472, 16473, 20298, 21199	<code>\textnsubseteqq</code> . . .	19860, 21073	<code>\textohm</code> . . . . .	18074
<code>\textnineinferior</code> . .	17983, 20400	<code>\textnsucc</code> . . . . .	18629, 20642	<code>\textoiint</code> . . . . .	18424, 20551
<code>\textninesuperior</code> . .	17951, 20384	<code>\textnsuccapprox</code> . .	19852, 21069	<code>\textoinferior</code> . . . .	17999, 20408
<code>\textnininferior</code> . . . .	18013, 20415	<code>\textnsucccurlyeq</code> .	18846, 20731	<code>\textoint</code> . .	18421, 18422, 20550, 21301
<code>\textnphi</code> . . . . .	16525, 20301	<code>\textnsucceq</code> . . . . .	19828, 21057	<code>\textointclockwise</code> .	18427, 20552
<code>\textniupsilon</code> . . .	16583, 16584, 20307, 21227	<code>\textnsucceqq</code> . . . .	19840, 21063	<code>\textointctrclockwise</code> . . . .	18429, 20553
<code>\textnLeftarrow</code> . . .	18257, 20481	<code>\textnsuccsim</code> . . . .	18625, 20640	<code>\textolessthan</code> . . .	19711, 19712, 21005, 21447
<code>\textnleftarrow</code> . . .	18165, 20444	<code>\textnsuperior</code> . . . .	17963, 20390	<code>\textOmega</code> .	1280, 16763, 16815, 20327
<code>\textnLeftrightarrow</code> . . . .	18259, 20482	<code>\textnSupset</code> . . . . .	18812, 20716	<code>\textomega</code> .	1280, 16881, 16892, 20351
<code>\textnleftrightharpoon</code>	18196, 20459	<code>\textnSupseteq</code> . . . .	18637, 20646	<code>\textOmicron</code>	1256, 16759, 16796
<code>\textnleq</code> . . . . .	18589, 20623	<code>\textnSupseteqq</code> . . .	18645, 20650	<code>\textomicron</code>	1256, 16861, 16887
<code>\textnleqq</code> . . . . .	18564, 20611	<code>\textntriangleleft</code> .	18866, 18867, 20740, 21357	<code>\textominus</code>	18678, 18679, 20666, 21321
<code>\textnleqslant</code> . . . .	19785, 21037	<code>\textntrianglelefteq</code>	18873, 20742	<code>\textoneeighth</code> . . . . .	18127
<code>\textnless</code> . . . . .	18584, 20621	<code>\textntriangleright</code>	18869, 18870, 20741, 21358	<code>\textonefifth</code> . . . . .	18115
<code>\textnlessapprox</code> . .	19793, 21041	<code>\textntrianglerighteq</code> . . . .	18876, 18877, 20743	<code>\textonehalf</code> . . . . .	15310, 15756
<code>\textnlessgtr</code> . . . .	18609, 20632	<code>\textntriplesim</code> . . .	18483, 20576	<code>\textoneinferior</code> . . .	17967, 20392
<code>\textnlesssim</code> . . . .	18599, 20627	<code>\textntwoheadleftarrow</code> . .	18171, 20447	<code>\textoneninth</code> . . . . .	18107
<code>\textnll</code> . . . . .	18576, 20617	<code>\textntwoheadrightarrow</code> .	18178, 20450	<code>\textonequarter</code> . . .	15308, 15754
<code>\textnmid</code> .	18392, 18393, 20538, 21297	<code>\textNu</code> . . . . .	1254, 16792	<code>\textoneseventh</code> . . . . .	18105
<code>\textNoChemicalCleaning</code>	19709, 21004	<code>\textnu</code> . . . .	1254, 16857, 20340 15615	<code>\textonesixth</code> . . . . .	18123
<code>\textnormal</code> . . . . .	584	<code>\textnumbersign</code> . . .	552, 15150, 16747	<code>\textonesuperior</code> .	15302, 15748, 20275
<code>\textnotbackslash</code> .	18929, 20766	<code>\textnumeralsigngreek</code> . . .	1205, 16747	<code>\textonetenth</code> . . . . .	18109
<code>\textnotin</code> . . . . .	18338, 20516	<code>\textnumeralsignlowergreek</code>	1222, 1244, 1267, 16749	<code>\textonethird</code> . . . . .	18111
<code>\textnotowner</code> . . .	18345, 18346, 20519, 21292	<code>\textnumero</code> . . . . .	18059	<code>\textoo</code> . . . . .	19930, 21094
<code>\textnotperp</code> . . . .	19572, 20951	<code>\textnupmodels</code> . . .	19891, 21085	<code>\textopenbullet</code> . . .	19168, 20800
<code>\textnotslash</code> . . . .	18926, 20765	<code>\textnupvdash</code> . . .	18725, 18726, 20683, 21334	<code>\textopencorner</code> . . .	16732, 16733
<code>\textnoway</code> . . . . .	19395, 20871	<code>\textnVDash</code>	18753, 18754, 20692, 21343	<code>\textopeno</code>	16398, 16399, 16400, 20286, 21180
<code>\textnparallel</code>	18397, 18398, 20540	<code>\textnVdash</code>	18750, 18751, 20691, 21342	<code>\textoplus</code> .	18675, 18676, 20665, 21320
<code>\textnprec</code> . . . . .	18627, 20641	<code>\textnvDash</code>	18746, 18747, 18748, 20690, 21340, 21341	<code>\textordfeminine</code> . .	15273, 15715
<code>\textnprecapprox</code> . .	19848, 21067	<code>\textnvdash</code>	18743, 18744, 20689, 21339	<code>\textordmasculine</code> .	15304, 15750
<code>\textnpreccurlyeq</code> .	18844, 20730	<code>\textnVdash</code> . . . . .	18737, 20687	<code>\textoslash</code>	18684, 18685, 20668, 21323
<code>\textnpreceq</code> . . . .	19824, 21055	<code>\textNwarrow</code> . . . .	18281, 20490		
<code>\textnpreceqq</code> . . . .	19836, 21061	<code>\textnwnarrow</code> . . . .	18155, 20440		
<code>\textnprecsim</code> . . . .	18621, 20638	<code>\textnwsearrow</code> . . .	19609, 20968		
<code>\textnqsubseq</code> . . .	18848, 20732				
<code>\textnqsupseq</code> . . .	18850, 20733				
<code>\textnRightarrow</code> .	18262, 20483				
<code>\textnrightarrow</code> . .	18167, 20445				
<code>\textnrisingdoteq</code> . .	18520, 20592				
<code>\textnrleg</code> .	16209, 16211, 21165				
<code>\textnsim</code> . . . . .	18456, 20564				

<code>\textotimes</code> 18681, 18682, 20667, 21322	<code>\textplusminus</code> . . 15286, 15464, 15728, 20008	<code>\textquestiondown</code> . . . 770, 1140, 15314, 15760
<code>\textovee</code> . . 18407, 18408, 20544, 21299	<code>\textPlusOutline</code> . . 19448, 20893	<code>\textquotedbl</code> . . . . 15148, 15613
<code>\textowedge</code> 18402, 18403, 20542, 21298	<code>\textplussuperior</code> . . 17953, 20385	<code>\textquotedblleft</code> . . 15216, 15454, 17883, 19998
<code>\textparagraph</code> . . . . 558, 15296, 15739, 15740, 21141	<code>\textPlusThinCenterOpen</code> 19452, 20895	<code>\textquotedblright</code> . 15218, 17885
<code>\textparallel</code> . . . . . 18395, 20539	<code>\textpluto</code> . 19267, 19268, 20832, 21404	<code>\textquoteleft</code> . . . 15220, 15456, 17877, 20000
<code>\textparenleft</code> . . 773, 774, 15158, 15629	<code>\textpm</code> . . . 15464, 20008, 21123	<code>\textquoteright</code> . . . 15222, 17879
<code>\textparenleftinferior</code> . . . . 17991, 20404	<code>\textpointer</code> . . . . . 18308, 20502	<code>\textquotesingle</code> . . . . . 15627
<code>\textparenleftsuperior</code> . . . 17959, 20388	<code>\textprec</code> . . . . . 18611, 20633	<code>\textRadioactivity</code> 19210, 19211, 20815, 21383
<code>\textparenright</code> . . . 15160, 15631	<code>\textprecapprox</code> . . . 19846, 21066	<code>\textRain</code> . . . . . 19393, 20870
<code>\textparenrightinferior</code> . . . 17993, 20405	<code>\textpreccurlyeq</code> . . 18615, 20635	<code>\textraiseglotstop</code> . 16691, 16692
<code>\textparenrightsuperior</code> . . 17961, 20389	<code>\textpreceq</code> . . . . . 19822, 21054	<code>\texttriangle</code> . . . . . 18917, 20762
<code>\textpartial</code> . . . . . 18323, 20509	<code>\textpreceqq</code> . . . . . 19834, 21060	<code>\textrbrackdbl</code> . . . 19583, 19584, 20956, 21437
<code>\textPeace</code> . . . . . 19422, 20881	<code>\textprecnapprox</code> . . 19854, 21070	<code>\texttrcurvearrowdown</code> . . . 19640, 19641, 19642, 20980, 21440, 21441
<code>\textPencilRight</code> . . 19429, 20884	<code>\textprecneq</code> . . . . . 19830, 21058	<code>\texttrcurvearrowleft</code> 19644, 20981
<code>\textPencilRightDown</code> . . . 19427, 20883	<code>\textprecneqq</code> . . . . 19842, 21064	<code>\texttrcurvearrowne</code> 19624, 20975
<code>\textPencilRightUp</code> 19431, 20885	<code>\textprecsim</code> . . . . . 18862, 20738	<code>\texttrcurvearrowright</code> . . . 19647, 20982
<code>\textpentagon</code> . . . . 19901, 21089	<code>\textprecsim</code> . . . . . 18619, 20637	<code>\texttrcurvearrowse</code> 19633, 20978
<code>\textpercent</code> . 554, 15154, 15621	<code>\textprime</code> . . . . . 17907, 20370	<code>\textRe</code> . . . . . 18066, 20424
<code>\textperiodcentered</code> 15298, 15465, 15742, 15743, 15744, 20009, 21142, 21143	<code>\textprimstress</code> . . . 16702, 16703	<code>\textrecipe</code> . . . . . 18068
<code>\textperp</code> . . . . . 19570, 20950	<code>\textprod</code> . . . . . 18350, 20521	<code>\textRectangle</code> . . . 19566, 20948
<code>\textpertenthousand</code> . . . . 17905	<code>\textproppto</code> 18376, 18377, 20532, 21293	<code>\textRectangleBold</code> 19568, 20949
<code>\textperthousand</code> . . 15212, 17903	<code>\textPsi</code> . . . . 1279, 16812, 20326	<code>\textRectangleThin</code> 19564, 20947
<code>\textpeseta</code> . . . . . 18027	<code>\textpsi</code> . . . . 1279, 16879, 20350	<code>\textrecycle</code> 19342, 19343, 20851, 21423
<code>\textpeso</code> . . . . . 18047	<code>\textPUaolig</code> 19927, 19928, 21463	<code>\textreferencemark</code> . . . . . 17919
<code>\textPhi</code> . . . 1277, 16808, 20325	<code>\textPUdblig</code> 16371, 16372, 21170	<code>\textregistered</code> . . . . 15280, 15722
<code>\textphi</code> . . . . 1277, 16875, 20348	<code>\textPUfemale</code> . . . 19240, 19241, 19242, 19243, 19244, 19245, 21391, 21392, 21393, 21394, 21395	<code>\textRequest</code> . . . . . 18947, 20773
<code>\textphiinferior</code> . . . 17534, 20361	<code>\textPUheng</code> 19918, 19919, 21460	<code>\textrevapostrophe</code> 16688, 16689
<code>\textPhone</code> 19183, 19184, 20806, 21374	<code>\textPULhookfour</code> 19921, 19922, 21461	<code>\textrevc</code> . . . . . 18135
<code>\textPhoneHandset</code> 19413, 20877	<code>\textPUNrleg</code> 16210, 16211, 21165	<code>\textrevE</code> . . . . . 16185
<code>\textPi</code> . . . . 1257, 16798, 20322	<code>\textPUqlig</code> 16374, 16375, 21171	<code>\textreve</code> . . 16412, 16413, 20288
<code>\textpi</code> . . . . . 1257, 16863, 20342	<code>\textPUrevscr</code> . . . 17515, 17516, 21255	<code>\textrevepsilon</code> . . 16426, 16427, 20291
<code>\textpinferior</code> . . . . 18015, 20416	<code>\textPURhooka</code> . . 17546, 17547, 21256	<code>\textrevglotstop</code> . 16623, 16624, 16625, 20315, 21239
<code>\textpipe</code> . . 16230, 16231, 16232, 21166	<code>\textPURhooke</code> . . 17551, 17552, 21257	<code>\textrevscr</code> 17514, 17516, 21255
<code>\textpipevar</code> . . . . . 16232, 21166	<code>\textPURhookepsilon</code> . . . . 17555, 17556, 21258	<code>\textrevyogh</code> . . . . 16220, 16221
<code>\textpisces</code> . 19303, 19304, 20844, 21416	<code>\textPURhookopeno</code> 17559, 17560, 21259	<code>\textRewind</code> . . . . 19152, 20793
<code>\textpitchfork</code> . . . . 18820, 20719	<code>\textPUscf</code> . 19924, 19925, 21462	<code>\textRewindToIndex</code> . . . . 18959, 20778
<code>\textPlane</code> . . . . . 19417, 20879	<code>\textPUscck</code> 17506, 17507, 21252	<code>\textRHD</code> . . . . . 19143, 20790
<code>\textPlus</code> . . . . . 19450, 20894	<code>\textPUscm</code> 17509, 17510, 21253	<code>\textrhd</code> . . 18759, 18760, 20694, 21345
<code>\textPlusCenterOpen</code> . . . 19454, 20896	<code>\textPUscp</code> 17512, 17513, 21254	<code>\textRho</code> . . . . . 1273, 16800
<code>\textplusinferior</code> . . 17985, 20401	<code>\textPUuncrfemale</code> 19383, 19384, 21426	<code>\textrho</code> . . . 1273, 16865, 20343
	<code>\textqqlig</code> . 16373, 16375, 21171	<code>\textrhoinferior</code> . . . 17532, 20360
	<code>\textquaternote</code> . . 19327, 20845	<code>\textrhooka</code> 17545, 17547, 21256
		<code>\textrhooke</code> 17550, 17552, 21257

<code>\textrhookepsilon</code>	17554, 17556, 21258	<code>\textrtailr</code>	16541, 16542, 16543, 21219	<code>\textsecstress</code>	16705, 16706
<code>\textrhooknearrow</code>	19615, 20971	<code>\textrtails</code>	16557, 16558, 16559, 21222	<code>\textsection</code>	15267, 15707, 15708, 15709, 21139, 21140
<code>\textrhookopeno</code>	17558, 17560, 21259	<code>\textrtailt</code>	16575, 16576, 16577, 21225	<code>\textSePa</code>	19946, 21099
<code>\textrhookrepsilon</code>	16429, 16430, 16431, 20292, 21187	<code>\textrtailz</code>	16603, 16604, 16605, 21234	<code>\textservicemark</code>	18070
<code>\textrhookswa</code>	16418, 16419, 16420, 21185	<code>\textrtimes</code>	18790, 20706	<code>\textsetminus</code>	15170, 18366, 20528
<code>\textrhookswarrow</code>	19619, 20973	<code>\textsagittarius</code>	19294, 19295, 20841, 21413	<code>\textsevenighths</code>	18133
<code>\textRightarrow</code>	18270, 18271, 20486, 21287	<code>\textSampigreek</code>	1281, 16907	<code>\textseveninferior</code>	17979, 20398
<code>\textrightarrow</code>	2573, 18143, 18144, 18145, 20436, 21280, 21281	<code>\textsampigreek</code>	1281, 16909	<code>\textsevensuperior</code>	17947, 20382
<code>\textrightarrowtail</code>	18184, 20453	<code>\textsaturn</code>	19258, 19259, 20829, 21401	<code>\textsf</code>	586, 13493, 13496
<code>\textrightarrowtriangle</code>	18315, 20505	<code>\textsc</code>	591	<code>\textsharp</code>	19340, 20850
<code>\textrightbarharpoon</code>	19678, 20993	<code>\textscb</code>	16638, 16639	<code>\textshuffle</code>	19731, 21014
<code>\textRIGHTCIRCLE</code>	19166, 20799	<code>\textscd</code>	17500, 20352	<code>\textSigma</code>	1274, 16802, 20323
<code>\textrightharpoondown</code>	18225, 20469	<code>\textsce</code>	17501, 17502	<code>\textsigma</code>	1274, 16869, 20345
<code>\textrightharpoonup</code>	18222, 20468	<code>\textscf</code>	19923, 19925, 21462	<code>\textsim</code>	18446, 18447, 20560, 21304
<code>\textrightleftarrows</code>	18234, 20472	<code>\textscg</code>	16447, 16448, 20294	<code>\textsimeq</code>	18462, 20567
<code>\textrightleftharpoon</code>	19651, 20984	<code>\textsch</code>	16646, 16647	<code>\textsinferior</code>	18017, 20417
<code>\textrightleftharpoons</code>	18254, 20480	<code>\textschwa</code>	16415, 16416, 20289	<code>\textSixFlowerAlternate</code>	19518, 20927
<code>\textrightmoon</code>	19235, 20824	<code>\textschwainferior</code>	18003, 20410	<code>\textSixFlowerAltPetal</code>	19528, 20932
<code>\textrightrightarrow</code>	18246, 20477	<code>\textsci</code>	16474, 16475, 20299	<code>\textSixFlowerOpenCenter</code>	19514, 20925
<code>\textrightrightarrowharpoons</code>	19666, 20989	<code>\textScissorHollowRight</code>	19411, 20876	<code>\textSixFlowerPetalRemoved</code>	19511, 20924
<code>\textrightslice</code>	19820, 21053	<code>\textScissorRight</code>	19405, 19406, 19407, 20874, 21430, 21431	<code>\textsixinferior</code>	17977, 20397
<code>\textrightsquigarrow</code>	18295, 20497	<code>\textScissorRightBrokenBottom</code>	19401, 19402, 19403, 21428, 21429	<code>\textSixStar</code>	19501, 20919
<code>\textrightthreetimes</code>	18794, 20708	<code>\textScissorRightBrokenTop</code>	19409, 20875	<code>\textsixsuperior</code>	17945, 20381
<code>\textrinferior</code>	17522, 20355	<code>\textscj</code>	17503, 17504	<code>\textSixteenStarLight</code>	19509, 20923
<code>\textring</code>	15089, 15101, 15113, 15144, 15542, 15569, 16718	<code>\textscck</code>	17505, 17507, 21252	<code>\textsixteenthnote</code>	19334, 20847
<code>\textringlow</code>	15553, 15580, 16727	<code>\textsccl</code>	16654, 16655	<code>\textsl</code>	592
<code>\textriota</code>	18079, 20426	<code>\textscm</code>	17508, 17510, 21253	<code>\textslashc</code>	16377, 16378, 16380, 20284, 21172, 21173
<code>\textrisingdoteq</code>	18518, 20591	<code>\textscn</code>	16510, 16511, 20300	<code>\textslashdiv</code>	19907, 21092
<code>\textrm</code>	585	<code>\textscolig</code>	16517, 16518	<code>\textsmallin</code>	18340, 20517
<code>\textrp</code>	16697, 16698	<code>\textscorpio</code>	19291, 19292, 20840, 21412	<code>\textsmallowns</code>	18348, 20520
<code>\textrquill</code>	17927	<code>\textscp</code>	17511, 17513, 21254	<code>\textsmile</code>	18911, 20759
<code>\textRightarrow</code>	18291, 20495	<code>\textscr</code>	16552, 16553, 20303	<code>\textsmiley</code>	19225, 19226, 20820, 21388
<code>\textrrparenthesis</code>	19693, 20999	<code>\textscripta</code>	16385, 16386, 16387, 20285, 21175	<code>\textSnowflake</code>	19532, 20934
<code>\textrtaild</code>	16404, 16405, 16406, 20287, 21182	<code>\textscriptg</code>	16444, 16445, 16446, 20293, 21191	<code>\textSnowflakeChevron</code>	19530, 20933
<code>\textrtaill</code>	16484, 16485, 16486, 21202	<code>\textscriptv</code>	16586, 16587, 20308	<code>\textSnowflakeChevronBold</code>	19534, 20935
<code>\textrtailn</code>	16507, 16508, 16509, 21211	<code>\textscu</code>	17517, 17518, 20353	<code>\textSoccerBall</code>	19388, 19389, 21427
		<code>\textscy</code>	16600, 16601, 20312	<code>\textspadesuitblack</code>	2572, 19306, 19307, 21417
		<code>\textSearrow</code>	18285, 20492	<code>\textspadesuitwhite</code>	19319
		<code>\textsearrow</code>	18160, 18161, 20442, 21285	<code>\textSparkle</code>	19536, 20936
		<code>\textSech</code>	19960, 21105	<code>\textSparkleBold</code>	19538, 20937
		<code>\textsecond</code>	17909, 20371	<code>\textSphericalangle</code>	18385, 18386, 18387, 18388, 20536, 21294, 21295, 21296



<code>\textsqcap</code> . . . . .	18671, 20663	<code>\textsuccurlyeq</code> . .	18617, 20636	<code>\texttriangle</code> . . . . .	18332, 20513
<code>\textsqcup</code> . . . . .	18673, 20664	<code>\textsucceq</code> . . . . .	19826, 21056	<code>\texttriangleleft</code> . . . . .	18540, 20601
<code>\textsqdoublecap</code> .	19758, 19759, 21026, 21450	<code>\textsucceqq</code> . . . . .	19838, 21062	<code>\texttriangleleftleft</code> . . . . .	19155, 20794
<code>\textsqdoublecup</code> .	19763, 19764, 21028, 21451	<code>\textsuccapprox</code> . .	19856, 21071	<code>\texttriangleright</code> . . . . .	19141, 20789
<code>\textsqsubset</code> . . . . .	18655, 20655	<code>\textsuccneq</code> . . . . .	19832, 21059	<code>\texttriplesim</code> . . .	18480, 18481, 20575, 21307
<code>\textsqsubseq</code> . . . .	18663, 20659	<code>\textsuccneqq</code> . . . .	19844, 21065	<code>\textTslash</code> . . . . .	16120
<code>\textsqsubsetneq</code> .	18852, 18853, 20734, 21355	<code>\textsuccnsim</code> . . . .	18864, 20739	<code>\textttslash</code> . . . . .	16122
<code>\textsqsupset</code> . . . . .	18659, 20657	<code>\textsuccsim</code> . . . . .	18623, 20639	<code>\textttslig</code> . . . . .	16673, 16674
<code>\textsqsupseteq</code> . . .	18667, 20661	<code>\textsum</code> . . . . .	18354, 20523	<code>\textttt</code> . . . . .	587
<code>\textsqsupsetneq</code> .	18855, 18856, 20735, 21356	<code>\textsun</code> . . . . .	19230, 19231, 20822, 21389	<code>\textTumbler</code> . . . . .	18921, 20764
<code>\textSquareCastShadowBottom- Right</code> . . . . .	19557, 20944	<code>\textSunCloud</code> . . . .	19391, 20869	<code>\textturna</code> . . . . .	16381, 16382, 16383, 21174
<code>\textSquareCastShadowTopRight</code> . . . . .	19560, 20945	<code>\textSunshineOpenCircled</code>	19526, 20931	<code>\textturnh</code> . . . . .	16456, 16457, 16458, 16459, 21193, 21194
<code>\textsqaredots</code> . . . .	18439, 20557	<code>\textSupset</code> . . . . .	18810, 20715	<code>\textturnk</code> . . . . .	16651, 16652, 16653, 21245
<code>\textSquareShadowBottomRight</code> . . . . .	19551, 20942	<code>\textsupset</code> . . . . .	18633, 20644	<code>\textturnlonglegr</code> .	16531, 16532, 16533, 21216
<code>\textSquareTopRight</code> . . . .	19554, 20943	<code>\textsupseteq</code> . . . . .	18641, 20648	<code>\textturnm</code> . . . . .	16490, 16491, 16492, 16493, 21204, 21205
<code>\textsslash</code> . . . . .	19898, 19899, 21088, 21459	<code>\textsupseteqq</code> . . . .	19862, 21074	<code>\textturnmrleg</code> . .	16495, 16496, 16497, 21206
<code>\textstar</code> . . . . .	18780, 20702	<code>\textsupsetneq</code> . . . .	18649, 20652	<code>\textturnr</code> . . . . .	16526, 16527, 16528, 16529, 21214, 21215
<code>\textsterling</code> . . . . .	15259, 15696, 15697, 15698, 21136, 21137	<code>\textsurd</code> . . . . .	18374, 20531	<code>\textturnrrtail</code> . . .	16535, 16536, 16537, 21217
<code>\textStigmagreek</code> . . .	1233, 16894	<code>\textswarrow</code> . . . . .	18287, 20493	<code>\textturnsck</code> . . . . .	16653, 21245
<code>\textstigmagreek</code> . . .	1233, 16896	<code>\textswarrow</code> . . . . .	18163, 20443	<code>\textturnscripta</code> . .	16389, 16390, 16391, 16392, 21176, 21177
<code>\textstmarydbaro</code> . . .	18923, 18924, 21361	<code>\textSymbolUnavailable</code> .	15120, 15121, 15123	<code>\textturnt</code> . . . . .	16571, 16572, 16573, 21224
<code>\textstretchc</code> . . . .	16629, 16630, 16631, 16632, 21240, 21241	<code>\textTape</code> . . . . .	19415, 20878	<code>\textturnv</code> . . . . .	16588, 16589, 16590, 16591, 20309, 21228, 21229
<code>\textstretchcvar</code> . . .	16632, 21241	<code>\textTau</code> . . . . .	1275, 16804	<code>\textturnw</code> . . . . .	16592, 16593, 16594, 16595, 20310, 21230, 21231
<code>\textsubbreve</code> . . . .	15526, 15555, 15582, 17642, 17644	<code>\texttau</code> . . . . .	1275, 16871, 20346	<code>\textturny</code> . . . . .	16596, 16597, 16598, 16599, 20311, 21232, 21233
<code>\textsubcircum</code> . . .	15523, 15524, 15554, 15581, 17594, 17596, 17610, 17612, 17670, 17672, 17698, 17700, 17754, 17756, 17766, 17768	<code>\texttaurus</code> . . . . .	19273, 19274, 20834, 21406	<code>\textTwelveStar</code> . . .	19507, 20922
<code>\textsubring</code> . . . . .	15516, 15517, 15553, 15580, 17562, 17564	<code>\texttctclig</code> . . . . .	16679, 16680	<code>\texttwo fifths</code> . . . . .	18117
<code>\textSubset</code> . . . . .	18806, 20713	<code>\textTent</code> . . . . .	19399, 20873	<code>\texttwoheaddownarrow</code> .	18180, 20451
<code>\textsubset</code> . . . . .	18631, 20643	<code>\textteshlig</code> . . . . .	16675, 16676, 16677, 21247	<code>\texttwoheadleftarrow</code> . . .	18169, 20446
<code>\textsubseq</code> . . . . .	18639, 20647	<code>\texttherefore</code> . . . .	18431, 18432, 20554	<code>\texttwoheadrightarrow</code> . .	18176, 20449
<code>\textsubseqq</code> . . . . .	19858, 21072	<code>\textTheta</code> . . . . .	1236, 16782, 20319	<code>\texttwoheaduparrow</code> . . .	18173, 20448
<code>\textsubsetneq</code> . . . .	18647, 20651	<code>\texttheta</code> . . . . .	1236, 16847, 20335	<code>\texttwoinferior</code> . . . .	17969, 20393
<code>\textsubtilde</code> . . . . .	15527, 15528, 15556, 15583, 17614, 17616, 17646, 17648, 17762, 17764	<code>\textthird</code> . . . . .	17911, 20372	<code>\textwonotes</code> . . . . .	19332, 20846
<code>\textsubumlaut</code> . . .	15514, 15515, 15552, 15579, 17758, 17760	<code>\textThorn</code> . . . . .	15378, 15825, 20276	<code>\textwosuperior</code> . . . .	15288, 15730, 20273
<code>\textsucc</code> . . . . .	18613, 20634	<code>\textthorn</code> . . . . .	15447, 15894, 15896, 20277	<code>\texttwo thirds</code> . . . . .	18113
<code>\textsuccapprox</code> . . .	19850, 21068	<code>\textthree eighths</code> . . . . .	18129	<code>\texttudots</code> . . . . .	18883, 20746
		<code>\textthree fifths</code> . . . . .	18119	<code>\texttuinferior</code> . . . . .	17524, 20356
		<code>\textthree inferior</code> . .	17971, 20394	<code>\texttulcorner</code> . . . . .	18901, 20754
		<code>\textthree quarters</code> .	15312, 15758		
		<code>\textthreesuperior</code> .	15290, 15732, 20274		
		<code>\texttie</code> . . . . .	15559, 15586, 16745		
		<code>\texttilde</code> . . . . .	4409, 15087, 15099, 15111, 15146, 15540, 15567, 16722		
		<code>\texttildelow</code> . . . . .	15556, 15583, 16731		
		<code>\texttimes</code> . . . . .	15462, 20006, 21121		
		<code>\texttinferior</code> . . . . .	18019, 20418		
		<code>\texttop</code> . . . . .	18717, 18718, 20680, 21332		
		<code>\texttrademark</code> . . . .	15226, 18072		

<code>\textuncrfemale</code> . . .	19382, 19384, 21426	<code>\textveedot</code> . . . . .	19574, 20952	<code>\theHenumiv</code> . . . . .	6960
<code>\textunderscore</code> . . .	557, 4856, 4857, 4859, 15174, 15675, 15676, 21134	<code>\textveedoublebar</code> . .	19775, 21032	<code>\theHequation</code> . . . .	6928, 7000, 7357, 7388, 7416, 7424, 7451, 7455
<code>\textunlhd</code> . . . . .	18762, 18763, 18764, 20695, 21346, 21347	<code>\textvertline</code> . . . .	15686, 21135	<code>\theHfigure</code> . . . . .	6935, 6939
<code>\textunrhd</code> . . . . .	18766, 18767, 18768, 20696, 21348, 21349	<code>\textvibyi</code> . . . . .	16566, 16567	<code>\theHHfootnote</code> . . . .	6961, 6964
<code>\textup</code> . . . . .	593	<code>\textvibyy</code> . . . . .	16685, 16686	<code>\theHHmpfootnote</code> . . . .	6964
<code>\textUParrow</code> . . . .	19130, 19131, 20786, 21367	<code>\textVier</code> . . . . .	19956, 21103	<code>\theHItem</code> . . . . .	6951, 6957, 6958, 6959, 6960
<code>\textUparrow</code> . . . .	18267, 20485	<code>\textvinferior</code> . . . .	17526, 20357	<code>\theHlisting</code> . . . . .	3634
<code>\textuparrow</code> . . . . .	18141, 20435	<code>\textViPa</code> . . . . .	19942, 21097	<code>\theHlstlisting</code> . . . . .	3630
<code>\textUpdownarrow</code> . .	18279, 20489	<code>\textvirgo</code> . . . . .	19285, 19286, 20838, 21410	<code>\theHmpfootnote</code> . . . . .	6962
<code>\textupdownarrow</code> . .	2575, 18153, 20439	<code>\textvisiblespace</code> . . . . .	18963	<code>\theHpage</code> . . . . .	8216
<code>\textupdownarrows</code> . .	18237, 20473	<code>\textVvdash</code> . . . . .	18735, 20686	<code>\theHparagraph</code> . . . .	6945, 6946
<code>\textupdownharpoonleftright</code> . . . . .	19657, 20986	<code>\textwasylounge</code> . . .	18893, 20751	<code>\theHparentequation</code> . .	7450, 7455
<code>\textupdownharpoonrightleft</code> . . . . .	19654, 20985	<code>\textwedge</code> . . . . .	18400, 20541	<code>\theHpart</code> . . . . .	6931
<code>\textupdownharpoons</code> . . .	19684, 20995	<code>\textwedgedot</code> . . . .	19576, 20953	<code>\theHsection</code> . . . . .	6928, 6934, 6941, 6943, 6947, 6948, 7078
<code>\textupharpoonleft</code> . .	18219, 20467	<code>\textWheelchair</code> . . .	19345, 20852	<code>\theHslide</code> . . . . .	8648
<code>\textupharpoonright</code> . . . .	18216, 20466	<code>\textWomanFace</code> . . .	19970, 19971, 21110, 21466	<code>\theHslidection</code> . . . .	8653, 8655, 8691, 8695
<code>\textuplus</code> . . . . .	19733, 21015	<code>\textwon</code> . . . . .	18029	<code>\theHslidesubsection</code> . .	8654, 8742, 8746
<code>\textupmodels</code> . . . .	19889, 21084	<code>\textwpon</code> . . . . .	18064, 20423	<code>\theHsubequation</code> . . . . .	7424
<code>\textUpsilon</code> . . . . .	1276, 16761, 16806, 16820, 20324	<code>\textwr</code> . . . . .	18453, 18454, 20563, 21305	<code>\theHsubparagraph</code> . . . . .	6946
<code>\textupsilon</code> . . . . .	1276, 16873, 16885, 16890, 20347	<code>\textWritingHand</code> . . .	19424, 19425, 20882, 21433	<code>\theHsubsection</code> . . . .	6943, 6944
<code>\textupsilonacute</code> . . .	16831, 16889	<code>\textwynn</code> . . . . .	16227, 16228	<code>\theHsubsubsection</code> . .	6944, 6945
<code>\textupspoon</code> . . . . .	19893, 21086	<code>\textXi</code> . . . . .	1255, 16794, 20321	<code>\theHtable</code> . . . . .	6936, 6940
<code>\textupstep</code> . . . . .	19912, 19913	<code>\textxi</code> . . . . .	1255, 16859, 20341	<code>\theHtheorem</code> . . . . .	6947
<code>\textupuparrows</code> . . .	18244, 20476	<code>\textxinferior</code> . . . .	18001, 20409	<code>\theHthm</code> . . . . .	6948
<code>\textupupharpoons</code> . .	19663, 20988	<code>\textXSolid</code> . . . . .	19442, 20890	<code>\theHy@tempcnt</code> . . . .	4972, 4980, 4987
<code>\texturanus</code> . . . . .	19261, 19262, 20830, 21402	<code>\textXSolidBold</code> . . .	19444, 20891	<code>\thelisting</code> . . . . .	3634
<code>\texturcorner</code> . . . .	18903, 20755	<code>\textXSolidBrush</code> . .	19446, 20892	<code>\thelstlisting</code> . . . . .	3630
<code>\textValve</code> . . . . .	19727, 21012	<code>\textxswup</code> . . . . .	19353, 21425	<code>\thempfn</code> . . . . .	7587, 7690, 7782, 7794
<code>\textvarhexagon</code> . . .	19903, 21090	<code>\texttyen</code> . . . . .	15263, 15702	<code>\theoremautorefname</code> . .	3309, 3327, 3345, 3363, 3381, 3399, 3417, 3455, 3475, 3493, 9088
<code>\textvarobar</code> . . . .	19698, 21442	<code>\textYinYang</code> . . . .	19217, 19218, 19219, 19220, 20818, 21384, 21385, 21386	<code>\thepage</code> . . . . .	2595, 5090, 6590, 6616, 6631, 7198, 7206, 7233, 8059, 8082, 8111, 8212, 8259, 8338, 8386, 8547, 8564, 8570, 8574, 8581, 8845, 8865, 8882, 9000
<code>\textvarsigma</code> . . . .	16867, 20344	<code>\textyogh</code> . . . . .	16610, 16611, 20313	<code>\therefore</code> . . . . .	18430, 20554
<code>\textVDash</code> . . . . .	18740, 18741, 20688, 21338	<code>\textzeroinferior</code> . .	17965, 20391	<code>\theslideheading</code> . . . . .	8674
<code>\textVdash</code> . . . . .	18732, 18733, 20685, 21337	<code>\textzerosuperior</code> . .	17937, 20377	<code>\theslidection</code> . . . . .	8662, 8669, 8677, 8683, 8685, 8687, 8693, 8703
<code>\textvDash</code> . . . . .	18728, 18729, 18730, 20684, 21335, 21336	<code>\textzerothirds</code> . . . . .	18137	<code>\theslidesubheading</code> . .	8675, 8726
<code>\textvddash</code> . . . . .	18708, 18709, 20677, 21329	<code>\textZeta</code> . . . . .	1234, 16778	<code>\theslidesubsection</code> . . . . .	8714, 8721, 8728, 8734, 8736, 8738, 8744, 8754
<code>\textvdotdot</code> . . . . .	18437, 20556	<code>\textxzeta</code> . . . . .	1234, 16843, 20333	<code>\Theta</code> . . . . .	16781, 20319
<code>\textvdots</code> . . . . .	18879, 20744	<code>\textZwdr</code> . . . . .	19962, 21106	<code>\theta</code> . . . . .	16846, 20335
<code>\textvee</code> . . . . .	18405, 20543	<code>\textZwPa</code> . . . . .	19948, 21100	<code>\third</code> . . . . .	17910, 20372
<code>\textveebar</code> . . . . .	18776, 20700	<code>\TH</code> . . . . .	15376, 15377, 15823, 15824	<code>\This@name</code> . . . . .	6977, 6978, 6996, 6997
		<code>\th</code> . . . . .	15445, 15446, 15894, 15895	<code>\thispdfpagelabel</code> . . . . .	6595
		<code>\thaa</code> . . . . .	20167	<code>\ThisShouldNotHappen</code> . .	14209
		<code>\thebookmark@seq@number</code> . . . . .	14632		
		<code>\theequation</code> . . . . .	6999, 7356, 7387, 7415, 7451		
		<code>\thefootnote</code> . . . . .	7598, 7801		
		<code>\theHchapter</code> . . . . .	6938, 6939, 6940, 6941, 7080		
		<code>\theHenumiv</code> . . . . .	6957		
		<code>\theHenumii</code> . . . . .	6958		
		<code>\theHenumiii</code> . . . . .	6959		

<code>\thm@headfont</code> . . . . .	7467, 7495	4595, 4597, 5184, 5189,	15966, 15968, 15999, 16001,
<code>\thm@headpunct</code> . . .	7469, 7497, 7528	5197, 5198, 5201, 5301, 5306, 5310, 5314, 6711,	16002, 16072, 16074, 16132, 16134
<code>\thm@headsep</code> .	7470, 7498, 7529	6713, 6799, 6801, 6851,	<code>\ubar</code> . . . . . 16581, 21226
<code>\thm@indent</code> . . . . .	7466, 7494	6863, 7215, 7219, 7255,	<code>\udesc</code> . . . . . 16459, 21194
<code>\thm@notefont</code>	7468, 7496, 7527	7260, 7668, 7671, 8417,	<code>\udots</code> . . . . . 18882, 20746
<code>\thm@postskip</code>	7474, 7502, 7533	8418, 8624, 8629, 8631,	<code>\UHORN</code> . . 20023, 20134, 20135,
<code>\thm@preskip</code> .	7473, 7501, 7532	8634, 14948, 14954, 15019,	20136, 20137, 20138
<code>\thm@space@setup</code> .	7471, 7499, 7530	15025	<code>\uhorn</code> 3479, 3486, 20017, 20074, 20075, 20076, 20077, 20078
<code>\thm@swap</code> . . .	7465, 7493, 7526	<code>\top</code> . . . . . 18716, 20680	<code>\uinferior</code> . . . . . 20356
<code>\thmheadnl</code> . . .	7464, 7492, 7525	<code>\topmargin</code> . . . . . 8272	<code>\ulcorner</code> . . . . . 18900, 20754
<code>\Thorn</code> . . .	15376, 15823, 20276	<code>\triangle</code> . . . . . 18331, 20513	<code>\UnDef</code> . . . . . 12789
<code>\thorn</code> . . .	15445, 15894, 20277	<code>\triangleeq</code> . . . . . 18539, 20601	<code>\unhbox</code> . . . 7571, 11815, 13899, 14023, 14055, 14079, 14107, 14136
<code>\threeinferior</code> . . . . .	20394	<code>\triangleleft</code> . . . . . 19154, 20794	<code>\unhcopy</code> . . . . . 14001
<code>\threesuperior</code> . . . . .	20274	<code>\trianglelefteq</code> . . . . 18764, 21347	<code>\unichar</code> . . . . . 2316
<code>\tildel</code> . . . . .	16479, 21200	<code>\triangleright</code> . . . . . 19140, 20789	<code>\Unicode</code> . . . . . 1401
<code>\times</code> . . . . .	21121	<code>\trianglerighteq</code> . . . 18768, 21349	<code>\unlhd</code> . . . . . 18761, 20695
<code>\tinferior</code> . . . . .	20418	<code>\triplesim</code> . . . . . 18479, 20575	<code>\unrestored@protected@xdef</code> 7587, 7598, 7744, 7751, 7794, 7801
<code>\tiny</code> . . . . .	615	<code>\trivlist</code> . . . . . 7463, 7491, 7524	<code>\unrhd</code> . . . . . 18765, 20696
<code>\title</code> . . . . .	6494, 6496	<code>\tryhyper@link</code> . . . . 5065, 5067	<code>\unskip</code> . 7461, 7488, 7521, 8044, 8931, 8935, 8939, 8944
<code>\TMP@EnsureCode</code> . . . . .		<code>\ttfamily</code> . . . . . 597	<code>\UParrow</code> . . . . . 19129, 20786
. . .	4693, 4700, 4701, 4702, 4703, 4704, 4705, 4706, 4707, 4708, 4709, 4710, 4711, 4712, 4713, 4714, 4715, 4716, 4717, 4718, 4719, 4720, 4721, 4722, 4723, 4724, 4725, 4726	<code>\ttl@b</code> . . . . . 7266, 7271	<code>\Uparrow</code> . . . . . 18266, 20485
<code>\tocappendix</code> . . . . .	1689	<code>\ttl@gobblecontents</code> . . . . . 7275	<code>\uparrow</code> . . . . . 20435
<code>\tocchapter</code> . . . . .	1688	<code>\ttl@Hy@PatchSaveWrite</code> . 7249, 7253	<code>\Updownarrow</code> . . . 18278, 20489
<code>\toclevel@chapter</code> . . . . .	3621	<code>\ttl@Hy@refstepcounter</code> . . . 7265	<code>\updownarrow</code> . . . 18152, 20439
<code>\toclevel@figure</code> . . . . .	3627	<code>\ttl@Hy@saveanchor</code> 7244, 7268	<code>\updownarrows</code> . . 18236, 20473
<code>\toclevel@listing</code> . . . . .	3635	<code>\ttl@Hy@SavedCurrentHref</code> 7248, 7259	<code>\updownharpoonleftright</code> . 19656, 20986
<code>\toclevel@lstlisting</code> . . . . .	3631	<code>\ttl@Hy@steplink</code> . . . . . 7242	<code>\updownharpoonrightleft</code> . 19653, 20985
<code>\toclevel@paragraph</code> . . . . .	3625	<code>\ttl@Hy@savewrite</code> . . . . . 7255, 7257	<code>\updownharpoons</code> . 19683, 20995
<code>\toclevel@part</code> . . . . .	3617, 3619	<code>\Tumbler</code> . . . . . 18920, 20764	<code>\upharpoonleft</code> . . 18218, 20467
<code>\toclevel@section</code> . . . . .	3622	<code>\turnv</code> . . . . . 20309	<code>\upharpoonright</code> . . 18215, 20466
<code>\toclevel@subfigure</code> . . . . .	2609	<code>\turnw</code> . . . . . 20310	<code>\uplus</code> . . . . . 19732, 21015
<code>\toclevel@subparagraph</code> . . .	3626	<code>\turny</code> . . . . . 20311	<code>\upmodels</code> . . . . . 19888, 21084
<code>\toclevel@subsection</code> . . . . .	3623	<code>\tw@</code> 5137, 5143, 5144, 5145, 5150, 5156, 5157, 5158, 14949, 14954, 15020, 15025	<code>\upshape</code> . 603, 7468, 7496, 7527
<code>\toclevel@subsubsection</code> . . .	3624	<code>\TwelveStar</code> . . . . . 19506, 20922	<code>\Upsilon</code> . . . . . 16805, 20324
<code>\toclevel@subtable</code> . . . . .	2610	<code>\twoheadrightarrow</code> 18179, 20451	<code>\upsilon</code> . . . . . 16872, 20347
<code>\toclevel@table</code> . . . . .	3628	<code>\twoheadleftarrow</code> . 18168, 20446	<code>\upspoon</code> . . . . . 19892, 21086
<code>\tocparagraph</code> . . . . .	1693	<code>\twoheadrightarrow</code> 18175, 20449	<code>\upuparrows</code> . . . . 18243, 20476
<code>\tocpart</code> . . . . .	1687	<code>\twoheaduparrow</code> . . 18172, 20448	<code>\upupharpoons</code> . . 19662, 20988
<code>\tocsection</code> . . . . .	1690	<code>\twoinferior</code> . . . . . 20393	<code>\upvdash</code> . . . . . 18723, 21333
<code>\tocsubsection</code> . . . . .	1691	<code>\twonotes</code> . . . . . 19331, 20846	<code>\Uranus</code> . . . . . 19262, 21402
<code>\tocsubsubsection</code> . . . . .	1692	<code>\twosuperior</code> . . . . . 20273	<code>\uranus</code> . . . . . 19260, 20830</

\UTFviii@three@octets ... 2311  
 \UTFviii@two@octets ..... 2310

## V

\v .. 15090, 15102, 15114, 15236,  
 15241, 15249, 15251, 15506,  
 15543, 15570, 15600, 15924,  
 15926, 15928, 15930, 15958,  
 15960, 16036, 16038, 16056,  
 16058, 16092, 16094, 16108,  
 16110, 16116, 16118, 16166,  
 16168, 16242, 16244, 16246,  
 16248, 16249, 16251, 16253,  
 16255, 16257, 16266, 16268,  
 16270, 16272, 16278, 16279,  
 16341, 16343

\V@@@footnotetext ..... 7731  
 \V@footnotetext ..... 7717  
 \value .. 6614, 7066, 7067, 7069,  
 7070, 7998, 8024, 8276,  
 8442, 10470, 10475

\Valve ..... 19726, 21012  
 \vara ..... 16387, 21175  
 \varangle ..... 18386, 21294  
 \varbigcirc ..... 19174, 21373  
 \varcurlyvee ..... 18801, 21351  
 \varcurlywedge ... 18804, 21352  
 \VarFlag ..... 19348, 21424  
 \varg ..... 16446, 21191  
 \varhexagon ..... 19902, 21090  
 \vari ..... 16473, 21199  
 \varint ..... 18415, 21300  
 \varnothing 18328, 18330, 21290  
 \varoast ..... 18695, 21327  
 \varobslash ..... 19703, 21445  
 \varocircle ..... 18692, 21326  
 \varodot ..... 18688, 21324  
 \varogreatherthan .. 19715, 21448  
 \varoint ..... 18422, 21301  
 \varolessthan ..... 19712, 21447  
 \varomega ..... 16523, 21213  
 \varominus ..... 18679, 21321  
 \varopeno ..... 16400, 21180  
 \varoplus ..... 18676, 21320  
 \varoslash ..... 18685, 21323  
 \varotimes ..... 18682, 21322  
 \varovee ..... 18408, 21299  
 \varowedge ..... 18403, 21298  
 \varparallel ..... 19899, 21459  
 \varparallelinv .... 18966, 21362  
 \varprop ..... 18377, 21293  
 \varsigma ..... 20344  
 \varsqsubsetneq ... 18853, 21355  
 \varsqsupsetneq ... 18856, 21356  
 \vartimes ..... 15809, 21144  
 \vavyod ..... 17492  
 \vbox .. 6248, 6249, 6250, 6251,  
 6563, 8270

\VDash ..... 18739, 20688  
 \Vdash ..... 18731, 20685  
 \vDash ..... 18727, 20684  
 \vdash ..... 18707, 20677  
 \vdots ..... 18436, 20556  
 \vdots ..... 18878, 20744  
 \vee ..... 18404, 20543  
 \veebar ..... 18775, 20700  
 \veedot ..... 19573, 20952  
 \veedoublebar .... 19774, 21032  
 \Venus ..... 19244, 21394  
 \venus ..... 19243, 21393  
 \vfill ... 6248, 6249, 6250, 6251  
 \VHF ..... 18481, 21307  
 \Vier ..... 19955, 21103  
 \vinferior ..... 20357  
 \ViPa ..... 19941, 21097  
 \Virgo ..... 19286, 21410  
 \virgo ..... 19284, 20838  
 \vod ..... 16450, 16452, 21192  
 \voffset ..... 8271  
 \voicedh ..... 16463, 21196  
 \vpageref ..... 8944  
 \vphantom ..... 618  
 \Vr@f ..... 8930  
 \vr@f ..... 8938  
 \vref@pagenum ..... 7279  
 \vref@space ... 8931, 8934, 8939  
 \vskip ..... 2684, 2685  
 \vss ..... 8285  
 \vtx@trans@special .... 11257,  
 11259, 11262, 11266, 11270,  
 11274, 11276, 11278, 11282,  
 11288, 11289, 11292  
 \VTexInitMediaSize 10936, 10953  
 \VTexXOS . 11327, 11328, 11329,  
 11331  
 \VTexXversion 6766, 6769, 6772,  
 11319, 11323  
 \Vvdash ..... 18734, 20686

## W

\wasylozenge ..... 18892, 20751  
 \waw ..... 20215  
 \wawhamza ..... 20153  
 \wd . 10065, 10081, 10102, 10119,  
 10142, 10159, 13855  
 \wedge ..... 18399, 20541  
 \wedgedot ..... 19575, 20953  
 \Wheelchair ..... 19344, 20852  
 \with ..... 15625, 21133  
 \WomanFace ..... 19969, 21110  
 \Womanface ..... 19971, 21466  
 \wp ..... 18063, 20423  
 \wr ..... 18452, 20563  
 \wreath ..... 18454, 21305  
 \write .. 4927, 6442, 6444, 6880,  
 6888, 7204, 7232, 7982,

7997, 8013, 8023, 8053,  
 8076, 8102, 8132, 13418,  
 13442, 14816, 14898

\WriteBookmarks .. 4350, 4488,  
 4662, 4684, 14565, 14809,  
 14842, 14843, 14885, 14891

\WritingHand .... 19423, 20882

\Writinghand ..... 19425, 21433

\wwwbrowser ... 10019, 10104,  
 10121

## 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, 1025, 1031, 1788, 1816,  
 2259, 2261, 2679, 2689,  
 2698, 2708, 2777, 2778,  
 2783, 2799, 3516, 3519,  
 3523, 3536, 3646, 3647,  
 3650, 3651, 3652, 3656,  
 3659, 3665, 4108, 4114,  
 4117, 4120, 4275, 4276,  
 4281, 4282, 4364, 4365,  
 4366, 4369, 4372, 4375,  
 4415, 4416, 4418, 4419,  
 4596, 4599, 4926, 4932,  
 5277, 5278, 5279, 5291,  
 5302, 5303, 5304, 5305,  
 5308, 5309, 5354, 5357,  
 5452, 5466, 5491, 5495,  
 5498, 5508, 6045, 6049,  
 6058, 6062, 6516, 6517,  
 6522, 7216, 7223, 7256,  
 7263, 7304, 7313, 7315,  
 7327, 8345, 8347, 8631,  
 8632, 8855, 8858, 8893,  
 8894, 8895, 8897, 8899,  
 9322, 9331, 9619, 9620,  
 9623, 9625, 9628, 10294,  
 10295, 10296, 10298, 10299,  
 10300, 10302, 10303, 10304,  
 10306, 10307, 10308, 10310,  
 10311, 10312, 10314, 10315,  
 10316, 10318, 10319, 10320,  
 10322, 10323, 10325, 10331,  
 10340, 11439, 11444, 11448,  
 11819, 11822, 11828, 11833,  
 11978, 11979, 13059, 13079,  
 13574, 13594, 13922, 13942,  
 14953, 14955, 15024, 15026  
 \XBox ..... 19193, 21377  
 \XeTeXLink@font .. 5123, 5126

<code>\XeTeXLink@space</code>	. 5124, 5139, 5153	4370, 4373, 4376, 4378, 4384, 5280, 5281, 5282, 5283, 5291, 6517, 6525, 7300, 7302, 7303, 7306, 7313, 11824, 11825, 11826, 11827	6477, 6767, 6770, 7558, 7729, 9832, 9841, 9845, 9852, 9859, 9862, 10799, 10805, 10806, 11318, 11562, 11862, 11876, 12238, 12243, 12244, 13564, 13859, 13912, 14364, 14369, 14392, 14427, 14461, 14467, 14497, 14502, 14533, 14643, 14644, 14645, 14647, 14648, 14649, 14651, 14868, 14990
<code>\XeTeXLinkBox</code>	... 5130, 5162		
<code>\XeTeXLinkMargin</code>	. 5120, 5121, 5136, 5138, 5149, 5151		
<code>\XeTeXrevision</code>	.... 4649, 10654		
<code>\XeTeXversion</code>	.... 4649, 10654		
<code>\Xi</code>	..... 16793, 20321	<code>\ya</code>	..... 20219
<code>\xi</code>	..... 16858, 20341	<code>\yahamza</code>	..... 20157
<code>\xinferior</code>	..... 20409	<code>\YingYang</code>	..... 19219, 21385
<code>\XR@cdURL</code>	..... 2616, 2617	<code>\Yingyang</code>	..... 19220, 21386
<code>\XR@addURL</code>	..... 2616	<code>\YinYang</code>	..... 19216, 20818
<code>\XR@ext</code>	2885, 2886, 5260, 5263, 6764, 9151, 9915, 10018, 10282, 10817, 12172, 12255, 12314, 12513, 12677	<code>\Yinyang</code>	..... 19218, 21384
<code>\XR@URL</code>	..... 2621	<code>\yogh</code>	..... 16610, 20313
<code>\XSolid</code>	..... 19441, 20890		
<code>\XSolidBold</code>	..... 19443, 20891	<b>Z</b>	
<code>\XSolidBrush</code>	..... 19445, 20892	<code>\z</code>	297, 298, 303, 2781, 2782, 2783, 5283, 5291
<code>\xspace</code>	..... 682, 684	<code>\z@</code>	..... 827, 867, 1052, 1204, 1221, 1243, 1266, 1517, 1557, 1570, 1586, 1601, 1609, 1682, 1944, 1950, 1956, 2029, 2033, 2041, 2045, 2635, 2640, 2674, 2693, 2967, 2970, 3116, 3658, 3664, 4277, 4658, 5133, 5135, 5143, 5144, 5147, 5148, 5156, 5157, 5165, 5166,
<code>\xspaceaddexceptions</code>	4322, 4331		
<b>Y</b>			
<code>\y</code>	..... 296, 298, 302, 866, 869, 872, 875, 878, 881, 890, 2779, 2784, 2789, 3652, 3653, 3654, 3655, 4367,		
			<code>\z@skip</code> ..... <code>\za</code> ..... <code>\zay</code> ..... <code>\zeroinferior</code> ..... <code>\zerosuperior</code> ..... <code>\zeta</code> ..... 16842, <code>\zref@extractdefault</code> .... <code>\zref@ifrefcontainsprop</code> .. <code>\zref@ifrefundefined</code> ..... <code>\zref@labelbyprops</code> ..... <code>\zref@refused</code> ..... <code>\Zwdr</code> ..... 19961, <code>\ZWNJ</code> ..... <code>\ZwPa</code> ..... 19947,