

The pdfrender package

Heiko Oberdiek

<heiko.oberdiek at gmail.com>

2010/01/28 v1.2

Abstract

The PDF format has some graphics parameter like line width or text rendering mode. This package provides an interface for setting these parameters.

Contents

| | | |
|----------|---|-----------|
| 1 | Documentation | 2 |
| 1.1 | Usage | 2 |
| 1.2 | Macros | 2 |
| 1.3 | Parameters | 2 |
| 1.3.1 | Details | 3 |
| 1.4 | Color stack | 3 |
| 2 | Implementation | 4 |
| 2.1 | Look for pdfTeX, its mode and features | 5 |
| 2.2 | Enable color support of L ^A T _E X | 7 |
| 2.3 | Hook into \normalcolor | 7 |
| 2.4 | Declare and setup parameters | 12 |
| 2.5 | Fill and stroke color support | 13 |
| 3 | Test | 17 |
| 3.1 | Catcode checks for loading | 17 |
| 3.2 | Simple test file | 19 |
| 3.3 | Further tests | 19 |
| 3.4 | Compatibility with plain-T _E X | 21 |
| 4 | Installation | 21 |
| 4.1 | Download | 21 |
| 4.2 | Bundle installation | 22 |
| 4.3 | Package installation | 22 |
| 4.4 | Refresh file name databases | 22 |
| 4.5 | Some details for the interested | 22 |
| 5 | Acknowledgement | 23 |
| 6 | References | 23 |
| 7 | History | 23 |
| | [2010/01/26 v1.0] | 23 |
| | [2010/01/27 v1.1] | 23 |
| | [2010/01/28 v1.2] | 24 |
| 8 | Index | 25 |

1 Documentation

This package `pdfrender` defines an interface for PDF specific parameters that affects the rendering of graphics or text. The interface and its implementation uses the same technique as package `color` for color settings. Therefore this package is loaded to enable L^AT_EX's color interface.

At different places L^AT_EX uses `\normalcolor` to avoid that header, footer or floats are print in the current color of the main text. `\setgroup@color` is used to start a save box with the color that is set at box saving time. Package `pdfrender` extends these macros to add its own hooks of its parameters. Therefore L^AT_EX3 should generalize L^AT_EX 2_ε's color interface.

1.1 Usage

In L^AT_EX the package is loaded as normal package. Options are not defined for this package.

```
\usepackage{pdfrender}
```

This package can also be used in plain-T_EX and even iniT_EX:

```
input pdfrender.sty
```

1.2 Macros

`\pdfrender {⟨key value list⟩}`

The first parameter *⟨key value list⟩* contains a list of parameter settings. The key entry is the parameter name. The macro works like `\color` (without optional argument) for color setting.

`\textpdfrender {⟨key value list⟩} {⟨text⟩}`

In the same way as `\pdfrender` the first argument specifies the parameters that should be set. This parameter setting affects *⟨text⟩* only. Basically it works the same way as `\textcolor` (without optional argument).

1.3 Parameters

The following table shows an overview for the supported parameters and values:

| Parameter | Value | Alias |
|-------------------|--|-----------------------------|
| TextRenderingMode | 0 | Fill |
| | 1 | Stroke |
| | 2 | FillStroke |
| | 3 | Invisible |
| | 4 | FillClip |
| | 5 | StrokeClip |
| | 6 | FillStrokeClip |
| | 7 | Clip |
| LineWidth | <i>positive number, unit is bp</i> | <i>T_EX dimen</i> |
| LineCapStyle | 0 | Butt |
| | 1 | Round |
| | 2 | ProjectingSquare |

| Parameter | Value | Alias |
|-----------------|---|----------------------------|
| LineJoinStyle | 0 | Miter |
| | 1 | Round |
| | 2 | Bevel |
| MiterLimit | <i>positive number</i> | |
| Flatness | <i>number between 0 and 100</i> | |
| LineDashPattern | <i>numbers in square brackets, followed by number, units are bp</i> | |
| RenderingIntent | AbsoluteColorimetric RelativeColorimetric Saturation Perceptual | |
| FillColor | | <i>color specification</i> |
| StrokeColor | | <i>color specification</i> |

1.3.1 Details

The description and specification of these parameters are available in the PDF specification [1]. Therefore they are not repeated here.

Value: The values in the second column lists or describe the values that are specified by the PDF specification.

Alias: Instead of magic numbers the package also defines some aliases that can be given as value. Example: `LineCapStyle=Round` has the same effect as `LineCapStyle=1`.

Number: The term *number* means an integer or real number. The real number is given as plain decimal number without exponent. The decimal separator is a period. At least one digit must be present.

LineWidth: As alias a \TeX dimen specification can be given. This includes explicit specifications with number and unit, e.g. `LineWidth=0.5pt`. Also \LaTeX length registers may be used. If $\varepsilon\text{-}\text{\TeX}$'s `\dimexpr` is available, then it is automatically added. However package `calc` is not supported.

FillColor, StrokeColor: Package `color` or `xcolor` must be loaded before these options can be used (since version 1.2). \LaTeX 's color support sets both colors at the same time to the same value. However parameter `TextRenderingMode` offers the value `FillStroke` that makes only sense, if the two color types can be set separately. If one of the options `FillColor` or `StrokeColor` is specified, then also the color is set. For compatibility with the \LaTeX color packages (`color` or `xcolor`), always both colors must be set. Thus if one of them is not specified, it is taken from the current color.

Both options `FillColor` and `StrokeColor` expect a \LaTeX color specification as value. Also the optional color model argument is supported. Example:

```
FillColor=yellow,
StrokeColor=[cmyk]{1,.5,0,0}
```

1.4 Color stack

If the `pdf \TeX` version provides color stacks, then each parameter is assigned a page based color stack. The assignment of a stack takes place, when its parameter is set the first time. This avoids the use of color stacks that are not needed.

2 Implementation

```
1 (*package)
```

Reload check, especially if the package is not used with L^AT_EX.

```
2 \begingroup
3  \catcode44 12 % ,
4  \catcode45 12 % -
5  \catcode46 12 % .
6  \catcode58 12 % :
7  \catcode64 11 % @
8  \catcode123 1 % {
9  \catcode125 2 % }
10 \expandafter\let\expandafter\x\csname ver@pdfrender.sty\endcsname
11 \ifx\x\relax % plain-TeX, first loading
12 \else
13   \def\empty{}%
14   \ifx\x\empty % LaTeX, first loading,
15     % variable is initialized, but \ProvidesPackage not yet seen
16   \else
17     \catcode35 6 % #
18     \expandafter\ifx\csname PackageInfo\endcsname\relax
19       \def\x#1#2{%
20         \immediate\write-1{Package #1 Info: #2.}%
21       }%
22     \else
23       \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
24     \fi
25     \x{pdfrender}{The package is already loaded}%
26   \aftergroup\endinput
27 \fi
28 \fi
29 \endgroup
```

Package identification:

```
30 \begingroup
31  \catcode35 6 % #
32  \catcode40 12 % (
33  \catcode41 12 % )
34  \catcode44 12 % ,
35  \catcode45 12 % -
36  \catcode46 12 % .
37  \catcode47 12 % /
38  \catcode58 12 % :
39  \catcode64 11 % @
40  \catcode91 12 % [
41  \catcode93 12 % ]
42  \catcode123 1 % {
43  \catcode125 2 % }
44  \expandafter\ifx\csname ProvidesPackage\endcsname\relax
45    \def\x#1#2#3[#4]{\endgroup
46      \immediate\write-1{Package: #3 #4}%
47      \xdef#1{#4}%
48    }%
49  \else
50    \def\x#1#2[#3]{\endgroup
51      #2[#3]}%
52    \ifx#1\@undefined
53      \xdef#1{#3}%
54    \fi
55    \ifx#1\relax
56      \xdef#1{#3}%
57    \fi
58  }%
```

```

59 \fi
60 \expandafter\x\csname ver@pdfrender.sty\endcsname
61 \ProvidesPackage{pdfrender}%
62 [2010/01/28 v1.2 Access to some PDF graphics parameters (HO)]
63 \begingroup
64 \catcode123 1 % {
65 \catcode125 2 % }
66 \def\x{\endgroup
67 \expandafter\edef\csname PdfRender@AtEnd\endcsname{%
68 \catcode35 \the\catcode35\relax
69 \catcode64 \the\catcode64\relax
70 \catcode123 \the\catcode123\relax
71 \catcode125 \the\catcode125\relax
72 }%
73 }%
74 \x
75 \catcode35 6 % #
76 \catcode64 11 % @
77 \catcode123 1 % {
78 \catcode125 2 % }
79 \def\TMP@EnsureCode#1#2{%
80 \edef\PdfRender@AtEnd{%
81 \PdfRender@AtEnd
82 \catcode#1 \the\catcode#1\relax
83 }%
84 \catcode#1 #2\relax
85 }
86 \TMP@EnsureCode{10}{12}% ^^J
87 \TMP@EnsureCode{36}{3}% $
88 \TMP@EnsureCode{39}{12}% '
89 \TMP@EnsureCode{40}{12}% (
90 \TMP@EnsureCode{41}{12}% )
91 \TMP@EnsureCode{42}{12}% *
92 \TMP@EnsureCode{43}{12}% +
93 \TMP@EnsureCode{44}{12}% ,
94 \TMP@EnsureCode{45}{12}% -
95 \TMP@EnsureCode{46}{12}% .
96 \TMP@EnsureCode{47}{12}% /
97 \TMP@EnsureCode{58}{12}% :
98 \TMP@EnsureCode{59}{12}% ;
99 \TMP@EnsureCode{60}{12}% <
100 \TMP@EnsureCode{61}{12}% =
101 \TMP@EnsureCode{62}{12}% >
102 \TMP@EnsureCode{63}{12}% ?
103 \TMP@EnsureCode{91}{12}% [
104 \TMP@EnsureCode{93}{12}% ]
105 \TMP@EnsureCode{94}{7}% ^ (superscript)
106 \TMP@EnsureCode{96}{12}% '
107 \TMP@EnsureCode{124}{12}% |
108 \def\PdfRender@AtEndHook{}
109 \expandafter\def\expandafter\PdfRender@AtEnd\expandafter{%
110 \expandafter\PdfRender@AtEndHook
111 \PdfRender@AtEnd
112 \endinput
113 }

```

2.1 Look for pdfTeX, its mode and features

\PdfRender@newif

```

114 \def\PdfRender@newif#1{%
115 \expandafter\edef\csname PdfRender@#1true\endcsname{%
116 \let
117 \expandafter\noexpand\csname ifPdfRender@#1\endcsname

```

```

118     \noexpand\iftrue
119   }%
120   \expandafter\edef\csname PdfRender@#1false\endcsname{%
121     \let
122     \expandafter\noexpand\csname ifPdfRender@#1\endcsname
123     \noexpand\iffalse
124   }%
125   \csname PdfRender@#1false\endcsname
126 }

```

\ifPdfRender@Stack

```
127 \PdfRender@newif{Stack}
```

\ifPdfRender@Match

```
128 \PdfRender@newif{Match}
```

\PdfRender@RequirePackage

```

129 \begingroup\expandafter\expandafter\expandafter\endgroup
130 \expandafter\ifx\csname RequirePackage\endcsname\relax
131   \def\PdfRender@RequirePackage#1[#2]{%
132     \expandafter\def\expandafter\PdfRender@AtEndHook\expandafter{%
133       \PdfRender@AtEndHook
134       \ltx@ifpackagelater{#1}{#2}{-}{%
135         \@PackageWarningNoLine{pdfrender}{%
136           You have requested version\MessageBreak
137           ‘#2’ of package ‘#1’,\MessageBreak
138           but only version\MessageBreak
139           ‘\csname ver@#1.\ltx@pkgextension\endcsname’\MessageBreak
140           is available%
141         }%
142       }%
143     }%
144     \input #1.sty\relax
145   }%
146 \else
147   \let\PdfRender@RequirePackage\RequirePackage
148 \fi

149 \PdfRender@RequirePackage{ifpdf}[2010/01/28]
150 \PdfRender@RequirePackage{infwarerr}[2007/09/09]
151 \PdfRender@RequirePackage{ltxcmds}[2010/01/28]

152 \ifpdf
153   \ltx@ifundefined{pdfcolorstackinit}{%
154     \@PackageWarning{pdfrender}{%
155       Missing \string\pdfcolorstackinit
156     }%
157   }{%
158     \PdfRender@Stacktrue
159   }%
160   \ltx@ifundefined{pdfmatch}{%
161     \@PackageInfoNoLine{pdfrender}{%
162       \string\pdfmatch\ltx@space not found. %
163       Therefore the values\MessageBreak
164       of some parameters are not validated%
165     }%
166   }{%
167     \PdfRender@Matchtrue
168   }%
169 \else
170   \@PackageWarning{pdfrender}{%
171     Missing pdfTeX in PDF mode%
172   }%

```

```

173 \ltx@ifundefined{newcommand}{%
\pdfrender
174 \def\pdfrender#1{%
\textpdfrender
175 \long\def\textpdfrender#1#2{#2}%
176 }{%
\pdfrender
177 \newcommand*{\pdfrender}[1]{}%
\textpdfrender
178 \newcommand{\textpdfrender}[2]{#2}%
179 }%
180 \expandafter\PdfRender@AtEnd
181 \fi

```

2.2 Enable color support of L^AT_EX

```

182 \ltx@ifpackageloaded{color}{}%
183 \def\color@setgroup{\begingroup\set@color}%
184 \let\color@begingroup\begingroup
185 \def\color@endgroup{\endgraf\endgroup}%
186 \def\color@hbox{\hbox\bgroup\color@begingroup}%
187 \def\color@vbox{\vbox\bgroup\color@begingroup}%
188 \def\color@endbox{\color@endgroup\egroup}%
189 \ltx@ifundefined{bgroup}{%
190 \let\bgroup={\let\egroup=}%
191 }{}%
192 \ltx@ifundefined{endgraf}{%
193 \let\endgraf=\par
194 }{}%
195 }

```

2.3 Hook into \normalcolor

The problem is that packages `color` and `xcolor` each overwrite `\normalcolor`. For example, after the package loading order `color`, `pdfrender` and `xcolor` the patched version of `\normalcolor` is overwritten by package `xcolor`. Also using `\AtBeginDocument` for patching is not enough. If package `hyperref` is loaded later, it might load package `color` using `\AtBeginDocument`.

```
\PdfRender@NormalColorHook
```

```
196 \def\PdfRender@NormalColorHook{}
```

```
\PdfRender@ColorSetGroupHook
```

```
197 \def\PdfRender@ColorSetGroupHook{}
```

```
\PdfRender@TestBox
```

```

198 \def\PdfRender@TestBox#1{%
199 \setbox0=\color@hbox#1\color@endbox
200 }

```

```
\PdfRender@PatchNormalColor
```

```

201 \def\PdfRender@PatchNormalColor{%
202 \ltx@ifundefined{normalcolor}{%
203 \gdef\normalcolor{\PdfRender@NormalColorHook}%
204 }{%

```

```

205 \begingroup
206 \def\PdfRender@NormalColorHook{\let\PdfRender@temp=Y}%
207 \PdfRender@TestBox{%
208 \let\set@color\relax
209 \normalcolor
210 \ifx\PdfRender@temp Y%
211 \else
212 \ltx@GlobalAppendToMacro\normalcolor{%
213 \PdfRender@NormalColorHook
214 }%
215 \fi
216 }%
217 \endgroup
218 }%
219 \ifx\@nodocument\relax
220 \global\let\PdfRender@PatchNormalColor\relax
221 \fi
222 }%

```

\PdfRender@PatchColorSetGroup

```

223 \def\PdfRender@PatchColorSetGroup{%
224 \begingroup
225 \def\PdfRender@ColorSetGroupHook{\let\PdfRender@temp=Y}%
226 \PdfRender@TestBox{%
227 \let\set@color\relax
228 \color@setgroup\color@endgroup
229 \ifx\PdfRender@temp Y%
230 \else
231 \ltx@GlobalAppendToMacro\color@setgroup{%
232 \PdfRender@ColorSetGroupHook
233 }%
234 \fi
235 }%
236 \endgroup
237 \ifx\@nodocument\relax
238 \global\let\PdfRender@PatchColorSetGroup\relax
239 \fi
240 }%

```

\PdfRender@PatchColor

```

241 \def\PdfRender@PatchColor{%
242 \PdfRender@PatchNormalColor
243 \PdfRender@PatchColorSetGroup
244 }
245 % \begin{macrocode}
246 \PdfRender@PatchColor
247 \ltx@ifundefined{AtBeginDocument}{-}{%
248 \AtBeginDocument{\PdfRender@PatchColor}%
249 }

```

\AfterPackage is provided by package scrfile.

```

250 \ltx@ifundefined{AfterPackage}{-}{%
251 }{%
252 \AfterPackage{color}{\PdfRender@PatchColor}%
253 \AfterPackage{xcolor}{\PdfRender@PatchColor}%
254 \AfterPackage{etoolbox}{-}{%
255 \AfterEndPreamble{\PdfRender@PatchColor}%
256 }%
257 }%

```

\AfterEndPreamble is provided by package etoolbox.

```

258 \ltx@ifundefined{AfterEndPreamble}{-}{%
259 }{-}%

```



```

260 \AfterEndPreamble{\PdfRender@PatchColor}%
261 }%

262 \PdfRender@RequirePackage{kvsetkeys}[2010/01/28]

```

\PdfRender@texorpdfstring

```

263 \def\PdfRender@texorpdfstring{%
264 \ltx@ifundefined{texorpdfstring}\ltx@firstoftwo\texorpdfstring
265 }

```

\pdfrender

```

266 \ltx@ifundefined{DeclareRobustCommand}%
267 \ltx@firstoftwo\ltx@secondoftwo
268 {%
269 \def\pdfrender#1%
270 }{%
271 \newcommand{\pdfrender}{}%
272 \DeclareRobustCommand*\pdfrender[1]%
273 }%
274 {%
275 \PdfRender@texorpdfstring{%
276 \PdfRender@PatchNormalColor
277 \global\let\PdfRender@FillColor\ltx@empty
278 \global\let\PdfRender@StrokeColor\ltx@empty
279 \kvsetkeys{PDFRENDER}{#1}%
280 \PdfRender@SetColor
281 }{}%
282 }

```

\textpdfrender

```

283 \ltx@ifundefined{DeclareRobustCommand}%
284 \ltx@firstoftwo\ltx@secondoftwo
285 {%
286 \long\def\textpdfrender#1#2%
287 }{%
288 \newcommand{\textpdfrender}{}%
289 \DeclareRobustCommand{\textpdfrender}[2]%
290 }%
291 {%
292 \PdfRender@texorpdfstring{%
293 \begingroup
294 \pdfrender{#1}%
295 #2%
296 \endgroup
297 }{#2}%
298 }

```

\ifPdfRender@Values

```

299 \PdfRender@newif{Values}

```

\PdfRender@NewClassValues

```

300 \def\PdfRender@NewClassValues#1#2#3#4{%
301 \PdfRender@Valuestrue
302 \PdfRender@NewClass{#1}{#2}{#3}{#4}{}%
303 }

```

\PdfRender@NewClass

```

304 \def\PdfRender@NewClass#1#2#3#4#5{%
305 \PdfRender@newif{Active#1}%
306 \expandafter\def\csname PdfRender@Default#1\endcsname{#2}%
307 \expandafter\let\csname PdfRender@Current#1\endcsname

```

```

308     \csname PdfRender@Default#1\endcsname
309 \ifPdfRender@Stack
310   \expandafter\edef\csname PdfRender@Init#1\endcsname{%
311     \global\chardef
312     \expandafter\noexpand\csname PdfRender@Stack#1\endcsname=%
313       \noexpand\pdfcolorstackinit page direct{%
314         \noexpand#3%
315       \expandafter\noexpand\csname PdfRender@Default#1\endcsname
316     }\relax
317   \noexpand\@PackageInfo{pdfrender}{%
318     New color stack '#1' = \noexpand\number
319     \expandafter\noexpand\csname PdfRender@Stack#1\endcsname
320   }%
321   \gdef\expandafter\noexpand\csname PdfRender@Init#1\endcsname{%}%
322 }%
323 \expandafter\edef\csname PdfRender@Set#1\endcsname{%
324   \expandafter\noexpand\csname PdfRender@Init#1\endcsname
325   \noexpand\pdfcolorstack
326   \expandafter\noexpand\csname PdfRender@Stack#1\endcsname
327   push{%
328     #3{\expandafter\noexpand\csname PdfRender@Current#1\endcsname}%
329   }%
330   \noexpand\aftergroup
331   \expandafter\noexpand\csname PdfRender@Reset#1\endcsname
332 }%
333 \expandafter\edef\csname PdfRender@Reset#1\endcsname{%
334   \expandafter\noexpand\csname PdfRender@Init#1\endcsname
335   \noexpand\pdfcolorstack
336   \expandafter\noexpand\csname PdfRender@Stack#1\endcsname
337   pop\relax
338 }%
339 \else
340   \expandafter\edef\csname PdfRender@Set#1\endcsname{%
341     \noexpand\pdfliteral direct{%
342       #3{\expandafter\noexpand\csname PdfRender@Current#1\endcsname}%
343     }%
344     \noexpand\aftergroup
345     \expandafter\noexpand\csname PdfRender@Reset#1\endcsname
346   }%
347   \expandafter\edef\csname PdfRender@Reset#1\endcsname{%
348     \noexpand\pdfliteral direct{%
349       #3{\expandafter\noexpand\csname PdfRender@Current#1\endcsname}%
350     }%
351   }%
352 \fi
353 \expandafter\edef\csname PdfRender@Normal#1\endcsname{%
354   \let
355   \expandafter\noexpand\csname PdfRender@Current#1\endcsname
356   \expandafter\noexpand\csname PdfRender@Default#1\endcsname
357   \noexpand\PdfRender@Set{#1}%
358 }%
359 \expandafter\ltx@GlobalAppendToMacro\expandafter\PdfRender@NormalColorHook
360 \expandafter{%
361   \csname PdfRender@Normal#1\endcsname
362 }%
363 \ltx@GlobalAppendToMacro\PdfRender@ColorSetGroupHook{%
364   \PdfRender@Set{#1}%
365 }%
366 \ifPdfRender@Values
367   \kv@parse@normalized{#4}{%
368     \expandafter\let\csname PdfRender@#1@\kv@key\endcsname\kv@key
369     \ifx\kv@value\relax

```

```

370     \else
371     \expandafter\let\csname PdfRender@#1@\kv@value\endcsname\kv@key
372     \fi
373     \ltx@gobbletwo
374 }%
375 \PdfRender@define@key{PDFRENDER}{#1}{%
376   \global\csname PdfRender@Active#1true\endcsname
377   \def\PdfRender@Current{##1}%
378   \PdfRender@SetValidateValues{#1}%
379 }%
380 \PdfRender@Valuesfalse
381 \else
382 \PdfRender@define@key{PDFRENDER}{#1}{%
383   \global\csname PdfRender@Active#1true\endcsname
384   \expandafter\def\csname PdfRender@Current#1\endcsname{##1}%
385   \ltx@ifundefined{PdfRender@PostProcess#1}{%
386     }{%
387       \csname PdfRender@PostProcess#1\endcsname
388     }%
389   \PdfRender@SetValidate{#1}{#4}{#5}%
390 }%
391 \fi
392 }%

```

\PdfRender@define@key

```

393 \ltx@ifundefined{define@key}{%
394   \def\PdfRender@define@key#1#2{%
395     \expandafter\def\csname KV@#1@#2\endcsname##1%
396   }%
397 }{%
398   \let\PdfRender@define@key\define@key
399 }

```

\PdfRender@Set

```

400 \def\PdfRender@Set#1{%
401   \csname ifPdfRender@Active#1\endcsname
402   \csname PdfRender@Set#1\expandafter\endcsname
403   \fi
404 }

```

\PdfRender@Reset

```

405 \def\PdfRender@Reset#1{%
406   \csname ifPdfRender@Active#1\endcsname
407   \csname PdfRender@Reset#1\expandafter\endcsname
408   \fi
409 }

```

\PdfRender@ErrorInvalidValue

```

410 \def\PdfRender@ErrorInvalidValue#1{%
411   \PackageError{pdfrender}{%
412     Ignoring parameter setting for ‘#1’\MessageBreak
413     because of invalid value %
414     ‘\csname PdfRender@Current#1\endcsname’%
415   }{@ehc
416   \expandafter\let\csname PdfRender@Current#1\endcsname\ltx@empty
417 }%

```

\PdfRender@SetValidate

```

418 \ifPdfRender@Match
419 \def\PdfRender@SetValidate#1#2#3{%
420   \ifnum\pdfmatch{^(#2)$}\csname PdfRender@Current#1\endcsname}=1 %

```

```

421     \csname PdfRender@Set#1\expandafter\endcsname
422     \else
423     \PdfRender@ErrorInvalidValue{#1}%
424     \fi
425 }%
426 \else
427 \def\PdfRender@SetValidate#1#2#3{%
428     \expandafter\let\expandafter\PdfRender@Current
429     \csname PdfRender@Current#1\endcsname
430     #3%
431     \ifx\PdfRender@Current\@empty
432     \PdfRender@ErrorInvalidValue{#1}%
433     \else
434     \csname PdfRender@Set#1\expandafter\endcsname
435     \fi
436 }%
437 \fi

```

\PdfRender@SetValidateValues

```

438 \def\PdfRender@SetValidateValues#1{%
439     \ltx@ifundefined{PdfRender@#1@\PdfRender@Current}{%
440         \expandafter\let\csname PdfRender@Current#1\endcsname
441             \PdfRender@Current
442         \PdfRender@ErrorInvalidValue{#1}%
443     }{%
444         \expandafter\edef\csname PdfRender@Current#1\endcsname{%
445             \csname PdfRender@#1@\PdfRender@Current\endcsname
446         }%
447         \csname PdfRender@Set#1\endcsname
448     }%
449 }

```

\PdfRender@OpValue

```

450 \def\PdfRender@OpValue#1#2{#2\ltx@space#1}%

```

\PdfRender@OpName

```

451 \def\PdfRender@OpName#1#2{/#2\ltx@space#1}%

```

2.4 Declare and setup parameters

```

452 \PdfRender@NewClassValues{TextRenderingMode}%
453     {0}%
454     {\PdfRender@OpValue{Tr}}}%
455 0=Fill,%
456 1=Stroke,%
457 2=FillStroke,%
458 3=Invisible,%
459 4=FillClip,%
460 5=StrokeClip,%
461 6=FillStrokeClip,%
462 7=Clip,%
463 }%
464 \PdfRender@NewClass{LineWidth}{1}{\PdfRender@OpValue{w}}{%
465     [0-9]+\string\.[0-9]*\string\.[0-9]+%
466 }{%
467 \ltx@ifundefined{dimexpr}{%
468     \def\PdfRender@dimexpr{%
469     }{%
470     \let\PdfRender@dimexpr\dimexpr
471     }
472 \def\PdfRender@PostProcessLineWidth{%
473     \begingroup

```

```

474 \afterassignment\PdfRender@@PostProcessLineWidth
475 \dimen0=\PdfRender@dimexpr\PdfRender@CurrentLineWidth bp %
476 \PdfRender@let\PdfRender@relax\PdfRender@relax
477 }
478 \let\PdfRender@let\let
479 \let\PdfRender@relax\relax
480 \def\PdfRender@@PostProcessLineWidth#1\PdfRender@let{%
481   \ifx\#1\%
482     \endgroup
483   \else
484     \dimen0=.996264\dimen0 % 72/72.27
485     \edef\x{\endgroup
486       \def\noexpand\PdfRender@CurrentLineWidth{%
487         \strip@pt\dimen0%
488       }%
489     }%
490     \expandafter\x
491   \fi
492 }
493 \PdfRender@NewClassValues{LineCapStyle}{0}{\PdfRender@OpValue{J}}{%
494   0=Butt,%
495   1=Round,%
496   2=ProjectingSquare,%
497 }%
498 \PdfRender@NewClassValues{LineJoinStyle}{0}{\PdfRender@OpValue{j}}{%
499   0=Miter,%
500   1=Round,%
501   2=Bevel,%
502 }%
503 \PdfRender@NewClass{MiterLimit}{10}{\PdfRender@OpValue{M}}{%
504   [0-9]*[1-9][0-9]*\string\.[0-9]*|
505   [0-9]*\string\.[0-9]*[1-9][0-9]*%
506 }{}%
507 \PdfRender@NewClass{Flatness}{0}{\PdfRender@OpValue{i}}{%
508   100(\string\.[0-9]*| [0-9][0-9](\string\.[0-9]*| \string\.[0-9]+%
509 }{}%
510 \PdfRender@NewClass{LineDashPattern}{[]0}{\PdfRender@OpValue{d}}{%
511   \string\[%
512   ( ?([0-9]+\string\.[0-9]*|\string\.[0-9]+) ?)*%
513   \string\] ?%
514   ([0-9]+\string\.[0-9]*|\string\.[0-9]+)%
515 }{}%
516 \PdfRender@NewClassValues{RenderingIntent}%
517   {RelativeColorimetric}%
518   {\PdfRender@OpName{ri}}{%
519   AbsoluteColorimetric,%
520   RelativeColorimetric,%
521   Saturation,%
522   Perceptual,%
523 }%

```

2.5 Fill and stroke color support

```

524 \PdfRender@define@key{PDFRENDER}{FillColor}{%
525   \begingroup
526     \def\PdfRender@Color{#1}%
527     \ifx\PdfRender@Color\ltx@empty
528       \global\let\PdfRender@FillColor\ltx@empty
529     \else
530       \PdfRender@ColorAvailable{%
531         \PdfRender@TestBox{%
532           \expandafter\PdfRender@TryColor\PdfRender@Color\ltx@empty
533         \PdfRender@GetFillColor

```

```

534         \ifx\PdfRender@FillColor\ltx@empty
535         \PackageWarning{pdfrender}{%
536             Cannot extract fill color\MessageBreak
537             from value '#1'%
538         }%
539     \fi
540 }%
541 }%
542 \fi
543 \endgroup
544 }
545 \PdfRender@define@key{PDFRENDER}{StrokeColor}{%
546     \begingroup
547     \def\PdfRender@Color{#1}%
548     \ifx\PdfRender@Color\ltx@empty
549         \global\let\PdfRender@StrokeColor\ltx@empty
550     \else
551         \PdfRender@ColorAvailable{%
552             \PdfRender@TestBox{%
553                 \expandafter\PdfRender@TryColor\PdfRender@Color\ltx@empty
554                 \PdfRender@GetStrokeColor
555                 \ifx\PdfRender@StrokeColor\ltx@empty
556                     \PackageWarning{pdfrender}{%
557                         Cannot extract stroke color\MessageBreak
558                         from value '#1'%
559                     }%
560                 \fi
561             }%
562         }%
563     \fi
564 \endgroup
565 }

```

\PdfRender@ColorAvailable

```

566 \def\PdfRender@ColorAvailable{%
567     \ifundefined{set@color}{%
568         \PackageError{pdfrender}{%
569             Ignoring color options, because neither\MessageBreak
570             package 'color' nor package 'xcolor' is loaded%
571         }\@ehc
572     \global\let\PdfRender@ColorAvailable\ltx@gobble
573 }{%
574     \global\let\PdfRender@ColorAvailable\ltx@firstofone
575 }%
576 \PdfRender@ColorAvailable
577 }

```

\PdfRender@TryColor

```

578 \def\PdfRender@TryColor{%
579     \ifnextchar[\color\PdfRender@@TryColor
580 }

```

\PdfRender@@TryColor

```

581 \def\PdfRender@@TryColor#1\ltx@empty{%
582     \expandafter\color\expandafter{\PdfRender@Color}%
583 }

```

\PdfRender@SetColor

```

584 \def\PdfRender@SetColor{%
585     \chardef\PdfRender@NeedsCurrentColor=0 %
586     \ifx\PdfRender@FillColor\ltx@empty
587         \ifx\PdfRender@StrokeColor\ltx@empty

```

```

588 \else
589 \edef\PdfRender@CurrentColor{%
590 \noexpand\PdfRender@FillColor\ltx@space\PdfRender@StrokeColor
591 }%
592 \chardef\PdfRender@NeedsCurrentColor=1 %
593 \fi
594 \else
595 \ifx\PdfRender@StrokeColor\ltx@empty
596 \edef\PdfRender@CurrentColor{%
597 \PdfRender@FillColor\ltx@space\noexpand\PdfRender@StrokeColor
598 }%
599 \chardef\PdfRender@NeedsCurrentColor=2 %
600 \else
601 \edef\current@color{%
602 \PdfRender@FillColor\ltx@space\PdfRender@StrokeColor
603 }%
604 \set@color
605 \fi
606 \fi
607 \ifnum\PdfRender@NeedsCurrentColor=1 %
608 \PdfRender@GetFillColor
609 \ifx\PdfRender@FillColor\ltx@empty
610 \@PackageWarning{pdfrender}{%
611 Cannot extract current fill color%
612 }%
613 \else
614 \edef\current@color{\PdfRender@CurrentColor}%
615 \set@color
616 \fi
617 \else
618 \ifnum\PdfRender@NeedsCurrentColor=2 %
619 \PdfRender@GetStrokeColor
620 \ifx\PdfRender@StrokeColor\ltx@empty
621 \@PackageWarning{pdfrender}{%
622 Cannot extract current stroke color%
623 }%
624 \else
625 \edef\current@color{\PdfRender@CurrentColor}%
626 \set@color
627 \fi
628 \fi
629 \fi
630 }

```

\PdfRender@PatternFillColor

```

631 \edef\PdfRender@PatternFillColor{ % space
632 (%)
633 [0-9\string\.] + g|%
634 [0-9\string\.] + [0-9\string\.] + [0-9\string\.] + rg|%
635 [0-9\string\.] + [0-9\string\.] + %
636 [0-9\string\.] + [0-9\string\.] + k%
637 ) % space
638 (.*)$%
639 }

```

\PdfRender@PatternStrokeColor

```

640 \edef\PdfRender@PatternStrokeColor{ % space
641 (%)
642 [0-9\string\.] + G|%
643 [0-9\string\.] + [0-9\string\.] + [0-9\string\.] + RG|%
644 [0-9\string\.] + [0-9\string\.] + %
645 [0-9\string\.] + [0-9\string\.] + K%

```

```

646 ) % space
647 (.*)$%
648 }

```

\PdfRender@MatchPattern

```

649 \def\PdfRender@MatchPattern#1{%
650   \ifnum\pdfmatch{\PdfRender@Pattern}{\PdfRender@String}=1 %
651     \xdef#1{%
652       \expandafter\strip@prefix\pdflastmatch 1%
653     }%
654   \edef\PdfRender@String{%
655     \expandafter\strip@prefix\pdflastmatch 2%
656   }%
657   \ifx\PdfRender@String\ltx@empty
658   \else
659     \expandafter\expandafter\expandafter\PdfRender@MatchPattern
660     \expandafter\expandafter\expandafter#1%
661   \fi
662 \fi
663 }

```

\PdfRender@GetFillColor

```

664 \def\PdfRender@GetFillColor{%
665   \global\let\PdfRender@FillColor\ltx@empty
666   \begingroup
667     \ifPdfRender@Match
668       \let\PdfRender@Pattern\PdfRender@PatternFillColor
669       \edef\PdfRender@String{\ltx@space\current@color\ltx@space}%
670       \PdfRender@MatchPattern\PdfRender@FillColor
671     \else
672       \edef\current@color{\current@color\ltx@space}%
673       \let\PdfRender@OP\relax
674       \PdfRender@FindOp{g}0%
675       \PdfRender@FindOp{G}1%
676       \PdfRender@FindOp{rg}0%
677       \PdfRender@FindOp{RG}1%
678       \PdfRender@FindOp{k}0%
679       \PdfRender@FindOp{K}1%
680       \PdfRender@FilterOp 0\PdfRender@FillColor
681     \fi
682   \endgroup
683 }

```

\PdfRender@GetStrokeColor

```

684 \def\PdfRender@GetStrokeColor{%
685   \global\let\PdfRender@StrokeColor\ltx@empty
686   \begingroup
687     \ifPdfRender@Match
688       \let\PdfRender@Pattern\PdfRender@PatternStrokeColor
689       \edef\PdfRender@String{\ltx@space\current@color\ltx@space}%
690       \PdfRender@MatchPattern\PdfRender@StrokeColor
691     \else
692       \edef\current@color{\current@color\ltx@space}%
693       \let\PdfRender@OP\relax
694       \PdfRender@FindOp{g}0%
695       \PdfRender@FindOp{G}1%
696       \PdfRender@FindOp{rg}0%
697       \PdfRender@FindOp{RG}1%
698       \PdfRender@FindOp{k}0%
699       \PdfRender@FindOp{K}1%
700       \PdfRender@FilterOp 1\PdfRender@StrokeColor
701     \fi

```



```

702 \endgroup
703 }

704 \ifPdfRender@Match
705 \expandafter\PdfRender@AtEnd
706 \fi

\PdfRender@FindOp

707 \def\PdfRender@FindOp#1#2{%
708 \def\PdfRender@temp##1 #1 ##2\@nil{%
709 ##1%
710 \ifx\\##2\\%
711 \expandafter\@gobble
712 \else
713 \PdfRender@OP{#1}#2%
714 \expandafter\@firstofone
715 \fi
716 {%
717 \PdfRender@temp##2\@nil
718 }%
719 }%
720 \edef\current@color{%
721 \@firstofone{\expandafter\PdfRender@temp\current@color} #1 \@nil
722 }%
723 }

\PdfRender@FilterOp

724 \def\PdfRender@FilterOp#1#2{%
725 \expandafter\PdfRender@@FilterOp\expandafter#1\expandafter#2%
726 \current@color\PdfRender@OP{ }{ }%
727 }

\PdfRender@@FilterOp

728 \def\PdfRender@@FilterOp#1#2#3\PdfRender@OP#4#5{%
729 \ifx\\#4#5\\%
730 \else
731 \ifnum#1=#5 %
732 \xdef#2{#3 #4}%
733 \fi
734 \expandafter\PdfRender@@FilterOp\expandafter#1\expandafter#2%
735 \fi
736 }

737 \PdfRender@AtEnd
738 \end{package}

```

3 Test

3.1 Catcode checks for loading

```

739 \test1\
740 \catcode'\{=1 %
741 \catcode'\}=2 %
742 \catcode'\#=6 %
743 \catcode'\@=11 %
744 \expandafter\ifx\csname count@\endcsname\relax
745 \countdef\count@=255 %
746 \fi
747 \expandafter\ifx\csname @gobble\endcsname\relax
748 \long\def\@gobble#1{%
749 \fi

```

```

750 \expandafter\ifx\csname @firstofone\endcsname\relax
751   \long\def\@firstofone#1{#1}%
752 \fi
753 \expandafter\ifx\csname loop\endcsname\relax
754   \expandafter\@firstofone
755 \else
756   \expandafter\@gobble
757 \fi
758 {%
759   \def\loop#1\repeat{%
760     \def\body{#1}%
761     \iterate
762   }%
763   \def\iterate{%
764     \body
765     \let\next\iterate
766   \else
767     \let\next\relax
768   \fi
769   \next
770 }%
771 \let\repeat=\fi
772 }%
773 \def\RestoreCatcodes{}
774 \count@=0 %
775 \loop
776   \edef\RestoreCatcodes{%
777     \RestoreCatcodes
778     \catcode\the\count@=\the\catcode\count@\relax
779   }%
780 \ifnum\count@<255 %
781   \advance\count@ 1 %
782 \repeat
783
784 \def\RangeCatcodeInvalid#1#2{%
785   \count@=#1\relax
786   \loop
787     \catcode\count@=15 %
788     \ifnum\count@<#2\relax
789       \advance\count@ 1 %
790     \repeat
791 }
792 \expandafter\ifx\csname LoadCommand\endcsname\relax
793   \def\LoadCommand{\input pdfrender.sty\relax}%
794 \fi
795 \def\Test{%
796   \RangeCatcodeInvalid{0}{47}%
797   \RangeCatcodeInvalid{58}{64}%
798   \RangeCatcodeInvalid{91}{96}%
799   \RangeCatcodeInvalid{123}{255}%
800   \catcode'\@=12 %
801   \catcode'\=0 %
802   \catcode'\{=1 %
803   \catcode'\}=2 %
804   \catcode'\#=6 %
805   \catcode'\[=12 %
806   \catcode'\]=12 %
807   \catcode'\%=14 %
808   \catcode'\ =10 %
809   \catcode13=5 %
810   \LoadCommand
811   \RestoreCatcodes

```

```

812 }
813 \Test
814 \csname @@end\endcsname
815 \end
816 </test1>

```

3.2 Simple test file

```

817 (*test2)
818 \NeedsTeXFormat{LaTeX2e}
819 \ProvidesFile{pdfrender-test2.tex}[2010/01/28]
820 \documentclass{article}
821 \usepackage{color}
822 \usepackage{pdfrender}[2010/01/28]
823 \begin{document}
824 Hello World
825 \newpage
826 Start
827 \textpdfrender{%
828   TextRenderingMode=1,%
829   LineWidth=.1,%
830   LineCapStyle=2,%
831   LineJoinStyle=1,%
832   MiterLimit=1.2,%
833   LineDashPattern=[2 2]0,%
834   RenderingIntent=Saturation,%
835 }{Hello\newpage World}
836 Stop
837 \par
838 \newlength{\LineWidth}
839 \setlength{\LineWidth}{.5pt}
840 Start
841 \textpdfrender{%
842   FillColor=yellow,%
843   StrokeColor=[cmyk]{1,.5,0,0},%
844   TextRenderingMode=FillStroke,%
845   LineWidth=.5\LineWidth,%
846   LineCapStyle=Round,%
847   LineJoinStyle=Bevel,%
848 }{Out-\par\newpage line}
849 Stop
850 \end{document}
851 </test2>

```

3.3 Further tests

Robustness and bookmarks.

```

852 (*test3)
853 \NeedsTeXFormat{LaTeX2e}
854 \ProvidesFile{pdfrender-test3.tex}[2010/01/28]
855 \documentclass{article}
856 \usepackage{pdfrender}[2010/01/28]
857 \usepackage{hyperref}
858 \usepackage{bookmark}
859 \begin{document}
860 \tableofcontents
861 \section{%
862   \textpdfrender{%
863     TextRenderingMode=1,%
864     LineCapStyle=2,%
865     LineJoinStyle=1,%
866     MiterLimit=1.2,%
867     LineDashPattern=[2 2]0,%

```

```

868     RenderingIntent=Saturation,%
869   }{Hello World}%
870 }
871 \end{document}
872 </test3>

    Color algorithm if \pdfmatch is not available.

873 <*test4>
874 \NeedsTeXFormat{LaTeX2e}
875 \ProvidesFile{pdfrender-test4.tex}[2010/01/28]
876 \documentclass[12pt]{article}
877 \usepackage{pdfrender}[2010/01/28]
878 \usepackage{color}
879 \usepackage{qstest}
880 \IncludeTests{*}
881 \LogTests{log}{*}{*}
882 \makeatletter
883 \newcommand*{\CheckColor}[1]{%
884   \Expect{#1}*{\current@color}%
885 }
886 \makeatother
887 \begin{document}
888   \begin{qstest}{color}{color}%
889     \CheckColor{0 g 0 G}%
890     \Huge\bfseries
891     \noindent
892     \textpdfrender{%
893       TextRenderingMode=2,%
894       LineWidth=.5,%
895       FillColor=yellow,%
896       StrokeColor=blue,%
897     }{%
898       \CheckColor{0 0 1 0 k 0 0 1 RG}%
899       Blue(Yellow)\%
900       \textpdfrender{%
901         FillColor=green,%
902       }{%
903         \CheckColor{0 1 0 rg 0 0 1 RG}%
904         Blue(Green)%
905       }\%
906       \CheckColor{0 0 1 0 k 0 0 1 RG}%
907       Blue(Yellow)\%
908       \textpdfrender{%
909         StrokeColor=red,%
910       }{%
911         \CheckColor{0 0 1 0 k 1 0 0 RG}%
912         Red(Yellow)%
913       }\%
914       \CheckColor{0 0 1 0 k 0 0 1 RG}%
915       Blue(Yellow) %
916     }%
917   \end{qstest}%
918   \begin{qstest}{colorlast}{colorlast}%
919     \makeatletter
920     \def\Test#1#2#3{%
921       \begingroup
922         \def\current@color{#1}%
923         \textpdfrender{#2}{%
924           \CheckColor{#3}%
925         }%
926       \endgroup
927     }%
928     \Test{1 g 0 0 1 RG 0 0 1 0 k 0.5 G}%

```

```

929      {StrokeColor=green}%
930      {0 0 1 0 k 0 1 0 RG}%
931      \Test{1 g 0 0 1 RG 0 0 1 0 k 0.5 G}%
932      {FillColor=red}%
933      {1 0 0 rg 0.5 G}%
934    \end{qstest}%
935 \end{document}
936 </test4>

```

3.4 Compatibility with plain-TeX

```

937 <*test5>
938 \pdfoutput=1 %
939 \hsize=6.5in
940 \vsize=8.9in
941 \pdfpagewidth=\hsize
942 \pdfpageheight=\vsize
943 \parfillskip=0pt plus 1fil\relax
944 \input pdfrender.sty\relax
945 \catcode'\{=1 %
946 \catcode'\}=2 %
947 \let\OrgMakeFootLine\makefootline
948 \def\makefootline{%
949   \begingroup\normalcolor\OrgMakeFootLine\endgroup
950 }
951 \font\font=ec-lmr10 scaled 3000\relax
952 \font
953 Before %
954 \textpdfrender{%
955   TextRenderingMode=1,%
956   LineWidth=.1,%
957 }{Hello\par\vfill\penalty-10000 World} %
958 After %
959 \par
960 \vfill
961 \penalty-10000 %
962 \csname @@end\endcsname\end
963 </test5>

```

4 Installation

4.1 Download

Package. This package is available on CTAN¹:

[CTAN:macros/latex/contrib/oberdiek/pdfrender.dtx](#) The source file.

[CTAN:macros/latex/contrib/oberdiek/pdfrender.pdf](#) Documentation.

Bundle. All the packages of the bundle ‘oberdiek’ are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

[CTAN:install/macros/latex/contrib/oberdiek.tds.zip](#)

TDS refers to the standard “A Directory Structure for T_EX Files” ([CTAN:tds/tds.pdf](#)). Directories with `texmf` in their name are usually organized this way.

¹[ftp://ftp.ctan.org/tex-archive/](http://ftp.ctan.org/tex-archive/)

4.2 Bundle installation

Unpacking. Unpack the `oberdiek.tds.zip` in the TDS tree (also known as `texmf` tree) of your choice. Example (linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

Script installation. Check the directory `TDS:scripts/oberdiek/` for scripts that need further installation steps. Package `attachfile2` comes with the Perl script `pdfatfi.pl` that should be installed in such a way that it can be called as `pdfatfi`. Example (linux):

```
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
```

4.3 Package installation

Unpacking. The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain- $\mathrm{T}_{\mathrm{E}}\mathrm{X}$:

```
tex pdfrender.dtx
```

TDS. Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

| | |
|---------------------------------------|--|
| <code>pdfrender.sty</code> | \rightarrow <code>tex/generic/oberdiek/pdfrender.sty</code> |
| <code>pdfrender.pdf</code> | \rightarrow <code>doc/latex/oberdiek/pdfrender.pdf</code> |
| <code>test/pdfrender-test1.tex</code> | \rightarrow <code>doc/latex/oberdiek/test/pdfrender-test1.tex</code> |
| <code>test/pdfrender-test2.tex</code> | \rightarrow <code>doc/latex/oberdiek/test/pdfrender-test2.tex</code> |
| <code>test/pdfrender-test3.tex</code> | \rightarrow <code>doc/latex/oberdiek/test/pdfrender-test3.tex</code> |
| <code>test/pdfrender-test4.tex</code> | \rightarrow <code>doc/latex/oberdiek/test/pdfrender-test4.tex</code> |
| <code>test/pdfrender-test5.tex</code> | \rightarrow <code>doc/latex/oberdiek/test/pdfrender-test5.tex</code> |
| <code>pdfrender.dtx</code> | \rightarrow <code>source/latex/oberdiek/pdfrender.dtx</code> |

If you have a `docstrip.cfg` that configures and enables `docstrip`'s TDS installing feature, then some files can already be in the right place, see the documentation of `docstrip`.

4.4 Refresh file name databases

If your $\mathrm{T}_{\mathrm{E}}\mathrm{X}$ distribution (`te $\mathrm{T}_{\mathrm{E}}\mathrm{X}$` , `mik $\mathrm{T}_{\mathrm{E}}\mathrm{X}$` , ...) relies on file name databases, you must refresh these. For example, `te $\mathrm{T}_{\mathrm{E}}\mathrm{X}$` users run `texhash` or `mktextlsr`.

4.5 Some details for the interested

Attached source. The PDF documentation on CTAN also includes the `.dtx` source file. It can be extracted by AcrobatReader 6 or higher. Another option is `pdftk`, e.g. unpack the file into the current directory:

```
pdftk pdfrender.pdf unpack_files output .
```

Unpacking with $\mathrm{L}^{\mathrm{A}}\mathrm{T}_{\mathrm{E}}\mathrm{X}$. The `.dtx` chooses its action depending on the format:

plain- $\mathrm{T}_{\mathrm{E}}\mathrm{X}$: Run `docstrip` and extract the files.

$\mathrm{L}^{\mathrm{A}}\mathrm{T}_{\mathrm{E}}\mathrm{X}$: Generate the documentation.

If you insist on using $\mathrm{L}^{\mathrm{A}}\mathrm{T}_{\mathrm{E}}\mathrm{X}$ for `docstrip` (really, `docstrip` does not need $\mathrm{L}^{\mathrm{A}}\mathrm{T}_{\mathrm{E}}\mathrm{X}$), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{pdfrender.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by the configuration file `ltxdoc.cfg`. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdfL^AT_EX:

```
pdflatex pdfrender.dtx
makeindex -s gind.ist pdfrender.idx
pdflatex pdfrender.dtx
makeindex -s gind.ist pdfrender.idx
pdflatex pdfrender.dtx
```

5 Acknowledgement

Friedrich Vosberg asked in the newsgroup `de.comp.text.tex` for the font outline feature [2].

Gaius Pupus proposed the basic method using `\pdfliteral` in this thread [3].

Rolf Niepraschk added color support [4].

6 References

- [1] Adobe Systems Incorporated. *PDF Reference – Adobe Portable Document format – Version 1.7*. 6th ed. 2006. URL: http://www.adobe.com/devnet/acrobat/pdfs/pdf_reference_1-7.pdf.
- [2] Friedrich Vosberg, *Text in Buchstabenumrissen*, `de.comp.text.tex`, 2010-01-22. URL: <http://groups.google.com/group/de.comp.text.tex/msg/f442310ac8b2d506>.
- [3] Gaius Pupus, *Re: Text in Buchstabenumrissen*, `de.comp.text.tex`, 2010-01-23. URL: <http://groups.google.com/group/de.comp.text.tex/msg/95d890d77ac47eb1>.
- [4] Rolf Niepraschk, *Re: Text in Buchstabenumrissen*, `de.comp.text.tex`, 2010-01-24. URL: <http://groups.google.com/group/de.comp.text.tex/msg/4eb61a5879db54db>.

7 History

[2010/01/26 v1.0]

- The first version.

[2010/01/27 v1.1]

- Macros `\pdfrender` and `\textpdfrender` are made robust.
- Color extraction rewritten for the case that `\pdfmatch` is not available. This fixes wrong color assignments in case of nesting.
- Color extraction of case `\pdfmatch` is fixed for the case that the color string contains several fill or several stroke operations.

[2010/01/28 v1.2]

- Dependency from package `color` is removed.
- Compatibility for plain-TeX and even iniTeX added.

8 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 | |
|---|--|
| <code>\#</code> | 742, 804 |
| <code>\%</code> | 807 |
| <code>\.</code> | 465, 504, 505, 508, 512, 514, 633, 634, 635, 636, 642, 643, 644, 645 |
| <code>\@</code> | 743, 800 |
| <code>\@PackageError</code> | 568 |
| <code>\@PackageInfo</code> | 317 |
| <code>\@PackageInfoNoLine</code> | 161 |
| <code>\@PackageWarning</code> | 154, 170, 535, 556, 610, 621 |
| <code>\@PackageWarningNoLine</code> | 135 |
| <code>\@ehc</code> | 415, 571 |
| <code>\@empty</code> | 431 |
| <code>\@firstofone</code> | 714, 721, 751, 754 |
| <code>\@gobble</code> | 711, 748, 756 |
| <code>\@ifnextchar</code> | 579 |
| <code>\@ifundefined</code> | 567 |
| <code>\@nil</code> | 708, 717, 721 |
| <code>\@nocument</code> | 219, 237 |
| <code>\@undefined</code> | 52 |
| <code>\[</code> | 511, 805 |
| <code>\[</code> | 481, 710, 729, 801, 899, 905, 907, 913 |
| <code>\{</code> | 740, 802, 945 |
| <code>\}</code> | 741, 803, 946 |
| <code>\]</code> | 513, 806 |
| <code>_</code> | 808 |
| A | |
| <code>\advance</code> | 781, 789 |
| <code>\afterassignment</code> | 474 |
| <code>\AfterEndPreamble</code> | 255, 260 |
| <code>\aftergroup</code> | 26, 330, 344 |
| <code>\AfterPackage</code> | 252, 253, 254 |
| <code>\AtBeginDocument</code> | 248 |
| B | |
| <code>\begin</code> | 245, 823, 859, 887, 888, 918 |
| <code>\bfseries</code> | 890 |
| <code>\body</code> | 760, 764 |
| C | |
| <code>\catcode</code> | 3, 4, 5, 6, 7, 8, 9, 17, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 64, 65, 68, 69, 70, 71, 75, 76, 77, 78, 82, 84, 740, 741, 742, 743, 778, 787, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 945, 946 |
| <code>\chardef</code> | 311, 585, 592, 599 |
| <code>\CheckColor</code> | 883, 889, 898, 903, 906, 911, 914, 924 |
| <code>\color</code> | 579, 582 |
| <code>\color@begingroup</code> | 184, 186, 187 |
| <code>\color@endbox</code> | 188, 199 |
| <code>\color@endgroup</code> | 185, 188, 228 |
| <code>\color@hbox</code> | 186, 199 |
| <code>\color@setgroup</code> | 183, 228, 231 |
| <code>\color@vbox</code> | 187 |
| <code>\count@</code> | 745, 774, 778, 780, 781, 785, 787, 788, 789 |
| <code>\countdef</code> | 745 |
| <code>\csname</code> | 10, 18, 44, 60, 67, 115, 117, 120, 122, 125, 130, 139, 306, 307, 308, 310, 312, 315, 319, 321, 323, 324, 326, 328, 331, 333, 334, 336, 340, 342, 345, 347, 349, 353, 355, 356, 361, 368, 371, 376, 383, 384, 387, 395, 401, 402, 406, 407, 414, 416, 420, 421, 429, 434, 440, 444, 445, 447, 744, 747, 750, 753, 792, 814, 962 |
| <code>\current@color</code> | 601, 614, 625, 669, 672, 689, 692, 720, 721, 726, 884, 922 |
| D | |
| <code>\DeclareRobustCommand</code> | 272, 289 |
| <code>\define@key</code> | 398 |
| <code>\dimen</code> | 475, 484, 487 |
| <code>\dimexpr</code> | 470 |
| <code>\documentclass</code> | 820, 855, 876 |
| E | |
| <code>\empty</code> | 13, 14 |
| <code>\end</code> .. | 815, 850, 871, 917, 934, 935, 962 |
| <code>\endcsname</code> | 10, 18, 44, 60, 67, 115, 117, 120, 122, 125, 130, 139, 306, 307, 308, 310, 312, 315, 319, 321, 323, 324, 326, 328, 331, 333, 334, 336, 340, 342, 345, 347, 349, 353, 355, 356, 361, 368, 371, 376, 383, 384, 387, 395, 401, 402, 406, 407, 414, 416, 420, 421, 429, 434, 440, 444, 445, 447, 744, 747, 750, 753, 792, 814, 962 |
| <code>\endgraf</code> | 185, 193 |
| <code>\endinput</code> | 26, 112 |
| <code>\Expect</code> | 884 |
| F | |
| <code>\f</code> | 951, 952 |
| <code>\font</code> | 951 |
| G | |
| <code>\gdef</code> | 203, 321 |
| H | |
| <code>\hbox</code> | 186 |
| <code>\hsize</code> | 939, 941 |
| <code>\Huge</code> | 890 |

| | | |
|----------------------------------|-----------------------------------|--|
| I | | |
| \iffalse | 123 | |
| \ifnum | 420, 607, 618, 650, 731, 780, 788 | |
| \ifpdf | 152 | |
| \ifPdfRender@Match | | |
| ..... | 128, 418, 667, 687, 704 | |
| \ifPdfRender@Stack | 127, 309 | |
| \ifPdfRender@Values | 299, 366 | |
| \iftrue | 118 | |
| \ifx | 11, 14, 18, 44, 52, | |
| | 55, 130, 210, 219, 229, 237, 369, | |
| | 431, 481, 527, 534, 548, 555, | |
| | 586, 587, 595, 609, 620, 657, | |
| | 710, 729, 744, 747, 750, 753, 792 | |
| \immediate | 20, 46 | |
| \IncludeTests | 880 | |
| \input | 144, 793, 944 | |
| \iterate | 761, 763, 765 | |
| K | | |
| \kv@key | 368, 371 | |
| \kv@parse@normalized | 367 | |
| \kv@value | 369, 371 | |
| \kvsetkeys | 279 | |
| L | | |
| \LineWidth | 838, 839, 845 | |
| \LoadCommand | 793, 810 | |
| \LogTests | 881 | |
| \loop | 759, 775, 786 | |
| \ltx@empty | 277, | |
| | 278, 416, 527, 528, 532, 534, | |
| | 548, 549, 553, 555, 581, 586, | |
| | 587, 595, 609, 620, 657, 665, 685 | |
| \ltx@firstofone | 574 | |
| \ltx@firstoftwo | 264, 267, 284 | |
| \ltx@GlobalAppendToMacro | | |
| ..... | 212, 231, 359, 363 | |
| \ltx@gobble | 572 | |
| \ltx@gobbletwo | 373 | |
| \ltx@ifpackagelater | 134 | |
| \ltx@ifpackageloaded | 182 | |
| \ltx@ifUndefined | | |
| ..... | 153, 160, 173, 247, 250, 258, | |
| | 264, 266, 283, 385, 393, 439, 467 | |
| \ltx@ifundefined | 189, 192, 202 | |
| \ltx@pkgextension | 139 | |
| \ltx@secondoftwo | 267, 284 | |
| \ltx@space | 162, 450, 451, | |
| | 590, 597, 602, 669, 672, 689, 692 | |
| M | | |
| \makeatletter | 882, 919 | |
| \makeatother | 886 | |
| \makefootline | 947, 948 | |
| \MessageBreak | 136, 137, | |
| | 138, 139, 163, 412, 536, 557, 569 | |
| N | | |
| \NeedsTeXFormat | 818, 853, 874 | |
| \newcommand | 177, 178, 271, 288, 883 | |
| \newlength | 838 | |
| \newpage | 825, 835, 848 | |
| \next | 765, 767, 769 | |
| \noindent | 891 | |
| \normalcolor | 203, 209, 212, 949 | |
| \number | 318 | |
| O | | |
| \OrgMakeFootLine | 947, 949 | |
| P | | |
| \PackageError | 411 | |
| \PackageInfo | 23 | |
| \par | 193, 837, 848, 957, 959 | |
| \parfillskip | 943 | |
| \pdfcolorstack | 325, 335 | |
| \pdfcolorstackinit | 155, 313 | |
| \pdflastmatch | 652, 655 | |
| \pdfliteral | 341, 348 | |
| \pdfmatch | 162, 420, 650 | |
| \pdfoutput | 938 | |
| \pdfpageheight | 942 | |
| \pdfpagewidth | 941 | |
| \pdfrender | 2, 174, 177, 266, 294 | |
| \PdfRender@@FilterOp | 725, 728 | |
| \PdfRender@@PostProcessLineWidth | | |
| ..... | 474, 480 | |
| \PdfRender@@TryColor | 579, 581 | |
| \PdfRender@AtEnd | | |
| ... | 80, 81, 109, 111, 180, 705, 737 | |
| \PdfRender@AtEndHook | 108, 110, 132, 133 | |
| \PdfRender@Color | | |
| ..... | 526, 527, 532, 547, 548, 553, 582 | |
| \PdfRender@ColorAvailable | | |
| ..... | 530, 551, 566 | |
| \PdfRender@ColorSetGroupHook | | |
| ..... | 197, 225, 232, 363 | |
| \PdfRender@Current | | |
| ..... | 377, 428, 431, 439, 441, 445 | |
| \PdfRender@CurrentColor | | |
| ..... | 589, 596, 614, 625 | |
| \PdfRender@CurrentLineWidth | 475, 486 | |
| \PdfRender@define@key | | |
| ..... | 375, 382, 393, 524, 545 | |
| \PdfRender@dimexpr | 468, 470, 475 | |
| \PdfRender@ErrorInvalidValue | | |
| ..... | 410, 423, 432, 442 | |
| \PdfRender@FillColor | | |
| ..... | 277, 528, 534, 586, | |
| | 590, 597, 602, 609, 665, 670, 680 | |
| \PdfRender@FilterOp | 680, 700, 724 | |
| \PdfRender@FindOp | | |
| ..... | 674, 675, 676, 677, 678, 679, | |
| | 694, 695, 696, 697, 698, 699, 707 | |
| \PdfRender@GetFillColor | 533, 608, 664 | |
| \PdfRender@GetStrokeColor | | |
| ..... | 554, 619, 684 | |
| \PdfRender@let | 476, 478, 480 | |
| \PdfRender@MatchPattern | 649, 670, 690 | |
| \PdfRender@Matchtrue | 167 | |
| \PdfRender@NeedsCurrentColor | | |
| ..... | 585, 592, 599, 607, 618 | |
| \PdfRender@NewClass | | |
| ..... | 302, 304, 464, 503, 507, 510 | |

| | |
|--|---|
| \PdfRender@NewClassValues | \ProvidesPackage |
| 300, 452, 493, 498, 516 | 15, 61 |
| \PdfRender@newif 114, 127, 128, 299, 305 | R |
| \PdfRender@NormalColorHook | \RangeCatcodeInvalid |
| 196, 203, 206, 213, 359 | 784, 796, 797, 798, 799 |
| \PdfRender@OP . 673, 693, 713, 726, 728 | \repeat |
| \PdfRender@OpName | 759, 771, 782, 790 |
| 451, 518 | \RequirePackage |
| \PdfRender@OpValue | 147 |
| 450, 454, 464, 493, 498, 503, 507, 510 | \RestoreCatcodes .. 773, 776, 777, 811 |
| \PdfRender@PatchColor | S |
| 241 | \section |
| \PdfRender@PatchColorSetGroup .. | 861 |
| 223, 243 | \set@color 183, 208, 227, 604, 615, 626 |
| \PdfRender@PatchNormalColor | \setbox |
| 201, 242, 276 | 199 |
| \PdfRender@Pattern 650, 668, 688 | \setlength |
| \PdfRender@PatternFillColor 631, 668 | 839 |
| \PdfRender@PatternStrokeColor .. | \strip@prefix |
| 640, 688 | 652, 655 |
| \PdfRender@PostProcessLineWidth . 472 | \strip@pt |
| \PdfRender@relax | 487 |
| 476, 479 | T |
| \PdfRender@RequirePackage | \tableofcontents |
| 129, 149, 150, 151, 262 | 860 |
| \PdfRender@Reset | \Test |
| 405 | 795, 813, 920, 928, 931 |
| \PdfRender@Set | \texorpdfstring |
| 357, 364, 400 | 264 |
| \PdfRender@SetColor | \textpdfrender 2, 175, 178, 283, 827, |
| 280, 584 | 841, 862, 892, 900, 908, 923, 954 |
| \PdfRender@SetValidate 389, 418 | \the |
| \PdfRender@SetValidateValues 378, 438 | 68, 69, 70, 71, 82, 778 |
| \PdfRender@Stacktrue | \TMP@EnsureCode |
| 158 | . 79, 86, 87, 88, 89, 90, 91, 92, |
| \PdfRender@String | 93, 94, 95, 96, 97, 98, 99, 100, |
| 650, 654, 657, 669, 689 | 101, 102, 103, 104, 105, 106, 107 |
| \PdfRender@StrokeColor | U |
| 278, 549, 555, 587, 590, | \usepackage |
| 595, 597, 602, 620, 685, 690, 700 | 821, |
| \PdfRender@temp | 822, 856, 857, 858, 877, 878, 879 |
| . 206, 210, 225, 229, 708, 717, 721 | V |
| \PdfRender@TestBox | \vbox |
| 198, 207, 226, 531, 552 | 187 |
| \PdfRender@texorpdfstring | \vfill |
| 263, 275, 292 | 957, 960 |
| \PdfRender@TryColor ... 532, 553, 578 | \vsize |
| \PdfRender@Valuesfalse | 940, 942 |
| 380 | W |
| \PdfRender@Valustrue | \write |
| 301 | 20, 46 |
| \penalty | X |
| 957, 961 | \x |
| \ProvidesFile | 10, 11, 14, 19, |
| 819, 854, 875 | 23, 25, 45, 50, 60, 66, 74, 485, 490 |