

# The pdfcolmk package

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## Abstract

This package tries a solution for the missing color stack of pdfTeX.

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# 1 Documentation

## 1.1 Introduction

This package uses a mark register in order to solve the problem of a missing color stack of pdfTeX prior 1.40.0. Since this version of pdfTeX a color stack is available and supported by `pdfTeX.def` 2007/01/01 v0.04a. In this case this package is obsolete and the package stops its loading.

## 1.2 Background

After the Dante meeting (Clausthal 2000) I have started to experiment with the eTeX method of a *colour* mark. One of the major problems is the understanding of the output routine and the need to rewrite it because of missing hooks. Currently I have made some tests in onecolumn and twocolumn mode, but the state is experimental.

## 1.3 Limitations

- Mark limitations: page breaks in math.
- L<sup>A</sup>T<sub>E</sub>X's output routine is redefined.
  - Changes in the output routine of newer versions of LaTeX are not detected.
  - Packages that change the output routine are not supported.
- It does not support several independent text streams like footnotes.
- Limitations in float and marginpar support.

## 1.4 Recommendation

$\varepsilon$ -T<sub>E</sub>X (for additional mark register) Without  $\varepsilon$ -T<sub>E</sub>X L<sup>A</sup>T<sub>E</sub>X's mark commands are redefined to store an additional color value.

## 1.5 Usage

Load after package color:

```
\usepackage[pdftex]{color}  
\usepackage{pdfcolmk}
```

## 1.6 Compatibility

- Load the following packages after pdfcolmk:

```
mparhack.sty
```

- Load the following packages before pdfcolmk:

```
marn.sty  
newmarn.sty
```

- Supported \@addmarginpar patch:

```
latex/base/latex.ltx  
memoir.cls  
poemscol/marn.sty, poemscol/newmarn.sty  
mparhack.sty
```

- Unsupported \@addmarginpar patch:

lineno.sty  
sttools/marginal.sty  
revtex4.cls

## 2 Implementation

```

1 (*package)
Package identification.
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{pdfcolmk}%
4   [2008/08/11 v1.2 PDFtex COLor MarK (HO)]
5 \@ifundefined{ver@pdftex.def}{%
6   \PackageWarningNoLine{pdfcolmk}{%
7     Nothing to fix, because \string'pdftex.def\string' not loaded%
8   }%
9   \endinput
10 }{}
11 \@ifpackageloaded{color}{%{}%
12   \PackageWarningNoLine{pdfcolmk}{%
13     Nothing to fix, because \string'color.sty\string' not loaded%
14   }%
15   \endinput
16 }
17 \begingroup\expandafter\expandafter\expandafter\endgroup
18 \expandafter\ifx\csname main@pdfcolorstack\endcsname\relax
19 \else
20   % pdftex.def >= 2007/01/01 0.04a and pdfTeX >= 1.40.0
21   \begingroup
22     \let\on@line\@empty
23     \PackageInfo{pdfcolmk}{%
24       The color stack of pdfTeX \string>\string= 1.40 is used. %
25       Therefore\MessageBreak
26       this package is not necessary and not loaded%
27     }%
28   \endgroup
29   \expandafter\endinput
30 \fi
31
32 \PackageInfo{pdfcolmk}{%
33   This package tries to simulate dvips's color stack\MessageBreak
34   for pdfTeX based on a mark register of e-TeX.\MessageBreak
35   It redefines LaTeX's output routine. Therefore\MessageBreak
36   use with care, no warranties%
37 }
38
39 \ifx\marks\@undefined
40
41   \let\pec@mark\mark
42   \let\pec@value\empty
43   \long\def\mark#1{%
44     \protected@xdef\pec@value{#1}%
45     \pec@setmark
46   }%
47   \def\pec@setmark{%
48     \begingroup
49       \@temptokena\expandafter{\pec@value}%
50       \pec@mark{{\current@color}\the\@temptokena}%
51     \endgroup
52   }%
53   \def\pec@getmark{%
54     \xdef\pec@botcolor{%

```

```

55     \expandafter\@firstofthree\botmark\@empty\@empty\@empty
56   }%
57 }%
58 \long\def\@firstofthree#1#2#3{#1}%
59 \CheckCommand{\@leftmark}[2]{#1}%
60 \CheckCommand{\@rightmark}[2]{#2}%
61 \CheckCommand*{\leftmark}{%
62   \expandafter\@leftmark\botmark\@empty\@empty
63 }%
64 \CheckCommand*{\rightmark}{%
65   \expandafter\@rightmark\firstmark\@empty\@empty
66 }%
67 \long\def\@leftmark#1#2#3{#2}%
68 \long\def\@rightmark#1#2#3{#3}%
69 \g@addto@macro\leftmark\@empty
70 \g@addto@macro\rightmark\@empty
71
72 \else
73
74   \RequirePackage{etex}[1998/03/26]%
75   \newmarks\pec@marks
76   \def\pec@setmark{\marks\pec@marks{\current@color}}%
77   \def\pec@getmark{\xdef\pec@botcolor{\botmarks\pec@marks}}%
78
79 \fi

```

## 2.1 \marginpar fix

```

80 \chardef\pec@result\z@
81 \def\pec@temp#1{%
82   \chardef\pec@result\@ne
83   \begingroup
84     \let\on@line\@empty
85     \PackageInfo{pdfcolmk}{%
86       Patch for \string\@addmarginpar\space applied (#1)%
87     }%
88   \endgroup
89 }

```

### 2.1.1 latex/base/latex.ltx

```

90 \def\pec@addmarginpar{%
91   \@next\@marbox\@currlist{%
92     \@cons\@freelist\@marbox
93     \@cons\@freelist\@currbox
94   }\@latexbug
95   \@tempcnta\@ne
96   \if@twocolumn
97     \if@firstcolumn
98       \@tempcnta\m@ne
99     \fi
100  \else
101    \if@mparswitch
102      \ifodd\c@page
103        \else
104          \@tempcnta\m@ne
105        \fi
106      \fi
107    \if@reversemargin \@tempcnta -\@tempcnta \fi
108    \fi
109    \ifnum\@tempcnta <\z@ \global\setbox\@marbox\box\@currbox \fi
110    \@tempdima\@mparbottom
111    \advance\@tempdima -\@pageht
112    \advance\@tempdima\ht\@marbox

```

```

113 \ifdim\@tempdima >\z@
114   \@latex@warning@no@line{Marginpar on page \thepage\space moved}%
115 \else
116   \@tempdima\z@
117 \fi
118 \global\@mparbottom\@pageht
119 \global\advance\@mparbottom\@tempdima
120 \global\advance\@mparbottom\dp\@marbox
121 \global\advance\@mparbottom\marginparpush
122 \advance\@tempdima -\ht\@marbox
123 \global\setbox\@marbox\vbox{%
124   \vskip \@tempdima
125   \box \@marbox
126 }%
127 \global \ht\@marbox \z@
128 \global \dp\@marbox \z@
129 \kern -\@pagedp
130 \nointerlineskip
131 \hb@xt@\columnwidth{%
132   \ifnum \@tempcnta >\z@
133     \hskip\columnwidth
134     \hskip\marginparsep
135   \else
136     \hskip -\marginparsep
137     \hskip -\marginparwidth
138   \fi
139   \box\@marbox \hss
140 }%
141 \nointerlineskip
142 \hbox{\vrule \@height\z@ \@width\z@ \@depth\@pagedp}%
143 }
144 \ifx\pec@addmarginpar\@addmarginpar
145   \pec@temp{latex/base}%
146 \fi

```

## 2.1.2 memoir.cls

```

147 \def\pec@addmarginpar{%
148   \checkoddpage
149   \@next\@marbox\@currlist{%
150     \@cons\@freelist\@marbox
151     \@cons\@freelist\@currbox
152   } \@latexbug
153   \@tempcnta\@ne
154   \if@twocolumn
155     \if@firstcolumn
156       \@tempcnta\m@ne
157     \fi
158   \else
159     \if@mparswitch
160       \ifoddpage
161       \else
162         \@tempcnta\m@ne
163       \fi
164     \fi
165     \if@reversemargin
166       \@tempcnta -\@tempcnta
167     \fi
168   \fi
169   \ifnum\@tempcnta <\z@
170     \global\setbox\@marbox\box\@currbox
171   \fi
172   \@tempdima\@mparbottom
173   \advance\@tempdima -\@pageht

```

```

174 \advance\@tempdima\ht\@marbox
175 \ifdim\@tempdima >\z@
176   \@latexwarning@no@line{%
177     Marginpar on page \thepage\space moved by \the\@tempdima
178   }%
179 \else
180   \@tempdima\z@
181 \fi
182 \global\@mparbottom\@pageht
183 \global\advance\@mparbottom\@tempdima
184 \global\advance\@mparbottom\dp\@marbox
185 \global\advance\@mparbottom\marginparpush
186 \advance\@tempdima -\ht\@marbox
187 \global\setbox\@marbox\vbox{%
188   \vskip \@tempdima
189   \box \@marbox
190 }%
191 \global \ht\@marbox \z@
192 \global \dp\@marbox \z@
193 \kern -\@pagedp
194 \nointerlineskip
195 \hb@xt@\columnwidth{%
196   \ifnum \@tempcnta >\z@
197     \hskip\columnwidth
198     \hskip\marginparsep
199   \else
200     \hskip -\marginparsep
201     \hskip -\marginparwidth
202   \fi
203   \box\@marbox
204   \hss
205 }%
206 \nointerlineskip
207 \hbox{\vrule \@height\z@ \@width\z@ \@depth\@pagedp}%
208 }%
209 \ifx\pec@addmarginpar\@addmarginpar
210   \pec@temp{memoir.cls}%
211 \fi

```

### 2.1.3 poemscol/marn.sty, poemscol/newmarn.sty

```

212 \def\pec@addmarginpar{%
213   \@next \@marbox\@currlist{%
214     \@cons\@freelist\@marbox
215     \@cons\@freelist\@currbox
216   } \@latexbug
217   \global\advance\@mpar@count\m@ne
218   \@ifundefined{marn@the\@mpar@count @}{% was location logged last time?
219     \@tempcnta\@ne % NO: use original LaTeX logic
220     \if@twocolumn
221       \if@firstcolumn
222         \@tempcnta\m@ne
223       \fi
224     \else
225       \if@mparswitch
226         \ifodd\c@page
227           \else
228             \@tempcnta\m@ne
229           \fi
230         \fi
231       \if@reversemargin
232         \@tempcnta -\@tempcnta
233       \fi
234     \fi

```

```

235 }{%
236   \@tempcnta %    YES: use record from last time to decide side.
237   \@nameuse{@marn@the\@mpar@count @}%
238   \if@reversemargin -\fi \@ne
239 }%
240 \ifnum \@tempcnta <\z@
241   \global\setbox\@marbox\box\@currbox
242   \global\let\@marnbottom\@mparbottoml
243 \else
244   \global\let\@marnbottom\@mparbottom
245 \fi
246 \@tempdima\@marnbottom \advance\@tempdima -\@pageht
247 \advance\@tempdima\ht\@marbox
248 \ifdim \@tempdima >\z@
249   \@warning{Marginpar on page \thepage\space moved}%
250 \else
251   \@tempdima\z@
252 \fi
253 \global\@marnbottom\@pageht
254 \global\advance\@marnbottom\@tempdima
255 \global\advance\@marnbottom\dp\@marbox
256 \global\advance\@marnbottom\marginparpush
257 \advance\@tempdima -\ht\@marbox
258 \global\ht\@marbox\z@
259 \global\dp\@marbox\z@
260 \vskip -\@pagedp
261 \vskip \@tempdima\nointerlineskip
262 \hbox to\columnwidth{%
263   \ifnum \@tempcnta >\z@
264     \hskip\columnwidth
265     \hskip\marginparsep
266   \else
267     \hskip -\marginparsep
268     \hskip -\marginparwidth
269   \fi
270   \if@filesw % record where this is for use next time:
271     \@marn@log\@mpar@count
272   \fi
273   \box\@marbox
274   \hss
275 }%
276 \nobreak   %% RmS 91/06/21 \nobreak added
277 \vskip -\@tempdima
278 \nointerlineskip
279 \hbox{\vrule \@height\z@ \@width\z@ \@depth\@pagedp}%
280 }
281 \ifx\pec@addmarginpar\@addmarginpar
282   \pec@temp{poemscol/(new)marn.sty}%
283 \fi

```

#### 2.1.4 refman/refart.cls, refnam/refrep.cls

```

284 \def\pec@addmarginpar{%
285   \@next\@marbox\@currlist{%
286     \@cons\@freelist\@marbox
287     \@cons\@freelist\@currbox
288   }\@latexbug
289   \@tempcnta\@ne
290   \if@twocolumn
291     \if@firstcolumn
292       \@tempcnta\m@ne
293     \fi
294   \else
295     \@tempcnta\m@ne

```

```

296 \fi
297 \ifnum \@tempcnta < \z@
298   \global\setbox\@marbox\box\@currbox
299 \fi
300 \@tempdima\@mparbottom
301 \advance\@tempdima -\@pageht
302 \advance\@tempdima\ht\@marbox
303 \ifdim\@tempdima > \z@
304   \@@warning{Marginpar on page \thepage\space moved}%
305 \else
306   \@tempdima\z@
307 \fi
308 \global\@mparbottom\@pageht
309 \global\advance\@mparbottom\@tempdima
310 \global\advance\@mparbottom\dp\@marbox
311 \global\advance\@mparbottom\marginparpush
312 \advance\@tempdima -\ht\@marbox
313 \global\setbox\@marbox\vbox{%
314   \vskip \@tempdima \box \@marbox
315 }%
316 \global \ht\@marbox \z@
317 \global \dp\@marbox \z@
318 \kern -\@pagedp
319 \nointerlineskip
320 \hb@xt@\columnwidth{%
321   \ifnum \@tempcnta > \z@
322     \hskip\columnwidth
323     \hskip\marginparsep
324   \else
325     \hskip -\marginparsep
326     \hskip -\marginparwidth
327   \fi
328   \box\@marbox
329   \hss
330 }%
331 \nointerlineskip
332 \hbox{\vrule \@height\z@ \@width\z@ \@depth\@pagedp}%
333 }
334 \ifx\pec@addmarginpar\@addmarginpar
335   \pec@temp{ref(art|rep).cls}%
336 \fi
337
338 \ifcase\pec@result
339   \PackageInfo{pdfcolmk}{%
340     Fix for \string\@addmarginpar\space is omitted, %
341     because this variant\MessageBreak
342     of \string\@addmarginpar\space
343     is not recognized%
344   }%
345 \else
346   % apply patch for \@addmarginpar
347   \def\pec@PatchAddMarginpar#1\columnwidth#2#3\@nil{%
348     \pec@PatchAddMarginparI#2\@nil{#1}{#3}%
349   }%
350   \def\pec@PatchAddMarginparI#1\box\@marbox\hss#2\@nil#3#4{%
351     \def\@addmarginpar{%
352       #3%
353       \columnwidth{%
354         #1%
355         \pdfliteral{q}%
356         \rlap{%
357           \box\@marbox

```



```

358     }%
359     \pdfliteral{Q}%
360     \hss
361     #2%
362     }%
363     #4%
364     }%
365   }%
366   \expandafter\pec@PatchAddMarginpar\@addmarginpar\@nil
367 \fi

```

## 2.2 Color fix

```

368 \def\set@color{%
369   \pdfliteral{\current@color}%
370   \ifinner
371   \else
372     \pec@setmark
373   \fi
374   \aftergroup\reset@color
375 }
376 \def\reset@color{%
377   \pdfliteral{\current@color}%
378   \ifinner
379   \else
380     \pec@setmark
381   \fi
382 }
383
384 \let\pec@botcolor\current@color
385
386 \def\pec@PatchVBoxCCLV{%
387   \ifx\pec@botcolor\@empty
388   \else
389     \setbox\@cclv\vbox{%
390       \pdfliteral{\pec@botcolor}%
391       \unvbox\@cclv
392     }%
393   \fi
394   \pec@getmark
395 }
396
397 \def\pec@PatchAlreadyInBox{%
398   \ifx\pec@botcolor\@empty
399   \else
400     \pdfliteral{\pec@botcolor}%
401   \fi
402   \pec@getmark
403 }
404
405 \@ifclassloaded{memoir}{%
406   \expandafter\def\expandafter\mem@makecol\expandafter{%
407     \expandafter\pec@PatchVBoxCCLV
408     \mem@makecol
409   }%
410   \endinput
411 }{}
412
413 \@ifclassloaded{seminar}{%
414   \newcommand\pec@org@makeslide{}%
415   \let\pec@org@makeslide\@makeslide
416   \def\@makeslide{%
417     \pec@PatchVBoxCCLV

```

```

418     \pec@org@makeslide
419 }%
420 \endinput
421 }{}
422
423 \long\def\pec@output#1\@specialoutput\else#2\pec@end{%
424   \begingroup
425     \def\x{#2}%
426   \expandafter\endgroup
427   \ifx\x\@empty
428     \PackageWarningNoLine{pdfcolmk}{%
429       Unexpected \string\output\space routine detected,%
430       \MessageBreak
431       loading of package stopped%
432     }%
433   \expandafter\endinput
434   \fi
435 }
436 \expandafter\expandafter\expandafter\pec@output
437 \expandafter\@firstofone\the\output\@specialoutput\else\pec@end
438
439 \long\def\pec@output#1\@specialoutput\else#2\pec@end{%
440   \output{%
441     #1\@specialoutput\else
442     \pec@PatchVBoxCCLV
443     #2%
444   }%
445 }
446 \expandafter\expandafter\expandafter\pec@output
447 \expandafter\@firstofone\the\output\pec@end
448 \endpackage

```

## 3 Installation

### 3.1 Download

**Package.** This package is available on CTAN<sup>1</sup>:

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

[CTAN:macros/latex/contrib/oberdiek/pdfcolmk.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  $\TeX$  Files” ([CTAN:tds/tds.pdf](#)). Directories with `texmf` in their name are usually organized this way.

### 3.2 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
```

---

<sup>1</sup><http://ftp.ctan.org/tex-archive/>

**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/
```

### 3.3 Package installation

**Unpacking.** The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain- $\text{\TeX}$ :

```
tex pdfcolmk.dtx
```

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

```
pdfcolmk.sty → tex/latex/oberdiek/pdfcolmk.sty
pdfcolmk.pdf → doc/latex/oberdiek/pdfcolmk.pdf
pdfcolmk.dtx → source/latex/oberdiek/pdfcolmk.dtx
```

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`.

### 3.4 Refresh file name databases

If your  $\text{\TeX}$  distribution (te $\text{\TeX}$ , mi $\text{\TeX}$ , ...) relies on file name databases, you must refresh these. For example, te $\text{\TeX}$  users run `texhash` or `mktexlsr`.

### 3.5 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 pdfcolmk.pdf unpack_files output .
```

**Unpacking with  $\text{\LaTeX}$ .** The `.dtx` chooses its action depending on the format:

**plain- $\text{\TeX}$ :** Run `docstrip` and extract the files.

**$\text{\LaTeX}$ :** Generate the documentation.

If you insist on using  $\text{\LaTeX}$  for `docstrip` (really, `docstrip` does not need  $\text{\LaTeX}$ ), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{pdfcolmk.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 pdf $\text{\LaTeX}$ :

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

## 4 History

[2000/08/27 v0.1]

- First published version in newsgroup `comp.text.tex`:  
“`pdftex: bug with colors?`”<sup>2</sup>

[2000/09/02 v0.2]

- Next try.

[2000/09/02 v0.3]

- Solution without  $\varepsilon$ -TeX added.

[2000/09/06 v0.4]

- Patch commands added.
- Patch for seminar.cls added.

[2000/09/06 v0.5]

- Bug fix: initialization of `\pec@value` added.

[2005/06/15 v0.6]

- Support for `\marginpar` added. See thread in `comp.text.tex`:  
“`Using \textcolor and \marginpar together`”<sup>3</sup>

[2005/07/09 v0.7]

- Output support added for memoir, provided by Lars Madsen.

[2006/02/20 v0.8]

- Code is not changed.
- DTX framework.

[2007/01/01 v1.0]

- If `pdftex.def`  $\geq$  2007/01/01 v0.04a is used with pdfTeX 1.40.0, then package `pdfcolmk` is obsolete.

[2007/04/11 v1.1]

- Line ends sanitized.

[2008/08/11 v1.2]

- Code is not changed.
- URLs updated.

---

<sup>2</sup>Url: <http://groups.google.com/group/comp.text.tex/msg/6f088e69e4085d2c>

<sup>3</sup>Url: <http://groups.google.com/group/comp.text.tex/msg/38ed58f8845a2a4f>

## 5 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>\@warning</code> .....	249, 304
<code>\@addmarginpar</code> .....	86, 144, 209, 281, 334, 340, 342, 346, 351, 366
<code>\@cclv</code> .....	389, 391
<code>\@cons</code> 92, 93, 150, 151, 214, 215, 286, 287	
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