The pdfcolmk package

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Abstract
This package tries a solution for the missing color stack of pdfT\textsc{e}X.

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∗Please report any issues at https://github.com/ho-tex/oberdiek/issues
1 Documentation

1.1 Introduction

This package uses a mark register in order to solve the problem of a missing color stack of pdf\TeX prior 1.40.0. Since this version of pdf\TeX a color stack is available and supported by \texttt{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 In this case this package is obsolete and the package stops its loading.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 e\TeX method of a \textit{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 in onecolumn and twocolumn mode, but the state is experimental.

1.3 Limitations

- Mark limitations: page breaks in math.
- \LaTeX'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

\emph{\varepsilon}\TeX (for additional mark register) Without \emph{\varepsilon}\TeX \LaTeX's mark commands are redefined to store an additional color value.

1.5 Usage

Load after package color:

\begin{verbatim}
\usepackage[pdftex]{color}
\usepackage{pdfcolmk}
\end{verbatim}

1.6 Compatibility

- Load the following packages after \texttt{pdfcolmk}:
  \texttt{mparhack.sty}
- Load the following packages before \texttt{pdfcolmk}:
  \texttt{marn.sty}
  \texttt{newmarn.sty}
- Supported \texttt{@addmarginpar} patch:
  \texttt{latex/base/latex.ltx}
  \texttt{memoir.cls}
  \texttt{poemscol/marn.sty, poemscol/newmarn.sty}
  \texttt{mparhack.sty}
2 Implementation

1 (*package*)

Package identification.
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{pdfcolmk} %
4 [2016/05/16 v1.3 Color support for pdfTeX via marks (HO)]
5 \if@undefined{ver@pdftex.def}{%
6 \PackageWarningNoLine{pdfcolmk}{%
7 Nothing to fix, because \string`pdftex\string' not loaded%
8 }%
9 \endinput
10 %}
11 \if@packageloaded{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>= 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 \PackageInfo{pdfcolmk}{%
32 This package tries to simulate dvips's color stack\MessageBreak
33 for pdfTeX based on a mark register of e-TeX.\MessageBreak
34 It redefines LaTeX's output routine. Therefore,\MessageBreak
35 use with care, no warranties%}
36 \endinput
37 }
38 \fix\marks\@undefined
39 \let\pec@mark\mark
40 \let\pec@value\empty
41 \long\def\pec@mark#1{%
42 \protected@xdef\pec@value{#1}%
43 \pec@setmark%
44 }%
45 \def\pec@setmark{%
46 \begingroup
47 \@temptokena\expandafter{\pec@value}%
48 \pec@mark{\current@color\the@temptokena}%
49 \endgroup
50 }%
\def\pec@getmark{\xdef\pec@botcolor{\expandafter\@firstofthree\botmark\@empty\@empty\@empty}}
\long\def\@firstofthree#1#2#3{#1}
\CheckCommand{\@leftmark}{2}{#1}
\CheckCommand{\@rightmark}{2}{#2}
\CheckCommand*{\leftmark}{\expandafter\@leftmark\botmark\@empty\@empty}
\CheckCommand*{\rightmark}{\expandafter\@rightmark\firstmark\@empty\@empty}
\long\def\@leftmark#1#2#3{#2}
\long\def\@rightmark#1#2#3{#3}
\g@addto@macro\leftmark\@empty
\g@addto@macro\rightmark\@empty
\else
\RequirePackage{etex}[1998/03/26]
\newmarks\pec@marks
\def\pec@setmark{\marks\pec@marks{\current@color}}
\def\pec@getmark{\xdef\pec@botcolor{\botmarks\pec@marks}}
\fi

2.1 \textbackslash marginpar fix
\chardef\pec@result\z@
\def\pec@temp#1{\chardef\pec@result\@ne
\begingroup\let\on@line\@empty\PackageInfo{pdfcolmk}{Patch for \string\@addmarginpar\space applied (#1)}\endgroup}

2.1.1 latex/base/latex.ltx
\def\pec@addmarginpar{\@next\@marbox\currlist{\@cons\@freelist\@marbox
\@cons\@freelist\@currbox}
\@latexbug\@tempcnta\@ne
\if@twocolumn\if@firstcolumn\@tempcnta\m@ne\else\fi\fi
\if@reversemargin\@tempcnta -\@tempcnta \fi
\ifnum\@tempcnta <\z@\global\setbox\@marbox\box\@currbox\fi
\@tempdima\@mparbottom
\@tempdima\@mparbottom
\advance\@tempdima -\@pageht
\advance\@tempdima\ht\@marbox
\ifdim\@tempdima >\z@
\@latex@warning@no@line{% Marginpar on page \thepage\space moved by \the\@tempdima
}%
\else
\@tempdima\z@
\fi
\global\@mparbottom\@pageht
\global\advance\@mparbottom\@tempdima
\global\advance\@mparbottom\dp\@marbox
\global\advance\@mparbottom\marginparpush
\advance\@tempdima -\ht\@marbox
\global\setbox\@marbox\vbox{%
\vskip\@tempdima
\box\@marbox
\global\ht\@marbox\z@
\global\dp\@marbox\z@
\kern -\@pagedp
\nointerlineskip
\hb@xt@\columnwidth{%
\ifnum\@tempcnta >\z@
\hskip\columnwidth
\hskip\marginparsep
\else
\hskip -\marginparsep
\hskip -\marginparwidth
\fi
\box\@marbox
\hss
}\nointerlineskip
\hbox{\vrule\@height\z@\@width\z@\@depth\@pagedp}%
}%
\@ifundefined{@marn@\the\@mpar@count @}{% was location logged last time?
\@tempcnta\m@ne % NO: use original LaTeX logic
\if@twocolumn
\if@firstcolumn
\@tempcnta\m@ne
\else
\if@reversemargin
\@tempcnta -\@tempcnta
\else
\@tempcnta\m@ne
\fi
\fi
\fi
\else
\@tempcnta\m@ne
\fi
\fi
2.1.3 poemscol/marn.sty, poemscol/newmarn.sty
\def\pec@addmarginpar{%
\@next\@marbox\@currlist{%
\@cons\@freelist\@marbox
\@cons\@freelist\@currbox
}\@latexbug
\global\advance\@mpar@count\m@ne
\ifundefined{@marn@\the\@mpar@count @}{% was location logged last time?
\@tempcnta\m@ne % NO: use original LaTeX logic
\if@twocolumn
\@tempcnta\m@ne
\else
\@tempcnta\m@ne
\fi
\fi
\@firstcolumn
\@tempcnta\m@ne
\fi
\else
\@tempcnta\m@ne
\fi
\fi
\fi
\fi
\if@reversemargin
\@tempcnta\m@ne
\else
\@tempcnta\m@ne
\fi
\fi
2.1.3 poemscol/marn.sty, poemscol/newmarn.sty
\def\pec@addmarginpar{%
\@next\@marbox\@currlist{%
\@cons\@freelist\@marbox
\@cons\@freelist\@currbox
}\@latexbug
\global\advance\@mpar@count\m@ne
\ifundefined{@marn@\the\@mpar@count @}{% was location logged last time?
\@tempcnta\m@ne % NO: use original LaTeX logic
\if@twocolumn
\@tempcnta\m@ne
\else
\@tempcnta\m@ne
\fi
\fi
\@firstcolumn
\@tempcnta\m@ne
\fi
\else
\@tempcnta\m@ne
\fi
\fi
\@firstcolumn
\@tempcnta\m@ne
\fi
\else
\@tempcnta\m@ne
\fi
\fi
2.1.4 refman/refart.cls, refnam/refrep.cls
2.2 Color fix

\def\set@color{\pdfliteral{\current@color}\ifinner\else\pec@setmark\fi\aftergroup\reset@color}\fi\def\reset@color{\pdfliteral{\current@color}\ifinner\else\pec@setmark\fi}\let\pec@botcolor\current@color\def\pec@PatchVBoxCCLV{\ifx\pec@botcolor\@empty\else\setbox\@cclv\vbox{\pdfliteral{\pec@botcolor}\unvbox\@cclv}\fi\pec@getmark}\def\pec@PatchAlreadyInBox{\ifx\pec@botcolor\@empty\else\pdfliteral{\pec@botcolor}\fi\pec@getmark}
3 Installation

3.1 Download

Package. This package is available on CTAN\(^1\):


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](http://ctan.org/pkg/oberdiek)

*TDS* refers to the standard “A Directory Structure for *T* eX Files” ([CTAN:tds/tds.pdf](http://ctan.org/pkg/oberdiek)). Directories with *texmf* in their name are usually organized this way.

3.2 Bundle installation

Unpacking. Unpack the [oberdiek.tds.zip](http://ctan.org/pkg/oberdiek) in the TDS tree (also known as *texmf* tree) of your choice. Example (Linux):

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

\(^1\) [http://ctan.org/pkg/pdfcolmk](http://ctan.org/pkg/pdfcolmk)
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):

```bash
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 \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 \TeX{} distribution (\TeX{}, mikt\TeX{}, …) relies on file name databases, you must refresh these. For example, \TeX{} users run texhash or mktexlar.

3.5 Some details for the interested

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

plain \TeX{}: Run docstrip and extract the files.

\LaTeX{}: Generate the documentation.

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

```
l {\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 pdflatex:\n
```
pdflatex pdfcolmk.dtx
makeindex -s gind.ist pdfcolmk.idx
pdflatex pdfcolmk.dtx
makeindex -s gind.ist pdfcolmk.idx
pdflatex pdfcolmk.dtx
```
4 Catalogue

The following XML file can be used as source for the \TeX{} Catalogue. The elements \texttt{caption} and \texttt{description} are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is \texttt{pdfcolmk.xml}.

```xml
<catalogue>
  <entry datestamp='$Date$' modifier='$Author$' id='pdfcolmk'>
    <name>pdfcolmk</name>
    <caption>Improving colour support under pdftex.</caption>
    <authorref id='auth:oberdiek'/>
    <copyright owner='Heiko Oberdiek' year='2000,2005-2008'/>
    <license type='lppl1.3'/>
    <version number='1.3'/>
    <description>
      The package provides macros that emulate the \texttt{\&h2018;color stack\&h2019;} functionality of dvips. The colour stack deals with colour manipulations when asynchronous events (like page-breaking) occur; pdftex does not (yet) have such a stack, but dvips does, and the \texttt{\<xref refid='color'>color</xref>} package makes extensive use of it.
      This package is an experimental solution to the problem, and works best with pdf-e-tex.
    </description>
    <documentation details='Package documentation' href='ctan:/macros/latex/contrib/oberdiek/pdfcolmk.pdf'/>
    <ctan file='true' path='/macros/latex/contrib/oberdiek/pdfcolmk.dtx'/>
    <miktex location='oberdiek'/>
    <texlive location='oberdiek'/>
    <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'/>
  </entry>
</catalogue>
```

5 History

[2000/08/27 v0.1]
- First published version in newsgroup \texttt{comp.text.tex}: “pdftex: bug with colors?”\footnote{Url: http://groups.google.com/group/comp.text.tex/msg/6f088e69e4085d2c}

[2000/09/02 v0.2]
- Next try.

[2000/09/02 v0.3]
- Solution without \texttt{\&-\TeX} added.

[2000/09/06 v0.4]
- Patch commands added.
- Patch for seminar.cls added.

\footnote{Url: http://groups.google.com/group/comp.text.tex/msg/6f088e69e4085d2c}
[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”\(^3\)

[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` >= 2007/01/01 v0.04a is used with `pdflatex >= 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.

[2016/05/16 v1.3]
• Documentation updates.

6 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; plain numbers refer to the code lines where the entry is used.

<table>
<thead>
<tr>
<th>Symbols</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><code>@warning</code></td>
<td>249, 304</td>
</tr>
<tr>
<td><code>@addmarginpar</code></td>
<td>86, 144, 209, 281, 334, 340, 342, 346, 351, 366</td>
</tr>
<tr>
<td><code>@cclv</code></td>
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<td><code>@cons</code></td>
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<tr>
<td><code>@currbox</code></td>
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</tr>
<tr>
<td><code>@currlist</code></td>
<td>91, 149, 213, 285</td>
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<td><code>@depth</code></td>
<td>142, 207, 279, 332</td>
</tr>
<tr>
<td><code>@empty</code></td>
<td>22, 55, 62, 65, 69, 70, 84, 87, 398, 427</td>
</tr>
<tr>
<td><code>@firstofone</code></td>
<td>437, 447</td>
</tr>
<tr>
<td><code>@firstofthree</code></td>
<td>55, 58</td>
</tr>
</tbody>
</table>

\(^3\)Url: [http://groups.google.com/group/comp.text.tex/msg/38ed586845a2a4f](http://groups.google.com/group/comp.text.tex/msg/38ed586845a2a4f)