The dvipscol package

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Abstract

Color support for dvips in `dvips.def` involves the color stack of dvips. The package tries to remove unnecessary uses of the stack to avoid the error "out of coor stack space".

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1 Documentation

1.1 Introduction

This package tries a solution, if the program dvips complains:

```
! out of color stack space
```

The driver file `dvips.def` contains the low level color commands for the package color. Each time a color is set, the current color is pushed on the color stack before and after the current group the old color is popped from the stack and set again (via `\aftergroup`). But the color stack size of dvips is limited, so a stack overflow can occur, if there are too many color setting operations in a group.

Only at the bottom group level (no group), the color can be set directly without pushing the current color on the stack before, because there is no group at bottom level that can end.

With ε-TEX the group level can easily be detected (`\currentgrouplevel`). Alone with TEX this is not possible.

1.2 Usage

1.2.1 With -TEX

With e-TeX the package fixes `\set@color`, therefore no interaction with the user is required. Just load the package:

```
\usepackage[dvips]{color}
\usepackage{dvipscol}
```

1.2.2 Without -TEX

```
\usepackage[dvips]{color}
\usepackage{dvipscol}
```

Without ε-TEX the package does not know, which `\color` do not need the stack. Therefore it defines `\nogroupcolor`, that the user can use manually instead of `\color`. But caution: it should only be used outside of all groups, for example the following will not work:

```
\textcolor{black}{\nogroupcolor{blue}...}
```

The use of ε-TEXis strongly recommended.

2 Implementation

```
1 ⟨*package⟩
```

Package identification.

```
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{dvipscol}%
4   [2008/08/11 v1.2 Alter the usage of the dvips color stack (HO)]
5 \@ifundefined{ver@dvips.def}{%
6   \PackageWarningNoLine{dvipscol}{%
7     Nothing to fix, because \string`dvips.def\string' not loaded%
8   }%
9   \endinput
10 }
11 \CheckCommand*{\set@color}{%
12   \special{color push \current@color}%
13   \aftergroup\reset@color
14 }
```

`\nogroupcolor`

```
15 \newcommand*{\nogroupcolor}{%
16   \let\saved@org@set@color\set@color
17   \def\set@color{%
18     \let\set@color\saved@org@set@color
19     \special{color \current@color}%
20   }%
21   \color
22 }
```

Patch for ε-TEX users.

```
23 \ifx\currentgrouplevel\@undefined
```

```
  \PackageWarningNoLine{dvipscol}{%
    \string\set@color\space cannot be fixed, %
    because the\MessageBreak
    e-TeX extensions are not available%
  }%
  \expandafter\endinput
\fi
\def\set@color{%
  \ifcase\currentgrouplevel
    \special{color \current@color}%
  \else
    \special{color push \current@color}%
    \aftergroup\reset@color
  \fi
}
```

⟨/package⟩

3 Installation

3.1 Download

Package. This package is available on CTAN[1]:

CTAN:macros/latex/contrib/oberdiek/dvipscol.dtx The source file.

CTAN:macros/latex/contrib/oberdiek/dvipscol.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
```

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 TEX:

```
tex dvipscol.dtx
```

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

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

```
dvipscol.sty → tex/latex/oberdiek/dvipscol.sty
dvipscol.pdf → doc/latex/oberdiek/dvipscol.pdf
dvipscol.dtx → source/latex/oberdiek/dvipscol.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 (teTEX, mikTEX, ...) relies on file name databases, you must refresh these. For example, teTEX 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 dvipscol.pdf unpack_files output .
```

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:

```
latex \let\install=y\input{dvipscol.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:

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

4 Catalogue

The following XML file can be used as source for the TEX Catalogue. The elements `caption` and `description` are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is `dvipscol.xml`.

```
40 ⟨*catalogue⟩
41 <?xml version='1.0' encoding='us-ascii'?>
42 <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
43 <entry datestamp='$Date$' modifier='$Author$' id='dvipscol'>
44   <name>dvipscol</name>
```

```
  <caption>Alter the usage of the dvips colour stack.</caption>
  <authorref id='auth:oberdiek'/>
  <copyright owner='Heiko Oberdiek' year='2000,2006,2008'/>
  <license type='lppl1.3'/>
  <version number='1.2'/>
  <description>
    The package modifies <tt>\color</tt> (and related commands) to
    deal with the occasional dvips error: &#x201C;! out of color
    stack space&#x201D;.
    <p/>
    The package is part of the <xref refid='oberdiek'>oberdiek</xref>
    bundle.
  </description>
  <documentation details='Package documentation'
      href='ctan:/macros/latex/contrib/oberdiek/dvipscol.pdf'/>
  <ctan file='true' path='/macros/latex/contrib/oberdiek/dvipscol.dtx'/>
  <miktex location='oberdiek'/>
  <texlive location='oberdiek'/>
  <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'/>
</entry>
⟨/catalogue⟩
```

5 History

[2000/08/31 v1.0]

- First public release created as answer to a question of Deepak Goel in comp.text.tex: "Re: \color problems.. :Out of stack space.."[2]

[2006/02/20 v1.1]

- DTX framework.
- Code is not changed.
- LPPL 1.3

[2008/08/11 v1.2]

- Code is not changed.
- URLs updated.

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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.

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[2] Url: http://groups.google.com/group/comp.text.tex/msg/2d37bb1bf2939b31

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