Graphics drivers for pict2e[*]

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1 Driver files

This file implements some of the currently supported drivers for the new version of the pict2e package. If the driver you use is not in this list then a '`.def`' file may be distributed with the pict2e package, or may be distributed with the standard LaTeX graphics bundle, or may be distributed with your driver.

If not, send us some details of the driver's `\special` syntax, and we will try to produce a suitable file.

Note that some of these files are for graphics drivers to which we have no access, so they are untested. Please send any corrections to the latexbugs address or directly to the authors.

1.1 Template

A template for a pict2e driver file.

`\pIIe@mode` This macro serves as an indicator to the pict2e package which mode the driver supports:

−1	inapt/incapable (default, already set in pict2e)
0	standard LaTeX only
1	PostScript
2	PDF
	(other values are reserved for future use)

Incapable drivers should not alter the default value given by the pict2e package, or set it explicitly to −1.

```
⟨*template⟩
\def\pIIe@mode{-1}
```

`\pIIe@code` The pict2e package expects the driver file to define the `\pIIe@code` command in a suitable way.

This command should locally establish the standard PostScript/PDF coordinate system (i.e., a cartesian coordinate system with positive x-axis pointing right and positive y-axis pointing up, and with unit 1 bp = 1/72 in), albeit with the origin at TeX's current point instead of the lower left corner of the page.

[*] This document corresponds to p2e-drivers.dtx v0.1r, dated 2004/06/25, documentation dated 2004/06/25.

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Furthermore, it should save and restore the graphics state (`gsave`/`grestore` in PostScript, `q`/`Q` in PDF.) This may be achieved by using appropriate `\special` (or `\pdfliteral`, respectively) commands.

Moreover, this command should preserve (i.e., it should not change) the current colour as defined by the user via the commands of the color package from the graphics bundle.

Thus, the `\Gin@PS@restored` command that various ⟨*driver*⟩`.def` files from the graphics bundle provide should usually come close to what is expected here.

```
\def\pIIe@code#1{}
⟨/template⟩
```

1.2 dvips

A pict2e driver file for the dvips driver.

`\pIIe@mode` We are about to generate PostScript code.

```
⟨*dvips⟩
\def\pIIe@mode{1}
```

`\pIIe@code` In this case the code inserted by the driver on behalf of the `\Gin@PS@restored` command performs a "`0 setgray`" operation, thus resetting any colour the user might have set by means of the color package. (See also LaTeX problem report graphics/3569.) We therefore have to resort to the following kludge: As long as we output only simple picture objects, our operations are "atomic." Hence, we won't need to set colours or gray shades within the PostScript code generated by pict2e; thus the offending `setgray` operator may as well be a no-op. To keep this redefinition local, we enclose the call to `\Gin@PS@restored` by a `save`/`restore` pair.

```
\def\pIIe@code#1{%
  \Gin@PS@raw{save /setgray { pop } def}%
  \Gin@PS@restored{#1}%
  \Gin@PS@raw{restore}%
}
⟨/dvips⟩
```

1.3 pdftex

A pict2e driver file for the pdftex driver.

`\pIIe@mode` We are about to generate PDF code. (Only, if pdfTeX is actually generating PDF; otherwise nothing will be output.)

```
⟨*pdftex⟩
\begingroup
  \@ifundefined{pdfoutput}{}{%
    \ifnum\pdfoutput>0\relax
      \gdef\pIIe@mode{2}
    \fi
  }
\endgroup
```

\pIIe@code The save/restore operators are necessary here to prevent the change of the CTM (scaling and rotation operations) that pict2e inserts from propagating.

```
\ifcase\pIIe@mode\relax \or\or
  \def\pIIe@code#1{\pdfliteral{ q #1 Q }}
\fi
⟨/pdftex⟩
```

1.4 vtex

A pict2e driver file for the vtex driver.

\pIIe@mode With VTEX, we should use PostScript code also for PDF mode (Email from Michael Vulis, MicroPress).

```
⟨*vtex⟩
\begingroup
  \@ifundefined{VTeXversion}{}{%
    \ifnum\OpMode>0\relax
      \ifnum\OpMode<3\relax
        \gdef\pIIe@mode{1}%
      \fi
    \fi
  }
\endgroup
```

\pIIe@code Here `\Gin@PS@restored` suffices as provided by the graphics driver file `vtex.def`.

```
\ifcase\pIIe@mode\relax \or
  \let\pIIe@code\Gin@PS@restored
\fi
⟨/vtex⟩
```

1.5 dvipdfm

A pict2e driver file for the dvipdfm driver.

\pIIe@mode We are about to generate PDF code.

```
⟨*dvipdfm⟩
\def\pIIe@mode{2}
```

\pIIe@code This seems to be sufficient.

```
\def\pIIe@code#1{\special{pdf: content #1}}
⟨/dvipdfm⟩
```

1.6 dvipdf

A pict2e driver file for the dvipdf driver (not yet implemented).

\pIIe@mode

```
⟨*dvipdf⟩
 %\def\pIIe@mode{-1}
```

\pIIe@code This is the same as the definition for `\Gin@PS@restored` in `dvipdf.def` as defined in `drivers.dtx`! Better use the higher-level macro instead of the `\special`?

```
 %\def\pIIe@code#1{\special{" #1}} % \Gin@PS@restored{#1}
⟨/dvipdf⟩
```

1.7 textures

A pict2e driver file for the textures driver (not yet implemented).

\pIIe@mode

```
⟨*textures⟩
 % \def\pIIe@mode{-1}
```

\pIIe@code

```
 % \def\pIIe@code#1{}
⟨/textures⟩
```

1.8 dvipsone

A pict2e driver file for the dvipsone driver (not yet implemented).

\pIIe@mode

```
⟨*dvipsone⟩
 % \def\pIIe@mode{-1}
```

\pIIe@code

```
 % \def\pIIe@code#1{}
⟨/dvipsone⟩
```

1.9 pctexps

A pict2e driver file for the pctexps driver (not yet implemented).

\pIIe@mode

```
⟨*pctexps⟩
 % \def\pIIe@mode{-1}
```

\pIIe@code

```
 % \def\pIIe@code#1{}
⟨/pctexps⟩
```

1.10 pctex32

A pict2e driver file for the pctex32 driver (not yet implemented).

\pIIe@mode

```
⟨*pctex32⟩
 % \def\pIIe@mode{-1}
```

\pIIe@code

```
 % \def\pIIe@code#1{}
⟨/pctex32⟩
```

2 A Sample Configuration File

This one is taken from `color.cfg` of the teTeX/TeXlive distributions.

```
⟨*cfg⟩
%% Select an appropriate default driver.
\begingroup
  \chardef\x=0 %
  % check pdfTeX
  \@ifundefined{pdfoutput}{}{%
    \ifcase\pdfoutput
    \else
      \chardef\x=1 %
    \fi
  }%
  % check VTeX
  \@ifundefined{OpMode}{}{%
    \chardef\x=2 %
  }%
\expandafter\endgroup
\ifcase\x
  % default case
  \ExecuteOptions{dvips}%
\or
  % pdfTeX is running in pdf mode
  \ExecuteOptions{pdftex}%
\else
  % VTeX is running
  \ExecuteOptions{vtex}%
\fi
```

You can also specify other options to the pict2e package in the configuration file. For example, if you prefer PSTricks-like arrows, just uncomment the line below.

```
%% \ExecuteOptions{pstarrows}
⟨/cfg⟩
```