Graphics drivers for \LaTeX\ 2ε*

Sebastian Rahtz and David Carlisle

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This file is maintained by the \LaTeX\ Project team. Bug reports can be opened (category graphics) at https://latex-project.org/bugs.html.

1 Driver files

This file implements some of the currently supported drivers. If the driver you use is not in this list then a ‘.def’ file may be distributed with this 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 drivers to which we have no access, so they are untested. Please send any corrections to the latexbugs address.

2 Colour

Most of the drivers that support colour use one of three methods.

• color1: ‘dvips’ style colour specials.
• color2: ‘textures’ style colour specials.
• color3: Colour implemented via literal PostScript specials.
• color4: Colour implemented by specials that only support RGB, i.e., Red Green Blue specified as integers in the range 0–255. Other models converted to this within \TeX.

Some drivers do not use any of these modules and have their own code. Note that drivers using the ‘color3’ code can not fully support the \LaTeX colour commands.

1 (*color1 | color2 | color3 | color4)
2 \def\c@lor@arg#1{%
3 \dimen@#1\p@%
4 \ifdim\dimen@<\z@\dimen@\maxdimen\fi
5 \ifdim\dimen@>\p@
6 \PackageError{color}{Argument ‘#1’ not in range [0,1]}{\@ehd}
7 \fi

*Version v3.0m, revised 2016/06/17
Need to make sure of a trailing .0 for textures. Apparently it is OK to always add a . as 1.3. is accepted by textures. textures gray special is reversed, so just use rgb instead.

\def\color@gray#1#2{\
  \color@arg{#2}\
  ⟨color4⟩\color@rgb@RGB\@tempa\
  ⟨color1⟩\edef#1{gray #2}\
  ⟨color2⟩\edef#1{rgb #2. #2. #2.}\
  ⟨color3⟩\edef#1{#2 setgray}\
  ⟨color4⟩\edef#1{⟨@tempa@tempa@tempa⟩}\
}

\def\color@cmyk#1#2{\color@@cmyk#2\@@#1}
\def\color@@cmyk#1,#2,#3,#4\@@#5{\
  \color@arg{#4}\
  ⟨color4⟩\dimen@ii#4\p@\
  \color@arg{#1}\
  ⟨color4⟩\color@cmyk@RGB\@tempa\
  \color@arg{#2}\
  ⟨color4⟩\color@cmyk@RGB\@tempb\
  \color@arg{#3}\
  ⟨color4⟩\color@cmyk@RGB\@tempc\
  ⟨color1⟩\edef#5{cmyk #1 #2 #3 #4}\
  ⟨color2⟩\edef#5{cmyk #1. #2. #3. #4.}\
  ⟨color3⟩\edef#5{#1 #2 #3 #4 setcmykcolor}\
  ⟨color4⟩\edef#5{⟨@tempa@tempb@tempc⟩}\
}

A 0–1 range value will have been left in \dimen@ by \color@arg. The black value (0–1) will be stored in \dimen@ii. Covert to 0–255 integer, and leave in #1.

*color4*
\def\color@cmyk#1#2{\color@arg{#1}\
  \advance\dimen@-\p@\
  \advance\dimen@\dimen@ii\
  \dimen@-\@cclv\dimen@\
  \divide\dimen@\p@\
  \count@\ifdim\dimen@<\z@\z@\else\dimen@\fi\
  \edef#1{⟨the\count@\space⟩}\
}*/color4*

\def\color@rgb#1#2{\color@@rgb#2\@@#1}
\def\color@@rgb#1,#2,#3\@@#4{\
  \color@arg{#1}\
  ⟨color4⟩\color@rgb@RGB\@tempa\
  \color@arg{#2}\
  ⟨color4⟩\color@rgb@RGB\@tempb\
  \color@arg{#3}\
  ⟨color4⟩\color@rgb@RGB\@tempc\
  ⟨color1⟩\edef#4{rgb #1 #2 #3}\
  ⟨color2⟩\edef#4{rgb #1. #2. #3.}\
  ⟨color3⟩\edef#4{#1 #2 #3 setrgbcolor}\
  ⟨color4⟩\edef#4{⟨@tempa@tempb@tempc⟩}\
}

A 0–1 range value will have been left in \dimen@ by \color@arg. Convert to 0–255 integer, and leave in #1.
\def\c@lor@rgb@RGB#1{\dimen\@cclv\dimen\count\dimen\divide\count\p\edef#1{\the\count\space}}
\def\color@RGB#1#2{\c@lor@@RGB#2\@@#1}
\def\c@lor@@RGB#1,#2,#3\@@#4{\!
\c@lor@RGB\rgb{#1}\@tempa
\c@lor@RGB\rgb{#2}\@tempb
\c@lor@RGB\rgb{#3}\@tempc
\c@lor@@rgb\@tempa,\@tempb,\@tempc\@@#4%
\edef#4{#1 #2 #3} }

Convert 0–255 integer, #1, to 0–1 real, and leave in #2.
\def\c@lor@RGB@rgb#1#2{\dimen#1\p
\divide\dimen\@cclv\edef#2{\strip@pt\dimen}}
\def\color@hsb#1#2{\c@lor@@hsb#2\@@#1}
\def\c@lor@@hsb#1,#2,#3\@@#4{\c@lor@arg{#1}
\c@lor@arg{#2}
\c@lor@arg{#3}
\edef#4{hsb #1 #2 #3}
\edef#4{#1 #2 #3 sethsbcolor}
}
\def\color@named#1#2{\c@lor@@named#2,,\@@#1}
\def\c@lor@@named#1,#2,#3\@@#4{\@ifundefined{col@#1}{\PackageError{color}{Undefined color '#1'}\@ehd}{\edef#4{ #1}}\edef#4{ #1 \if!#2!\else #2.\fi}\edef#4{\csname col@#1\endcsname}}

Conversion from \special syntax to PostScript (for PSTricks).
\def\c@lor@to@ps#1 #2\@@{\csname c@lor@ps@#1\endcsname#2 \@@}
\def\c@lor@to@ps#1\@@{#1}
\def\c@lor@to@ps#1#2 #3 #4\@@{#1#2 255 div #3 255 div #4 255 div setrgbcolor}
\def\set@color{\Gin@PS@raw{\current@color}\aftergroup\reset@color}
\def\reset@color{\Gin@PS@raw{\current@color}}
\langle/color3\rangle
\langle/*color4\rangle}
\def\set@color{\special{textcolor: \current@color}\aftergroup\reset@color}
\def\reset@color{\special{textcolor: \current@color}}
\langle/color4\rangle
\langle/*color3|color4\rangle}
\def\set@page@color{\c@lor@special\sixt@@n{background color ignored: \current@color}}
\def\define@color@named#1#2{\expandafter\edef\csname col@#1\endcsname{#2}}
\langle/color3|color4\rangle
\langle/*colorfix\rangle}
\AtBeginDocument{\let\@ldc@l@r\color
\def\color{\if@inlabel\leavevmode\fi\@ldc@l@r}\
\let\@lduseb@x\usebox
\def\usebox#1{\@lduseb@x{#1}\set@color}}
\langle/*dvipsnames\rangle
\DefineNamedColor{named}{GreenYellow}{cmyk}{0.15,0,0.69,0}
\DefineNamedColor{named}{Yellow}{cmyk}{0,0,1,0}
\DefineNamedColor{named}{Goldenrod}{cmyk}{0.0,0.10,0.84,0}
\DefineNamedColor{named}{Dandelion}{cmyk}{0.0,0.29,0.84,0}
\DefineNamedColor{named}{Apricot}{cmyk}{0.0,0.32,0.52,0}
\DefineNamedColor{named}{Peach}{cmyk}{0.0,0.50,0.70,0}
\DefineNamedColor{named}{Melon}{cmyk}{0.0,0.46,0.50,0}
\DefineNamedColor{named}{YellowOrange}{cmyk}{0.0,0.42,1,0}
\DefineNamedColor{named}{Orange}{cmyk}{0.0,0.61,0.87,0}
\DefineNamedColor{named}{BurntOrange}{cmyk}{0.0,0.51,1,0}
\DefineNamedColor{named}{Bittersweet}{cmyk}{0.0,0.75,1,0.24}
\DefineNamedColor{named}{RedOrange}{cmyk}{0.0,0.77,0.87,0}
\DefineNamedColor{named}{Mahogany}{cmyk}{0.0,0.85,0.87,0.35}
\DefineNamedColor{named}{Maroon}{cmyk}{0.0,0.87,0.68,0.32}
\DefineNamedColor{named}{BrickRed}{cmyk}{0.0,0.89,0.94,0.28}
\DefineNamedColor{named}{Red}{cmyk}{0,1,1,0}
\DefineNamedColor{named}{OrangeRed}{cmyk}{0,1,0.50,0}
\DefineNamedColor{named}{RubineRed}{cmyk}{0,1,0.13,0}
\DefineNamedColor{named}{WildStrawberry}{cmyk}{0.0,0.96,0.39,0}
\DefineNamedColor{named}{Salmon}{cmyk}{0.0,0.53,0.38,0}
\DefineNamedColor{named}{CarnationPink}{cmyk}{0.0,0.63,0,0}
\DefineNamedColor{named}{Magenta}{cmyk}{0,1,0,0}
\DefineNamedColor{named}{VioletRed}{cmyk}{0,0.81,0,0}
\DefineNamedColor{named}{Rhodamine}{cmyk}{0,0.82,0,0}
\DefineNamedColor{named}{Mulberry}{cmyk}{0.34,0.90,0,0.02}
\DefineNamedColor{named}{RedViolet}{cmyk}{0.07,0.90,0,0.34}
\DefineNamedColor{named}{Fuchsia}{cmyk}{0.47,0.91,0,0.08}
\DefineNamedColor{named}{Lavender}{cmyk}{0.0,0.48,0,0}
\DefineNamedColor{named}{Thistle}{cmyk}{0,0.12,0.39,0,0}


\DefineNamedColor{named}{Orchid} {cmyk}{0.32,0.64,0,0}
\DefineNamedColor{named}{DarkOrchid} {cmyk}{0.40,0.80,0.20,0}
\DefineNamedColor{named}{Purple} {cmyk}{0.45,0.86,0,0}
\DefineNamedColor{named}{Plum} {cmyk}{0.50,1,0,0}
\DefineNamedColor{named}{Violet} {cmyk}{0.79,0.88,0,0}
\DefineNamedColor{named}{RoyalPurple} {cmyk}{0.75,0.90,0,0}
\DefineNamedColor{named}{BlueViolet} {cmyk}{0.86,0.91,0.0,0.04}
\DefineNamedColor{named}{Periwinkle} {cmyk}{0.57,0.55,0,0}
\DefineNamedColor{named}{CadetBlue} {cmyk}{0.62,0.57,0.23,0}
\DefineNamedColor{named}{CornflowerBlue}{cmyk}{0.65,0.13,0,0}
\DefineNamedColor{named}{MidnightBlue} {cmyk}{0.98,0.13,0.43}
\DefineNamedColor{named}{NavyBlue} {cmyk}{0.94,0.54,0.0}
\DefineNamedColor{named}{RoyalBlue} {cmyk}{1.0,0.50,0,0}
\DefineNamedColor{named}{Blue} {cmyk}{1,1,0,0}
\DefineNamedColor{named}{Cyan} {cmyk}{1,0,0,0}
\DefineNamedColor{named}{ProcessBlue} {cmyk}{0.96,0,0,0}
\DefineNamedColor{named}{SkyBlue} {cmyk}{0.62,0.12,0,0}
\DefineNamedColor{named}{Turquoise} {cmyk}{0.85,0.20,0,0}
\DefineNamedColor{named}{TealBlue} {cmyk}{0.86,0.34,0.02}
\DefineNamedColor{named}{Aquamarine} {cmyk}{0.82,0.30,0,0}
\DefineNamedColor{named}{BlueGreen} {cmyk}{0.85,0.33,0,0}
\DefineNamedColor{named}{Emerald} {cmyk}{1,0,0,50}
\DefineNamedColor{named}{JungleGreen} {cmyk}{0.99,0.0,0.52}
\DefineNamedColor{named}{SeaGreen} {cmyk}{0.69,0.0,0.50}
\DefineNamedColor{named}{Green} {cmyk}{1,0,1,0}
\DefineNamedColor{named}{ForestGreen} {cmyk}{0.91,0.0,0.12}
\DefineNamedColor{named}{PineGreen} {cmyk}{0.92,0.0,0.25}
\DefineNamedColor{named}{LimeGreen} {cmyk}{0.50,0.1,0}
\DefineNamedColor{named}{YellowGreen} {cmyk}{0.44,0.0,0.74}
\DefineNamedColor{named}{SpringGreen} {cmyk}{0.26,0.0,0.76}
\DefineNamedColor{named}{OliveGreen} {cmyk}{0.64,0.95,0.40}
\DefineNamedColor{named}{RawSienna} {cmyk}{0.0,0.72,1.0,0}
\DefineNamedColor{named}{Sepia} {cmyk}{0,0.83,1,0.70}
\DefineNamedColor{named}{Brown} {cmyk}{0.81,1,0.60}
\DefineNamedColor{named}{Tan} {cmyk}{0.14,0.42,0.56,0}
\DefineNamedColor{named}{Gray} {cmyk}{0.0,0.0,0.50}
\DefineNamedColor{named}{Black} {cmyk}{0,0,0,1}
\DefineNamedColor{named}{White} {cmyk}{0,0,0,0}
⟨/dvipsnames⟩

3 dvips
A \LaTeX \textnormal{2e} graphics driver file for Tom Rokicki’s dvips driver; tested with version 5.58f.

⟨*dvips⟩

3.1 Colour
Uses the generic ‘color1’ code.
3.2 File inclusion

\Ginclude@eps  #1 input file (or command)
\def\Ginclude@eps#1{%  
\message{<#1>}%  
\bgroup
\texttt{dvips} likes to work with its own pixel resolution, so mangle the sizes slightly.
\def\@tempa{!}%  
\dimen@ \Gin@req@width  
\dimen@ii.1bp%  
\divide\dimen@\dimen@ii  
\@tempdima \Gin@req@height  
\divide\@tempdima\dimen@ii  
\special{PSfile="#1"\space  
llx=\Gin@llx\space  
 lly=\Gin@lly\space  
 urx=\Gin@urx\space  
 ury=\Gin@ury\space  
 \ifx\Gin@scalex\@tempa\else rwi=\number\dimen@\space\fi  
 \ifx\Gin@scaley\@tempa\else rhi=\number\@tempdima\space\fi  
 \ifGin@clip clip \fi}%
\egroup}

\Ginclude@bmp  #1 input file; if zero size is requested, the graphic will come at ‘natural’ size.
\def\Ginclude@bmp#1{%  
\message{<#1>}%  
\dimen@ \Gin@req@height  
\advance\dimen@ by-\Gin@lly bp  
\kern-\Gin@llx bp\raise\Gin@req@height\hbox{  
\ifdim\Gin@urx bp=\z@  
\ifdim\Gin@ury bp=\z@  
\special{em: graph #1}%  
\else  
\special{em: graph #1,\Gin@urx bp}%  
\fi  
\else  
\special{em: graph #1,\Gin@urx bp,\Gin@ury bp}%  
\fi  
\fi  
\}%
\egroup}

\Ginclude@pict \Ginclude@pntg \oztex@include  PICT/PNTG format from the Mac. Actually only currently supported by the
version of \texttt{dvips} distributed with \textsc{Oz\TeX}, and with the built in \textsc{Oz\TeX} drivers,
but put here anyway as it is not much code and increases portability between the
systems as now \texttt{[dvips]} and \texttt{[oztex]} share the same back end.
\def\oztex@include#1#2{%  
\dimen@1bp%  
\divide\Gin@req@width\dimen@  
\divide\Gin@req@height\dimen@  
\special{#1=#2\space  
@width=\number\Gin@req@width \space  
@height=\number\Gin@req@height})
3.3 Rotation
\def\Grot@start{\special{ps: gsave currentpoint
\special{ps: \Grot@angle space neg
rotate neg exch neg exch translate})
\def\Grot@end{\special{ps: \Grot@angle space neg exch neg exch translate}}

3.4 Scaling
\def\Gscale@start{\special{ps: \Gscale@x \Gscale@y scale neg exch neg exch translate}
\def\Gscale@end{\special{ps: \Gscale@x \Gscale@y scale neg exch neg exch translate}}

4 Literal Postscript
Raw PostScript code, no save/restore.
\def\Gin@PS@raw#1{\special{ps: #1}}
PostScript code, to be surrounded by save/restore by the driver. Coordinate system standard PostScript, but with origin at current (\TeX) position.
\def\Gin@PS@restored#1{\special{" #1}}
PostScript code to be inserted in the Header section of the final PostScript. Must be issued on the first page of a document.
\def\Gin@PS@literal@header#1{\AtBeginDvi{\special{! #1}}}
Name of external file, the contents of which are to be inserted in the Header section of the final PostScript. Must be issued on the first page of a document.

5 Page Size
\@ifundefined{ifGin@setpagesize}{\expandafter\let\csname ifGin@setpagesize\endcsname\iftrue\endcsname}{
{\expandafter\let\csname ifGin@setpagesize\endcsname\expandafter\endcsname\csname iftrue\endcsname}
\ifGin@setpagesize
\ifx\paperwidth\@undefined\else
\AtBeginDocument{\AtBeginDvi{%}
\begingroup
\ifx\stockwidth\@undefined\else
\paperwidth\stockwidth
\paperheight\stockheight
\fi
\fi
\ifdim\paperwidth>\z@\ifdim\paperheight>\z@
\special{papersize=\the\paperwidth,\the\paperheight}%
\fi
\fi}
\fi
\endgroup}}
\fi
\fi
})(dvips)

6 dvipdf

A \LaTeX{} \TeX{} graphics driver file for dvipdf driver.

6.1 Colour

Uses the generic ‘color1’ code.

6.2 File inclusion

\Ginclude@eps #1 input file (or command)
\Ginclude@bmp #1 input file; if zero size is requested, the graphic will come at ‘natural’ size.

\def\Ginclude@eps#1{%
  \message{<#1>}%
  \bgroup
dvips likes to work with its own pixel resolution, so mangle the sizes slightly.
  \def\@tempa{!}%
  \dimen@\Gin@req@width
  \dimen@ii.1bp
  \divide\dimen@\dimen@ii
  \@tempdima\Gin@req@height
  \divide\@tempdima\dimen@ii
  \special{PSfile="#1" \space llx=\Gin@llx \space lly=\Gin@lly \space urx=\Gin@urx \space ury=\Gin@ury \space }
  \ifx\Gin@scalex\@tempa\else rwi=\number\dimen@ \space\fi
  \ifx\Gin@scaley\@tempa\else rhi=\number\@tempdima \space\fi
  \if\Gin@clip clip\fi}
\egroup}

\Ginclude@bmp #1 input file (or command)
\message{<#1>}%
\dimen@\Gin@req@height
\advance\dimen@ by-\Gin@lly bp
\kern-\Gin@llx bp\raise\Gin@req@height \hbox{%
\ifdim\Gin@urx bp=\z@ \else
\special{pdf: /GRAPH #1}%
\else
\special{pdf: /GRAPH #1 \number\Gin@req@width sp}%
\fi
\else
\special{pdf: /GRAPH #1 \number\Gin@req@width sp}%

6.3 Rotation
\def\Grot@start{\special{pdf:/ROT\Grot@angle{space}<<}}
\def\Grot@end{\special{pdf:/ROT>>}}

6.4 Scaling
\def\Gscale@start{\special{pdf:/S\Gscale@x\space\Gscale@y\space<<}}
\def\Gscale@end{\special{pdf:/S\space>>}}

7 Literal Postscript
Raw PostScript code, no save/restore.
\def\Gin@PS@raw#1{\special{ps:#1}}

PostScript code, to be surrounded by save/restore by the driver. Coordinate system standard PostScript, but with origin at current (\TeX) position.
\def\Gin@PS@restored#1{\special{"#1}}

PostScript code to be inserted in the Header section of the final PostScript. Must be issued on the first page of a document.
\def\Gin@PS@literal@header#1{\AtBeginDvi{\special{!#1}}}

Name of external file, the contents of which are to be inserted in the Header section of the final PostScript. Must be issued on the first page of a document.
\def\Gin@PS@file@header#1{\AtBeginDvi{\special{header=#1}}}

7.1 File extensions
\@namedef{Gin@rule@.msp}{bmp}{.bb}{#1}
\@namedef{Gin@rule@.jpg}{bmp}{.bb}{#1}
\@namedef{Gin@rule@.bmp}{bmp}{.bb}{#1}

8 Oz\TeX
A \TeX{} 2\epsilon graphics driver file for Oz\TeX{} (versions 1.42 and later), by Andrew Trevorrow.
\def\oztex{}

8.1 Graphics inclusion
\def\Ginclude@eps{\Oztex@include{epsf}}
\def\Ginclude@pntg{\Oztex@include{pntg}}
\def\Ginclude@pict{\Oztex@include{pict}}
\def\Oztex@include#1#2{%
  \ifGin@clip
    \typeout{No clipping support in Oz\TeX}%
  \fi
  \divide\Gin@req@width by 65781% convert sp to bp
9 Textures

A \LaTeX\ graphics driver file for Blue Sky’s Textures

WARNING! There is ongoing work to produce a new version of the textures support. Do not rely on anything in this file being in the next version!

\langle \oztex \rangle

9.1 Graphics inclusion

\PackageInfo{graphics/color}
\{This file uses the advanced color support\MessageBreak
available in textures1.7\MessageBreak
If you are using color with an earlier version\MessageBreak
of textures, edit graphics.ins where marked\MessageBreak
and re-latex graphics.ins\MessageBreak
If you are using textures1.7\MessageBreak
you may want to delete this warning\MessageBreak
from textures.def\MessageBreak
The code for scaling/rotation and file inclusion\MessageBreak
in this file is still rudimentary, and does not\MessageBreak
use textures’ full capabilities.\MessageBreak
A new textures.def is currently being developed\MessageBreak\}
\def\Ginclude@eps{\Textures@Include{illustration}}
\def\Ginclude@pict{\Textures@Include{pictfile}}
\def\Textures@Include#1#2{%
\def\@tempa{!}%
\ifx\Gin@scaley\@tempa
\let\Gin@scaley\Gin@scalex
\else
\ifx\Gin@scalex\@tempa\let\Gin@scalex\Gin@scaley\fi
\let\Gin@scalex\@tempa
\let\Gin@scaley\@tempa
\fi
\ifdim\Gin@scaley@tempa pt<\Gin@scalex pt
\let\Gin@scaley@tempdima\Gin@scalex pt
\else
\let\Gin@scalex@tempdima\Gin@scaley pt
\fi
\ifdim\Gin@scalex@tempdima pt<\Gin@scaley@tempdima pt
\let\Gin@scalex@tempdimb\Gin@scaley@tempdima pt
\else
\let\Gin@scaley@tempdimb\Gin@scalex@tempdima pt
\fi
\let\Gin@scalex\@tempdima
\let\Gin@scaley\@tempdima
\typeout{no clipping support in Textures}%
\fi
\special{#1 #2\space scaled \number\@tempdima}%
9.2 Rotation
This code was written when no unprotected postscript code was allowed; it could
almost certainly be rewritten now with ‘rawpostscript’.
\def\Grot@start{\special{postscript
0 0 transform \grestore
matrix currentmatrix
3 1 roll itransform
dup 3 -1 roll
dup 4 1 roll exch translate
\Grot@angle\space neg rotate
neg exch neg exch translate gsave}}
\def\Grot@end{\special{postscript grestore setmatrix gsave}}

9.3 Colour
This will only work for versions 1.6 and Version 1.7 uses ‘color2’.
\langle color3\rangle \def\Gin@PS@raw#1{\special{rawpostscript #1}}
\langle /textures \rangle

10 dvialw
A \LaTeX\ 2\epsilon graphics driver file for dvialw, by Nelson Beebe
\langle dvialw \rangle

10.1 Rotation
\def\Ginclude@eps#1{%
\def\@tempa{!}\
\ifx\Gin@scaley\@tempa
\let\Gin@scaley\Gin@scalex
\else
\ifx\Gin@scalex\@tempa\let\Gin@scalex\Gin@scaley\fi
\fi
\ifGin@clip
\typeout{no clipping support in dvialw}%
\fi
\special{language "PS",
\literal "\Gin@scalex\space \Gin@scaley\space scale",
\position = "bottom left",
\include "#1\space"}%
}
\langle dvialw \rangle

11 emtex
A \LaTeX\ 2\epsilon graphics driver file for Eberhard Mattes’ emTeX
11.1 Graphics file inclusion
\def\Ginclude@bmp#1{\raise\Gin@req@height\hbox{\special{em:graph #1}}\typeout{WARNING: emtex does not permit graphics to be scaled}}
\end{emtex}

12 dvilaser/ps
A \LaTeX{} graphics driver file for Arbortext’s dvilaser/ps
\dvilaser

12.1 Graphic file inclusion
\def\Ginclude@eps#1{\if\Gin@clip\typeout{no clipping support in dvilaser/ps}\fi\special{ps: epsfile #1\space \the\Gin@req@width}}
\end{dvilaser}

13 psprint
A \LaTeX{} graphics driver file for Trevorrow’s psprint
\psprint

13.1 Graphic file inclusion
\def\Ginclude@eps#1{%\def\@tempa{!}%\if\Gin@scaley\@tempa\let\Gin@scaley\Gin@scalex\else\if\Gin@scalex\@tempa\let\Gin@scalex\Gin@scaley\fi\fi\if\Gin@clip\typeout{no clipping support in psprint}\fi\special{#1\space\Gin@scalex\space\Gin@scaley\space scale\Gin@llx\space neg\Gin@lly \space neg translate}}
\end{psprint}

14 dvipsone
A \LaTeX{} graphics driver file for Y&Y’s dvipsone
\dvipsone
14.1 Graphic file inclusion

PostScript Files.
\begin{verbatim}
\def\Ginclude@eps#1{\message{<#1>}\bgroup\def\@tempa{!}\dimen@\Gin@req@width\dimen@ii.1bp\divide\dimen@\dimen@ii\@tempdima\Gin@req@height\divide\@tempdima\dimen@ii\special{PSfile="#1" llx=\Gin@llx lly=\Gin@lly urx=\Gin@urx ury=\Gin@ury \ifx\Gin@scalex\@tempa\else rwi=\number\dimen@\fi \ifx\Gin@scaley\@tempa\else rhi=\number\@tempdima\fi \if\Gin@clip clip\fi}\egroup}
\end{verbatim}

Tiff files.
\begin{verbatim}
\def\Ginclude@tiff#1{\message{<#1>}\special{insertimage: #1 \number\Gin@req@width \number\Gin@req@height}}
\end{verbatim}

Windows Metafiles.
\begin{verbatim}
\def\Ginclude@wmf#1{\message{<#1>}\special{insertmf: #1 0 0 \number\Gin@req@width \number\Gin@req@height}}
\end{verbatim}

14.2 Rotation
\begin{verbatim}
\def\Grot@start{\special{ps: gsave currentpoint translate \Grot@angle neg neg exch translate}}\def\Grot@end{\special{ps: currentpoint grestore moveto setfont}}
\end{verbatim}

14.3 Scaling
\begin{verbatim}
\def\Gscale@start{\special{ps: currentpoint currentpoint translate \Gscl@space \Gscl@y \Gscl@x scale neg neg exch translate}}\def\Gscale@end{\special{ps: currentpoint currentpoint translate 1 \Gscl@x \Gscl@y \Gscl@x div \Gscl@y div scale neg exch translate}}
\end{verbatim}

14.4 File Extensions
\begin{verbatim}
\@namedef{Gin@rule@.wmf}#1{\{wmf\}}\end{verbatim}
15  Literal Postscript

Raw PostScript code, no save/restore.

\def\Gin@PS@raw#1{\special{ps: #1}}

PostScript code, to be surrounded by save/restore by the driver. Coordinate system standard PostScript, but with origin at current (TeX) position.

\def\Gin@PS@restored#1{\special{" #1}}

PostScript code to be inserted in the Header section of the final PostScript. Must be issued on the first page of a document.

\def\Gin@PS@literal@header#1{\AtBeginDvi{\special{headertext=#1}}}

Name of external file, the contents of which are to be inserted in the Header section of the final PostScript. Must be issued on the first page of a document.

\def\Gin@PS@file@header#1{\AtBeginDvi{\special{header=#1}}}

16  dviwindo

A \LaTeX\ 2ε graphics driver file for Y&Y’s dviwindo.

This driver now uses the same file as dvipsone.

17  dvitops

A \LaTeX\ 2ε graphics driver file for James Clark’s dvitops

(*dvitops)

17.1  Rotation

\newcount\Grot@count
\Grot@count=\@ne
\def\Grot@start{\special{dvitops: origin rot\the\Grot@count}\%
\special{dvitops: begin rot\the\Grot@count}\%
\special{dvitops: rotate rot\the\Grot@count \space \Grot@angle}\%
\global\advance\Grot@count by\@ne}%
\def\Grot@end{\special{dvitops: end}\%
\global\advance\Grot@count by\@ne}%

17.2  Graphic file inclusion

\def\Ginclude@eps{\%
These cause an arithmetic overflow, so I’ve commented them out. Presumably they were there for some reason.
\% Any dvitops users out there??\%
\multiply\Gin@req@width by \@m
\multiply\Gin@req@height by \@m
\ifGin@clip\%
\typeout{no clipping support in dvitops}\%
18 dvi2ps

A \LaTeX{} 2\epsilon graphics driver file for original dvi2ps

18.1 Graphic file inclusion

19 pctexps

A \LaTeX{} 2\epsilon graphics driver file for Personal TeX’s PTI Laser/PS; from information supplied by Lance Carnes and Tao Wang <pti@crl.com>.

19.1 Graphic file inclusion
\ps graphics without bounding box information cannot be \texttt{scaled}. If the file actually contains the information, \texttt{please rename the file to .eps file extension.}

\def\Gin@extensions{.eps,.ps}
\@namedef{Gin@rule@.ps}#1{{ps}{.ps}{#1}}
\@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}
\def\Gin@PS@raw#1{\special{ps::#1}}
\def\Grot@start{\special{ps::gsave currentpoint}
  currentpoint translate \Grot@angle\space
  rotate neg exch neg exch translate}}
\def\Grot@end{\special{ps:: currentpoint grestore moveto}}
\def\Gscale@start{\special{ps:: currentpoint currentpoint translate}
  \Gscale@x\space \Gscale@y\space scale neg exch neg exch translate}
\def\Gscale@end{\special{ps:: currentpoint currentpoint translate
  1 \Gscale@x\space div 1 \Gscale@y\space div scale
  neg exch neg exch translate}}

⟨/pctexps⟩

20 \texttt{pctex32}

A \TeX\ 2\epsilon\; graphics driver file for Personal \TeX\’s PC \TeX\ for 32 bit Windows;
Code supplied by Tao Wang <pti@crl.com>.

20.1 Colour

Uses the generic ‘color1’ code.

⟨/pctex32⟩

20.2 Graphic file inclusion

\% including PostScript graphics
\def\Ginclude@eps#1{%\message(#1)%
  \bgroup
  \def\@tempa{!}%
  \dimen@i.1bp\dimen@i\divide\dimen@i\divide\@tempdima\divide\@tempdima\if\Gin@scalex\@tempa\else rwi=\number\dimen@i\space\fi
  \if\Gin@scaley\@tempa\else rhi=\number\@tempdima\space\fi
  \if\Gin@clip clip \fi}
\egroup

20
including BMP graphics
\def\Ginclude@bmp#1{\message{<#1>}\ifGin@clip\typeout{no clipping support for BMP graphics in PCTeX32}\fi\Gin@req@width.03515\Gin@req@width\Gin@req@height.03515\Gin@req@height\special{bmp:#1\space x=\strip@pt\Gin@req@width cm, y=\strip@pt\Gin@req@height cm}}

including WMF graphics
\def\Ginclude@wmf#1{\message{<#1>}\ifGin@clip\typeout{no clipping support for WMF graphics in PCTeX32}\fi\Gin@req@width.03515\Gin@req@width\Gin@req@height.03515\Gin@req@height\special{wmf:#1\space x=\strip@pt\Gin@req@width cm, y=\strip@pt\Gin@req@height cm}}

20.3 Scaling and Rotating
PostScript rotation and scaling
\def\Grot@start{\special{ps:: gsave currentpoint translate \Grot@angle\space neg rotate neg exch neg exch translate}}\def\Grot@end{\special{ps:: currentpoint grestore moveto}}\def\Gscale@start{\special{ps:: currentpoint currentpoint translate \Gscale@x\space \Gscale@y\space scale neg exch neg exch translate}}\def\Gscale@end{\special{ps:: currentpoint currentpoint translate 1 \Gscale@x\space div 1 \Gscale@y\space div scale neg exch neg exch translate}}\def\Gin@PS@raw#1{\special{ps:#1}}\def\Gin@PS@restored#1{\special{"#1}}

20.4 Default Extensions
\def\Gin@extensions{.eps,.ps,.wmf,.bmp}\@namedef{Gin@rule@.ps}#1{{eps}{.ps}{#1}}\@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}\@namedef{Gin@rule@.bmp}#1{{bmp}{}{#1}}\@namedef{Gin@rule@.wmf}#1{{wmf}{}{#1}}(/pctex32)

21 pctexwin
A B\TeX\,2ε graphics driver file for Personal TeX's PC TeX for Windows; from information supplied by Lance Carnes and Tao Wang <pti@crl.com>.

(*pctexwin)
21.1 Graphic file inclusion

\def\Ginclude@eps#1{% 
\message{<#1>}% 
\ifGin@clip 
\typeout{no clipping support in pctexwin}% 
\fi 
\Gin@req@width.03515\Gin@req@width 
\Gin@req@height.03515\Gin@req@height 
\special{eps:#1\space x=\strip@pt\Gin@req@width cm, 
y=\strip@pt\Gin@req@height cm}}

\def\Ginclude@ps#1{% 
\message{<#1>}% 
\ifGin@clip 
\typeout{no clipping support in pctexwin}% 
\fi 
\hbox{\kern-\Gin@llx bp\raise-\Gin@lly bp\hbox{\special{ps:#1}}}% 
\typeout{^^J% 
---------------------------------------------------------^^J% 
.ps graphics without bounding box information cannot be^^J% 
scaled. If the file actually contains the information,`^^J% 
please rename the file to .eps file extension.`^^J% 
---------------------------------------------------------^^J% 
}%

\def\Ginclude@bmp#1{% 
\message{<#1>}% 
\ifGin@clip 
\typeout{no clipping support in pctexwin}% 
\fi 
\Gin@req@width.03515\Gin@req@width 
\Gin@req@height.03515\Gin@req@height 
\special{bmp:#1\space x=\strip@pt\Gin@req@width cm, 
y=\strip@pt\Gin@req@height cm}}

\def\Ginclude@wmf#1{% 
\message{<#1>}% 
\ifGin@clip 
\typeout{no clipping support in pctexwin}% 
\fi 
\Gin@req@width.03515\Gin@req@width 
\Gin@req@height.03515\Gin@req@height 
\special{wmf:#1\space x=\strip@pt\Gin@req@width cm, 
y=\strip@pt\Gin@req@height cm}}

\def\Gin@extensions{.eps,.ps,.wmf,.bmp}
\@namedef{Gin@rule@.bmp}#1{{bmp}{}{#1}}
\@namedef{Gin@rule@.wmf}#1{{wmf}{}{#1}}
\@namedef{Gin@rule@.ps}#1{{ps}{.ps}{#1}}
\@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}
⟨/pctexwin⟩

22 pctexhp

A \TeX\,2\,\! graphics driver file for Personal \TeX\,PTI Laser/HP; from information
supplied by Lance Carnes and Tao Wang \texttt{<pti@crl.com>}. 

19
22.1 Graphic file inclusion

```latex
\def\Ginclude@pcl#1{\
  \message{<#1>}\
  \ifGin@clip\
    \typeout{no clipping support in pctexhp}\
  \fi\
  \hbox{\kern-\Gin@llx bp\raise-\Gin@lly bp\hbox{\special{pcl:#1}}}\
  \typeout{WARNING: pctexhp does not permit graphics to be scaled}}
\@namedef{Gin@rule@.pcl}#1{{pcl}{}{#1}}
\def\Gin@extensions{.pcl}
```

23 pubps

A \LaTeX{} graphics driver file for Arbortext’s PUBps; information from Peter R Wilson pwilson@rdrc.rpi.edu.

23.1 Rotation

```latex
\def\Grot@start{\special{ps: gsave currentpoint\
  currentpoint translate \Grot@angle\space\
  rotate neg exch neg exch translate}}
\def\Grot@end{\special{ps: currentpoint grestore moveto}}
```

24 dviwin

A \LaTeX{} graphics driver file for Hippocrates Sendoukas’ dviwin

24.1 Graphic file inclusion

Dviwin sorts out the graphics type itself based on extension. They all use the same \special{}, so as far as graphics.sty is concerned they are all the same ‘type’. Use ‘bmp’ for the type as that is as good a name as any. Make this the default.

```latex
\@namedef{Gin@rule@*}#1{{bmp}{}{#1}}
\def\Ginclude@bmp#1{\
  \raise\Gin@req@height\hbox{\special{anisoscale #1,\
    \the\Gin@req@width\space \the\Gin@req@height}}}
```

The only exception is EPS files, as they may be read for BoundingBox

```latex
\@namedef{Gin@rule@.ps}#1{{eps}{.ps}{#1}}
\@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}
\let\Ginclude@eps\Ginclude@bmp
```

Add a few default extensions so \includegraphics{a} will pick up a.eps or a.wmf. This list can be reset with \DeclareGraphicsExtensions. Other extensions not in the list may be used explicitly, eg \includegraphics{a.gif}
should work as long as dviwin has access to a gif filter. If .gif is added using \DeclareGraphicsExtensions then \includegraphics{a} would also find a.gif.

739 \def\Gin@extensions{.eps,.ps,.wmf,.tif}

740 (/dviwin)

25 ln

A \TeX{} 2\varepsilon graphics driver file for B Hamilton Kelly's ln03 driver. Untested, but based on the graphics macros distributed with the driver.

741 (*ln)

25.1 Graphic file inclusion

742 \def\Ginclude@sixel#1{\special{ln03:sixel #1}}

26 truetex

A \TeX{} 2\varepsilon graphics driver file for Kinch ‘truetex’ driver.

744 (*truetex)

26.1 Colour

Uses the ‘color4’ colour code.

26.2 Graphic file inclusion

EPS File inclusion: DVIPS style.

745 \def\Ginclude@eps#1{%
746 \message{<#1>}%
747 \bgroup
748 \def\@tempa{!}%
749 \dimen@\Gin@req@width
750 \dimen@ii.1bp%
751 \divide\dimen@\dimen@ii
752 \@tempdima\Gin@req@height
753 \divide\@tempdima\dimen@ii
754 \special{PSfile="#1"\space
755 \llx=\Gin@llx\space
756 \lly=\Gin@lly\space
757 \urx=\Gin@urx\space
758 \ury=\Gin@ury\space
759 \ifx\Gin@scaleraux\@tempa\else rwi=\dimen0\space\fi
760 \ifx\Gin@scaleyaux\@tempa\else rhi=\dimen0\space\fi
761 \if\Gin@clip clip[fi]%
762 \egroup}

bmp File Inclusion.

763 \def\Ginclude@bmp#1{%
764 \message{<#1>}%
765 \special{bmpfile #1}
26.3 Literal PostScript

This is not supported, so uses ‘nops’ code.

26.4 Default Rules

Support (e)ps, tif and bmp, default to eps.

27 tcidvi

A \TeX \epsilon graphics driver file for Scientific Word/Workplace. Actually for the
Kinch truetex driver, augmented with extra \special handling with the DLL supplied with SW.

27.1 Colour

Uses the ‘color4’ colour code.

The above colours are handled by the Kinch-supplied dll The TCI dll adds
support for \colorbox, but only grey scale The code below accepts any color
model, but only the red component is used.
27.2 Graphic file inclusion

EPS File inclusion.
\def\Ginclude@eps#1{%
  \message{<#1>}%
  \raise\Gin@req@height\hbox{% If the bounding box has been changed by a trim or viewport key then need to calculate the crop ratios based on the original bb coordinates. (This assumes that clip key is also used).}
  \ifx\Gin@ollx\@undefined
    \else
      \@tempdimb \Gin@ourx bp%
      \advance\@tempdimb-\Gin@ollx bp%
      \@tempdima\Gin@llx bp%
      \advance\@tempdima-\Gin@ollx bp%
      \Gscale@div\TCI@cropleft\@tempdima\@tempdimb
      \@tempdima\Gin@urx bp%
      \advance\@tempdima-\Gin@ollx bp%
      \Gscale@div\TCI@cropright\@tempdima\@tempdimb
      \@tempdimb \Gin@oury bp%
      \advance\@tempdimb-\Gin@olly bp%
      \@tempdima\Gin@lly bp%
      \advance\@tempdima-\Gin@olly bp%
      \Gscale@div\TCI@cropbottom\@tempdima\@tempdimb
      \@tempdima\Gin@ury bp%
      \advance\@tempdima-\Gin@olly bp%
      \Gscale@div\TCI@croptop\@tempdima\@tempdimb
    \fi
  \special{%
    language \TCI@language;%
    type \TCI@type;%
    valid_file \TCI@validfile;%
    width \the\Gin@req@width;%
    height \the\Gin@req@height;%
    depth 0pt;%
    original-width \the\Gin@nat@width;%
    original-height \the\Gin@nat@height;%
    cropleft \"\TCI@cropleft\";%
    cropright \"\TCI@cropright\";%
    cropbottom \"\TCI@cropbottom\";%
    filename \#1;%
    \ifx\TCI@temp\empty\else tempfilename \TCI@temp;\fi
  }}%
\}

Default values so documents produced elsewhere should work
\def\TCI@language{"Scientific Word"}
\def\TCI@type{"GRAPHIC"}
\def\TCI@validfile{'F'}
\def\TCI@cropleft{0}
\def\TCI@cropright{1}
\def\TCI@cropbottom{0}
\let\TCI@temp\empty
Non PS Graphic files.

File inclusion macro is always the same. Use a different name though as LaTeX thinks it can read eps files for BoundingBox.

\let\Ginclud@bmp\Ginclud@eps

27.3 Literal PostScript

This is not supported, so uses ‘nops’ code.

27.4 Default Rules

SW always gives the full name with extension. So leave this list empty.

\def\Gin@extensions{}

,.ps,.PS,.eps,.EPS are (E)PS rest are ‘bmp’ which is a catch all type for anything that the import filter can handle.

\namedef{Gin@rule@.ps}@1{{eps}{.ps}{#1}}
\namedef{Gin@rule@.eps}@1{{eps}{.eps}{#1}}
\namedef{Gin@rule@.PS}@1{{eps}{.PS}{#1}}
\namedef{Gin@rule@.EPS}@1{{eps}{.EPS}{#1}}
\namedef{Gin@rule@*}@1{{bmp}{\Gin@ext}{#1}}

⟨
\special{tcidvi}⟩

28 Literal PostScript

Most drivers writing to PostScript allow some form of ‘literal’ PostScript \special that inserts code into the final PostScript output. However Non-PS drivers cannot support this (and some PS one’s can’t either). The code here makes all these commands no ops. Individual driver sections may define the commands to do something useful.

\namedef{Gin@PS@raw}@1{}

Raw PostScript code, no save/restore. Coordinate system unspecified.

\namedef{Gin@PS@restored}@1{}

PostScript code, to be surrounded by save/restore by the driver. Coordinate system standard PostScript, but with origin at current (\TeX) position.

\namedef{Gin@PS@literal@header}@1{}

PostScript code to be inserted in the Header section of the final PostScript. Must be issued on the first page of a document.

\namedef{Gin@PS@file@header}@1{}

Name of external file, the contents of which are to be inserted in the Header section of the final PostScript. Must be issued on the first page of a document.

⟨\special{tcidvi}⟩
29 Graphics Inclusion Rules

\def\Gin@extensions{.eps,.ps}
\@namedef{Gin@rule@.ps}#1{{eps}{.ps}{#1}}
\@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}
\@namedef{Gin@rule@*}#1{{eps}{\Gin@ext}{#1}}

\def\Gin@extensions{.eps,.ps,.eps.gz,.ps.gz,.eps.Z,.mps}
\@namedef{Gin@rule@.ps}#1{{eps}{.ps}{#1}}
\@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}
\@namedef{Gin@rule@.mps}#1{{eps}{.mps}{#1}}
\@namedef{Gin@rule@.pis}#1{{eps}{.pis}{#1}}
\@namedef{Gin@rule@.eps.Z}#1{{eps}{.eps.bb}{#1}}
\@namedef{Gin@rule@.ps.Z}#1{{eps}{.ps.bb}{#1}}
\@namedef{Gin@rule@.ps.gz}#1{{eps}{.ps.bb}{#1}}
\@namedef{Gin@rule@.eps.gz}#1{{eps}{.eps.bb}{#1}}
\@namedef{Gin@rule@*}#1{{eps}{\Gin@ext}{#1}}

\def\Gin@extensions{.eps,.ps,.eps.gz,.ps.gz,.eps.Z,.mps}
\@namedef{Gin@rule@.pcx}#1{{bmp}{pcx}{#1}}
\@namedef{Gin@rule@.bmp}#1{{bmp}{bmp}{#1}}
\@namedef{Gin@rule@.msp}#1{{bmp}{msp}{#1}}
\@namedef{Gin@rule@.pntg}#1{{bmp}{pntg}{#1}}
\@namedef{Gin@rule@.m}#1{{bmp}{m}{#1}}

\def\Gin@extensions{.eps,.ps,.pcx,.bmp}
\@namedef{Gin@rule@.ps}#1{{eps}{.ps}{#1}}
\@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}
\@namedef{Gin@rule@.pict}#1{{pict}{pict}{#1}}
\@namedef{Gin@rule@.pntg}#1{{pntg}{pntg}{#1}}
\@namedef{Gin@rule@.relax}#1{{pict}{relax}{#1}}

\def\Gin@extensions{.eps,.ps,.eps.gz,.ps.gz,.eps.Z,.mps}
\@namedef{Gin@rule@.tif}#1{{tiff}{tiff}{#1}}

25