# Graphics drivers for LaTeX 2ε[*]

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

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## 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 v3.0k, revised 2015/12/30

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.

```
 8 \def\color@gray#1#2{%
 9   \c@lor@arg{#2}%
10 ⟨color4⟩   \c@lor@rgb@RGB\@tempa
11 ⟨color1⟩   \edef#1{gray #2}%
12 ⟨color2⟩   \edef#1{rgb #2. #2. #2.}%
13 ⟨color3⟩   \edef#1{#2 setgray}%
14 ⟨color4⟩   \edef#1{\@tempa\@tempa\@tempa}%
15   }
16 \def\color@cmyk#1#2{\c@lor@@cmyk#2\@@#1}
17 \def\c@lor@@cmyk#1,#2,#3,#4\@@#5{%
18   \c@lor@arg{#4}%
19 ⟨color4⟩     \dimen@ii#4\p@
20   \c@lor@arg{#1}%
21 ⟨color4⟩   \c@lor@cmyk@RGB\@tempa
22   \c@lor@arg{#2}%
23 ⟨color4⟩   \c@lor@cmyk@RGB\@tempb
24   \c@lor@arg{#3}%
25 ⟨color4⟩   \c@lor@cmyk@RGB\@tempc
26 ⟨color1⟩   \edef#5{cmyk #1 #2 #3 #4}%
27 ⟨color2⟩   \edef#5{cmyk #1. #2. #3. #4.}%
28 ⟨color3⟩   \edef#5{#1 #2 #3 #4 setcmykcolor}%
29 ⟨color4⟩   \edef#5{\@tempa\@tempb\@tempc}%
30   }
```

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

```
31 ⟨*color4⟩
32 \def\c@lor@cmyk@RGB#1{%
33   \advance\dimen@-\p@
34   \advance\dimen@\dimen@ii
35   \dimen@-\@cclv\dimen@
36   \divide\dimen@\p@
37   \count@\ifdim\dimen@<\z@\z@\else\dimen@\fi
38   \edef#1{\the\count@\space}}
39 ⟨/color4⟩
40 \def\color@rgb#1#2{\c@lor@@rgb#2\@@#1}
41 \def\c@lor@@rgb#1,#2,#3\@@#4{%
42   \c@lor@arg{#1}%
43 ⟨color4⟩   \c@lor@rgb@RGB\@tempa
44   \c@lor@arg{#2}%
45 ⟨color4⟩   \c@lor@rgb@RGB\@tempb
46   \c@lor@arg{#3}%
47 ⟨color4⟩   \c@lor@rgb@RGB\@tempc
48 ⟨color1⟩   \edef#4{rgb #1 #2 #3}%
49 ⟨color2⟩   \edef#4{rgb #1. #2. #3.}%
50 ⟨color3⟩   \edef#4{#1 #2 #3 setrgbcolor}%
51 ⟨color4⟩   \edef#4{\@tempa\@tempb\@tempc}%
52   }
```

A 0–1 range value will have been left in `\dimen@` by `\c@lor@arg`. Convert to 0–255 integer, and leave in `#1`.

53 ⟨*color4⟩
54 *\def\c@lor@rgb@RGB#1{%*
55   *\dimen@\@cclv\dimen@*
56   *\count@\dimen@*
57   *\divide\count@\p@*
58   *\edef#1{\the\count@\space}}*
59 ⟨/color4⟩

60 `\def\color@RGB#1#2{\c@lor@@RGB#2\@@#1}`

61 `\def\c@lor@@RGB#1,#2,#3\@@#4{%`
62 ⟨!color4⟩  *\c@lor@RGB@rgb{#1}\@tempa*
63 ⟨!color4⟩  *\c@lor@RGB@rgb{#2}\@tempb*
64 ⟨!color4⟩  *\c@lor@RGB@rgb{#3}\@tempc*
65 ⟨!color4⟩  *\c@lor@@rgb\@tempa,\@tempb,\@tempc\@@#4%*
66 ⟨color4⟩   *\edef#4{#1 #2 #3}%*
67   *}*

Convert 0–255 integer, #1, to 0–1 real, and leave in #2.

68 ⟨*!color4⟩
69 *\def\c@lor@RGB@rgb#1#2{%*
70   *\dimen@#1\p@*
71   *\divide\dimen@\@cclv*
72   *\edef#2{\strip@pt\dimen@}}*
73 ⟨/!color4⟩

74 ⟨*color1 | color3⟩
75 *\def\color@hsb#1#2{\c@lor@@hsb#2\@@#1}*

76 *\def\c@lor@@hsb#1,#2,#3\@@#4{%*
77   *\c@lor@arg{#1}%*
78   *\c@lor@arg{#2}%*
79   *\c@lor@arg{#3}%*
80 ⟨color1⟩   *\edef#4{hsb #1 #2 #3}%*
81 ⟨color3⟩   *\edef#4{#1 #2 #3 sethsbcolor}%*
82   *}*
83 ⟨/color1 | color3⟩

84 `\def\color@named#1#2{\c@lor@@named#2,,\@@#1}`

85 `\def\c@lor@@named#1,#2,#3\@@#4{%`
86   `\@ifundefined{col@#1}%`
87     `{\PackageError{color}{Undefined color '#1'}\@ehd}%`
88 ⟨color1&!dvipsone⟩  `{\edef#4{ #1}}%`
89 ⟨color2⟩  `{\edef#4{ #1 \if!#2!\else #2.\fi}}%`
90 ⟨color3 | dvipsone | color4⟩  `{\edef#4{\csname col@#1\endcsname}}%`
91   `}`

  Conversion from `\special` syntax to PostScript (for PSTricks).

92 ⟨*color1 | color2⟩
93 *\def\c@lor@to@ps#1 #2\@@{\csname c@lor@ps@#1\endcsname#2 \@@}*
94 ⟨/color1 | color2⟩
95 ⟨*color3⟩
96 *\def\c@lor@to@ps#1\@@{#1}*
97 ⟨/color3⟩
98 ⟨*color4⟩
99 *\def\c@lor@to@ps#1#2 #3 #4\@@{%*
100  *#1#2 255 div #3 255 div #4 255 div setrgbcolor}*
101 ⟨/color4⟩

```
102 ⟨*color1⟩
103 \def\c@lor@ps@#1 #2\@@{TeXDict begin #1 end}
104 \def\c@lor@ps@rgb#1\@@{#1 setrgbcolor}
105 \def\c@lor@ps@hsb#1\@@{#1 sethsbcolor}
106 \def\c@lor@ps@cmyk#1\@@{#1 setcmykcolor}
107 \def\c@lor@ps@gray#1\@@{#1 setgray}
108 ⟨/color1⟩
109 ⟨*color2⟩
110 \def\c@lor@to@ps@#1 #2\@@{\csname c@lor@ps@#1@\endcsname#2 \@@}
111 \def\c@lor@ps@#1 #2\@@{%
112   \expandafter\expandafter\expandafter
113     \c@lor@to@ps@\csname col@#1\expandafter\endcsname\space#2. \@@{#1}}
114 \def\c@lor@ps@rgb#1. #2. #3. #4\@@{#1 #2 #3 setrgbcolor}
115 \def\c@lor@ps@rgb@#1. #2. #3. #4. #5\@@#6{#1 #2 #3 setrgbcolor}
116 \def\c@lor@ps@cmyk#1. #2. #3. #4. #5. #6\@@{#1 #2 #3 #4 setcmykcolor}
117 \def\c@lor@ps@cmyk@#1. #2. #3. #4. #5. #6\@@#7{%
118         #1 #2 #3 #4  (#7)  findcustomcmykcolor
119         \if!\@firstofone#5!1 \else#5 \fi setcustomcolor}
120 ⟨/color2⟩

121 ⟨color1&!dvipsone⟩\def\current@color{ Black}
122 ⟨color1 & dvipsone⟩\def\current@color{gray 0}
123 ⟨color2⟩\def\current@color{rgb 0. 0. 0.}
124 ⟨color3⟩\def\current@color{0 setgray}
125 ⟨color4⟩\def\current@color{0 0 0}

126 ⟨*color1⟩
127 \def\set@color{%
128 ⟨!dvipsone&!dvipdf⟩ \special{color push  \current@color
129 ⟨dvipsone⟩          \special{color push}\special{color \current@color
130 ⟨dvipdf⟩            \special{pdf: /C  \current@color\space<<
131                     }\aftergroup\reset@color}
132 \def\reset@color{\special{%
133 ⟨!dvipdf⟩      color pop}}
134 ⟨dvipdf⟩       pdf: /C >> }}
135 \def\set@page@color{\special{%
136 ⟨!dvipdf⟩      background \current@color}}
137 ⟨dvipdf⟩       pdf: /BG \current@color}}
138 \def\define@color@named#1#2{%
139 ⟨!dvipsone⟩  \expandafter\let\csname col@#1\endcsname\@nnil}
140 ⟨dvipsone⟩   \expandafter\edef\csname col@#1\endcsname{#2}}
141 ⟨dvips⟩      \def\no@page@color{\special{background \string"newpath clip}}
142 ⟨/color1⟩
143 ⟨*color2⟩
144 \def\set@color{%
145   \special{color push}%
146   \special{color \current@color}%
147   \aftergroup\reset@color}
148 \def\reset@color{\special{color pop}}
149 \def\set@page@color{\c@lor@special\sixt@@n{background \current@color}}
150 \def\define@color@named#1#2{%
151   \AtBeginDvi{\special{color define #1 #2}}%
152   \expandafter\edef\csname col@#1\endcsname{#2}}
153 ⟨/color2⟩
154 ⟨*color3⟩
```

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```
155 \def\set@color{%
156   \Gin@PS@raw{\current@color}\aftergroup\reset@color}
157 \def\reset@color{\Gin@PS@raw{\current@color}}
158 ⟨/color3⟩
159 ⟨*color4⟩
160 \def\set@color{%
161   \special{textcolor: \current@color}\aftergroup\reset@color}
162 \def\reset@color{\special{textcolor: \current@color}}
163 ⟨/color4⟩
164 ⟨*color3 | color4⟩
165 \def\set@page@color{%
166   \c@lor@special\sixt@@n{background color ignored: \current@color}}
167 \def\define@color@named#1#2{%
168   \expandafter\edef\csname col@#1\endcsname{#2}}
169 ⟨/color3 | color4⟩

170 ⟨/color1 | color2 | color3 | color4⟩

171 ⟨*colorfix⟩
172 \AtBeginDocument{%
173   \let\@ldc@l@r\color
174   \def\color{\if@inlabel\leavevmode\fi\@ldc@l@r}%
175   \let\@lduseb@x\usebox
176   \def\usebox#1{\@lduseb@x{#1}\set@color}}
177 ⟨/colorfix⟩

178 ⟨*dvipsnames⟩
179 \DefineNamedColor{named}{GreenYellow}   {cmyk}{0.15,0,0.69,0}
180 \DefineNamedColor{named}{Yellow}        {cmyk}{0,0,1,0}
181 \DefineNamedColor{named}{Goldenrod}     {cmyk}{0,0.10,0.84,0}
182 \DefineNamedColor{named}{Dandelion}     {cmyk}{0,0.29,0.84,0}
183 \DefineNamedColor{named}{Apricot}       {cmyk}{0,0.32,0.52,0}
184 \DefineNamedColor{named}{Peach}         {cmyk}{0,0.50,0.70,0}
185 \DefineNamedColor{named}{Melon}         {cmyk}{0,0.46,0.50,0}
186 \DefineNamedColor{named}{YellowOrange}  {cmyk}{0,0.42,1,0}
187 \DefineNamedColor{named}{Orange}        {cmyk}{0,0.61,0.87,0}
188 \DefineNamedColor{named}{BurntOrange}   {cmyk}{0,0.51,1,0}
189 \DefineNamedColor{named}{Bittersweet}   {cmyk}{0,0.75,1,0.24}
190 \DefineNamedColor{named}{RedOrange}     {cmyk}{0,0.77,0.87,0}
191 \DefineNamedColor{named}{Mahogany}      {cmyk}{0,0.85,0.87,0.35}
192 \DefineNamedColor{named}{Maroon}        {cmyk}{0,0.87,0.68,0.32}
193 \DefineNamedColor{named}{BrickRed}      {cmyk}{0,0.89,0.94,0.28}
194 \DefineNamedColor{named}{Red}           {cmyk}{0,1,1,0}
195 \DefineNamedColor{named}{OrangeRed}     {cmyk}{0,1,0.50,0}
196 \DefineNamedColor{named}{RubineRed}     {cmyk}{0,1,0.13,0}
197 \DefineNamedColor{named}{WildStrawberry}{cmyk}{0,0.96,0.39,0}
198 \DefineNamedColor{named}{Salmon}        {cmyk}{0,0.53,0.38,0}
199 \DefineNamedColor{named}{CarnationPink} {cmyk}{0,0.63,0,0}
200 \DefineNamedColor{named}{Magenta}       {cmyk}{0,1,0,0}
201 \DefineNamedColor{named}{VioletRed}     {cmyk}{0,0.81,0,0}
202 \DefineNamedColor{named}{Rhodamine}     {cmyk}{0,0.82,0,0}
203 \DefineNamedColor{named}{Mulberry}      {cmyk}{0.34,0.90,0,0.02}
204 \DefineNamedColor{named}{RedViolet}     {cmyk}{0.07,0.90,0,0.34}
205 \DefineNamedColor{named}{Fuchsia}       {cmyk}{0.47,0.91,0,0.08}
206 \DefineNamedColor{named}{Lavender}      {cmyk}{0,0.48,0,0}
207 \DefineNamedColor{named}{Thistle}       {cmyk}{0.12,0.59,0,0}
```

```
208 \DefineNamedColor{named}{Orchid}         {cmyk}{0.32,0.64,0,0}
209 \DefineNamedColor{named}{DarkOrchid}     {cmyk}{0.40,0.80,0.20,0}
210 \DefineNamedColor{named}{Purple}         {cmyk}{0.45,0.86,0,0}
211 \DefineNamedColor{named}{Plum}           {cmyk}{0.50,1,0,0}
212 \DefineNamedColor{named}{Violet}         {cmyk}{0.79,0.88,0,0}
213 \DefineNamedColor{named}{RoyalPurple}    {cmyk}{0.75,0.90,0,0}
214 \DefineNamedColor{named}{BlueViolet}     {cmyk}{0.86,0.91,0,0.04}
215 \DefineNamedColor{named}{Periwinkle}     {cmyk}{0.57,0.55,0,0}
216 \DefineNamedColor{named}{CadetBlue}      {cmyk}{0.62,0.57,0.23,0}
217 \DefineNamedColor{named}{CornflowerBlue}{cmyk}{0.65,0.13,0,0}
218 \DefineNamedColor{named}{MidnightBlue}   {cmyk}{0.98,0.13,0,0.43}
219 \DefineNamedColor{named}{NavyBlue}       {cmyk}{0.94,0.54,0,0}
220 \DefineNamedColor{named}{RoyalBlue}      {cmyk}{1,0.50,0,0}
221 \DefineNamedColor{named}{Blue}           {cmyk}{1,1,0,0}
222 \DefineNamedColor{named}{Cerulean}       {cmyk}{0.94,0.11,0,0}
223 \DefineNamedColor{named}{Cyan}           {cmyk}{1,0,0,0}
224 \DefineNamedColor{named}{ProcessBlue}    {cmyk}{0.96,0,0,0}
225 \DefineNamedColor{named}{SkyBlue}        {cmyk}{0.62,0,0.12,0}
226 \DefineNamedColor{named}{Turquoise}      {cmyk}{0.85,0,0.20,0}
227 \DefineNamedColor{named}{TealBlue}       {cmyk}{0.86,0,0.34,0.02}
228 \DefineNamedColor{named}{Aquamarine}     {cmyk}{0.82,0,0.30,0}
229 \DefineNamedColor{named}{BlueGreen}      {cmyk}{0.85,0,0.33,0}
230 \DefineNamedColor{named}{Emerald}        {cmyk}{1,0,0.50,0}
231 \DefineNamedColor{named}{JungleGreen}    {cmyk}{0.99,0,0.52,0}
232 \DefineNamedColor{named}{SeaGreen}       {cmyk}{0.69,0,0.50,0}
233 \DefineNamedColor{named}{Green}          {cmyk}{1,0,1,0}
234 \DefineNamedColor{named}{ForestGreen}    {cmyk}{0.91,0,0.88,0.12}
235 \DefineNamedColor{named}{PineGreen}      {cmyk}{0.92,0,0.59,0.25}
236 \DefineNamedColor{named}{LimeGreen}      {cmyk}{0.50,0,1,0}
237 \DefineNamedColor{named}{YellowGreen}    {cmyk}{0.44,0,0.74,0}
238 \DefineNamedColor{named}{SpringGreen}    {cmyk}{0.26,0,0.76,0}
239 \DefineNamedColor{named}{OliveGreen}     {cmyk}{0.64,0,0.95,0.40}
240 \DefineNamedColor{named}{RawSienna}      {cmyk}{0,0.72,1,0.45}
241 \DefineNamedColor{named}{Sepia}          {cmyk}{0,0.83,1,0.70}
242 \DefineNamedColor{named}{Brown}          {cmyk}{0,0.81,1,0.60}
243 \DefineNamedColor{named}{Tan}            {cmyk}{0.14,0.42,0.56,0}
244 \DefineNamedColor{named}{Gray}           {cmyk}{0,0,0,0.50}
245 \DefineNamedColor{named}{Black}          {cmyk}{0,0,0,1}
246 \DefineNamedColor{named}{White}          {cmyk}{0,0,0,0}
247 ⟨/dvipsnames⟩
```

# 3 dvips

A LaTeX 2$_\varepsilon$ graphics driver file for Tom Rokicki's *dvips* driver; tested with version 5.58f.

```
248 ⟨*dvips⟩
```

## 3.1 Colour

Uses the generic 'color1' code.

## 3.2   File inclusion

`\Ginclude@eps`   #1 input file (or command)

```
249 \def\Ginclude@eps#1{%
250   \message{<#1>}%
251   \bgroup
```

*dvips* likes to work with its own pixel resolution, so mangle the sizes slightly.

```
252   \def\@tempa{!}%
253   \dimen@\Gin@req@width
254   \dimen@ii.1bp%
255   \divide\dimen@\dimen@ii
256   \@tempdima\Gin@req@height
257   \divide\@tempdima\dimen@ii
258     \special{PSfile="#1"\space
259       llx=\Gin@llx\space
260       lly=\Gin@lly\space
261       urx=\Gin@urx\space
262       ury=\Gin@ury\space
263       \ifx\Gin@scalex\@tempa\else rwi=\number\dimen@\space\fi
264       \ifx\Gin@scaley\@tempa\else rhi=\number\@tempdima\space\fi
265       \ifGin@clip clip\fi}%
266   \egroup}
```

`\Ginclude@bmp`   #1 input file; if zero size is requested, the graphic will come at 'natural' size.

```
267 \def\Ginclude@bmp#1{%
268   \message{<#1>}%
269   \dimen@\Gin@req@height
270   \advance\dimen@ by-\Gin@lly bp
271   \kern-\Gin@llx bp\raise\Gin@req@height\hbox{%
272   \ifdim\Gin@urx bp=\z@
273     \ifdim\Gin@ury bp=\z@
274       \special{em: graph #1}%
275     \else
276       \special{em: graph #1,\Gin@urx bp}%
277     \fi
278   \else
279       \special{em: graph #1,\Gin@urx bp,\Gin@ury bp}%
280   \fi
281 }%
282 }
```

`\Ginclude@pict`
`\Ginclude@pntg`
`\oztex@include`   PICT/PNTG format from the Mac.  Actually only currently supported by the version of dvips distributed with OzTEX, and with the built in OzTEX drivers, but put here anyway as it is not much code and increases portability between the systems as now [`dvips`] and [`oztex`] share the same back end.

```
283 \def\oztex@include#1#2{%
284   \dimen@1bp%
285   \divide\Gin@req@width\dimen@
286   \divide\Gin@req@height\dimen@
287   \special{#1=#2\space
288     \@width=\number\Gin@req@width \space
289     \@height=\number\Gin@req@height}}
```

```
290 \def\Ginclude@pntg{\oztex@include{pntg}}
291 \def\Ginclude@pict{\oztex@include{pict}}
```

### 3.3 Rotation

```
292 \def\Grot@start{%
293 \special{ps: gsave currentpoint
294 currentpoint translate \Grot@angle\space neg
295 rotate neg exch neg exch translate}}
296 \def\Grot@end{\special{ps: currentpoint grestore moveto}}
```

### 3.4 Scaling

```
297 \def\Gscale@start{\special{ps:  currentpoint currentpoint translate
298   \Gscale@x\space \Gscale@y\space scale neg exch neg exch translate}}
299 \def\Gscale@end{\special{ps:  currentpoint currentpoint translate
300   1 \Gscale@x\space div 1 \Gscale@y\space div scale
301   neg exch neg exch translate}}
```

# 4   Literal Postscript

Raw PostScript code, no save/restore.

```
302 \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.

```
303 \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.

```
304 \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.

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

```
306 ⟨/dvips⟩
```

# 5   dvipdf

A LATEX 2$_\varepsilon$ graphics driver file for *dvipdf* driver.

```
307 ⟨*dvipdf⟩
```

### 5.1   Colour

Uses the generic 'color1' code.

### 5.2   File inclusion

\Ginclude@eps   #1 input file (or command)

```
308 \def\Ginclude@eps#1{%
309 \message{<#1>}%
310  \bgroup
```

*dvips* likes to work with its own pixel resolution, so mangle the sizes slightly.

```
311  \def\@tempa{!}%
312  \dimen@\Gin@req@width
313  \dimen@ii.1bp%
314  \divide\dimen@\dimen@ii
315  \@tempdima\Gin@req@height
316  \divide\@tempdima\dimen@ii
317    \special{PSfile="#1"\space
318      llx=\Gin@llx\space
319      lly=\Gin@lly\space
320      urx=\Gin@urx\space
321      ury=\Gin@ury\space
322      \ifx\Gin@scalex\@tempa\else rwi=\number\dimen@\space\fi
323      \ifx\Gin@scaley\@tempa\else rhi=\number\@tempdima\space\fi
324      \ifGin@clip clip\fi}%
325    \egroup}
```

\Ginclude@bmp    #1 input file; if zero size is requested, the graphic will come at 'natural' size.

```
326  \def\Ginclude@bmp#1{%
327    \message{<#1>}%
328    \dimen@\Gin@req@height
329    \advance\dimen@ by-\Gin@lly bp
330    \kern-\Gin@llx bp\raise\Gin@req@height\hbox{%
331      \ifdim\Gin@urx bp=\z@
332        \ifdim\Gin@ury bp=\z@
333          \special{pdf: /GRAPH  #1}%
334        \else
335          \special{pdf: /GRAPH  #1 \number\Gin@req@width sp}%
336        \fi
337      \else
338          \special{pdf: /GRAPH  #1 \number\Gin@req@width sp
339                               \number\Gin@req@height sp}%
340    \fi}}
```

## 5.3  Rotation

```
341 \def\Grot@start{%
342 \special{pdf: /ROT \Grot@angle\space << }}
343 \def\Grot@end{\special{pdf: /ROT >> }}
```

## 5.4  Scaling

```
344 \def\Gscale@start{\special{pdf: /S \Gscale@x\space \Gscale@y\space << }}
345 \def\Gscale@end{\special{pdf: /S \space >> }}
```

# 6  Literal Postscript

Raw PostScript code, no save/restore.

```
346 \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.

```
347 \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.

```
348 \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.

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

### 6.1 File extensions

```
350 \@namedef{Gin@rule@.msp}#1{{bmp}{.bb}{#1}}
351 \@namedef{Gin@rule@.jpg}#1{{bmp}{.bb}{#1}}
352 \@namedef{Gin@rule@.bmp}#1{{bmp}{.bb}{#1}}

353 ⟨/dvipdf⟩
```

## 7 OzTEX

A LATEX 2ε graphics driver file for OzTEX (versions 1.42 and later), by Andrew Trevorrow.

```
354 ⟨*oztex⟩
```

### 7.1 Graphics inclusion

```
355 \def\Ginclude@eps{\Oztex@Include{epsf}}
356 \def\Ginclude@pntg{\Oztex@Include{pntg}}
357 \def\Ginclude@pict{\Oztex@Include{pict}}
358 \def\Oztex@Include#1#2{%
359  \ifGin@clip
360   \typeout{No clipping support in OzTeX}%
361  \fi
362  \divide\Gin@req@width by 65781% convert sp to bp
363  \divide\Gin@req@height by 65781%
364  \special{#1=#2\space
365   width=\number\Gin@req@width \space
366   height=\number\Gin@req@height
367  }%
368 }
369 ⟨/oztex⟩
```

## 8 Textures

A LATEX 2ε 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!**

```
370 ⟨*textures⟩
```

### 8.1 Graphics inclusion

```
371 \PackageInfo{graphics/color}
372   {This file uses the advanced color support\MessageBreak
373    available in textures1.7\MessageBreak
```

```
374    If you are using color with an earlier version\MessageBreak
375    of textures, edit graphics.ins where marked,\MessageBreak
376    and re-latex graphics.ins.\MessageBreak\MessageBreak
377    If you are using textures1.7\MessageBreak
378    you may want to delete this warning\MessageBreak
379    from textures.def.\MessageBreak\MessageBreak
380    The code for scaling/rotation and file inclusion\MessageBreak
381    in this file is still rudimentary, and does not\MessageBreak
382    use textures' full capabilities.\MessageBreak\MessageBreak
383    A new textures.def is currently being developed\@gobble}

384 \def\Ginclude@eps{\Textures@Include{illustration}}
385 \def\Ginclude@pict{\Textures@Include{pictfile}}
386 \def\Textures@Include#1#2{%
387 \def\@tempa{!}%
388 \ifx\Gin@scaley\@tempa
389     \let\Gin@scaley\Gin@scalex
390 \else
391    \ifx\Gin@scalex\@tempa\let\Gin@scalex\Gin@scaley\fi
392 \fi
393 \setlength\@tempdima{\Gin@scalex pt}%
394 \setlength\@tempdimb{\Gin@scaley pt}%
395 \ifdim\@tempdima>\@tempdimb
396    \let\Gin@scalex\Gin@scaley
397 \fi
398 \ifGin@clip
399  \typeout{no clipping support in Textures}%
400 \fi
401 \@tempdimb=1000sp%
402 \setlength\@tempdima{\Gin@scalex\@tempdimb}%
403 \special{#1 #2\space scaled \number\@tempdima}%
404 }
```

## 8.2   Rotation

This code was written when no unprotected postscript code was allowed; it could almost certainly be rewritten now with 'rawpostscript'.

```
405 \def\Grot@start{\special{postscript
406   0 0 transform
407   grestore
408   matrix currentmatrix
409   3 1 roll
410   itransform
411   dup 3 -1 roll
412   dup 4 1 roll exch
413   translate
414   \Grot@angle\space neg rotate
415   neg exch neg exch translate
416   gsave}}
417 \def\Grot@end{\special{postscript grestore  setmatrix  gsave}}
```

## 8.3   Colour

This will only work for versions 1.6 and Version 1.7 uses 'color2'.

418 ⟨color3⟩\def\Gin@PS@raw#1{\special{rawpostscript #1}}
419 ⟨/textures⟩

# 9 dvialw

A LATEX 2ε graphics driver file for dvialw, by Nelson Beebe

420 ⟨*dvialw⟩

## 9.1 Rotation

```
421 \def\Ginclude@eps#1{%
422   \def\@tempa{!}%
423   \ifx\Gin@scaley\@tempa
424     \let\Gin@scaley\Gin@scalex
425   \else
426    \ifx\Gin@scalex\@tempa\let\Gin@scalex\Gin@scaley\fi
427   \fi
428   \ifGin@clip
429    \typeout{no clipping support in dvialw}%
430   \fi
431   \special{language "PS",
432      literal "\Gin@scalex\space
433        \Gin@scaley\space scale",
434      position = "bottom left",
435      include "#1\space"}%
436 }
437 ⟨/dvialw⟩
```

# 10 emtex

A LATEX 2ε graphics driver file for Eberhard Mattes' emTeX

438 ⟨*emtex⟩

## 10.1 Graphics file inclusion

```
439 \def\Ginclude@bmp#1{%
440   \raise\Gin@req@height\hbox{\special{em:graph #1}}%
441 \typeout{WARNING: emtex does not permit graphics to be scaled}%
442 }
443 ⟨/emtex⟩
```

# 11 dvilaser/ps

A LATEX 2ε graphics driver file for Arbortext's dvilaser/ps

444 ⟨*dvilaser⟩

## 11.1 Graphic file inclusion

```
445 \def\Ginclude@eps#1{%
446 \ifGin@clip
447   \typeout{no clipping support in dvilaser/ps}%
448 \fi
```

12

```
449 \special{ps: epsfile #1\space \the\Gin@req@width}%
450 }
451 ⟨/dvilaser⟩
```

# 12   psprint

A LaTeX 2ε graphics driver file for Trevorrow's psprint

```
452 ⟨*psprint⟩
```

## 12.1   Graphic file inclusion

```
453 \def\Ginclude@eps#1{%
454    \def\@tempa{!}%
455    \ifx\Gin@scaley\@tempa
456      \let\Gin@scaley\Gin@scalex
457    \else
458      \ifx\Gin@scalex\@tempa\let\Gin@scalex\Gin@scaley\fi
459    \fi
460    \ifGin@clip
461      \typeout{no clipping support in psprint}%
462    \fi
463    \special{#1\space
464        \Gin@scalex\space \Gin@scaley\space scale
465        \Gin@llx\space neg
466        \Gin@lly \space neg translate
467 }%
468 }
469 ⟨/psprint⟩
```

# 13   dvipsone

A LaTeX 2ε graphics driver file for Y&Y's dvipsone

```
470 ⟨*dvipsone⟩
```

## 13.1   Graphic file inclusion

PostScript Files.
```
471 \def\Ginclude@eps#1{%
472 \message{<#1>}%
473  \bgroup
474  \def\@tempa{!}%
475  \dimen@\Gin@req@width
476  \dimen@ii.1bp%
477  \divide\dimen@\dimen@ii
478  \@tempdima\Gin@req@height
479  \divide\@tempdima\dimen@ii
480    \special{PSfile="#1"\space
481      llx=\Gin@llx\space
482      lly=\Gin@lly\space
483      urx=\Gin@urx\space
484      ury=\Gin@ury\space
485      \ifx\Gin@scalex\@tempa\else rwi=\number\dimen@\space\fi
486      \ifx\Gin@scaley\@tempa\else rhi=\number\@tempdima\space\fi
```

```
487        \ifGin@clip clip\fi}%
488    \egroup}
```

Tiff files.

```
489 \def\Ginclude@tiff#1{%
490 \message{<#1>}%
491 \special{insertimage: #1 \number\Gin@req@width\space
492        \number\Gin@req@height}}
```

Windows Metafiles.

```
493 \def\Ginclude@wmf#1{%
494    \message{<#1>}%
495    \special{insertmf: #1 0 0 \number\Gin@req@width\space
496            \number\Gin@req@height}}
497 \def\Gin@PS@raw#1{\special{ps: #1}}
```

## 13.2    Rotation

```
498 \def\Grot@start{%
499  \special{ps: gsave currentpoint
500  currentpoint translate \Grot@angle\space
501  rotate neg exch neg exch translate}}
502 \def\Grot@end{%
503    \special{ps: currentfont currentpoint grestore moveto setfont}}
```

## 13.3    Scaling

```
504 \def\Gscale@start{\special{ps:  currentpoint currentpoint translate
505    \Gscale@x\space \Gscale@y\space scale neg exch neg exch translate}}
506 \def\Gscale@end{\special{ps:  currentpoint currentpoint translate
507    1 \Gscale@x\space div 1 \Gscale@y\space div scale
508    neg exch neg exch translate}}
```

## 13.4    File Extensions

```
509 \@namedef{Gin@rule@.wmf}#1{{wmf}{}{#1}}
510 \@namedef{Gin@rule@.clp}#1{{wmf}{}{#1}}
```

# 14    Literal Postscript

Raw PostScript code, no save/restore.

```
511 \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.

```
512 \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.

```
513 \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.

```
514 \def\Gin@PS@file@header#1{\AtBeginDvi{\special{header=#1}}}
515 ⟨/dvipsone⟩
```

# 15   dviwindo

A LATEX 2ε graphics driver file for Y&Y's dviwindo.

This driver now uses the same file as `dvipsone`.

# 16   dvitops

A LATEX 2ε graphics driver file for James Clark's dvitops

516 ⟨*dvitops⟩

## 16.1   Rotation

```
517 \newcount\Grot@count
518 \Grot@count=\@ne
519 \def\Grot@start{\special{dvitops: origin
520     rot\the\@tempdima}%
521 \special{dvitops: begin rot\the\Grot@count}}%
522 \def\Grot@end{\special{dvitops: end}%
523 \special{dvitops: rotate rot\the\Grot@count \space
524     \Grot@angle}%
525 \global\advance\Grot@count by\@ne}%
```

## 16.2   Graphic file inclusion

```
526 \def\Ginclude@eps#1{%
527 % These cause an arithmetic overflow, so I've commented them
528 % out. Presumably they were there for some reason.
529 % Any dvitops users out there??
530 % \multiply\Gin@req@width by \@m
531 % \multiply\Gin@req@height by \@m
532 \ifGin@clip
533   \typeout{no clipping support in dvitops}%
534 \fi
535 \special{import #1\space \the\Gin@req@width\space
536                       \the\Gin@req@height\space fill}}
```

537 ⟨/dvitops⟩

# 17   dvi2ps

A LATEX 2ε graphics driver file for original dvi2ps

538 ⟨*dvi2ps⟩

## 17.1   Graphic file inclusion

```
539 \def\Ginclude@eps#1{%
540     \def\@tempa{!}%
541     \ifx\Gin@scaley\@tempa
542       \let\Gin@scaley\Gin@scalex
543     \else
544     \ifx\Gin@scalex\@tempa\let\Gin@scalex\Gin@scaley\fi
545     \fi
546     \ifGin@clip
```

```
547    \typeout{no clipping support in dvi2ps}%
548    \fi
549    \special{psfile=#1\space
550        hscale=\Gin@scalex\space 1000 mul
551        vscale=\Gin@scaley\space 1000 mul}}
```

552 ⟨/dvi2ps⟩

# 18   pctexps

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

553 ⟨*pctexps⟩

## 18.1   Graphic file inclusion

```
554 \def\Ginclude@eps#1{%
555 \message{<#1>}%
556    \ifGin@clip
557      \typeout{no clipping support in pctexps}%
558    \fi
559    \Gin@req@width.03515\Gin@req@width
560    \Gin@req@height.03515\Gin@req@height
561    \special{ps:#1\space x=\strip@pt\Gin@req@width cm,
562                         y=\strip@pt\Gin@req@height cm}}
563 \def\Ginclude@ps#1{%
564 \message{<#1>}%
565    \ifGin@clip
566      \typeout{no clipping support in pctexps}%
567    \fi
568    \hbox{\kern-\Gin@llx bp\raise-\Gin@lly bp\hbox{\special{ps:#1}}}%
569    \typeout{^^J%
570 --------------------------------------------------------^^J%
571 .ps graphics without bounding box information cannot be^^J%
572 scaled.  If the file actually contains the information,^^J%
573 please rename the file to .eps file extension.^^J%
574 --------------------------------------------------------^^J}}

575 \def\Gin@extensions{.eps,.ps}
576 \@namedef{Gin@rule@.ps}#1{{ps}{.ps}{#1}}
577 \@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}

578 \def\Gin@PS@raw#1{\special{ps::#1}}
579 \def\Grot@start{%
580  \special{ps::gsave currentpoint
581  currentpoint translate \Grot@angle\space
582  rotate neg exch neg exch translate}}
583 \def\Grot@end{\special{ps:: currentpoint grestore moveto}}

584 \def\Gscale@start{\special{ps:: currentpoint currentpoint translate
585  \Gscale@x\space \Gscale@y\space scale neg exch neg exch translate}}
586 \def\Gscale@end{\special{ps:: currentpoint currentpoint translate
587  1 \Gscale@x\space div 1 \Gscale@y\space div scale
588  neg exch neg exch translate}}
```

589 ⟨/pctexps⟩

# 19  pctex32

A LaTeX $2_\varepsilon$ graphics driver file for Personal TeX's PC TeX for 32 bit Windows;
Code supplied by Tao Wang <pti@crl.com>.

## 19.1  Colour

Uses the generic 'color1' code.

590 ⟨*pctex32⟩

## 19.2  Graphic file inclusion

```
591 % including PostScript graphics
592 \def\Ginclude@eps#1{%
593  \message{<#1>}%
594   \bgroup
595   \def\@tempa{!}%
596   \dimen@\Gin@req@width
597   \dimen@ii.1bp%
598   \divide\dimen@\dimen@ii
599   \@tempdima\Gin@req@height
600   \divide\@tempdima\dimen@ii
601     \special{PSfile="#1"\space
602       llx=\Gin@llx\space
603       lly=\Gin@lly\space
604       urx=\Gin@urx\space
605       ury=\Gin@ury\space
606       \ifx\Gin@scalex\@tempa\else rwi=\number\dimen@\space\fi
607       \ifx\Gin@scaley\@tempa\else rhi=\number\@tempdima\space\fi
608       \ifGin@clip clip\fi}%
609   \egroup}
```
including BMP graphics
```
610 \def\Ginclude@bmp#1{%
611 \message{<#1>}%
612     \ifGin@clip
613       \typeout{no clipping support for BMP graphics in PCTeX32}%
614     \fi
615     \Gin@req@width.03515\Gin@req@width
616     \Gin@req@height.03515\Gin@req@height
617     \special{bmp:#1\space x=\strip@pt\Gin@req@width cm,
618       y=\strip@pt\Gin@req@height cm}}
```
including WMF graphics
```
619 \def\Ginclude@wmf#1{%
620 \message{<#1>}%
621     \ifGin@clip
622       \typeout{no clipping support for WMF graphics in PCTeX32}%
623     \fi
624     \Gin@req@width.03515\Gin@req@width
625     \Gin@req@height.03515\Gin@req@height
626     \special{wmf:#1\space x=\strip@pt\Gin@req@width cm,
627       y=\strip@pt\Gin@req@height cm}}
```

## 19.3 Scaling and Rotating

PostScript rotation and scaling

```
628 \def\Grot@start{%
629 \special{ps:: gsave currentpoint
630 currentpoint translate \Grot@angle\space neg
631 rotate neg exch neg exch translate}}
632 \def\Grot@end{\special{ps:: currentpoint grestore moveto}}
633 \def\Gscale@start{\special{ps::  currentpoint currentpoint translate
634   \Gscale@x\space \Gscale@y\space scale neg exch neg exch translate}}
635 \def\Gscale@end{\special{ps::  currentpoint currentpoint translate
636   1 \Gscale@x\space div 1 \Gscale@y\space div scale
637   neg exch neg exch translate}}

638 \def\Gin@PS@raw#1{\special{ps:: #1}}
639 \def\Gin@PS@restored#1{\special{" #1}}
```

## 19.4 Default Extensions

```
640 \def\Gin@extensions{.eps,.ps,.wmf,.bmp}
641 \@namedef{Gin@rule@.ps}#1{{eps}{.ps}{#1}}
642 \@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}
643 \@namedef{Gin@rule@.bmp}#1{{bmp}{}{#1}}
644 \@namedef{Gin@rule@.wmf}#1{{wmf}{}{#1}}

645 ⟨/pctex32⟩
```

# 20 pctexwin

A LaTeX $2_\varepsilon$ graphics driver file for Personal TeX's PC TeX for Windows; from information supplied by Lance Carnes and Tao Wang <pti@crl.com>.

```
646 ⟨*pctexwin⟩
```

## 20.1 Graphic file inclusion

```
647 \def\Ginclude@eps#1{%
648 \message{<#1>}%
649    \ifGin@clip
650      \typeout{no clipping support in pctexwin}%
651    \fi
652    \Gin@req@width.03515\Gin@req@width
653    \Gin@req@height.03515\Gin@req@height
654    \special{eps:#1\space x=\strip@pt\Gin@req@width cm,
655                     y=\strip@pt\Gin@req@height cm}}
656 \def\Ginclude@ps#1{%
657 \message{<#1>}%
658   \ifGin@clip
659     \typeout{no clipping support in pctexwin}%
660   \fi
661   \hbox{\kern-\Gin@llx bp\raise-\Gin@lly bp\hbox{\special{ps:#1}}}%
662   \typeout{^^J%
663 -------------------------------------------------------^^J%
664 .ps graphics without bounding box information cannot be^^J%
665 scaled.  If the file actually contains the information,^^J%
```

18

```
666 please rename the file to .eps file extension.^^J%
667 --------------------------------------------------------^^J%
668 }}
669 \def\Ginclude@bmp#1{%
670 \message{<#1>}%
671     \ifGin@clip
672       \typeout{no clipping support in pctexwin}%
673     \fi
674     \Gin@req@width.03515\Gin@req@width
675     \Gin@req@height.03515\Gin@req@height
676     \special{bmp:#1\space x=\strip@pt\Gin@req@width cm,
677                           y=\strip@pt\Gin@req@height cm}}
678 \def\Ginclude@wmf#1{%
679 \message{<#1>}%
680     \ifGin@clip
681       \typeout{no clipping support in pctexwin}%
682     \fi
683     \Gin@req@width.03515\Gin@req@width
684     \Gin@req@height.03515\Gin@req@height
685     \special{wmf:#1\space x=\strip@pt\Gin@req@width cm,
686                           y=\strip@pt\Gin@req@height cm}}
687 \def\Gin@extensions{.eps,.ps,.wmf,.bmp}
688 \@namedef{Gin@rule@.bmp}#1{{bmp}{}{#1}}
689 \@namedef{Gin@rule@.wmf}#1{{wmf}{}{#1}}
690 \@namedef{Gin@rule@.ps}#1{{ps}{.ps}{#1}}
691 \@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}

692 ⟨/pctexwin⟩
```

## 21   pctexhp

A LaTeX 2ε graphics driver file for Personal TeX's PTI Laser/HP; from information
supplied by Lance Carnes and Tao Wang `<pti@crl.com>`.

```
693 ⟨*pctexhp⟩
```

### 21.1   Graphic file inclusion

```
694 \def\Ginclude@pcl#1{%
695 \message{<#1>}%
696     \ifGin@clip
697       \typeout{no clipping support in pctexhp}%
698     \fi
699     \hbox{\kern-\Gin@llx bp\raise-\Gin@lly bp\hbox{\special{pcl:#1}}}%
700     \typeout{WARNING: pctexhp does not permit graphics to be scaled}}
701 \@namedef{Gin@rule@.pcl}#1{{pcl}{}{#1}}
702 \def\Gin@extensions{.pcl}
703 ⟨/pctexhp⟩
```

## 22   pubps

A LaTeX 2ε graphics driver file for Arbortext's PUBps; information from Peter R
Wilson `pwilson@rdrc.rpi.edu`.

```
704 ⟨*pubps⟩
```

## 22.1   Rotation

```
705 \def\Grot@start{\special{ps: gsave currentpoint
706        currentpoint translate \Grot@angle\space
707        rotate  neg exch neg exch translate}}
708 \def\Grot@end{\special{ps: currentpoint grestore moveto}}
709 ⟨/pubps⟩
```

# 23   dviwin

A LaTeX 2ε graphics driver file for Hippocrates Sendoukas' dviwin

```
710 ⟨*dviwin⟩
```

## 23.1   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.

```
711 \@namedef{Gin@rule@*}#1{{bmp}{}{#1}}
712 \def\Ginclude@bmp#1{%
713   \raise\Gin@req@height\hbox{%
714     \special{anisoscale #1,
715     \the\Gin@req@width\space \the\Gin@req@height}}}
```

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

```
716 \@namedef{Gin@rule@.ps}#1{{eps}{.ps}{#1}}
717 \@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}
718 \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`.

```
719 \def\Gin@extensions{.eps,.ps,.wmf,.tif}
720 ⟨/dviwin⟩
```

# 24   ln

A LaTeX 2ε graphics driver file for B Hamilton Kelly's ln03 driver. Untested, but based on the graphics macros distributed with the driver.

```
721 ⟨*ln⟩
```

## 24.1   Graphic file inclusion

```
722 \def\Ginclude@sixel#1{\special{ln03:sixel #1}}
723 ⟨/ln⟩
```

# 25   truetex

A LaTeX 2ε graphics driver file for Kinch 'truetex' driver.

```
724 ⟨*truetex⟩
```

## 25.1 Colour

Uses the 'color4' colour code.

## 25.2 Graphic file inclusion

EPS File inclusion: DVIPS style.

```
725 \def\Ginclude@eps#1{%
726  \message{<#1>}%
727   \bgroup
728   \def\@tempa{!}%
729   \dimen@\Gin@req@width
730   \dimen@ii.1bp%
731   \divide\dimen@\dimen@ii
732   \@tempdima\Gin@req@height
733   \divide\@tempdima\dimen@ii
734     \special{PSfile="#1"\space
735       llx=\Gin@llx\space
736       lly=\Gin@lly\space
737       urx=\Gin@urx\space
738       ury=\Gin@ury\space
739       \ifx\Gin@scalex\@tempa\else rwi=\number\dimen@\space\fi
740       \ifx\Gin@scaley\@tempa\else rhi=\number\@tempdima\space\fi
741       \ifGin@clip clip\fi}%
742    \egroup}
```

bmp File Inclusion.

```
743 \def\Ginclude@bmp#1{%
744  \message{<#1>}%
745  \special{bmpfile #1}}
```

tif(f) File inclusion

```
746 \def\Ginclude@tiff#1{%
747  \message{<#1>}%
748  \special{tifffile #1}}
```

## 25.3 Literal PostScript

This is not supported, so uses 'nops' code.

## 25.4 Default Rules

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

```
749 \def\Gin@extensions{.eps,.ps}
750 \@namedef{Gin@rule@.ps}#1{{eps}{.ps}{#1}}
751 \@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}
752 \@namedef{Gin@rule@.tif}#1{{tiff}{}{#1}}
753 \@namedef{Gin@rule@.bmp}#1{{bmp}{}{#1}}

754 \@namedef{Gin@rule@*}#1{{eps}{\Gin@ext}{#1}}

755 ⟨/truetex⟩
```

# 26  tcidvi

A LaTeX $2_\varepsilon$ graphics driver file for Scientific Word/Workplace. Actually for the Kinch truetex driver, augmented with extra `\special` handling with the DLL supplied with SW.

756 ⟨*tcidvi⟩

## 26.1  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.

```
757 \AtBeginDocument{\def\color@block#1#2#3{%
758   {\rlap{\ifcolors@
759       \@defaultunits\count@\current@color\@nnil
760       \dimen@\count@\p@
761       \divide\dimen@\@cclv
762       \dimen@ii#2%
763       \advance\dimen@ii#3%
764       \lower#3\hbox{%
765       \special{language "Scientific Word";%
766               type "greybox";%
767               greyscale \strip@pt\dimen@;%
768               height \the\dimen@ii;%
769               width \the#1;%
770               depth 0pt;}}%
771           \fi}}}}
```

## 26.2  Graphic file inclusion

EPS File inclusion.

```
772 \def\Ginclude@eps#1{%
773 \message{<#1>}%
774 \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).

```
775   \ifx\Gin@ollx\@undefined
776   \else
777     \@tempdimb \Gin@ourx bp%
778     \advance\@tempdimb-\Gin@ollx bp%
779     \@tempdima\Gin@llx bp%
780     \advance\@tempdima-\Gin@ollx bp%
781     \Gscale@div\TCI@cropleft\@tempdima\@tempdimb
782     \@tempdima\Gin@urx bp%
783     \advance\@tempdima-\Gin@ollx bp%
784     \Gscale@div\TCI@cropright\@tempdima\@tempdimb
785     \@tempdimb \Gin@oury bp%
786     \advance\@tempdimb-\Gin@olly bp%
787     \@tempdima\Gin@lly bp%
788     \advance\@tempdima-\Gin@olly bp%
```

22

```
789    \Gscale@div\TCI@cropbottom\@tempdima\@tempdimb
790    \@tempdima\Gin@ury bp%
791    \advance\@tempdima-\Gin@olly bp%
792    \Gscale@div\TCI@croptop\@tempdima\@tempdimb
793  \fi
794    \special{%
795      language \TCI@language;%
796      type \TCI@type;%
797      valid_file \TCI@validfile;%
798      width \the\Gin@req@width;%
799      height \the\Gin@req@height;%
800      depth 0pt;%
801      original-width \the\Gin@nat@width;%
802      original-height \the\Gin@nat@height;%
803      cropleft "\TCI@cropleft";%
804      croptop "\TCI@croptop";%
805      cropright "\TCI@cropright";%
806      cropbottom "\TCI@cropbottom";%
807      filename '#1';%
808      \ifx\TCI@temp\@empty\else tempfilename \TCI@temp;\fi
809      }}}
```

Default values so documents produced elsewhere should work

```
810 \def\TCI@language{"Scientific Word"}
811 \def\TCI@type{"GRAPHIC"}
812 \def\TCI@validfile{'F'}
813 \def\TCI@cropleft{0}
814 \def\TCI@croptop{1}
815 \def\TCI@cropright{1}
816 \def\TCI@cropbottom{0}
817 \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.

```
818 \let\Ginclude@bmp\Ginclude@eps
```

## 26.3   Literal PostScript

This is not supported, so uses 'nops' code.

## 26.4   Default Rules

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

```
819 \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.

```
820 \@namedef{Gin@rule@.ps}#1{{eps}{.ps}{#1}}
821 \@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}
822 \@namedef{Gin@rule@.PS}#1{{eps}{.PS}{#1}}
823 \@namedef{Gin@rule@.EPS}#1{{eps}{.EPS}{#1}}

824 \@namedef{Gin@rule@*}#1{{bmp}{\Gin@ext}{#1}}

825 ⟨/tcidvi⟩
```

23

## 27 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 can not 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.

826 ⟨*nops⟩

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

827 `\def\Gin@PS@raw#1{}`

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

828 `\def\Gin@PS@restored#1{}`

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

829 `\def\Gin@PS@literal@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.

830 `\def\Gin@PS@file@header#1{}`

831 ⟨/nops⟩

## 28 Graphics Inclusion Rules

832 ⟨*psrules⟩

833 `\def\Gin@extensions{.eps,.ps}`

834 `\@namedef{Gin@rule@.ps}#1{{eps}{.ps}{#1}}`
835 `\@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}`

836 `\@namedef{Gin@rule@*}#1{{eps}{\Gin@ext}{#1}}`

837 ⟨/psrules⟩
838 ⟨*psrulesZ⟩

839 `\def\Gin@extensions{.eps,.ps,.eps.gz,.ps.gz,.eps.Z,.mps}`

840 `\@namedef{Gin@rule@.ps}#1{{eps}{.ps}{#1}}`
841 `\@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}`
842 `\@namedef{Gin@rule@.mps}#1{{eps}{.mps}{#1}}`
843 `\@namedef{Gin@rule@.pz}#1{{eps}{.bb}{#1}}`
844 `\@namedef{Gin@rule@.eps.Z}#1{{eps}{.eps.bb}{#1}}`
845 `\@namedef{Gin@rule@.ps.Z}#1{{eps}{.ps.bb}{#1}}`
846 `\@namedef{Gin@rule@.ps.gz}#1{{eps}{.ps.bb}{#1}}`
847 `\@namedef{Gin@rule@.eps.gz}#1{{eps}{.eps.bb}{#1}}`

848 `\@namedef{Gin@rule@*}#1{{eps}{\Gin@ext}{#1}}`

849 ⟨/psrulesZ⟩
850 ⟨*dosrules⟩

851 ⟨!psrulesZ⟩ `\def\Gin@extensions{.eps,.ps,.pcx,.bmp}`

852 `\@namedef{Gin@rule@.pcx}#1{{bmp}{}{#1}}`
853 `\@namedef{Gin@rule@.bmp}#1{{bmp}{}{#1}}`

```
854 \@namedef{Gin@rule@.msp}#1{{bmp}{}{#1}}

855 ⟨/dosrules⟩
856 ⟨*macrules⟩
857 %\def\Gin@extensions{{},.ps,.eps,.pict}
858 %\@namedef{Gin@rule@.ps}#1{{eps}{.ps}{#1}}
859 %\@namedef{Gin@rule@.eps}#1{{eps}{.eps}{#1}}
860 \@namedef{Gin@rule@.pict}#1{{pict}{}{#1}}
861 \@namedef{Gin@rule@.pntg}#1{{pntg}{}{#1}}
862 %\@namedef{Gin@rule@}#1{{pict}{\relax}{#1}}
863 ⟨/macrules⟩
864 ⟨*tiffrules⟩
865 \@namedef{Gin@rule@.tif}#1{{tiff}{}{#1}}
866 ⟨/tiffrules⟩
```