Subject: 24-bit color postscript again
Posted by bowman on Fri, 09 Oct 1998 07:00:00 GMT
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I haven't been able to make my 24-bit color postscript plotting work yet, so I wrote a simple example to illustrate my problem. You need a 24-bit display to make this work and a color postscript printer or viewer.

```
PRO TEST24, PRINT = print

!P.BACKGROUND = 256L^3 - 1L                ;Set background color to white
!P.FONT = -1L                              ;Use Hershey fonts

IF KEYWORD_SET(print) THEN BEGIN
  SET_PLOT, 'PS'
  DEVICE, /COLOR, BITS_PER_PIXEL = 8, /SCHOOLBOOK, FONT_SIZE=10, /PORTRAIT
  !P.BACKGROUND = 0L                       ;Set background color to white
  !P.FONT =  0L                            ;Use hardware fonts
ENDIF

n = 10000L
x = RANDOMU(seed, n)
y = RANDOMU(seed, n)
r = LONG(255*x)
g = LONG(255*y)
b = REPLICATE(0B, n)
color = r + 256L*(g + 256L*b)
PLOT, [0,0], [1,1], /NODATA, COLOR = 0
PLOTS, x, y, PSYM=1, COLOR = color

IF KEYWORD_SET(print) THEN DEVICE, /CLOSE
SET_PLOT, 'X'
!P.BACKGROUND = 0L

END
```

The program works when plotting to the X device (black in lower left, red in lower right, green in upper left, yellow in upper right). When the PostScript option is selected (/PRINT), all of the points plot as grayscale or white. How do I get the colors to work with Postscript?

Thanks, Ken

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Subject: Re: 24-bit color postscript again
Posted by bowman on Wed, 14 Oct 1998 07:00:00 GMT
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In article <701qs4$l0j$1@readme.uio.no>, steinhh@ulrik.uio.no (Stein Vidar Hagfors Haugan) wrote:

> In article <bowman-0910980821080001@bowman.tamu.edu>
> bowman@null.edu (Kenneth P. Bowman) writes:
>
>> I haven't been able to make my 24-bit color postscript plotting work yet,
>> so I wrote a simple example to illustrate my problem. You need a 24-bit
>> display to make this work and a color postscript printer or viewer.
>
> [..snip..]
>
>> DEVICE, /COLOR, BITS_PER_PIXEL = 8, /SCHOOLBOOK, FONT_SIZE=10, /PORTRAIT
>
> Why do you expect the PS device to behave as if it's 24bit,
> when you're setting it to have 8 bits?

Well, for some bizarre reason, to display a 24-bit image in Postscript, you set BITS_PER_PIXEL=8. Ask RSI, not me.

> I'm not sure if the decomposed color scheme works with PS
> even if you set BITS_PER_PIXEL to 24, though (i.e., you have
> to go through color tables). David F. will probably come
> along with the definitive answer soon, though :-)

I now have a definitive answer from RSI Tech Support. (I asked David about this a few weeks ago, but, hey, even David's answers may not be definitive! :-))

24-bit *images* can be displayed in Postscript in IDL. Plotting commands (PLOT, PLOTS, etc.), however, are mapped (somehow) to 8 bit. It took the RSI Tech Support person a while to figure this out. (The documentation on this point is obscure to nonexistent.) She was surprised to learn that this is how PS behaves.

The Tech Support person has requested (of RSI development) that 24-bit support be added to future versions. To the best of my knowledge, this fundamental limitation has always been in the PS driver (while RSI has

been adding such essential features as ActiveX controls ... sorry, some of my biases are showing...).

If you *ever* expect to need 24-bit color Postscript, please send a request to RSI for this 'feature enhancement'. The more of us who ask for it, the more likely we are to see it sooner rather than later.

Otherwise, someday you'll develop a great 24-bit graphics application and then discover that you cannot print the results.

Ken Bowman

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