Subject: Re: 8-bit Postscript problem (Will IDL and color Postscript *ever* get along?)

Posted by David Fanning on Fri, 07 Jul 2006 12:17:46 GMT

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M. Kelly writes:

- > Hello, I know this subject has (had) come up many times for over a
- > decade, and from what I can
- > tell on this newsgroup, seemed to be worked out to a great extent by
- > say 2004.

>

- > My problem is a 'classic' (?) where color postscript output is only 16
- > colors. That is, I'm
- > trying to make a Postscript color image, but I get 'blocky' colors -
- > i.e., only 16 of them.

>

- > But the twist (or me missing something) is that
- > 1) I am using David Fanning's flexible TVIMAGE program (thanks!
- > great prog btw),
- > and
- > 2) I explicitly set DEVICE, BITS=8, COLOR=1, ENCAPSULATED=1 after
- > doing SET_PLOT, 'ps'.

>

- > A curious thing, though: using Fanning's COLORBAR program produces
- > 256-color output on the
- > Postscript plot, so the bar looks nice and the plot is
- > crude/blocky/pixelly/ick. Also, doing a LOADCT
- > after setting to PS output does not help.

>

- > Could anyone help or offer any suggestions for this seemingly
- > ancient/solved problem?

Humm. If everything is as you say it is, and COLORBAR works correctly, then I would say the problem is with your image. Does your program work correctly on your display? I would guess your image is not byte scaled, from the available evidence. (I would like to see the code, however.)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: 8-bit Postscript problem (Will IDL and color Postscript *ever* get along?)

Posted by M-K on Fri, 07 Jul 2006 16:21:58 GMT

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David Fanning wrote:
> [ M. Kelly writes:
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>>
>> My problem is a 'classic' (?) where color postscript output is only 16
>> colors. That is, I'm
>> trying to make a Postscript color image, but I get 'blocky' colors -
>> i.e., only 16 of them.
>> But the twist (or me missing something) is that
     1) I am using David Fanning's flexible TVIMAGE program (thanks!
>> great prog btw),
>> and
     2) I explicitly set DEVICE, BITS=8, COLOR=1, ENCAPSULATED=1 after
>> doing SET PLOT, 'ps'.
>>
>> A curious thing, though: using Fanning's COLORBAR program produces
>> 256-color output on the
>> Postscript plot, so the bar looks nice and the plot is
>> crude/blocky/pixelly/ick. Also, doing a LOADCT
>> after setting to PS output does not help.
>>
>> Could anyone help or offer any suggestions for this seemingly
>> ancient/solved problem? ]
>
> Humm. If everything is as you say it is, and COLORBAR
> works correctly, then I would say the problem is with
> your image. Does your program work correctly on your
> display? I would guess your image is not byte scaled,
> from the available evidence. (I would like to see the
> code, however.)
The program works correctly on my X11 display, so I had actually
```

The program works correctly on my X11 display, so I had actually been writing it to a png file and using ImageMagick ('convert') to make Postscript files. {Not bad, except for publications (and dissertation), the fonts are kinda marginal (no pun intended). }

Thanks so much for your response (as well as the great progs you've made); here is a code example I used to generate a plot which can be converted to white-on-black Postscript:

```
TVImage, BYTSCL(wavgy[*,0:nz/06],MIN=-w amp,MAX=w amp), /ERASE, $
    POSITION=[.12,.12,.8,.9], /MINUS_ONE, BACKGROUND=-1
contour, wavgy[*,0:nz/06], x, z[0:nz/06], xtitle="x (m)", ytitle="z
(m)", $
 title=textoidl('vertical velocity field (ms^{-1}),
\alpha {fall}=0.5'),
 chars=1.5, /NODATA, /NOERASE, POS=[.12,.12,.8,.9], color=0
colorbar, /vertical, /right, NCOLORS=256,
POSITION=[0.83,0.15,0.85,0.85],
 RANGE=[-w amp,w amp],DIVISIONS=4, charsize=1.5, FORMAT='(F6.2)',
color=0
(the PNG file is then saved using your SAVEIMAGE prog, and converted
the -white-threshold and other options with the ImageMagick/convert
linux goodie).
thanks again, much and mucho,
-Mark
```

Subject: Re: 8-bit Postscript problem (Will IDL and color Postscript *ever* get along?)

Posted by M-K on Fri, 07 Jul 2006 18:06:35 GMT

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M-K wrote:

>

- > The program works correctly on my X11 display, so I had actually
- > been writing it to a png file and using ImageMagick ('convert') to
- > make Postscript files. {Not bad, except for publications (and
- > dissertation), the fonts are kinda marginal (no pun intended). }
- > Thanks so much for your response (as well as the great progs
- > you've made); here is a code example I used to generate a plot
- > which can be converted to white-on-black Postscript:

oops- I meant black (print) on white (background), thus the color=0 and BACKGROUND=-1 statements...

- > TVImage, BYTSCL(wavgy[*,0:nz/06],MIN=-w_amp,MAX=w_amp), \$
- > /ERASE, POSITION=[.12,.12,.8,.9], /MINUS_ONE, BACKGROUND=-1
- > contour, wavgy[*,0:nz/06], x, z[0:nz/06], xtitle="x (m)", ytitle="z (m)", \$
- > title=textoidl('vertical velocity field (ms^{-1}), \alpha_{fall}=0.5'), \$
- > chars=1.5, /NODATA, /NOERASE, POS=[.12,.12,.8,.9], color=0
- > colorbar, /vertical, /right, NCOLORS=256, POSITION=[0.83,0.15,0.85,0.85], \$
- > RANGE=[-w_amp,w_amp],DIVISIONS=4, charsize=1.5, FORMAT='(F6.2)',

- > color=0
- > (the PNG file is then saved using your SAVEIMAGE prog, and converted
- > using the -white-threshold and other options with the ImageMagick/convert
- > linux goodie).

Subject: Re: 8-bit Postscript problem (Will IDL and color Postscript *ever* get along?)

Posted by M-K on Tue, 11 Jul 2006 17:31:07 GMT

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David Fanning wrote:

- > Humm. Very strange. I guess I still believe you haven't set the BITS PER PIXEL
- > keyword correctly in PostScript, even though you write that you have, etc.
- > But it is the only thing I can think of that still makes any sense. I would just
- > check that DEVICE command again one more time (and perhaps confirm that
- > the option got set with a Help, /Device).

```
Oddly, doing
 set plot, 'ps' & !P.Font=0
 DEVICE, BITS PER PIXEL=8, COLOR=1, FILE=fnam, $
         /ENCAPS, XSIZE=7, YSIZE=4,/INCHES
 Help,/DEVICE
```

confirms 8 bits per pixel; the output is:

Current graphics device: PS Mode: Portrait, Encapsulated, EPSI Preview Disabled, Color Enabled Output Color Model: RGB ... { offset, size, preview stuff here, Scale Factor is 1 }

Font: Helvetica TrueType Font: <default> # bits per image pixel: 8 Font Mapping: ...

So somehow the colorbar output is nice, but the TVImage output is pixelly or not enough colors, despite BITS_PER_PIXEL=8. Could there be a pixel scaling problem with Postscript?

Thank you again, -Mark