
Subject: Re: PostScript and TrueColor images
Posted by [natha](#) on Fri, 22 Oct 2010 17:39:04 GMT
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Lool !

If I load the grey-scale palette the result is the same...
I don't see what is happening because the image contains the color values so, why loading the grey-scale palette I obtain another result ?
Thanks David,

nata

Subject: Re: PostScript and TrueColor images
Posted by [David Fanning](#) on Fri, 22 Oct 2010 17:44:41 GMT
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nata writes:

> If I load the grey-scale palette the result is the same...
> I don't see what is happening because the image contains the color
> values so, why loading the grey-scale palette I obtain another
> result ?

What version of IDL is this?

Up until IDL 7, I think, IDL had this insane notion on some machines (Windows, for sure) that when you were in indexed color mode ALL images should pass through the color table vectors, even images that already had their colors specified directly!!

Naturally, this is NOT what anyone, anywhere wanted to do. This has since been fixed, but it still makes it difficult to display images correctly. It is one reason why I haven't used a TV command since about 1998. TVImage or ImgDisp is your friend, here, Nata!

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: PostScript and TrueColor images
Posted by [natha](#) on Fri, 22 Oct 2010 18:01:39 GMT
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I'm using IDL 7.0
Sometimes IDL makes me nervous with this kind of things.

Thanks a lot David,
nata

Subject: Re: PostScript and TrueColor images
Posted by [David Fanning](#) on Fri, 22 Oct 2010 18:21:16 GMT
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nata writes:

> I'm using IDL 7.0
> Sometimes IDL makes me nervous with this kind of things.

Well, you're not the only one. I'll reserve a copy of my
next book for you. All of this is explained in tiresome
detail there. :-)

Cheers,

David

--

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Subject: Re: PostScript and TrueColor images
Posted by [David Fanning](#) on Fri, 22 Oct 2010 18:36:51 GMT
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David Fanning writes:

> Well, you're not the only one. I'll reserve a copy of my

> next book for you. All of this is explained in tiresome
> detail there. :-)

Speaking of which, I ran into an interesting PostScript problem yesterday that I had forgotten I knew anything about! :-)

I test the code in my book by pasting it to the IDL command line. When it works the way it is suppose to I call PS_Start, paste the code, call PS_End with the PNG keyword set, and bam! I have a perfect PNG file to import into the book file. Extremely easy and I make sure the book is free of code typos, too.

So, I was working on the Surface Plot chapter yesterday, and all was going normally (you know, SLOWLY), when I decided that one of the surface plots I came up with was so nice that I should make it a candidate for the cover of the book. So I wanted to make it a larger size.

Rather than use PS_Start, I just thought I would configure the PostScript device myself with PSConfig. So I did and ran my programs and the surface labels weren't rotated. :-(I made sure !P.FONT=0 and ran it again. Still not rotated. :-(:-(

Eventually, I had to look at PS_Start to see what the heck it was doing! Setting !P.Font to 1, of course, because only Hershey and True-Type fonts can be rotated in PostScript in this 3D way. Wow. I've been using PS_Start for so long I forgot all about that.

No wonder people who don't use my software run around with confused looks all the time. :-)

Cheers,

David

--

David Fanning, Ph.D.

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Subject: Re: PostScript and TrueColor images
Posted by [Karl\[1\]](#) on Fri, 22 Oct 2010 18:45:29 GMT
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On Oct 22, 10:49 am, nata <bernat.puigdomen...@gmail.com> wrote:

```
> Hi guys,  
>  
> I have a RGB image [1024,1024,3] and I do:  
>  
> -----  
> set_plot, 'x'  
> device, decomposed=1  
> tv, image, true=3  
> -----  
>  
> The image is perfect. Then I do:  
>  
> -----  
> set_plot, 'ps'  
> device, /color, bits=8, filename='example.ps'  
> tv, image, true=3  
> device, /close  
> -----  
>  
> The final PostScript file contains an image very different. The colors  
> are not the same and I don't know why...  
> Any suggestions,  
>  
> nata
```

Why are you saying "bits=8"?

This might imply bits per pixel and you have 24-bits of image data.
I'm not real sure how the PS device works in this respect, but you
might be knocking 24-bits of color information down to 8 bits, which
would certainly make the image look different. Try "bits=24"?

Subject: Re: PostScript and TrueColor images
Posted by [David Fanning](#) on Fri, 22 Oct 2010 18:57:17 GMT
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Karl writes:

```
> Why are you saying "bits=8"?  
> This might imply bits per pixel and you have 24-bits of image data.  
> I'm not real sure how the PS device works in this respect, but you  
> might be knocking 24-bits of color information down to 8 bits, which  
> would certainly make the image look different. Try "bits=24"?
```

From the IDL documentation (I know):

When writing TrueColor images to a PostScript file, the BITS_PER_PIXEL value applies to each channel of the image. Thus, to write a 24-bit image, which consists of three 8-bit image planes, set BITS_PER_PIXEL=8.

Cheers,

David

--

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Subject: Re: PostScript and TrueColor images
Posted by [natha](#) on Fri, 22 Oct 2010 18:59:00 GMT

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The maximum value for BITS is 8

BITS_PER_PIXEL

(PS)

IDL is capable of producing PostScript images with 1, 2, 4, or 8 bits per pixel. Using more bits per pixel gives higher resolution at the cost of generating larger files. BITS_PER_PIXEL is used to specify the number of bits to use. If you do not specify a value for BITS_PER_PIXEL, a default value of 4 is used.

It should be noted that many laser printers, including the original Apple Laserwriter are capable of only 32 different shades of gray (which can be represented by 5 bits). Thus, specifying 8 bits per pixel does not give 256 apparent shades of grey as might be expected, only 32, at a cost of sending twice the number of bits to the printer. Often, 4 bits (16 levels of gray) will give acceptable results with a large savings in file size.

Subject: Re: PostScript and TrueColor images

Posted by [Karl\[1\]](#) on Fri, 22 Oct 2010 19:16:56 GMT

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On Oct 22, 12:59 pm, nata <bernat.puigdomen...@gmail.com> wrote:

- > The maximum value for BITS is 8
- >
- > BITS_PER_PIXEL
- >
- > (PS)
- >
- > IDL is capable of producing PostScript images with 1, 2, 4, or 8 bits
- > per pixel. Using more bits per pixel gives higher resolution at the
- > cost of generating larger files. BITS_PER_PIXEL is used to specify the
- > number of bits to use. If you do not specify a value for
- > BITS_PER_PIXEL, a default value of 4 is used.
- >
- > It should be noted that many laser printers, including the original
- > Apple Laserwriter are capable of only 32 different shades of gray
- > (which can be represented by 5 bits). Thus, specifying 8 bits per
- > pixel does not give 256 apparent shades of grey as might be expected,
- > only 32, at a cost of sending twice the number of bits to the printer.
- > Often, 4 bits (16 levels of gray) will give acceptable results with a
- > large savings in file size.

OK. My bad.

They try setting /decomposed, /color in your device command when using the 'ps' device.

You used decomposed when using the X device. And Mike Galloy's web site has a sample of using 24-bit ps and sets /decomposed.

Subject: Re: PostScript and TrueColor images

Posted by [David Fanning](#) on Fri, 22 Oct 2010 19:25:46 GMT

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Karl writes:

- > They try setting /decomposed, /color in your device command when using
- > the 'ps' device.

Well, that will work in the 24-bit PostScript device, which really only got working properly in IDL 7.1. It will complain bitterly in versions of IDL before that. :-)

Load a gray-scale color table. Problem solved.

Cheers,

David

--

David Fanning, Ph.D.

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Subject: Re: PostScript and TrueColor images

Posted by [Karl\[1\]](#) on Fri, 22 Oct 2010 20:03:01 GMT

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On Oct 22, 1:25 pm, David Fanning <n...@dfanning.com> wrote:

> Karl writes:

>> They try setting /decomposed, /color in your device command when using

>> the 'ps' device.

>

> Well, that will work in the 24-bit PostScript device, which

> really only got working properly in IDL 7.1. It will complain

> bitterly in versions of IDL before that. :-)

>

> Load a gray-scale color table. Problem solved.

>

> Cheers,

>

> David

>

> --

> David Fanning, Ph.D.

> Fanning Software Consulting, Inc.

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

> Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Yes, and of course I noted too late that nata was using IDL 7.0.

But nata said that loading the grey-scale ramp didn't help. So, I don't know at this point.

Subject: Re: PostScript and TrueColor images

Posted by [David Fanning](#) on Fri, 22 Oct 2010 20:04:12 GMT

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Karl writes:

> But nata said that loading the grey-scale ramp didn't help. So, I
> don't know at this point.

No, I think it said it worked, in his strange sort of way. :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: PostScript and TrueColor images

Posted by [Kenneth P. Bowman](#) on Fri, 22 Oct 2010 21:40:00 GMT

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In article <MPG.272b87ac86448f769897e6@news.giganews.com>,
David Fanning <news@dfanning.com> wrote:

> No wonder people who don't use my software run around
> with confused looks all the time. :-)

By the way, are you really writing ten book pages per day?

What kind of amphetamines are you using?

Ken Bowman

Subject: Re: PostScript and TrueColor images

Posted by [Michael Galloy](#) on Fri, 22 Oct 2010 21:55:01 GMT

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On 10/22/10 3:40 PM, Kenneth P. Bowman wrote:

> In article<MPG.272b87ac86448f769897e6@news.giganews.com>,
> David Fanning<news@dfanning.com> wrote:
>

>> No wonder people who don't use my software run around
>> with confused looks all the time. :-)
>

> By the way, are you really writing ten book pages per day?
>
> What kind of amphetamines are you using?
>
> Ken Bowman

Yes, that's quite a pace!

Mike

--

www.michaelgalloy.com
Research Mathematician
Tech-X Corporation

Subject: Re: PostScript and TrueColor images
Posted by [David Fanning](#) on Fri, 22 Oct 2010 22:40:38 GMT
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Kenneth P. Bowman writes:

> By the way, are you really writing ten book pages per day?

I didn't get that many in today, but, yes, that's my goal.
When I know what I am talking about, I can do this. When
I only *think* I know what I'm talking about, but don't
really, it slows me down a bit.

This first book is really just an extended IDL programming
course. I've taught those so many times I can almost
do it blindfolded. There is a natural progression of
the material from simple to complicated. I don't usually
get stuck until I'm about half way through a lecture. :-)

Cheers,

David

--

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