Subject: Re: X and tvrd color scaling problem
Posted by Michael Wallace on Tue, 06 Jan 2004 05:16:10 GMT
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Well, it turns out I was able to answer my own question with a little
help from a new favorite web site of mine.

http://www.dfanning.com/color_tips/strange_tvrd.html

Since I'm on a 24-bit display, I need to do this instead:
image = tvrd(true = 1) ; grab the image
tvimage, image   ; just say no to tv!

Mike

P.S. David, thanks for maintaining that web site of yours. Who knows
how long I might have searched for that answer without it...

Subject: Re: X and tvrd color scaling problem
Posted by David Fanning on Tue, 06 Jan 2004 05:22:48 GMT
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Michael Wallace writes:

> I'm having a strange problem with tvrd(). When using the Z buffer
> everything behaves as I expect. However, when using X tvrd() doesn't
> seem to scale the colors correctly.
>
> For an example, I created a new window and added a colorbar. In the
> window, everything looks normal. But, if I grab the image with tvrd()
> and then immediately display it with tv, the colors get scaled
> incorrectly and there's a lot of white which is index 255 of the color
> table I'm using.
>
> ; create a window and a colorbar (a la Coyote)
> device, DECOMPOSE = 0
> loadct, 39
> window, XSIZE = 400, YSIZE = 400
> colorbar, format = '(A1)'
>
> ; everything looks normal so far...
> ; grab the image and display it with tv
> image = tvrd()
> tv, image
>
> ; what happened?! the scaling is funky and there's a lot of white!
>

>
> However, if I use the Z buffer, everything behaves as I expect.
>
> ; create an image and a colorbar (a la Coyote)
> device, DECOMPOSE = 0
> loadct, 39
> set_plot, 'Z', /COPY
> device, SET_RESOLUTION = [400, 400]
> colorbar, format = '(A1)'
>
> ; grab the image and switch back to X to display it
> image = tvrd()
> set_plot, 'X'
> window, XSIZE = 400, YSIZE = 400
> tv, image
>
> ; the image looks normal and there's no weird scaling
>
>
> What gives? Why doesn't the X method capture the image correctly?

The X window has a depth of 24 bits, whereas the Z buffer
has a depth of 8 bits. When you use TVRD in the way you
are on a 24-bit device the value that is returned to you
as the "value" of that pixel is the largest of the
values in the red, green, and blue planes. Not what you
want at all.

The solution depends on what it is you are trying
to do, but let's just say this is why some of us
invented programs like TVREAD and TVIMAGE. :-)

Something like this:

  image = TVRD(True=1)

Followed by TV, image, TRUE=1 should work.

Cheers,

David
--
David W. Fanning, Ph.D.
Fanning Software Consulting, Inc.
Phone: 970-221-0438, E-mail: david@dfanning.com
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: X and tvrd color scaling problem
Posted by Michael Wallace on Tue, 06 Jan 2004 05:33:03 GMT
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> The solution depends on what it is you are trying
> to do, but let's just say this is why some of us
> invented programs like TVREAD and TVIMAGE. :-)

Just noticed something. In your handy dandy web page "Strange TVRD
Results," you referred your TVImage procedure, but not TVRead. Might be
worth mentioning in there somewhere. I didn't realize that a better
tvrd existed until now.

Mike

Subject: Re: X and tvrd color scaling problem
Posted by Alvin on Fri, 26 Mar 2004 16:44:36 GMT
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Hi David:

I have a different problem. I can't capture the color white from a window
using tvread. Every other color works fine but after I redisplay the
captured image, the white is all messed up!
Any idea?

Alvin.