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Subject: Inexplicable tvrd() behavior

Posted by [BillG](#) on Fri, 02 Mar 2007 20:42:57 GMT

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Can some one explain this behavior and offer a solution?

In direct graphics, indexed color mode,

1. I create a color plot in a window,
2. read in back in with image1=tvrd()
3. plot it again in another window.

I would expect (want) that the two windows would be identical but they appear quite different: the image in the second window appears to be (image1\*4 < 255). The following program illustrates the problem.

(Why indexed color? I want to create an color indexed png of the image but the resulting png looks like the image in window2)  
(Usual disclaimer: there is an explanation and solution obvious to anyone with any idl experience but its Friday, I have a headache , .... Also, I have read Fanning's Chapter 3 'Working with Color' to no avail)

```
-----  
;;A program to examine the behavior of tvrd  
;;Set the graphics environment: indexed color  
set_plot, 'win'           ;set the device to 'win'  
device, decom = 0         ;indexed color  
loadct, 39                ;load the color table  
  
;;Create some data  
pnts = 400  
data = dist(pnts, pnts)  
  
;;Scale the data  
image1 = bytscl(data)  
  
;;Plot the image  
window, 0, xsize = pnts, ysize = pnts  
tv, image1  
  
;;Now read it back in  
image2 = tvrd()  
  
;;Open a new window and plot the image read in from window 0 to window  
2: shouldn't  
;;it appear exactly as window 0?  
window, 2, xsize = pnts, ysize = pnts  
tv, image2
```

```
;;Instead, image2 looks like image1*4 < 255  
window, 3, xsize = pnts, ysize = pnts  
tv, (image1*4 < 255)
```

```
;;plot the values of a diagonal slice through the image: it suggests  
the source of the  
;;problem but not the solution  
window, 1, xsize = pnts, ysize = pnts  
!p.multi = [0, 1, 2]  
ii = indgen(pnts)  
plot, image1[ii, ii], title='image1'  
plot, image2[ii, ii], title='image2'
```

```
end  
-----
```

Windows XP, idl6.3,

Cheers,  
Bill Gallery

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