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Subject: Re: Another Color Twist

Posted by [Liam Gumley](#) on Wed, 15 Dec 1999 08:00:00 GMT

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David Fanning wrote:

- > Because I know your day, like mine, just doesn't feel
- > complete without learning about yet another little
- > color twist in IDL, I have this observation from a
- > course I am teaching this week:
- >
- > People who pay attention to this newsgroup (except
- > the ones who count, apparently) have heard me bemoan
- > the fact that 24-bit images cannot be displayed
- > correctly on Macs and PCs unless color decomposition
- > is ON. If color decomposition is OFF, the image
- > pixel values are always routed through the color
- > tables, where--if you have anything other than a
- > gray-scale color table loaded--your colors get
- > totally screwed up.
- >
- > What I learned yesterday is that the same problem
- > exists in reverse, but only on Macintosh computers.
- > That is to say, suppose you have a 24-bit image
- > displayed correctly on your 24-bit display. But
- > you have color decomposition turned OFF and a
- > color table loaded (say, to correctly display
- > a companion 2D image). Now suppose you wish to
- > make a JPEG color image of the window holding the
- > 24-bit image. The proper way to get a screen
- > dump or snapshot of the window is like this:
- >
- >   snapshot = TVRD(True=1)
- >
- > Snapshot will now be a 24-bit image holding the
- > color information. Well, at least it will be on
- > UNIX and PCs. On Macintosh computers, it will
- > be a 24-bit image holding the color information
- > obtained not from the image, but from the \*color
- > tables\*. Hence, the resulting JPEG image will
- > be totally screwed up.
- >
- > The trick is to be sure color decomposition
- > is turned ON whenever you fool around with a
- > 24-bit image. (Which, now that I think about
- > it, is surely the message RSI is trying to get
- > across to us. But it seems like an awful lot
- > of work to me. Couldn't TV and TVRD be made
- > just a \*little\* bit smarter when it comes to

> 24-bit images? Please.)

Thanks for the advice David. Those of us attempting to write platform-independent code are sometimes hampered by a lack of available platforms.

How about if the rules are stated thus:

- (1) If you are displaying (TV) or reading (TVRD) 8-bit images, color decomposition must be turned OFF (device, decomposed=0).
- (2) If you are displaying (TV) or reading (TVRD) 24-bit images, color decomposition must be turned ON (device, decomposed=1).
- (3) If your IDL version is 5.2 or higher, you should save and restore the color decomposition mode (device, get\_decomposed=current\_decomposed).

I'm going to make sure my applications conform to these rules.

Cheers,  
Liam.

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