Subject: Re: [Q] writing color JPEGS
Posted by davidf on Thu, 24 Oct 1996 07:00:00 GMT
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Matthew Savoie <savoie@fsl.noaa.gov> writes:

> Hi, I'm having a slight problem writing Color JPEGS in IDL. I looked at the
> FAQ, but it doesn't have any direct examples.

> Here's a sample program that I ran to generate gif and jpeg output. The
> problem is that the only reasonable jpeg I can generate is when I don't use
> the TRUE keyword, but that only seems to generate grey images.

> Does anyone out there know what I'm doing wrong? Can you send me an example
> that works?

> [some pretty reasonable code snipped here]

Here is an example that works. Given a 2D image variable,
it creates a color JPEG image. The important details are that I load
the color table and get the color vectors in the Z-buffer. This makes
sure I have vectors that are 256 elements in length.

To make a color JPEG image, you need a 3D image array. (Another
way of saying this is that you need a true-color image.) What I
do to obtain this, is use the red, green, and blue color vectors
as color lookup tables (e.g., image3d(0,*,*) = r(image)). This
gives me a red, green, and blue representation of the original
image.

To show you what this looks like (on an 8-bit display), I use
the COLOR_QUAN function to obtain an 8-bit image and a color
table to load.

I think the code is pretty self-explanatory, but let me know if you
have further questions.

Yours,

David

****

```
PRO MAKE_JPEG, image

ON_ERROR, 1

  ; Check data parameter. Define default if necessary.
```

```
IF N_PARAMS() EQ 0 THEN image = BYTSCL(DIST(300, 300))
s = SIZE(image)
IF s(0) NE 2 THEN MESSAGE, 'Must pass 2D image data.'

   ; Go into Z-Buffer for 256 colors.

oldDevice = !D.NAME
SET_PLOT, 'Z'

   ; Load colors and obtain the color vectors.

LOADCT, 13
TVLCT, r, g, b, /GET

   ; Back to current device.

SET_PLOT, oldDevice

   ; Create a pixel interleaved image array.

image3d = BYTARR(3, s(1), s(2))

   ; Make red, green, and blue images from the lookup vectors.

image3d(0, *, *) = r(image)
image3d(1, *, *) = g(image)
image3d(2, *, *) = b(image)

   ; Write the color JPEG image.

WRITE_JPEG, 'image.jpg', image3d, TRUE=1, QUALITY=100

   ; To see this on an 8-bit display.

WINDOW, XSIZE=s(1), YSIZE=s(2), /FREE
TV, COLOR_QUAN(image3d, 1, red, green, blue)
red = CONGRID(red, !D. N_COLORS)
green = CONGRID(green, !D. N_COLORS)
blue = CONGRID(blue, !D. N_COLORS)
TVLCT, red, green, blue
END
```

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