Subject: Re: Display Gifs, each w/diff color tables?
Posted by davidf on Mon, 12 Jul 1999 07:00:00 GMT
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Rose (rmlongfield@my-deja.com) writes:

> Here's a question I haven't seen discussed yet. I have several
> different GIF files given to me by several sources. I can read and
> display them individually. However, I can't look at them all at the same
> time. This is, I believe, due to the fact that the GIF files come with
> their own color tables. Every time a new one is loaded, the color table
> from the previous one is re-defined. I have tried the
> "split table" technique outlined in DWF's book, but it doesn't work
> because some of the GIF images fill in all the r,g,b arrays.
>
> Now, these are just xy plots and clearly all these colors are
> not necessary. Is there some way of defining which colors are important
> and which are just "pretty"? Maybe a reverse color24 function (DWF)?

Well, as Liam points out, if you had a 24-bit color display
things would be easy. But I'm guessing that if you had a
24-bit color display, you wouldn't be needin' us. :-)

So, here is what I would do, assuming that the GIF files
really only do use a handful of colors each. I'd create
color separations of the GIF image, just as if you were
going to create 24-bit JPEG images, for example:

http://www.dfanning.com/tips/jpeg.html

Then, I would take these 24-bit images and I would pass them
through COLOR_QUAN, but I would use the COLORS keyword and
restrict the number of output colors to something like 16 or
so. Then, I would use the split color table method you
tried previously, but now using the color table vectors
you get back from COLOR_QUAN. If all goes well, that should
work, although I have definitely NOT tried it just now.

I guess it wouldn't hurt to make a sacrifice and light
a candle for the programming gods before you start coding
it up, too. Or, you could put the money for the candle
into the fund for the 24-bit display. :-)

Cheers,

David

--

David Fanning, Ph.D.
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Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Display Gifs, each w/diff color tables?
Posted by Liam Gumley on Mon, 12 Jul 1999 07:00:00 GMT
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Liam Gumley wrote:
> If you have a 24-bit display, try this in a new IDL session:
>
> ;- Set display to 24-bit decomposed mode
> device, true=24, decomposed=0, retain=2
> if !d.n_colors le 256 then message, '24-bit mode unavailable' <<<< ERROR!

I forgot that !d.n_colors is always 256 before you open a window. Just
remove this line, and it should work (if you have 24 bit graphics). Or,
move it *after* the WINDOW command.

Note to self: test all code examples before posting.

--
Liam E. Gumley
Space Science and Engineering Center, UW-Madison
http://cimss.ssec.wisc.edu/~gumley

Subject: Re: Display Gifs, each w/diff color tables?
Posted by Liam Gumley on Mon, 12 Jul 1999 07:00:00 GMT
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rmlongfield@my-deja.com wrote:
> Here's a question I haven't seen discussed yet. I have several
> different GIF files given to me by several sources. I can read and
> display them individually. However, I can't look at them allat the same
> time. This is, I believe, due to the fact that the GIF files come with
> their own color tables. Every time a new one is loaded, the color table
> from the previous one is re-defined. I have tried the
> "split table" technique outlined in DWF's book, but it doesn't work
> because some of the GIF images fill in all the r,g,b arrays.

Rose,

If you have a 24-bit display, try this in a new IDL session:

```
;- Set display to 24-bit decomposed mode
device, true=24, decomposed=0, retain=2
if !d.n_colors le 256 then message, '24-bit mode unavailable'

;- Open a window
window, /free, xsize=950, ysize=700

;- Display the first GIF
read_gif, 'file1.gif', image, r, g, b
tvlct, r, g, b
tv, image, 0, 0

;- Display the second GIF
read_gif, 'file2.gif', image, r, g, b
tvlct, r, g, b
tv, image, 475, 0
```

Cheers,
Liam.

--
Liam E. Gumley
Space Science and Engineering Center, UW-Madison
http://cimss.ssec.wisc.edu/~gumley

Subject: Re: Display Gifs, each w/diff color tables?
Posted by Liam Gumley on Tue, 13 Jul 1999 07:00:00 GMT
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rmlongfield@my-deja.com wrote:

```
>  read_gif,'./GIF_FILES/test1.gif',image,r,g,b
>  tvlct,r,g,b
>  window,/free, retain=2
>  tv,bytscl(image)
>  read_gif,'./GIF_FILES/test2.gif',image,r,g,b
>  tvlct,r,g,b
>  window,/free, retain=2
>  tv,bytscl(image)
>  read_gif,'./GIF_FILES/test3.gif',image,r,g,b
>  tvlct,r,g,b
>  window,/free, retain=2
>  tv,bytscl(image)
```

Rose,

Please try the following:

1. If you are sitting at the SGI console, logout, then log back in.

2. Start a new IDL session, and enter the following:
print, !d.n_colors, !d.table_size
device, true=24, decomposed=0, retain=2
window, /free, /pixmap
wdelete, !d.window
print, !d.n_colors, !d.table_size

3. Try displaying a couple of GIFS using this method:
read_gif, './GIF_FILES/test1.gif', image, r, g, b
tvlct, r, g, b
window, /free
tv, image ; NO BYTSCL!

Please let us know if it works.

Cheers,
Liam.

--
Liam E. Gumley
Space Science and Engineering Center, UW-Madison
http://cimss.ssec.wisc.edu/~gumley

Subject: Re: Display Gifs, each w/diff color tables?
Posted by davidf on Tue, 13 Jul 1999 07:00:00 GMT
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Rose (rmlongfield@my-deja.com) writes:

> I'm beginning to hum Bruce Springsteen's song: "52 channels
> and nothing on". My 24 colors must be brain-dead. I follow exactly
> what David said in a previous post. The first line of my startup file
> I have written: print!d.n_colors and I get 256. However, once I input
> the lines that David said, I get the promised 16777216. Then I run:
> @idlsave.sav , which is the following lines:
>
>
> read_gif,'./GIF_FILES/test1.gif',image,r,g,b
> tvlct,r,g,b
> window,/free, retain=2
> tv,bytscl(image)
> read_gif,'./GIF_FILES/test2.gif',image,r,g,b
> tvlct,r,g,b
> window,/free, retain=2

> tv,bytscl(image)
> read_gif,'./GIF_FILES/test3.gif',image,r,g,b
> tvlct,r,g,b
> window,/free, retain=2
> tv,bytscl(image)
>
> The "crazy colors" I referred to earlier looks to me like the color
> table is over-written and the new colors are being loaded into the
> previously plotted image (which should not happen, according to the
> rules).

Actually, I think the "crazy colors" are coming from the
BYTSCL command. These GIF files should definitely *NOT*
be byte scaled!

Just TV the image and I think you will be fine. :-)

If not, please let use know the results of these two
commands after you open a graphics window:

```
Device, Get_Visual_Name=thisName, Get_Visual_Depth=thisDepth
Print, thisName, thisDepth
```

Or, on older versions of IDL:

```
Help, /Device
```

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting
Phone: 970-221-0438 E-Mail: davidf@dfanning.com
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Subject: Re: Display Gifs, each w/diff color tables?
Posted by davidf on Tue, 13 Jul 1999 07:00:00 GMT

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Liam Gumley (Liam.Gumley@ssec.wisc.edu) writes:

> Sorry to contradict, but my frame tools work perfectly well in 8-bit or
> 24-bit mode, and they do not rely on any kind of startup file. Please
> feel free to give them a try at
> http://cimss.ssec.wisc.edu/~gumley/frame.html

Whoops! Sorry, Liam. I know better than to post answers
before I test them. I renew my test-before-posting pledge. :-)

> I believe that my original reply effectively gave the same advice, but
> apparently it did not work for Rose. Rose, could you elaborate a little
> on the 'crazy colors' behavior? And also, did you try the examples David
> and I posted *immediately* after starting a new IDL session, before
> opening any graphics windows?

Indeed. I think my advice was *identical* to yours,
except that I wanted to be sure Rose was in a 24-bit
TrueColor environment. There can only be three reasons
for window colors to change when you load a color table:

1. You are in an 8-bit PseudoColor environment.

2. You are in a 24-bit DirectColor environment.

3. You didn't follow the directions Liam and I sent
   exactly as we gave them to you. :-) But it *can't*
   happen in a 24-bit TrueColor environment.

Cheers,

David

--
David Fanning, Ph.D.
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Subject: Re: Display Gifs, each w/diff color tables?
Posted by rmlongfield on Tue, 13 Jul 1999 07:00:00 GMT
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and nothing on". My 24 colors must be brain-dead. I follow exactly
what David said in a previous post. The first line of my startup file
I have written: print!d.n_colors and I get 256. However, once I input
the lines that David said, I get the promised 16777216. Then I run:
@idlsave.sav , which is the following lines:

```
read_gif,'./GIF_FILES/test1.gif',image,r,g,b
tvlct,r,g,b
window,/free, retain=2
tv,bytscl(image)
read_gif,'./GIF_FILES/test2.gif',image,r,g,b
tvlct,r,g,b
window,/free, retain=2
tv,bytscl(image)
read_gif,'./GIF_FILES/test3.gif',image,r,g,b
tvlct,r,g,b
window,/free, retain=2
tv,bytscl(image)
```

The "crazy colors" I referred to earlier looks to me like the color table is over-written and the new colors are being loaded into the previously plotted image (which should not happen, according to the rules). And that is why the colors change. They do not flash when I move the mouse. They change when I type the TVLCT command. The color vectors are completely different for each image.
I didn't make these images and they come from different people with different computers. I'm going to try to send these programs home where I have a PC and idl demo (which is only 5.0 but I hope will work.)

Until tomorrow,
Rose

Subject: Re: Display Gifs, each w/diff color tables?
Posted by Liam Gumley on Tue, 13 Jul 1999 07:00:00 GMT
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David Fanning wrote:
> Rose (rmlongfield@my-deja.com) writes:
>> I forgot to mention that I do have 24-bit colors.
>
> Oh, well, then. In that case, I think you must
> have your 24-bit display in brain-dead mode.
> I'm going to guess you used Liam's setup file to
> run his FRAME tool. His setup file puts a 24-bit
> machine in an 8-bit PseudoColor mode, which sort of
> defeats the purpose of a 24-bit color display.

Sorry to contradict, but my frame tools work perfectly well in 8-bit or

24-bit mode, and they do not rely on any kind of startup file. Please
feel free to give them a try at
http://cimss.ssec.wisc.edu/~gumley/frame.html

> Try this:
>
> 1. Before you open *any* graphics windows in IDL
> (check your startup file to be sure it doesn't open
> a pixmap graphics window), type this command:
>
> Device, True=24, Decomposed=0

I believe that my original reply effectively gave the same advice, but
apparently it did not work for Rose. Rose, could you elaborate a little
on the 'crazy colors' behavior? And also, did you try the examples David
and I posted *immediately* after starting a new IDL session, before
opening any graphics windows?

Cheers,
Liam.

--
Liam E. Gumley
Space Science and Engineering Center, UW-Madison
http://cimss.ssec.wisc.edu/~gumley

Subject: Re: Display Gifs, each w/diff color tables?
Posted by davidf on Tue, 13 Jul 1999 07:00:00 GMT
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I'm going to guess you used Liam's setup file to
run his FRAME tool. His setup file puts a 24-bit
machine in an 8-bit PseudoColor mode, which sort of
defeats the purpose of a 24-bit color display.

Try this:

1. Before you open *any* graphics windows in IDL
(check your startup file to be sure it doesn't open
a pixmap graphics window), type this command:

Device, True=24, Decomposed=0

2. Now you will be using a 24-bit TrueColor visual.
Confirm it by typing this:

Device, Get_Visual_Name=thisVisual, Get_Visual_Depth=thisDepth
Print, thisVisual, thisDepth

Or, if you have an older version of IDL:

Help, /Device

In this mode you can display as many images as you
like with as many color tables as you can dream up.
They will all exist simultaneously on your display.
Simply load the color table associated with an image
and display the image. (Be *sure* you set color
decomposition OFF.) Loading the second (any any
subsequent) color table will NOT affect any of the
image colors that are previously on the display.

Cheers,

David

--
David Fanning, Ph.D.
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Subject: Re: Display Gifs, each w/diff color tables?
Posted by steinhh on Tue, 13 Jul 1999 07:00:00 GMT

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In article <MPG.11f455e18517a391989820@news.frii.com>
davidf@dfanning.com (David Fanning) writes:
[...]
> So, here is what I would do, assuming that the GIF files
> really only do use a handful of colors each. I'd create
> color separations of the GIF image, just as if you were
> going to create 24-bit JPEG images, for example:
>
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>
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> through COLOR_QUAN, but I would use the COLORS keyword and
> restrict the number of output colors to something like 16 or
> so. Then, I would use the split color table method you
> tried previously, but now using the color table vectors
> you get back from COLOR_QUAN. If all goes well, that should
> work, although I have definitely NOT tried it just now.

Yes, David, I think this is the way to go. One possible
improvement, however, would be to bundle all the 24-bit
images together in (3) single array(s) before passing them
to color_quan. Then, you'd get a ready-made color table for
use with all the images at once. If some or all your images
are using identical colors, this method will save you a
lot of slots in the color table.

Regards,

Stein Vidar

Subject: Re: Display Gifs, each w/diff color tables?
Posted by rmlongfield on Tue, 13 Jul 1999 07:00:00 GMT
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In article <7mdaduppb1@nnrp1.deja.com>,
rmlongfield@my-deja.com wrote: (see previous post)

I forgot to mention that I do have 24-bit colors. This doesn't show up
in the !version structure.

Thanks Liam, for your suggestion. I was actually trying to display
these GIF files with your FRAME tool and getting all sorts of crazy
colors. Unfortunately, your suggestion produced the same problems.

Yes, DWF, I also thought that with 256*256*256 colors that I could also
get as many different color tables displayed as I wish.
Anyway, I tried what Liam suggested and it works for a few files
(probably made on the same computer) but not all of them.
Here is how I have been trying to track this problem:

> I use: read_gif,'./GIF_FILES/file.gif',image,r,g,b
> and get: IDL> help,r,g,b
R BYTE = Array[256]
G BYTE = Array[256]
B BYTE = Array[256]

> I look at the values with:
FOR i=0L,N_ELEMENTS(r) -1L DO BEGIN

```
print,i,r[i],g[i],b[i],FORMAT='(i6,i6,i6,i6)'
ENDFOR
```

What I see is three columns of numbers filled. My first image has numbers in the first 13 rows. My second image has the first 9 rows and the last 10 filled. When I display this image, the colors in the first image change also. My next image has only an array size of 64 for the rgb vector. The next image has numbers in ALL of the 256 columns!. (This is bizaar because when I look at image info with XV, it gets only 3 colors) If I understand this correctly (and I suspect that I don't), especially with this last one, the new colors are affecting the colors defined in the other gif images.

I thought that with 24 bit colors that this would not be a problem. David, I was looking at the color_quan function with curiosity yesterday but wasn't sure how I could use it. Do I have to make a jpeg image from the gif file and then display it as a jpeg file? Perhaps this gives me more control of the colors.

Well, for the moment I am just going to use SPAWN,'xv file.gif' which is hardly a solution but will do for now.

Sigh. Lighting candles is likely to set off the fire alarm in the building and get me into trouble.

Rose