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Subject: Re: custom color table

Posted by [David Fanning](#) on Fri, 20 Sep 2002 18:33:18 GMT

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Miklos Z. Kiss (mzkiss@unity.ncsu.edu) writes:

> I am trying to create a custom monochrome color table in IDL. IDL has four  
> (maybe five) predefined monochrome color tables (gray scale, red  
> temperature, blue-white, and green-white). XPALETTE will allow me to create  
> a custom color table, and I can load it using TVLCT, but how do I relate the  
> red, green, and blue channels mathematically to create a, say, orange, or  
> cyan monochrome color table?

The color cyan is (0, 255, 255), so a monochrome cyan color table is this:

```
TVLCT, bytarr(256), bindgen(256), bindgen(256)
```

The color orange is (255, 165, 0), so a monochrome orange color table is this:

```
TVLCT, bindgen(256), BytScl(bindgen(256), top=165), bytarr(256)
```

Cheers,

David

--

David W. Fanning, Ph.D.

Fanning Software Consulting, Inc.

Phone: 970-221-0438, E-mail: [david@dfanning.com](mailto:david@dfanning.com)

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

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Subject: Re: custom color table

Posted by [Miklos Z. Kiss](#) on Fri, 20 Sep 2002 19:00:50 GMT

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Many thanks. On these types of monochrome scales, color #0 is black (0, 0, 0), and color #255 is cyan (0, 255, 255) or orange (255, 165, 0). Is there a simple, or at least, a systematic, way to make a color table in which color #0 is black, color #255 is white, and everything in between is the shade of some the color in question? I am thinking of the way IDL's predefined color tables are, such as color tables, 0, 1, 3, and 8. I guess technically speaking this would be more of a quasi-monochrome color table. Thanks again.

-Mik

"David Fanning" <david@dfanning.com> wrote in message  
news:MPG.17f517db4ea2d0509899b6@news.frii.com...

> Miklos Z. Kiss (mzkiss@unity.ncsu.edu) writes:

>

>> I am trying to create a custom monochrome color table in IDL. IDL has  
four

>> (maybe five) predefined monochrome color tables (gray scale, red

>> temperature, blue-white, and green-white). XPALETTE will allow me to  
create

>> a custom color table, and I can load it using TVLCT, but how do I relate  
the

>> red, green, and blue channels mathematically to create a, say, orange,  
or

>> cyan monochrome color table?

>

> The color cyan is (0, 255, 255), so a monochrome cyan

> color table is this:

>

> TVLCT, bytarr(256), bindgen(256), bindgen(256)

>

> The color orange is (255, 165, 0), so a monochrome orange

> color table is this:

>

> TVLCT, bindgen(256), BytScl(bindgen(256), top=165), bytarr(256)

>

> Cheers,

>

> David

>

> --

> David W. Fanning, Ph.D.

> Fanning Software Consulting, Inc.

> Phone: 970-221-0438, E-mail: david@dfanning.com

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Subject: Re: custom color table

Posted by [David Fanning](#) on Fri, 20 Sep 2002 19:43:49 GMT

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Miklos Z. Kiss (mzkiss@unity.ncsu.edu) writes:

> Many thanks. On these types of monochrome scales, color #0 is black (0, 0,

> 0), and color #255 is cyan (0, 255, 255) or orange (255, 165, 0). Is there  
> a simple, or at least, a systematic, way to make a color table in which  
> color #0 is black, color #255 is white, and everything in between is the  
> shade of some the color in question? I am thinking of the way IDL's  
> predefined color tables are, such as color tables, 0, 1, 3, and 8. I guess  
> technically speaking this would be more of a quasi-monochrome color table.

OK, sigh...

```
TVLCT, 0, 0, 0, 0 ; Black
TVLCT, 255, 255, 255, 255 ; White
TVLCT, Congrid(bytarr(256), 253), $
    Congrid(bindgen(256), 253), $
    Congrid(bindgen(256), 253), 1
```

And

```
TVLCT, Congrid(bindgen(256), 253), $
    Congrid(BytScl(bindgen(256), top=165), 253), $
    Congrid(bytarr(256), 253), 1
```

Cheers,

David

--

David W. Fanning, Ph.D.  
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Subject: Re: custom color table  
Posted by [David Fanning](#) on Fri, 20 Sep 2002 19:49:15 GMT  
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David Fanning (david@dfanning.com) writes:

> Congrid(bindgen(256), 253), 1

Whoops! All those "253"s should be "254"s, obviously.  
Let's see  $253 + 1 + 1 = 255$ , not 256. :-)

Cheers,

David

--

David W. Fanning, Ph.D.  
Fanning Software Consulting, Inc.  
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Subject: Re: custom color table  
Posted by [Kenneth P. Bowman](#) on Fri, 20 Sep 2002 22:38:38 GMT  
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In article <amfo1d\$rjj\$1@uni00nw.unity.ncsu.edu>,  
"Miklos Z. Kiss" <mzkiss@unity.ncsu.edu> wrote:

This scale goes from black to orange:

```
color = 30.0
h   = REPLICATE(color, 256)
s   = REPLICATE(1.0, 256)
v   = FINDGEN(256)/255.0
COLOR_CONVERT, h, s, v, r, g, b, /HSV_TO_RGB
TVLCT, r, g, b
```

To go from white to orange use:

```
h   = REPLICATE(color, 256)
s   = FINDGEN(256)/255.0
v   = REPLICATE(1.0, 256)
```

Regards, Ken Bowman

---

---

Subject: Re: custom color table  
Posted by [R.Bauer](#) on Sat, 21 Sep 2002 14:35:51 GMT  
[View Forum Message](#) <> [Reply to Message](#)

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Miklos Z. Kiss wrote:

```
> Many thanks. On these types of monochrome scales, color #0 is black (0, 0,
> 0), and color #255 is cyan (0, 255, 255) or orange (255, 165, 0). Is there
> a simple, or at least, a systematic, way to make a color table in which
> color #0 is black, color #255 is white, and everything in between is the
> shade of some the color in question? I am thinking of the way IDL's
> predefined color tables are, such as color tables, 0, 1, 3, and 8. I guess
> technically speaking this would be more of a quasi-monochrome color table.
> Thanks again.
>
```

> -Mik  
>

Dear Miklos

I have a widget to write colortable routines

[http://www.fz-juelich.de/icg/icg-i/idl\\_icglib/idl\\_source/idl\\_html/dbase/download/x\\_def\\_colortable.tar.gz](http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/download/x_def_colortable.tar.gz)

or as idl5.5 binary

[http://www.fz-juelich.de/icg/icg-i/idl\\_icglib/idl\\_source/idl\\_html/dbase/download/x\\_def\\_colortable.sav](http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/download/x_def_colortable.sav)

The output of the widget is a routine whith header and an example image like:

```
pro ct_miklos,start_color=start_color,max_colors=max_colors,colors=colors
```

```
colors=[[7,255,128,128,250],$
```

```
        [0,50,128,255,255],$
```

```
        [0,50,255,128,255]]
```

```
def_colorsystem,colors=colors,start_color=start_color,max_colors=max_colors  
end
```

For further routines and licensing please have a look at

[http://www.fz-juelich.de/icg/icg-i/idl\\_icglib/idl\\_lib\\_intro.html](http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro.html)

best regards

Reimar

--

Reimar Bauer

Institut fuer Stratosphaerische Chemie (ICG-I)

Forschungszentrum Juelich

email: R.Bauer@fz-juelich.de

-----  
a IDL library at ForschungsZentrum Juelich

[http://www.fz-juelich.de/icg/icg-i/idl\\_icglib/idl\\_lib\\_intro.html](http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro.html)

Subject: Re: custom color table  
Posted by [R.Bauer](#) on Sat, 21 Sep 2002 14:42:30 GMT  
[View Forum Message](#) <> [Reply to Message](#)

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David Fanning wrote:  
> David Fanning (david@dfanning.com) writes:  
>  
>  
>> Congrid(bindgen(256), 253), 1  
>  
>  
> Whoops! All those "253"s should be "254"s, obviously.  
> Let's see  $253 + 1 + 1 = 255$ , not 256. :-(  
>  
> Cheers,  
>  
> David  
>

Dear David,

I am often use !D.Table\_size-1 because some system with really old 8-bit cards don't have 256 colors. So it's more flexible.

Cheers

Reimar

--  
Reimar Bauer

Institut fuer Stratosphaerische Chemie (ICG-I)  
Forschungszentrum Juelich  
email: [R.Bauer@fz-juelich.de](mailto:R.Bauer@fz-juelich.de)

-----  
a IDL library at ForschungsZentrum Juelich  
[http://www.fz-juelich.de/icg/icg-i/idl\\_icglib/idl\\_lib\\_intro.html](http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro.html)  
=====

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Subject: Re: custom color table  
Posted by [David Fanning](#) on Sat, 21 Sep 2002 19:01:28 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Reimar Bauer ([R.Bauer@fz-juelich.de](mailto:R.Bauer@fz-juelich.de)) writes:

> I am often use !D.Table\_size-1 because some system with really old 8-bit  
> cards don't have 256 colors. So it's more flexible.

I know. But I've moved on to the 21st century. :-)

Cheers,

David

--

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Subject: Re: custom color table

Posted by [Miklos Z. Kiss](#) on Sun, 22 Sep 2002 00:04:19 GMT

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Reimar -

Thanks for the suggestion and the widget.  
-Mik

"Reimar Bauer" <R.Bauer@fz-juelich.de> wrote in message  
news:ami047\$f04i\$1@zam602.zam.kfa-juelich.de...

> Miklos Z. Kiss wrote:

>> Many thanks. On these types of monochrome scales, color #0 is black (0,  
0,

>> 0), and color #255 is cyan (0, 255, 255) or orange (255, 165, 0). Is  
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>> a simple, or at least, a systematic, way to make a color table in which  
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>> predefined color tables are, such as color tables, 0, 1, 3, and 8. I  
guess

>> technically speaking this would be more of a quasi-monochrome color  
table.

>> Thanks again.

>>

>> -Mik

>>

>

>

> Dear Miklos

>

>

> I have a widget to write colortable routines

>

>  
>  
> [http://www.fz-juelich.de/icg/icg-i/idl\\_icglib/idl\\_source/idl\\_html/dbase/download/x\\_def\\_colortable.tar.gz](http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/download/x_def_colortable.tar.gz)  
> or as idl5.5 binary  
>  
> [http://www.fz-juelich.de/icg/icg-i/idl\\_icglib/idl\\_source/idl\\_html/dbase/download/x\\_def\\_colortable.sav](http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/download/x_def_colortable.sav)  
>  
> The output of the widget is a routine with header and an example image  
> like:  
>  
> pro ct\_miklos,start\_color=start\_color,max\_colors=max\_colors,colors=colors  
>  
> colors=[[7,255,128,128,250],\$  
> [0,50,128,255,255],\$  
> [0,50,255,128,255]]  
>  
> def\_colorsystem,colors=colors,start\_color=start\_color,max\_colors=max\_colors  
> end  
>  
>  
> For further routines and licensing please have a look at  
> [http://www.fz-juelich.de/icg/icg-i/idl\\_icglib/idl\\_lib\\_intro.html](http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro.html)  
>  
> best regards  
>  
> Reimar  
>  
> --  
> Reimar Bauer  
>  
> Institut fuer Stratosphaerische Chemie (ICG-I)  
> Forschungszentrum Juelich  
> email: R.Bauer@fz-juelich.de  
>  
> -----  
> a IDL library at ForschungsZentrum Juelich  
> [http://www.fz-juelich.de/icg/icg-i/idl\\_icglib/idl\\_lib\\_intro.html](http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro.html)  
> =====  
>

---

Subject: Re: custom color table  
Posted by [Miklos Z. Kiss](#) on Sun, 22 Sep 2002 00:04:37 GMT  
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---

Thanks again.  
-Mik

"David Fanning" <david@dfanning.com> wrote in message news:MPG.17f529a76cde48449899b8@news.frii.com...  
> David Fanning (david@dfanning.com) writes:  
>  
>> Congrid(bindgen(256), 253), 1  
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> Whoops! All those "253"s should be "254"s, obviously.  
> Let's see  $253 + 1 + 1 = 255$ , not 256. :-(  
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> Cheers,  
>  
> David  
>  
> --  
> David W. Fanning, Ph.D.  
> Fanning Software Consulting, Inc.  
> Phone: 970-221-0438, E-mail: david@dfanning.com  
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Subject: Re: custom color table  
Posted by [Miklos Z. Kiss](#) on Sun, 22 Sep 2002 00:05:03 GMT  
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Ken -  
    Thank you. Much appreciated.  
-Mik

"Kenneth P. Bowman" <kpb@null.com> wrote in message news:kpb-F2C293.17383820092002@corp.supernews.com...  
> In article <amfo1d\$rjj\$1@uni00nw.unity.ncsu.edu>,  
> "Miklos Z. Kiss" <mzkiss@unity.ncsu.edu> wrote:  
>  
> This scale goes from black to orange:  
>  
> color = 30.0  
> h = REPLICATE(color, 256)  
> s = REPLICATE(1.0, 256)  
> v = FINDGEN(256)/255.0  
> COLOR\_CONVERT, h, s, v, r, g, b, /HSV\_TO\_RGB  
> TVLCT, r, g, b  
>  
> To go from white to orange use:  
>  
> h = REPLICATE(color, 256)

```
> s = FINDGEN(256)/255.0
> v = REPLICATE(1.0, 256)
>
> Regards, Ken Bowman
```

---