Subject: Re: IDL w/ 12-bit grayscale?
Posted by Karl Schultz on Mon, 03 Apr 2006 19:10:49 GMT
View Forum Message <> Reply to Message

On Mon, 03 Apr 2006 17:00:56 +0000, Mike Chinander wrote:

> In article <MPG.1e9add86555d222d989bef@news.frii.com>,
> David Fanning <davidf@dfanning.com> wrote:
>>
>> TVSCL!? Doesn't that sort of defeat the whole
>> purpose of having 12-bit values? I would have
>> thought a TV of integer data, scaled into the
>> range of 0 to 2^12 (4096) would be something your
>> 12-bit hardware would like.
>
> I did use TV as well, from the discription of the /WORDS keyword, I was under the impression
> that the converion to byte was not done for TVSCL when /WORDS is set. You're right, TV is
> more appropriate, I first used TVSCL because I used it in a program I have that opens up a
> window that is the size of the image.

/WORDS only makes sense on IDL Direct Graphics devices that support it.
The only device that does support it is the Z-Buffer device. That device
has an 8-bit color channel and a 16-bit depth channel.

From the docs:

To read the depth values in the Z-buffer, use the command:
a = TVRD(CHANNEL=1, /WORDS)
To write the depth values, use the command:
TV, a, /WORDS, CHANNEL=1
The TV, TVSCL, and TVRD routines write or read pixels directly to a
rectangular area of the designated buffer without affecting the other
buffer.

Yes, the docs imply that /WORDS causes a 16 bits per pixel transfer. And
this would be true on devices that support it and when transferring a
channel that is 16-bits wide.

current device is 'Z':

```
IDL> help, tvrd()
<Expression>    BYTE      = Array[640, 480]
IDL> help, tvrd(channel=1)
TVRD: Z depth buffer contains words.
Execution halted at: $MAIN$
IDL> help, tvrd(channel=1, /words)
<Expression>    INT       = Array[640, 480]
```

>
>
>>> It seems the hardware must actually take 16-bits per pixel even though
>>> the depth resolution is only 12-bits.
>>
>> I would hope so, or you are going to have to write your own LIXUX
>> kernel, too, probably. :-)
>>
>>
> Maybe Fï¿½ldy can work on this when he finishes FL.
>
>
> --Mike

Mike, what graphics card are you using. A DOME card?

The IDL Direct Graphics 'X' driver will probably require some work to
support 12-bit channels. The driver does support the GrayScale Visual
type, but probably initializes the first 256 entries of the Colormap to a
ramp from back to white, and does not touch the other Colormap entries.
Then, for images, it only writes the values [0-255] into the frame buffer.
It works, but you're not using all the bits.

Karl
