
Subject: Re: Reading Raw Image

Posted by [Maarten\[1\]](#) on Thu, 20 Sep 2007 15:14:05 GMT

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On Sep 20, 2:47 pm, "rpert...@gmail.com" <rpert...@gmail.com> wrote:

- > Hello,
- > I have a .raw image file from a lumenera camera that I am trying to
- > open. It is a 10-bit image (1280x1024). The total bytes is 7864320
- > (1280x1024x6) (not sure why that is).
- > I tried using read_binary with data_dims =[1280,1024] but the image is
- > just snowy...not what I expect to see.
- > Can anyone help me with this?

RAW is not a format, it is whatever the camera manufacturer chooses it to be (today). Dave Coffin has a tool that may help you [1], but converting the image to 16 bit tiff (in Photoshop, Adobe Camera RAW, or a similar tool) seems to be your best bet. Many cameras apply some sort of lossless compression on the RAW images.

Maarten

[1] <http://cybercom.net/~dcoffin/dcraw/>

Subject: Re: Reading Raw Image

Posted by [weitkamp](#) on Thu, 20 Sep 2007 16:05:25 GMT

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rpertaub@gmail.com wrote:

- > I have a .raw image file from a lumenera camera that I am trying to
- > open. It is a 10-bit image (1280x1024). The total bytes is 7864320
- > (1280x1024x6) (not sure why that is).

If this is a color image, then it is probably because you have 3 color channels (most likely red, green, and blue). For each channel, you need 2 bytes to store 10-bit data. Makes 6 bytes per pixel. Now the remaining question is how the channels / pixels are ordered in your image. You need to find this out by trying.

- > I tried using read_binary with data_dims =[1280,1024] but the image is
- > just snowy...not what I expect to see.

The easiest to read the file into IDL is probably to use an unsigned integer array of dimensions [1280, 1024, 3] or a permutation of these. Something like this (I didn't test):

```
imgdata = uintarr(1280, 1024, 3)
```

```
openr, 1, 'yourfile.raw'  
readu, 1, imgdata  
close, 1
```

You can then try to display an individual channel, for example `imgdata[*, *, 0]` or. If you only get snow as you describe, there may be essentially two reasons (or a combination of the two):

(a) The byte order of the long integers is wrong. You can reverse this with the "byteorder" command:

```
byteorder, imgdata
```

and then try again. (This is, however, not likely to be the reason if the images were both written on computers of the same architecture, for example on an IBM-PC compatible architecture.)

(b) Or the dimensions are not ordered correctly in the data (i.e., you chose the wrong permutation of your three dimensions). In that case, try something like

```
imgdata = reform(imgdata, 1280, 3, 1024)
```

or any other permutation of the dimensions, and then try displaying a channel again.

Good luck
Timm

Subject: Re: Reading Raw Image
Posted by [weitkamp](#) on Thu, 20 Sep 2007 16:12:36 GMT
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weitk...@esrf.fr wrote:

> if the images were both written on computers of the same architecture,

Did I have too much coffee today or not enough? Anyhow: what I wanted to say here was, "... if the image was written on a computer of the same architecture as the one you run IDL on."

Sorry about that
Timm

Subject: Re: Reading Raw Image

Posted by [JD Smith](#) on Thu, 20 Sep 2007 18:49:55 GMT

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On Thu, 20 Sep 2007 14:47:11 +0000, rpertaub@gmail.com wrote:

> Hello,
> I have a .raw image file from a lumenera camera that I am trying to
> open. It is a 10-bit image (1280x1024). The total bytes is 7864320
> (1280x1024x6) (not sure why that is).
> I tried using read_binary with data_dims =[1280,1024] but the image is
> just snowy...not what I expect to see.
> Can anyone help me with this?
> thanks,

Definitely try out DCRAW. I used it to convert some Nikon .NEF raw files to linear 16bit TIFFs, and then analyzed the linearity of the CCD detectors (really impressively good!).

<http://turtle.as.arizona.edu/im/mdr16/linearity.html>

I even wrote a 16bit dynamic range extender tool in IDL, which you can find here:

<http://turtle.as.arizona.edu/im/mdr16/>

JD
