
Subject: Re: Pixels per Inch
Posted by [sdj](#) on Tue, 16 Dec 2003 17:03:36 GMT
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Dear JD et al,

Thanks for your help.

I was wondering if it would be possible to read all the 'PNG' images I already created (using the "read_png" routine) and then converting them to 'PostScript'. I could thus set the desired resolution while creating the new 'PostScript' image. Would this approach work ?

My real problem is that I want the new images to have the same "physical size" as before, but with increased resolution. How can I do this ? Do I set the resolution using the 'xsize' and 'ysize' keywords in "device" ?

I had a look at the IDL help pages and came up with an example that made me write the following simple program. The problem is that I don't know how to keep the "physical size" while increasing the resolution.

```
.*****  
,  
PRO PNG2PS, in_file  
  
;Read the PNG file.  
img = read_png(in_file, r, g, b)  
  
;Reconstruct the color table.  
tvlct, r,g,b  
  
;Display the image in an IDL window.  
tv, img  
  
;Find the size of the picture.  
s = size(img)  
  
;Take the `png' extension off of the old filename and replace it with  
`ps'.  
fl = strlen(in_file)  
file = strmid(in_file, 0, fl-4)  
out_file = file + '.ps'  
  
;Set the plotting device to PostScript.  
set_plot, 'ps'  
  
;Use the DEVICE procedure to make the output PostScript
```

```
device, bits_per_pixel = 8, /color, filename = out_file, xsize = ??,  
ysize = ??
```

```
;Write the image to the file.  
tv, img
```

```
;Close the file.  
device, /close
```

```
END
```

```
.*****  
,
```

Thanks again for the help and excuse me for insisting on this "simple" problem.

Regards,
Pepe

> On Mon, 15 Dec 2003 13:20:08 -0700, Craig Markwardt wrote:

>

>

>> JD Smith <jdsmith@as.arizona.edu> writes: [...]

>>> It depends on how many "inches" you intend to output the image to. This

>>> is a basic and common mis-understanding of how image resolution works.

>>> A bitmap image like a PNG file has a specific size in pixels, nxm say,

>>> but does not have an associated "physical size". The

>>

>>

>> JD, I'm not sure that's always true. I believe that TIFF images have an

>> inherent (desired) dot pitch. Perhaps other formats do too, but PNGs

>> definitely do not, so your comment is appropriate for the original

>> poster.

>

> Actually, PNG also has an optional header chunk called "pHYs" which gives

> the pixels per meter. Other image formats have something similar. My

> main point was that, no matter what you put in the header regarding the

> "physical size" of the image, this is only a suggestion, and has no

> bearing on the resolution or detail present in your image. Many programs

> explicitly ignore these data (especially for on-screen display). You have

> to separate the notion of resolution as "convenient suggestions for

> printing and print layout programs" vs. resolution as real physical detail

> present in the image.

>

> The program pngcrush can add, change or remove the pHYs resolution

> information from PNG files (<http://pmt.sourceforge.net/pngcrush>). But,

> for example, if I take a PNG file and give it resolution 300dpi, 50dpi,

> and no resolution, the three version display exactly the same in all

> browsers, and the Gimp.

>

> JD
