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Subject: Re: Printing Woes

Posted by [davidf](#) on Fri, 02 Mar 2001 05:19:39 GMT

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Anthony Davis (diftil@earthlink.net) writes:

> I am having difficulty printing to the Windows printer device from IDL  
> 5.3.1. The origin of the printed image is always halfway down the page  
> (instead of at the bottom where I'd like it.) The returned size is correct,  
> but I can't get the thing to print on the whole page. Here's the code I'm  
> using. Any ideas.

Well, a couple of things are going wrong here. First of all the default "window" on the output page is set so that in portrait mode the "plot" will show up in a 5 x 7 inch window on top of the page. Why the top and not centered? Uh, you will have to ask RSI. :-(

You can see the default offsets and window sizes by typing this:

```
Set_Plot, 'PRINTER'  
Help, /Device
```

If you want to center to image, you will have to calculate the proper offsets and sizes to do that. I do this by calling my program PSWindow (which you can find on my web page), like this:

```
keywords = PSWindow()  
Set_Plot, 'PRINTER'  
Device, _Extra=keywords
```

PSWindow returns a structure with fields that are appropriate for setting the PostScript or Printer devices:

```
IDL> Help, keywords  
** Structure PSWINDOW_STRUCT, 7 tags, length=24:  
XSIZE      FLOAT      5.95000  
YSIZE      FLOAT      4.25892  
XOFFSET     FLOAT      1.27500  
YOFFSET     FLOAT      3.37054  
INCHES      INT        1  
PORTRAIT    INT        1  
LANDSCAPE   INT        0
```

It's just a little bit more complicated than this,

of course. Because I've found it is impossible to change the printer orientation (i.e., landscape to portrait, or visa versa) at the same time I am setting the sizes and offsets.

If I'm trying to print in landscape mode, I usually do something like this, which gets the printer oriented properly:

```
keywords = PSWindow(/Printer, /Landscape)
Set_Plot, 'PRINTER'
Device, Landscape = keywords.landscape
Device, _Extra=keywords
```

Note, too, that unlike printing to a PostScript file, the point by which offsets is calculated stays in the lower-left corner of the page, no matter how the page is rotated. (Nice, but that is why there is a Printer keyword to PSWindow. It has to know how to sort out landscape offsets.)

To just add one more complication, the point at which the printer offsets are calculated is NOT the very corner of the page, as it is in PostScript. Offsets are calculated from the point on the paper that can actually print. This point varies from printer to printer, so there is no fool-proof way of absolutely centering output on a PRINTER page. On my printer the offsets are calculated from the point at (0.25, 0.25) inches, so I have to add this "fudge factor" to the size and offsets returned from PSWindow, like this:

```
keywords = PSWindow(Fudge=0.25)
Set_Plot, 'PRINTER'
Device, _Extra=keywords
```

(Note that the sizes and offsets returned by PSWindow are in inches unless the CM keyword is set to specify everything in centimeters. Also, if you use an A4 page size, you want to use the PAGESIZE keyword, too.)

Anyway, you can see this all in operation in the program PRINTWINDOW, which you can find on my web page:

[http://www.dfanning.com/tip\\_examples/printwindow.pro](http://www.dfanning.com/tip_examples/printwindow.pro)

This program is designed to send the contents of a graphics window directly to the printer. The output will have the

same aspect ratio as the display window and will be centered on the output page. It is really no different from sending an image to the printer, so it should be directly relevant to you. :-)

> (As a suggestion, why doesn't anything change in the !D  
> structure when I adjust the /XOFFSET or /YOFFSET keywords?)

I don't think there is anything in the !D system variable that *would* change if the offsets are changed. I would be looking at HELP, /DEVICE to see how your output device is configured.

You can find PSWindow here:

<http://www.dfanning.com/programs/pswindow.pro>

Cheers,

David

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