Subject: Re: How to get page size for PRINTER device?
Posted by davidf on Mon, 04 Dec 2000 08:00:00 GMT
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Liam Gumley (Liam.Gumley@ssec.wisc.edu) writes:

> Once again, the page size returned differs from the actual page size.
> Perhaps the returned value is a printer-dependent 'printable area' of the
> page.

That would be my guess.

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting
Phone: 970-221-0438 E-Mail: davidf@dfanning.com
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: How to get page size for PRINTER device?
Posted by Liam E. Gumley on Mon, 04 Dec 2000 08:00:00 GMT
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Liam Gumley <Liam.Gumley@ssec.wisc.edu> wrote in message
news:90gni1$e5a$1@news.doit.wisc.edu...
> According to the IDL 5.4 documentation:
>
> "The DIALOG_PRINTERSETUP function opens a native dialog for setting the
> applicable properties for a particular printer."
>
> Let's say I've selected the PRINTER graphics device, and I've called
> DIALOG_PRINTERSETUP to change the paper size from Letter to A4, e.g.
>
> IDL> set_plot, 'PRINTER'
> IDL> result = dialog_printersetup()
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> Is there any way to return the new page size to an IDL application? I'm
> talking about the actual width and height of the paper (i.e. 21.0 x 29.7
cm
> for A4), not the dimensions of the drawable area on the page (17.78 x 12.7
> cm by default).
> Even if one uses a printer object, I don't see how the paper size can be
> obtained.

Well apparently you can get the page size from the PRINTER device. But the results are not what I expected. The following example shows the result of a test I did in IDL 5.4 for Windows. The default printer is an Epson Stylus Color 600.

IDL Version 5.4 (Win32 x86). (c) 2000, Research Systems, Inc.

The default PRINTER device settings:

```
IDL> set_plot, 'PRINTER'
IDL> help, /device
Available Graphics Devices: CGM HP METAFILE NULL PCL PRINTER PS WIN Z
Current graphics device: PRINTER
   Printer : EPSON Stylus COLOR 600
   Orientation: Portrait
   Scale Factor: 1
   Resolution: 361 dots per inch
   Current Font: Courier New, Current TrueType Font: <default>
   Size (X,Y): (17.78,12.7) cm., (7,5) in.
   Offset (X,Y): (1.905,12.7) cm., (0.75,5) in.
IDL> device, get_page_size=page_size    ; This command gets the page size
IDL> print, page_size[0] / !d.x_px_cm, page_size[1] / !d.y_px_cm
      20.9000      26.2000
```

Now I call the printer configuration dialog, and select 'Letter 8.5 x 11' explicitly:

```
IDL> result = dialog_printersetup()
IDL> device, get_page_size=page_size
IDL> print, page_size[0] / !d.x_px_cm, page_size[1] / !d.y_px_cm
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8.5 x 11 in. converts to 21.59 x 27.94 cm. Hmmm.

For the next case, I selected 'Legal 8.5 x 14':

```
IDL> result = dialog_printersetup()
IDL> device, get_page_size=page_size
IDL> print, page_size[0] / !d.x_px_cm, page_size[1] / !d.y_px_cm
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```

8.5 x 14 in. converts to 21.59 x 35.56 cm. Curiouser.

For the final case, I selected 'A4 210 x 297 mm':

```
IDL> result = dialog_printersetup()
IDL> device, get_page_size=page_size
```

IDL> print, page_size[0] / !d.x_px_cm, page_size[1] / !d.y_px_cm
      20.4000   28.0000

Once again, the page size returned differs from the actual page size.
Perhaps the returned value is a printer-dependent 'printable area' of the
page.

Any comments?

Cheers,
Liam.

Subject: Re: How to get page size for PRINTER device?
Posted by davidf on Tue, 05 Dec 2000 08:00:00 GMT
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Phillip David (phillip_david@xontech.com) writes:

> Now that you know how to get the exact page size (as returned by the
> printer), can't you just use that to size your printout? You also know
> how to position it to center it by putting the center of your plot at
> the center of the page, whose size you now know.

The problem is not *sizing* the printout. The problem
is *locating* the printout in the middle of the page.
The only tools you really have to do that are the offsets,
but the offsets are calculated from the *printable*
edge of the paper, not from the real edge of the paper
(as they are, for example, in PostScript output).

Of course, it is possible to know what size your paper
is, get the "page size" from the printer, subtract the
reported page size from the known page size, and then
calculate the fudge factors automatically. This is probably
what I should do. I choose the FUDGE keyword mostly
to call attention to the problem. :-)

I'll leave it as an exercise for the reader (or Liam,
more likely) to write it as it *ought* to be written.

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting

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Subject: Re: How to get page size for PRINTER device?
Posted by Phillip David on Tue, 05 Dec 2000 08:00:00 GMT
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David Fanning wrote:
>

> ... it is impossible to center output on the
> printer in a device-independent way.
>
> For example, I like to have graphic output with the same
> aspect ratio as the window on the display, but as large
> as possible, and centered on the page. I use my PSWINDOW
> program to calculate the proper size and offset values
> to position the "window" on the page. But to get the
> graphic exactly in the center of the page, I have to
> use a printer-specific "fudge factor" to account for
> the unprintable area on the page. On my printer, the
> fudge factor is 0.25 inches in both X and Y. So my
> code looks like this:
>
>   position = PSWindow(Fudge=0.25, /Printer)
>   thisDevice = !D.Name
>   Set_Plot, 'PRINTER'
>   Device, _Extra=position
>   Plot, data, ...
>   Device, /Close_Document
>   Set_Plot, thisDevice

David;

Now that you know how to get the exact page size (as returned by the printer), can't you just use that to size your printout? You also know how to position it to center it by putting the center of your plot at the center of the page, whose size you now know.

Phillip

Subject: Re: How to get page size for PRINTER device?
Posted by davidf on Tue, 05 Dec 2000 08:00:00 GMT
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Phillip David (phillip_david@xontech.com) writes:

> I do seem to recall a discussion a few months ago about printers in
> which someone indicated that they were unable to position something in a
> printer-independent way. If they specified the upper-left corner, they
> got the upper-left corner inside the printable area on the page, and
> couldn't position a plot in the center of the page. I may have the
> details incorrect, but the gist of the message certainly implied that
> the printer object only returns the printable area of the page rather
> than the actual page size.

That's right, it is impossible to center output on the
printer in a device-independent way.

For example, I like to have graphic output with the same
aspect ratio as the window on the display, but as large
as possible, and centered on the page. I use my PSWINDOW
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Plot, data, .....
Device, /Close_Document
Set_Plot, thisDevice
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You can find PSWINDOW on my web page:

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

Cheers,

David

--
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View Forum Message <> Reply to Message

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> page.

According to RSI technical support:

"The printer device can not print on the entire page. There is a small
margin (which varies from printer to printer) on each side of the page. The
GET_PAGE_SIZE keyword returns the full area the printer device is capable of
using.

For example, when your paper size was 8.5 X 11 inches (21.59 X 27.94 cm) the
entire printing area was 8.23 X 10.32 inches (20.9 X 26.2 cm). So your
right/left margin is approximately 0.14 inches and your top/bottom margin is
approximately 0.34 inches."

This may be of interest to anyone trying to configure the PRINTER device for
different page sizes.

Cheers,
Liam.
http://cimss.ssec.wisc.edu/~gumley

Subject: Re: How to get page size for PRINTER device?
Posted by Phillip David on Wed, 06 Dec 2000 08:00:00 GMT
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David Fanning wrote:
>
> Phillip David (phillip_david@xontech.com) writes:
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> but the offsets are calculated from the *printable*

> edge of the paper, not from the real edge of the paper
> (as they are, for example, in PostScript output).
> ...

So let me see if I understand correctly. Are you saying that the printable edges of the paper differ between the left and right sides? Or perhaps between the top and bottom? If not, why not just calculate things to center them on the PRINTABLE page? Wouldn't that also center them on the physical page?

Or perhaps I'm just not getting it.

Phillip
