Subject: Re: newbie: why doesn't !P.MULTI work here?
Posted by Peter Mason on Thu, 06 Jun 1996 07:00:00 GMT
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On 5 Jun 1996, Charlotte DeMott wrote:

> I would like to plot 4 images with axes overlaid per page using
> !P.MULTI = [0,2,2]. First I plot the axes so that the WINDOW
> variables are set. Then I plot the image using TV. Then I replot
> the axes, since the image overlaid the inward pointing tick marks.
>
> Here's the code:
>
> !p.position=[.2,.2,.761,.785]
> !P.MULTI=[0,2,2]
> FOR k=0,3 DO BEGIN
> ; make the axes first so the WINDOW variables are set
> PLOT, [0,355], [1,1], xrange=[0,355], yrange=[300,1], $
> TITLE='U200 (minus zonal and temporal mean)', $
> SUBTITLE='CSU95 control', $
> XTITLE='Longitude band (n to n+5)', $
> YTITLE='Day', $
> /XSTYLE, /YSTYLE
> print, !P.MULTI
>
> ; plot the image
> tv, a(k,*,*), !x.window(0), !y.window(0), $
> xsize=!x.window(1)-!x.window(0), $
> ysize=!y.window(1)-!y.window(0), /NORM
>
> ; Make axes again with inward pointing ticks OVERLAYING image
> PLOT, [0,355], [1,1], xrange=[0,355], yrange=[300,1], $
> /XSTYLE, /YSTYLE, /NOERASE
>
> ; end of file(0-3) loop
> END
>
> where a is byte array. the print statement yeilds the following output:
>
> 3 2 2 0 0
> 2 2 2 0 0
> 1 2 2 0 0
> 0 2 2 0 0
>
> Unfortunately, when viewing the postscript image in GhostView,
> I get four plots situated one on top of the other in the center
> of the page.

If you use !p.multi, you have to set !p.position and !p.region to 0
(viz. !p.position=0), otherwise !p.multi just doesn't work. You might
be able to achieve a suitable layout by using the XMARGIN and YMARGIN
settings in your plot call, and by using suitable X & Y offsets and sizes
(for the whole page) when you set up the PS device after you SET_PLOT,'ps'
(something of a black art :).

Also, you'll probably have some problems with the second plot call in your
loop (the one after the TV command), even though it uses the /NOERASE
keyword and doesn't appear to advance !p.multi(0). (It will probably
plot the axes in the "next" box, even though it shouldn't. I don't
understand exactly how !p.multi works - it seems a little quirky.)

The following short program may be of some help.
It sets the !.multi "box number" manually for each plot.
The program generates 4 plots labelled "1", "2", "3", "4", with a "dist"
image jammed in each box. The dist image for "1" is darkest, and "4" is
lightest. In hardcopy, the images will fill the plots exactly (they
won't on the screen).

```
pro plttest,hard=hard
hard=keyword_set(hard)  ;use /HARD to generate PS hardcopy in ./idl.ps
a=sin(findgen(1024)/512.) &d=bytscl(dist(150,150)) ;junk test data
if hard then set_plot,'ps'
!p.position=0 &!p.region=0 ;make sure these are blanked out!
!p.multi=[0,2,2]
jj=[0,3,2,1]   ;!p.multi box numbers
for i=0,3 do begin
  !p.multi(0)=jj(i)  ;set box # for first plot call
  plot,a,/xs,/ys,titl=string(i+1),/nodata
   tv,d*((i+4.)/7.),!x.window(0),!y.window(0),xsize=!x.window(1 )-!x.window(0),$
    ysize=!y.window(1)-!y.window(0),/norm
  !p.multi(0)=jj(i)  ;set box # again!
  plot,a,/xs,/ys,titl=string(i+1),/nodata,/noerase
endfor
if hard then begin
  device,/close &set_plot,'x'
endif
return
end
```

Regards

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