Subject: Re: optimization question: a faster way to PIXMAP?
Posted by Dennis J. Boccippio on Sat, 15 Jul 2000 07:00:00 GMT
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Thanks to both Randall and Bill for the tips...

I've found a temporary workaround which is only enabled by the fact that my polygons are much smaller than the summation grid ... I allocate much smaller drawing windows, which tremendously speeds up TVRD(), and accumulate them into the appropriate summation grid subarrays. However, this is obviously case-specific, and doesn't solve the general problem of full-image accumulation. (Indeed, once this kludge is implemented, the initial PLOT used to set up each temporary frame's coordinate bounds becomes the bottleneck... it seems the graphics functions are just [relatively] slow).

Non-graphics and POLYFILLV sounds promising... will check that shortly.

Bill: I've benched your suggested code using both PIXMAP and the Z-buffer. The Z-buffer (at least on a Mac) seems to win out significantly:

	Z_buf	PIXMAP
main	95.72	151.45
tvrd	17.04	38.45
plots	14.07	49.95
randomu	1.38	1.34
sin	1.35	1.37
findgen	0.38	0.59

Surprising ... I'm curious how the guts of drawing to the Z-buf are different from the guts of drawing to a PIXMAP...

- Dennis

Test code below:

```
pro testzbuf

  intensity_array = uintarr(540, 459)  ; image array
  current_clip = !P.CLIP  ; Copy current clipping boundaries

  set_plot, 'z'
  DEVICE, Z_BUFFERING = 0
  device, set_resolution = [540,459]
  !P.CLIP = current_clip  ; Make Z-buffer clip same boundaries
```

```
   ; Setup new color table for Z-buffer image
   table = intarr(256)
   table[1] = 255
   tvlct, table, table, table

   plot,1*!pi*findgen(1000)/1000,sin(4*!pi*findgen(1000)/1000) + $
        randomu(seed,1000),color=1,/nodata

   FOR i = 0, 4000, 1 DO BEGIN
      plots,1*!pi*findgen(1000)/1000,sin(4*!pi*findgen(1000)/1000) + $
           randomu(seed,1000),color=1
     intensity_array = temporary(intensity_array) + tvrd()
   ENDFOR

   device, /close
   set_plot, 'mac'

end

pro testpixmap

   set_plot,'mac'
   intensity_array = uintarr(540, 459)  ; image array
   window,0,xsize=540,ysize=459,/pixmap
   plot,1*!pi*findgen(1000)/1000,sin(4*!pi*findgen(1000)/1000) + $
        randomu(seed,1000),color=1,/nodata
   table = intarr(256)
   table[1] = 255
   tvlct, table, table, table

   FOR i = 0, 4000, 1 DO BEGIN
      plots,1*!pi*findgen(1000)/1000,sin(4*!pi*findgen(1000)/1000) + $
           randomu(seed,1000),color=1
     intensity_array = temporary(intensity_array) + tvrd()
   ENDFOR

   set_plot, 'mac'

end
```