Subject: Re: post script printing
Posted by chase on Wed, 14 Jun 1995 07:00:00 GMT
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>>>> > "Keith" == Keith Horton <keith@guinness.pgd.hawaii.edu> writes:

Keith> I've never gotten the /PREVIEW switch to work in IDL 3.6.x
Keith> Does anyone know if it works in 4.0? Right now, I pull in
Keith> the IDL-generated EPS file to ghostscript to attach the preview.
Keith> Works well, but its a real pain having to go through multiple
Keith> steps to create the final graphic.

On the Macintosh a preview of an EPS file is a QuickDraw representation stored as a PICT resource number 256 in the EPS file. This is machine specific to the Macintosh. Postscript also provides for a device-independent screen preview called encapsulated Postscript interchange format (EPSI). (see the Postscript Language Reference Manual).

Apparently, IDL uses the EPSI format when the PREVIEW keyword is used. I do not know of any Mac applications that support the EPSI format. In an idl.ps file generated with the PREVIEW keyword look for a line like:

%%BeginPreview: 128 128 1 41

The parameters are: width height depth lines

In this example the preview is a 128x128 binary bitmap with 0 meaning white and 1 meaning black. The previews that IDL generates are VERY low resolution. They are also upside down from the Postscript defintion for the preview.

Here is a routine that reads the EPSI preview from a postscript file which can then be displayed in IDL using tvscl.

Chris Chase

---- begin file ----

```
function epsi_image, fn
;; Extract preview from an EPSI file fn and return an array containing
;; the preview.

on_ioerror, error
openr, un, fn, /get_lun
l = ''
map = bytarr(256)
map(byte('0123456789ABCDEF'))=bindgen(16)
```

```
readf, un, l
key = "%%BeginPreview:"

while strpos(l, key) ne 0 do readf, un, l

;; Get image parameters: width, height, depth, lines
;; depth can be 1,2,4,8
p = intarr(4)
reads, strmid(l, strlen(key), 256), p
;; Pixels are left to right, bottom to top.
;; IDL stores the image upside down from the Postscript defintion of
;; the Preview.

him = 0b
for i=0, p(3)-1 do begin
   readf, un, l
   him = [him, map(byte(strupcase(strmid(l, 1, 256))))]
endfor
free_lun, un
him = reform(him(1:*), 2, (n_elements(him)-1)/2)
him = him(0, *)*16B+him(1, *)
mask = byte(2^p(2)-1)
;; Image pixels per byte
bp = 8/p(2)
;; For each packed byte the left most pixel corresponds to the most
;; significant bits of the packed byte.
im = bytarr(bp, n_elements(him))
for i=0, bp-1 do begin
   im(bp-i-1, *) = ishft(him and mask, -i*p(2))
   mask = ishft(mask, p(2))
endfor
im = reform(im(0:p(0)*p(1)-1), p(0), p(1))
return, im
error:
print, 'Unable to find preview'
free_lun, un
return, 0
end

----- End file -----
```

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Bldg 24-E188
The Applied Physics Laboratory
The Johns Hopkins University
Laurel, MD 20723-6099
(301)953-6000 x8529
chris.chase@jhuapl.edu