Subject: TVRD'ing under windows
Posted by philaldis on Thu, 06 May 1999 07:00:00 GMT
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I'm having trouble tvrd'ing under windows, when I'm running 16 bit mode, and using decomposed colour. If I display an image, and then tvrd it back in and the tv that image, I get a garbled mess. The only way I can get a representation of what is on the screen is to set it into 24 bit mode, image=tvrd (true=1) and then tv, image, true=1.

I'm not really sure what's going on. Is this anything to do with what David was saying a while bakc, that when you're using decomposed colous, it runs stuff through the table or something.

Cheers,
Phil

Subject: Re: TVRD'ing under windows
Posted by davidf on Tue, 11 May 1999 07:00:00 GMT
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David Foster (foster@bial1.ucsd.edu) writes:

> I ran into this problem years ago under X-Windows (Sun OS and Solaris),
> and at that time it was a bug, in that even with backing store
> provided by IDL TVRD() could produce unexpected results if the window
> was obscured or iconified, especially if the draw widget was
> scrollable.
>
> I got around the problem by using DEVICE, COPY=[] to copy the window
> contents to a pixmap, and then TVRD() from that pixmap. Works quite
> well, at least under SunOS/Solaris.
> I've attached my SAFE_TVRD.PRO and SAFE_TVRD.DOC files.

Alas, even Safe_TVRD won't help with this problem, since it has to do with how windows on 24-bit devices work. You will have the same problem reading off a pixmap as you will off the display window. What you *might* be able to do, depending upon how "device-independently" you write your graphics display code, is display your graphics in the Z-graphics buffer. You can take a TVRD() from this window and end up with a 2D array of index values, which is what you might be expecting.

You can find more information about this problem here:

http://www.dfanning.com/tips/strange_tvrd.html

By the way, I'm told that there are actually graphics
display cards (e.g. a DEC Alpha with a video card 40T)
that store their data as BGR instead of RGB. On those
cards, you will have to switch things around to get
what you expect. Don't you love computers? Sigh...

On a happier note, I finally got some folks at RSI
listening to my complaints about having to set
Device, Decomposed=1 (or load color table 0) to get
a 24-bit image to display with the correct colors
on a PC in 24-bit color mode. No promises, but at
least they are listening. Stay tuned. :-)

In the meantime, you can use TVImage, which puts you
in the proper mode automatically (and switches you
back if you are running IDL 5.2, where the keywords
are available to do it).

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

Cheers,

David
--
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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: TVRD'ing under windows
Posted by David Foster on Tue, 11 May 1999 07:00:00 GMT
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Phil Aldis wrote:
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> Cheers,
> Phil

Hi Phil -

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provided by IDL TVRD() could produce unexpected results if the window
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Dave
--

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~~~~~~ ~~~~~~

```
;   SAFE_TVRD.PRO   6-11-97   DSFoster
;
; This function is a safer version of IDL's TVRD() function. First,
; there was a bug related to the reading from a scrollable draw. Also,
; the TVRD() function uses an X routine that has problems if the
; window is obscured or iconified. This routine uses the DEVICE, COPY=
; command to first copy the window contents to a new window pixmap,
; and then reads from this pixmap into the array.
;
; Modifications
;
;  6-11-97 DSF Check validity of draw widget.

FUNCTION safe_tvrd, draw_widget, xsize, ysize

on_error, 2

if (widget_info(draw_widget, /valid_id) eq 0) then begin
 return, -1
endif else if (widget_info(draw_widget, /name) ne 'DRAW') then begin
```

```
 return, -1
endif else begin
 old_window = !d.window
 window, xsize=xsize, ysize=ysize, /free, /pixmap     ; Create new window

 widget_control, draw_widget, get_value=window
 device, copy=[0,0, xsize,ysize, 0,0, window]         ; Copy into new window

 image = tvrd()                                       ; Read into array
 wdelete, !d.window
 if (old_window ne -1) then wset, old_window
 return, image
endelse

END
```

SAFE_TVRD

This function replaces IDL's TVRD() function for reading the contents of a window into an array. The TVRD() function returns unexpected results if the window is scrollable or is obscured onscreen. This function uses IDL's DEVICE, COPY=[] function to more safely read the window contents.

Calling Sequence

Array = SAFE_TVRD(Draw_widget, Xsize, Ysize)

Arguments

Draw_widget

The widget id of the draw widget which you will be reading into the array. Note that this is NOT the window id!

Xsize, Ysize

The dimensions of the window in the draw widget.

Outputs

Array

Returns the image read from the draw widget. Returns -1 if the Draw_widget is not a valid draw widget ID.

File Attachments

1) safe_tvrd.pro, downloaded 71 times
2) safe_tvrd.doc, downloaded 78 times