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Subject: Re: Screen printing

Posted by [David Foster](#) on Wed, 16 Jun 1999 07:00:00 GMT

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your name wrote:

>  
> Hi,  
> I hope this works... it's the first time I've tried it.. so here goes.  
>  
> I've got an application running IDL 5.2 on various platforms including  
> X-windows on an Alpha using OpenVMS and Windows NT.  
> The application uses the whole screen to display a number of draw  
> widgets, menus, buttons, etc.  
> Our customers require a button to provide a "screen dump" of the  
> displays to various printers. They are adamant they do not wish to  
> provide any further interaction (such as using xwd or something  
> similar).  
> The only method I've sort of found is to TVRD each area in turn and TV  
> them in the correct position in the printer output.  
> Any suggestions would be gratefully received.  
> Regards,  
> Ian

Ian -

Users can get so lazy sometimes, geez!

My WINDOW\_TO\_FILE.PRO routine might come in handy, so I've included it and the accompanying .DOC file below. Only problem is that /PRINT keyword is only supported under UNIX. But you can probably use it to at least save windows to graphics files (GIF, PICT, TIFF, etc.) and then do a UNIX- or NT-specific operation to print the file.

You might also find the following command useful, which of course is also UNIX specific:

```
262 <host:/export/home/dev/ldl> alias | grep xwd  
print_window xwd | xpr -device ps | lp -d SunPrinter
```

All the user has to do is use the mouse to select the window (in this case the IDL main widget) and it gets printed to the specified printer.

Hope this is useful.

Dave

--

~~~~~  
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~~~~~

```
; WINDOW_TO_FILE.PRO 5-14-97 DS Foster [Unix]
;
; Routine to save contents of specified window to graphics file.
; Specify format using keyword: GIF, PICT, TIFF, BMP, JPEG.
; Defaults to TIFF.
;
; Also use WINDOW_TO_FILE() to print graphics file containing window
; contents, using /PRINT keyword. If the argument FILENAME is the null
; string "" then a temporary file will be created for printing, and
; will be deleted after printing.
;
; Creates new pixmap window and reads from that, since reading
; from scrollable draws using TVRD() gives incorrect results (IDL bug!).
;
; Return values are:
; 0 : No error
; -1 : Error writing to file
; -2 : Specified window is unavailable or not open
; -3 : Unknown graphics file format specified
;
; Modifications:
;
; 2-19-96 DSF Bug fix: give appropriate X and Y dimensions in
;        DEVICE, COPY=[] command.
; 7-19-96 DSF Initialize argument "message".
; 5-14-97 DSF Add JPEG format.
```

```
FUNCTION window_to_file, window, filename, message, FORMAT=format, PRINT=print
```

```
message = ""
```

```
if (keyword_set(FORMAT)) then begin
  format = strupcase(format)
endif else begin
  format = 'TIFF'
endelse
```

```
; Determine "quality" of JPEG image
```

```

if (keyword_set(QUALITY)) then begin
  if (quality lt 0 or quality gt 100) then begin
    message, 'Keyword QUALITY must be between 0 and 100', /continue
    return, -3
  endif else if (format ne 'JPEG' and format ne 'JPG') then begin
    message, 'Keyword QUALITY requires FORMAT=JPEG', /continue
    return, -3
  endif
  quality = fix( round(quality) )
endif else begin
  quality = 75 ; Default to 75 (Very good)
endelse

```

```

device, window_state=windows
if (windows(window) le 0) then begin
  message, 'Window unavailable', /continue
  return, -2
endif

```

```

if (filename eq "") then begin ; Generate temporary name
  t = string(bin_date(system())) ; Use date/time
  t = t(0) + t(1) + t(2) + t(3) + t(4) + t(5)
  fname = '/tmp/IDL_' + strcompress(t, /remove_all)
endif else begin
  fname = filename
  openw, unit, fname, /get_lun, error=err ; Else is file writable?
  if (err ne 0) then begin
    message, ' Error writing to file: ' + fname, /continue
    return, -1
  endif
  free_lun, unit
endelse

```

```

old_window = !d.window
wset, window ; Get size of specified window
xsize = !d.x_size
ysize = !d.y_size

```

```

window, xsize=xsize, ysize=ysize, /free, /pixmap
DEVICE, copy=[0,0, xsize-1,ysize-1, 0,0, window]
array = tvrd() ; Window contents to array

```

```

; Reverse array if necessary
if (lorder ne 0 and format ne 'TIFF' and format ne 'TIF') then $
  array = reverse(temporary(array),2)

```

```

TVLCT, r,g,b, /GET ; Get color table

```

```

case (format) of
'TIFF': tiff_write, fname, array, red=r, green=g, blue=b
'TIF': tiff_write, fname, array, red=r, green=g, blue=b
'BMP': write_bmp, fname, array, r,g,b
'PICT': write_pict, fname, array, r,g,b
'PIC': write_pict, fname, array, r,g,b
'GIF': write_gif, fname, array, r,g,b
'JPEG': write_jpeg, fname, array, quality=quality, order=0
'JPG': write_jpeg, fname, array, quality=quality, order=0
else: begin
  message, 'Unknown file format specified with FORMAT: ' + format, $
  /continue
  if (old_window ne -1) then wset, old_window
  return, -3
  end
endcase

```

```

if (keyword_set(PRINT)) then begin
  if (filename eq "") then begin      ; Make copy of file for print (-c)
    command = 'lp -c -w ' + fname + ' 2>&1'
  endif else begin
    command = 'lp -w ' + fname + ' 2>&1'
  endelse

```

```

SPAWN, ["/bin/sh", "-c", command], results, /NOSHELL ; PRINT IT!

```

```

if (n_params() ge 3) then message = results
if (filename eq "") then begin      ; Delete temporary file
  ret = delete_files(fname)
  if (ret ne 0) then $
    message, 'Error deleting file: ' + fname, /continue
  endif
endif

```

```

if (old_window ne -1) then wset, old_window
return, 0
END

```

## WINDOW\_TO\_FILE

This routine saves the contents of a designated IDL window to a graphics file. The possible file formats are: GIF, PICT, TIFF, JPEG and BMP. Also use WINDOW\_TO\_FILE() to print the contents of the window to the default printer. You can specify that the window contents is printed, but no file is saved.

When window contents are printed, uses the UNIX command "lp -w" to print.

## Calling Sequence

```
Rtnval = WINDOW_TO_FILE(Window, Filename [, Message])
```

## Arguments

### Window

This is the IDL window ID of the window whose contents you wish to save to file and/or print. A check is made to ensure that this is a currently valid window.

### Filename

This is the full pathname of the file you wish to save the window contents to.

If Filename is the null string "" and you have set the keyword PRINT to print the window contents, no file will be created; a temporary file is created, printed, and then deleted.

### Message

If this optional argument is included along with the keyword PRINT then the message returned by the UNIX "lp" command is returned in this argument. This message will indicate the print-job ID if successful, or any error message(s) if not.

## Keywords

### FORMAT

This keyword specifies the graphics file format for the saved file. Valid values are:

TIFF (or TIF)	[Tagged Image File Format]
PICT (or PIC)	[Macintosh]
BMP	[Windows Bitmap]
GIF	[Graphics Interchange Format]
JPEG	[Joint Photographic Experts Group]

The default format is TIFF if this keyword is not specified.

Saving images as JPEG files currently only supports grayscale images. You can use the QUALITY keyword to control the quality of the lossy compression.

Note that often certain formats will be required when printing, depending upon the available printer(s).

## PRINT

Set this keyword if you want the window contents printed to the default printer. If the argument `Filename` is the null string " then no file will be created (a temporary file will be created, printed, and then deleted).

## QUALITY

Use this keyword to control the quality of the lossy compression used when saving JPEG files. Values range from 0 (worst) to 100 (best). The default is 75, which is "very good".

## Outputs

Saves the window contents to a graphics file of specified format, unless you are only printing the image, in which case a temporary file is created, printed and then deleted.

Return values are:

- 0 : No error
- 1 : Error writing to file
- 2 : Specified window is not open or is unavailable
- 3 : Unknown graphics file format specified with `FORMAT`

## Examples

To save the window contents to a file in GIF format:

```
Ret = WINDOW_TO_FILE(Window_id, '/dir/im/picture.tif', $  
    FORMAT='GIF')
```

To save the window contents to a file in JPEG format and specify a "quality" of extremely good:

```
Ret = WINDOW_TO_FILE(Window_id, '/dir/im/picture.tif', $  
    FORMAT='GIF', QUALITY=100)
```

To print the window contents as a TIFF format, without saving to a file:

```
Ret = WINDOW_TO_FILE(Window_id, "", FORMAT='TIFF', /PRINT)
```

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## File Attachments

1) [window\\_to\\_file.pro](#), downloaded 87 times

2) [window\\_to\\_file.doc](#), downloaded 105 times

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