Tech Info Library

LW Pro: PostScript Commands to Utilize Tray Features (5/95)

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Revised:        4/14/97
Security:       Everyone
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TOPIC ---

How can I utilize the paper tray features (of the LaserWriter Pro) from my UNIX
workstation or my PC?

I am accustomed to accessing printer features using control panel buttons (as on
an HP LaserJet) and want to know how to get those features on the LaserWriter
Pro.

DISCUSSION --

A majority of printer functions can be use by sending PostScript code to the
printer. The code included below is specific to the LaserWriter Pro.

For UNIX machines, insert "%!" at the very beginning of your PostScript file to
designate it as such if you are using "lpr" to print the file.

Note: PostScript IS CASE SENSITIVE.

Here are segments of PostScript code which access most of the printer's
features:

Caution:
=========
If you choose to use the PostScript code provided in this article, you assume
all risks involved in making these changes. PostScript code, if not entered
correctly, can place the LaserWriter into a condition requiring service.

===
To enable the printer's STARTUP PAGE. To disable the startup page,
use "false setdostartpage" instead of "true setdostartpage".

```
serverdict begin 0 exitserver
statusdict begin true setdostartpage end
```

```
========================================================================
```
To send a FORM FEED to the printer.

```
showpage
```

```
==========================================================
```
To enable/disable TRAYSWITCHING:
Value x can be true or false.

```
serverdict begin 0 exitserver
<</TraySwitch x>> setpagedevice
```

```
==========================================================
```
To change the DEFAULT PAPER TRAY:

If you decide to use the PostScript code below, you need to be very careful in
selecting the default tray. If the multipurpose tray is set as the default and
there is no paper in it, the paper out LED will light for EVERY PRINT JOB until
paper is placed in the tray. This problem has caused some users (others on the
network) to think that the printer is malfunctioning and needs to be repaired.
Please forewarn users about this so they can understand, that the printer's
behavior has changed.

Begin_Table

Value x	Tray Selection
0	250 Sheet Cassette
1	Multi-purpose tray
2	500 Sheet Cassette
3	Envelope tray

End_Table

The integer value before "setdefaultpapertray" corresponds to the various
trays.

This is PostScript Level 1 code:

```
%==========================================================
% Begin PostScript Code
%
serverdict begin 0 exitserver
statusdict begin x setdefaultpapertray end
%
% End PostScript Code
%==========================================================
```

This is the equivalent PostScript Level 2 code:

```
%===========================================================
% Begin PostScript Code
%
serverdict begin 0 exitserver
1 dict dup /InputAttributes 1 dict dup /Priority [2 1 0] put put setpagedevice
%
% End PostScript Code
%===========================================================
```

This sets the paper tray priority to:
1st Priority - Cassette (500 Sheets) - designated by the "2" in the array
above.
2nd Priority - Multipurpose Tray - designated by the "1" in the array above.
3rd Priority - Cassette (250 Sheets) - designated by the "0" in the array
above.

You can change the paper tray priority order by changing the values in
"/Priority [2 1 0]".
For example, /Priority [0 1 2] makes the 250 sheet cassette first priority,
then the Multipurpose tray next, then the 500 sheet cassette.

```
===========================================================
```
To change the PRINTER NAME:
```
serverdict begin 0 exitserver statusdict begin (newname) setprintername
```

```
===========================================================
```
To print the CONFIGURATION PAGE:

```
/SamplePages/ProcSet findresource/TestPage get cvx exec
```

```
===========================================================
```
To enable/disable FINEPRINT & PHOTOGRADE and change DPI (that is 300 to 600
dots per inch.) These changes will persist power cycles.

```
serverdict begin 0 exitserver

/imageoptions
    {
    systemdict/setpagedevice known  % Indicates a level two device
    {
    0 3 index 0 ne{1 add}if
    4 index 1 ne{1 add}if
    5 index 1 ne{1 add}if

    dup 0 gt
    { dup 1 add dict begin/Policies exch dict def
    2 index 0 eq

    {pop pop pop}
    {2 array astore exch pop
     /HWResolution exch def
     Policies/HWResolution 1 put}
```

```
            ifelse

      dup 1 ne
      {2 eq /PreRenderingEnhance exch def
       Policies/PreRenderingEnhance 1 put}
      {pop}
            ifelse

      dup 1 ne
      {2 eq/PostRenderingEnhance exch def
      Policies/PostRenderingEnhance 1 put}
      {pop}
            ifelse

      currentdict end setpagedevice
          }
      {pop pop pop pop pop pop}
          ifelse
      }
      {pop pop pop pop pop}
       ifelse

      } bind def
```

Here is the actual call to the above subroutines that enables/disables FINEPRINT and % PHOTOGRADE, and changes the DPI. The call values are set in the following order:

```
FP PG RF HR VR imageoptions
```

FP = FinePrint, values can be 1 (default, no change), 2 (on), 3 (off)
PG = PhotoGrade, values can be 1 (default, no change), 2 (on), 3 (off)
RF = Resolution Flag, values can be 0 (default, no change), 1 (use HR and VR values)
HR = Horizontal Resolution, values can be 300 or 600 (must match VR)
VR = Vertical Resolution, values can be 300 or 600 (must match HR)

For example, to set FinePrint ON, PhotoGrade OFF, and 300dpi, this is the call:

```
2  3  1  300  300  imageoptions
```

```
============================================================
```
To change the MULTIPURPOSE TRAY for LETTER size paper.

```
serverdict begin 0 exitserver <</InputAttributes
  << 1
    << /PageSize [612 792]
    >>
  >> >> setpagedevice
```

```
============================================================
```

To change the MULTIPURPOSE TRAY for LEGAL size paper.

```
serverdict begin 0 exitserver <</InputAttributes
  << 1
    << /PageSize [612 1008]
    >>
  >> >> setpagedevice
```

Article Change History:
14 Apr 1997 - Added PostScript level 2 code.
23 May 1995 - Added section to notify users about default paper tray change.
08 Feb 1995 - Added PostScript caution.

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