LaserWriter IINTX: Switching Modes Using Software, 1 of 2 (2/95)

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TOPIC --

It is possible to connect a LaserWriter IINTX to two devices (for example,
to a Macintosh via the AppleTalk port and to another device via the serial
port) and to switch between them via softswitches.

DISCUSSION ---

It is not necessary to use the DIP switches, which are not rated for large
numbers of cycles. The LaserWriter IINTX checks the position of the DIP
switches at regular intervals (<30 Sec) and if the switch position does not
agree with the software-set parameters, the printer updates the parameters to
the switch settings. Since there is no switch setting for 8-bit data, it will
default back to the 7-bit default setting of the switches. This was intended to
be a feature.

All changes to the persistent parameters must take place outside the server
loop. This is done by exiting the server loop, then sending the necessary
changes. The PostScript syntax is listed below.

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.

```
%===========================================
% Begin PostScript Code
%
serverdict begin 0 exitserver
statusdict begin
25 9600 3 setsccbatch
end
%
% End PostScript Code
%===========================================
```

This sets the 25-pin serial interface to 9600 baud with mark parity.

It is possible to have both RS-232 and AppleTalk connected at the same time, but it's necessary to turn off the AppleTalk RS-422 channel before turning on the RS-232 channel. This is done by sending this PostScript code:

```
%=============================================
% Begin PostScript Code
%
serverdict begin 0 exitserver
statusdict begin
9 0 3 setsccinteractive <-- new line
25 9600 3 setsccbatch
end
%
% End PostScript Code
%=============================================
```

This turns off the DB-9 (and Mini-8) channel and turns on the DB-25 serial channel for use at 9600 baud. The reverse is possible by changing the appropriate codes.

There are softswitch modes within the LaserWriter IINTX. By using the setsoftwareiomode command, you can specify which software interface will be used to communicate. The options are:

```
0     PostScript Batch
1     PostScript interactive
2     Diablo 630
3,4   Not Used
5     H-P LaserJet Plus emulation
```

In addition to setting setsoftwareiomode, it is necessary to use sethardwareiomode to set the hardware method of communication. The setsoftwareiomode must be done outside the server loop, but the sethardwareiomode can be done within the server loop, which indicates it will not be persistent -- by the old definition of persistent -- but will be in effect only for the duration of the print job.

A complete listing of what we currently believe would perform all the functions with only one code segment might look like this:

```
%=============================================
% Begin PostScript Code
%
serverdict begin 0 exitserver    % leave server loop
statusdict begin                 % push statusdictionary on the stack
9 0 3 setsccinteractive          % turn off RS-422 channel (AppleTalk)
25 9600 3 setsccbatch            % turn on DB-25 serial channel
setting setsoftwareiomode 5      % Use H-P LaserJet + mode
setting sethardwareiomode 0      % use serial communications
e3,                              % end changes to statusdict
%
% End PostScript Code
%=============================================
```

If every print job is preceding by this code, or something similar, the parameters should be available when they're needed.

LaserWriter IINT note: The LaserWriter IINT still uses EEROM to store persistent parameters: write life per address of 10,000. The LaserWriter IINTX has a Zero Power RAM with unlimited write cycles to any given address.

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21 Feb 1995 - Reformatted and added PostScript caution.

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