PJL FAQ - LaserJet

Q: How do you change the LaserJet's resolution for the duration of one print job?
A: You can accomplish this by setting the PJL RESOLUTION Environment Variable. When you SET an Environment Variable, your changes to that variable affect only the current job. Once the job completes, the printer restores the default value of every environment variable.

The following code temporarily sets the resolution to 300dpi for a PCL job that uses fonts designed at 300 dpi.

[ESC]%-12345X@PJL COMMENT Temp Resolution Change
@PJL JOB NAME = "SET RESO"
@PJL SET RESOLUTION = 300
@PJL ENTER LANGUAGE = PCL
Insert PCL code here[ESC]%-12345X@PJL EOJ
[ESC]%-12345X

Q: How do you change the LaserJet's default resolution?
A: You can accomplish this by setting a default value for the PJL RESOLUTION Environment Variable. When you DEFAULT an Environment Variable, the value persists throughout subsequent print jobs. This is equivalent to changing settings via the control panel. If the printer contains non-volatile RAM, the setting will persist across power cycles. If the printer does not contain non-volatile RAM, the printer will restore Factory Default settings after a power cycle. Here is a sample of PJL code that can do this:

[ESC]%-12345X@PJL COMMENT Default Resolution
@PJL JOB NAME = DEFAULT RESO
@PJL DEFAULT RESOLUTION = 300
@PJL ENTER LANGUAGE = POSTSCRIPT
Valid postscript job[ESC]%-12345X@PJL EOJ
[ESC]%-12345X

Q: What is PJL and what does it enable me to do?
A: PJL stands for Printer Job Language. PJL was developed to provide job control at a level above Page Description Languages (PDLs) such as PostScript and PCL.

PJL Language Switching allows one to send PostScript and PCL jobs to the LaserJet in the same data stream.

PJL Environment Variables provide a programmatic interface to a printer's Control Panel. This allows one to remotely inquire and configure everything from default RESOLUTION and PAPER size to I/O TIMEOUT and POWERSAVE mode.

PJL Unsolicited Status Variables allow one to remotely monitor JOB, DEVICE, and PAGE occurrences through a bi-directional connection. For example, when a paper jam occurs, PJL can send a "PAPER JAM" DEVICE message back to the host.

PJL File System commands provide a programmatic interface to LaserJet mass storage devices.

You can find further information about PJL, such as a list of environment variables and unsolicited status messages, in the "PJL Technical Reference Manual". You can download this manual from the "PJL Information" page on this web site.

Q: How do I convert my existing data stream (PCL or PostScript) to a PJL job?
A: All PJL jobs must begin and end with the Universal Exit Language (UEL) command:

[ESC]%-12345X

"[ESC]" represents the escape character (dec27, oct33, or hex1B). A "@PJL" command prefix must immediately follow the beginning UEL. Line feed, [LF] (dec10, oct12, or hex0A), and optional carriage return characters must delimit PJL commands. You cannot insert blank lines between PJL commands. You can, however, insert a "@PJL" command with no trailing parameters.

The "@PJL ENTER LANGUAGE" command initiates PCL or PostScript mode. The following is an example of a valid *PCL* PJL wrapper:

[ESC]%-12345X@PJL
@PJL JOB NAME = "PCL5 JOB"
@PJL ENTER LANGUAGE = PCL
Insert existing PCL job here[ESC]%-12345X @PJL EOJ
[ESC]%-12345X

A *PostScript* PJL wrapper is almost identical:

[ESC]%-12345X@PJL
@PJL JOB NAME = "POSTSCRIPT JOB"
@PJL ENTER LANGUAGE = POSTSCRIPT
Insert existing PS job here[ESC]%-12345X @PJL EOJ
[ESC]%-12345X

Through the use of the PJL language switching feature, you can combine these two jobs into a contiguous data stream:

[ESC]%-12345X@PJL COMMENT Language Switching Sample
@PJL JOB NAME = "PCL5 JOB"
@PJL ENTER LANGUAGE = PCL
[ESC]%-12345X @PJL EOJ
@PJL JOB NAME = "POSTSCRIPT JOB"
@PJL ENTER LANGUAGE = POSTSCRIPT
[ESC]%-12345X @PJL EOJ
[ESC]%-12345X