1 Introduction to PJL

What is PJL?

Hewlett-Packard's Printer Job Language (PJL) was developed to give software applications more job-level printer control, and to provide printer status information to applications. PJL provides for the special needs of networks and other multi-user systems, in addition to enabling applications to simulate control panel functions that previously could not be controlled without pressing control panel keys.

For the HP printers (HP LaserJet, HP DeskJet, and HP DesignJet) that support it, PJL allows job-level control that cannot be accomplished with PCL, PostScript, or other printer languages. To provide this control, PJL functions “above” the level of PCL and other printer languages, providing four major functions:

- Printer language switching between jobs
- Job separation
- Printer configuration
- Status readback from the printer to the host computer

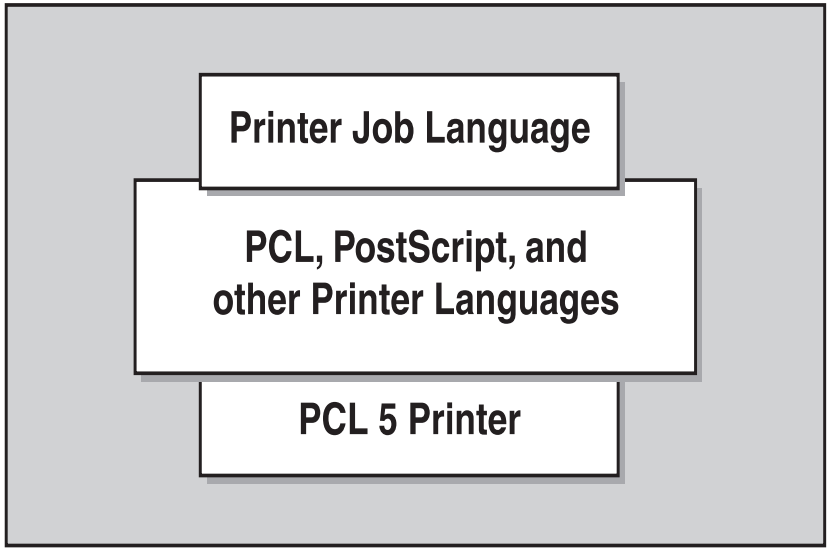

Figure 1-1 **PJL Resides Above Other Printer Languages**

Note Some HP printers, such as the LaserJet 4L, 5L, 6L, or 1100 Series printers, do not support printer language switching or job separation. See Appendix A for feature support information.

Using PJL, software applications can request information such as printer model, configuration, and status. PJL also can be used to change control panel settings and modify the message displayed on the control panel, or change feature settings in printers without a control panel, such as the HP LaserJet 1100 Series printers. For those printers supporting more than one printer language, applications can print one job using PCL, and then print the next job using PostScript or another printer language—without any operator intervention.

The Benefits of PJL

Listed below are some of the benefits PJL provides:

- **Programmatic printer language switching.** PJL provides fully reliable switching between printer languages, such as PCL, Epson, IBM ProPrinter, and PostScript, directly from within applications.
- **Printer status readback.** Printer model information, configuration, printer feature settings, and other printer status information can be obtained using PJL.
- **Programmatic front panel control.** Control panel settings, including control panel messages, can be changed remotely.
- **Ease of use.** All PJL commands except the Universal Exit Language (UEL) command consist of printable characters and plain-English words or abbreviated words. Learning to use PJL can be accomplished by reading the first three chapters of this manual and following the examples provided in the text.
- **Better spooler control.** PJL allows spoolers improved printer management, especially in a network environment.

Who Should Use PJL?

PJL is designed to be used by experienced programmers, such as software application developers and technical support personnel. Although PJL is not complicated, it is a powerful tool, and should be used only by experienced users who can create jobs that cause no adverse effects on other jobs in a shared environment. Applications containing PJL commands used as described in this manual provide users with smooth transitions between print jobs. Conversely, improperly used PJL commands can create problems in multi-user printing environments.

Compatibility With Non-PJL Printers

Because all HP printers do not support PJL, it is important to know what happens when PJL commands are sent to a non-PJL printer.

PJL commands are recognized by the following HP printers:

- LaserJet IIISi, 4Si, 4SiMx, 5Si, 5SiMx, 5Si Mopier
- LaserJet 1100 Series, 2100 Series
- LaserJet 4000 Series, 5000 Series
- LaserJet 8000 Series, 8100 Series
- LaserJet 4V, 4MV
- LaserJet 4, 4 Plus, 4M, 4M Plus, 5, 5M
- LaserJet 4L, 4ML, 4LJ Pro, 4LC, 5L, 6L
- LaserJet 4P, 4MP, 4PJ, 5P, 6P, 6MP
- Color LaserJet, Color LaserJet 5, 5M
- Color LaserJet 4500 Series, 8500 Series
- DeskJet 1200C, 1600C
- DesignJet Family
- PaintJet XL300

The printers listed above are designed to handle any PJL command, even those not supported by that particular printer. On the other hand, all PCL 4 printers, and all PCL 5 printers not listed above, do not support PJL. When PJL commands are sent to a non-PJL printer, the results differ depending on which commands are used and which printer language is used. The following paragraphs explain what happens when PCL and PostScript jobs containing PJL commands are sent to non-PJL printers.

Note For best results, do not send PJL commands to a non-PJL printer.

PCL Jobs

When non-PJL printers receive PCL jobs, any PJL commands that precede the initial PCL printer reset command (<ESC>E) print as ASCII text. When the initial printer reset command is received, it causes a page eject and the PCL job begins on a new page. The end result is a page or more of PJL commands followed by the PCL job, and possibly followed by more PJL commands. The PCL job should print as it would without any PJL commands, as long as the PCL portion of the job begins and ends with a PCL printer reset command. However, a page of PJL commands printed before and probably after the PCL job can be expected.

For those PCL applications that do not begin with a PCL printer reset command (or another PCL command that forces a page eject when preceded by printable data), the PJL commands are printed as ASCII text on the same page as the PCL job. A good portion of the job may be unusable due to unpredictable page breaks and overprinted text on the first page.

PostScript Jobs

When non-PJL printers are running in PostScript mode, PJL commands cause a PostScript error and prevent the job from printing. Pressing the printer's Continue key removes the error message, but the error causes the printer to discard the PostScript job.

Other Printer Languages

PJL code is interpreted differently when running different printer languages on non-PJL printers. To avoid printing problems, do not use PJL commands when printing to any non-PJL printer, regardless of which printer language is used.