

3 Using PjL

Introduction

This chapter describes how PjL commands are used. After reading this chapter, you can create basic jobs and perform simple PjL tasks, such as printer language switching and changing some PjL feature settings.

To give you an understanding of where to look for more PjL information, this chapter explains how the manual categorizes PjL commands into groups of related commands. Each command has a brief description of its function to help familiarize you with the PjL language.

Note

Each PjL printer supports a different set of PjL commands. See Appendix A for printer-specific information.

Overview of How Commands are Used

As previously explained, PjL resides “above” other printer languages such as PCL and PostScript. PjL commands encapsulate the printer language jobs, as shown in Figure 3-1. The Universal Exit Language (UEL) command allows the printer to alternate between interpreting PjL commands and printer language commands. (Although PCL and PostScript are shown in Figure 3-1, other printer languages can be involved.)

PjL Code	PCL Job	PjL Code	PostScript Job	PjL Code
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Figure 3-1 PjL Commands Encapsulate Print Jobs

PJL Job Requirements

PJL has certain job requirements that must be met to work correctly. Jobs that satisfy the following requirements are “well-formed” and work well with all PJL printers, both in single-computer/single-printer environments and network environments. Here are the requirements:

- All PJL jobs must begin and end with a UEL command (<ESC>%-12345X). This command exits the current printer language and returns control to PJL.
- The UEL command at the beginning of the job must be immediately followed by the PJL command prefix (@PJL). The “@PJL” can be followed by an optional carriage return and a required line feed character, or it can be the prefix of another PJL command (see the two following examples). No other characters, including control characters, are allowed between the UEL command and the @PJL prefix.
- The UEL command at the job end must not be followed by anything (except the first character of the next job).
- Line Termination—a line feed character (<LF>) is required to terminate all PJL commands (except the UEL command). A carriage return can precede the terminating line feed, however the carriage return is optional and is ignored.
- No blank command lines are allowed. The command @PJL [<CR>]<LF> is provided for situations where a blank line is needed to add space between command lines.

The following command lines demonstrate two ways to begin a job while satisfying PJL requirements. Both lines begin with a UEL command, are immediately followed by @PJL, and are terminated with a line feed character. All PJL jobs also must end with a UEL command. The examples on the following page demonstrate how to begin and end a PJL job.

```
<ESC>%-12345X@PJL <CR><LF>  
<ESC>%-12345X@PJL COMMENT *Start Job* <CR><LF>
```

Some Sample PJL Jobs

This section consists of two basic PJL jobs that illustrate how to use PJL. The first job changes a few printer control panel settings and prints a PCL file. The second job prints a PCL file followed by a PostScript file. (The ↵ symbol indicates that the command line is actually part of the previous line.)

Example: Changing Control Panel Settings

This example simulates using PJL to control printer features that are not available in a particular application program. In this case, the features to be modified are the number of copies and the Resolution Enhancement technology setting.

```
<ESC>%-12345X@PJL COMMENT *Start Job* <CR><LF>
@PJL JOB NAME = "Sample Job #1" <CR><LF>
@PJL SET COPIES = 3 <CR><LF>
@PJL SET RET = OFF <CR><LF>
@PJL ENTER LANGUAGE = PCL <CR><LF>
<ESC>E . . . PCL job . . . <ESC>E
↵<ESC>%-12345X@PJL <CR><LF>
@PJL EOJ<CR><LF>
<ESC>%-12345X
```

Example: Switching Printer Languages

This example contains two print jobs, one PCL and one PostScript. The PCL job prints first, then PJL code switches the printer language to prepare for the PostScript job.

```
<ESC>%-12345X@PJL <CR><LF>
@PJL COMMENT ** Beginning PCL Job ** <CR><LF>
@PJL ENTER LANGUAGE = PCL <CR><LF>
@PJL SET LPARM : PCL SYMSET = DESKTOP <CR><LF>
<ESC>E . . . PCL job . . . <ESC>E
↵<ESC>%-12345X@PJL COMMENT End PCL <CR><LF>
@PJL COMMENT Ready for PostScript Job <CR><LF>
@PJL ENTER LANGUAGE = POSTSCRIPT <CR><LF>
%!PS-ADOBE ... PostScript print job ... ^D
↵<ESC>%-12345X
```

What's Next?

Now that you have learned the PJP requirements and have seen how to use PJP commands in the sample programs described on the previous page, look through the following “Command Groupings” table. It can help you find the information you need to add PJP capabilities to your application. If your application only uses PJP to switch printer languages, you may need to read only Chapter 4. However, if you want to do more with PJP, be sure to look through Chapter 11 (Programming Tips for Using PJP), and the other chapters that pertain to your application. Also, be sure you know which PJP commands are supported by the printer you are using. See Appendix A for feature support information.

- Chapter 5 explains commands that enable you to create jobs for keeping track of printing status, and explain a non-printing mode that allows printing of specific pages of print jobs.
- Chapter 6 describes commands that enable you to change control panel settings and default configuration settings. The commands in this chapter enable you to set the printer features to a known state.
- Chapter 7 covers status readback commands, enabling you to request configuration and status information from the printer.
- Chapter 8 explains the commands that can alter the messages displayed on the printer control panel.
- Chapter 9 describes the PJP file system for managing printer-based file storage.
- Chapter 10 describes using the PJP job management commands.

Command Groupings by Functionality

This manual categorizes the P JL commands into related groups. Each group of commands is covered in a separate chapter, as indicated in the following table. This table lists each command and gives a short description of each.

Command Group	Command	Command Description
Kernel Commands (Chapter 4)	Universal Exit Language (UEL)	Exits current printer language and returns control to P JL.
	COMMENT	Causes P JL to accept the command line as a comment.
	ENTER	Selects a printer language for processing the current job.
Job Separation Commands (Chapter 5)	JOB	Informs printer of the start of a print job, resets the page count, allows naming of the job, supports non-printing mode for printing portions of jobs. Where supported, it adds P JL password security.
	EOJ	Tells printer the print job is complete, resets the page count.
Environment Commands (Chapter 6)	DEFAULT	Sets default value for environment variables.
	SET	Sets an environment variable to a specified value for the duration of a P JL job.
	INITIALIZE	Resets current and default P JL variables to factory default values.
	RESET	Resets current P JL variables to default values.

Command Group	Command	Command Description
Status Readback Commands (Chapter 7)	INQUIRE	Requests the current value for a specified environment variable.
	DINQUIRE	Requests the default value for a specified environment variable.
	ECHO	Returns the <words> portion of the command to the host computer.
	INFO	Requests a specified category of printer information, such as printer model number, printer memory available, configuration, page count, status, environment variables, and unsolicited status variables.
	USTATUS	Allows printer to send unsolicited status messages for device status changes, end-of-job status, and pages printed. Status can be sent at specified time intervals.
	USTATUSOFF	Turns off all unsolicited status.

Command Group	Command	Command Description
Device Attendance Commands (Chapter 8)	RDYMSG	Specifies a message that replaces the READY message on the printer control panel. Does not affect online state.
	OPMSG	Displays specified message on printer control panel and takes printer offline.
	STMSG	Displays specified message on printer control panel and takes printer offline. If status readback is enabled, returns name of the key (ON LINE, CONTINUE, or RESET) that operator presses to return the printer online.
PJL File System Commands (Chapter 9)	FSAPPEND	Appends data to an existing file or creates a new file.
	FSDELETE	Deletes printer mass storage files.
	FSDIRLIST	Lists PJL file system files and directories.
	FSDOWNLOAD	Downloads files to the printer mass storage system.
	FSINIT	Initializes the printer mass storage file system.
	FSMKDIR	Creates a directory on the printer mass storage file system.
	FSQUERY	Queries existence of directories and files and returns file sizes.
	FSUPLOAD	Uploads all or part of a file from the printer to the host.

