

C Programming Examples

Introduction

This appendix demonstrates two examples: one PDL example using the C programming language, and one simple batch file. The first example is listed on the left-facing page in the generic format used throughout the rest of the manual. The C code is then listed on the opposite page so that you can compare the C code with the generic code. The second example is a batch file that demonstrates the use of the RDYMSG command to create your own “ready” message while printing your job.

Example: Switching Printer Languages

The job in this example prints two pages: one in PCL and one in PostScript. The program first enters PCL, and then immediately enters HP-GL/2 to draw a box and print "PCL Print Job." Next, PostScript is entered and PostScript data is sent to the printer to draw a box and print "PostScript Job."

```
<ESC>%-12345X@PJL <CR><LF>
@PJL COMMENT **Beginning of PCL Job** <CR><LF>
@PJL COMMENT **Enter PCL (& HP-GL/2)* <CR><LF>
@PJL ENTER LANGUAGE = PCL <CR><LF>
<ESC>E<ESC>%0BIN;SP1;PA1010,1010;PW2.2;
ZPD5310,1010,5310,5310,1010,5310,1010,1010;
ZPU;PA2280,3040;
ZSD1,277,2,1,4,20,5,0,6,0,7,4148;
ZDT*;SS;LBPCL Print Job*;
Z<ESC>%0A<FF><ESC>E
Z<ESC>%-12345X@PJL <CR><LF>
@PJL COMMENT *** END OF PCL JOB & *** <CR><LF>
@PJL COMMENT ** START OF POSTSCRIPT * <CR><LF>
@PJL ENTER LANGUAGE = POSTSCRIPT <CR><LF>
5 setlinewidth<CR>
100 100 moveto<CR>
0 300 rlineto<CR>
300 0 rlineto<CR>
0 -300 rlineto<CR>
closepath<CR>
stroke<CR>
185 240 moveto<CR>
/Helvetica findfont 20 scalefont setfont<CR>
(PostScript Job) show<CR>
showpage<CR>
^D
Z<ESC>%-12345X
```

```

/*****
/*      SWITCH.C  (Switching Printer Languages)      */
/*****
#include <stdio.h>
main()
{
    FILE *prn; /* initialization section */
    /***** open PRN for writing *****/
    prn = fopen("lpt1", "wb");
    /***** Send UEL command and @PJL<CR><LF> *****/
    fprintf(prn, "\033%-12345X@PJL \n");
    fprintf(prn, "@PJL COMMENT **Beginning of PCL Job** \n");
    fprintf(prn, "@PJL COMMENT **Enter PCL (& HP-GL/2)* \n");
    fprintf(prn, "@PJL ENTER LANGUAGE = PCL \n");
    fprintf(prn, "\033E\033%0BIN;SP1;PA1010,1010;PW2.2;");
    fprintf(prn, "PD5310,1010,5310,5310,1010,5310,1010,1010;");
    fprintf(prn, "PU;PA2280,3040;");
    fprintf(prn, "SD1,277,2,1,4,20,5,0,6,0,7,4148;");
    fprintf(prn, "DT*;SS;LBPCL Print Job*"); /** Print text **/
    fprintf(prn, "\033%0A\f\033E"); /*Exit HP-GL/2, <FF>, <Esc>E*/
    fprintf(prn, "\033%-12345X@PJL \n"); /** UEL & @PJL ***/
    fprintf(prn, "@PJL COMMENT *** END OF PCL JOB & *** \n");
    fprintf(prn, "@PJL COMMENT ** START OF POSTSCRIPT * \n");
    fprintf(prn, "@PJL ENTER LANGUAGE = POSTSCRIPT \n");
    fprintf(prn, "5 setlinewidth\r"); /** PostScript Code **/
    fprintf(prn, "100 100 moveto\r");
    fprintf(prn, "0 300 rlineto\r");
    fprintf(prn, "300 0 rlineto\r");
    fprintf(prn, "0 -300 rlineto\r");
    fprintf(prn, "stroke\r");
    fprintf(prn, "185 240 moveto\r");
    fprintf(prn, "/Helvetica findfont 20 scalefont setfont\r");
    fprintf(prn, "(PostScript Job) show\r"); /** Print text **/
    fprintf(prn, "showpage\r");
    fprintf(prn, "\004"); /** ^D *****/
    fprintf(prn, "\033%-12345X"); /** UEL Command ***/

    fclose(prn);
}

```

Notice the %% required to print the % character

Example: Using RDYMSG in a Batch File

This example demonstrates how to use a batch file to send PJJ commands to the printer. In this example, the batch file acts as a spooler, using the RDYMSG command to display the file name while a print file is being downloaded.

To send PJJ commands this way, first create an ASCII file named UEL, containing *only* the UEL command (<ESC>%-12345X). In this file, be sure to substitute ASCII character 27, the escape character, for <ESC>, and do not add any spaces or characters after the X.

Then create a batch file as shown here, and save it as PRINTPJJ.BAT, in the same directory as the "UEL" file. The batch file uses the DOS ECHO command to send PJJ commands and the DOS COPY command with the /B option to send the UEL file and pre-existing PRN file to the printer.

```
@ECHO OFF
CLS
ECHO Printing the %1 Job!
COPY UEL /B PRN:
ECHO @PJJ > PRN:
ECHO @PJJ JOB > PRN:
ECHO @PJJ JOB DISPLAY = "%1" > PRN:
ECHO @PJJ RDYMSG DISPLAY = "%1" > PRN:
ECHO @PJJ ENTER LANGUAGE = PCL > PRN:
COPY %1 /B PRN:
COPY UEL /B PRN:
ECHO @PJJ COMMENT Restore READY message > PRN:
ECHO @PJJ RDYMSG DISPLAY = "" > PRN:
ECHO @PJJ EOJ > PRN:
COPY UEL /B PRN:
@ECHO ON
```

Note

For the HP LaserJet 4000 printer, and newer printers, the RDYMSG DISPLAY method will not replace the front panel display message. Use the JOB DISPLAY = "display text" method. Use both methods to ensure compatibility with all printers. See page 8-2.

To use this batch file, type the name of the batch file, followed by the name of the print file, as follows:

```
PRINTPJL printfilename
```

The *printfilename* is displayed while the job is being downloaded to the printer.

