4

PRINTING

This chapter describes the following everyday printing operations:

- Selecting print features
- Starting, stopping, or resuming printing
- Removing printed pages
- Clearing the print buffer

Instructions for loading paper are given in Chapter 3.

SELECTING PRINT FEATURES

The print features you select determine how your printed pages will look. Print features include the following:

- Print quality
- Fonts
- Pitch (characters per horizontal inch)
- Page length and width
- Line spacing (lines per vertical inch)

To select print features, you can use either commercial software or the printer control panel. The method you use depends on the capabilities of your software. If your software has most of the features you require, you may rarely – if ever – have to use the control panel. *In fact, your software often overrides the printer settings*.

If your software has limited options, you can use the printer control panel to select print features. Sometimes, the control panel enables you to select features not available through your software. For example, you can select downloaded fonts not supported by your software.

Printing

Using Commercial Software

Many commercial software packages offer a wide variety of print features, including some features that are not supported by this printer. For example, software often provides a wider range of font sizes than the printer can accommodate. Software also allows you to specify multiple fonts on a page. To determine which features your software supports and how to select them, refer to your software documentation.

Using the Control Panel

Use the MENU button to directly select one of the two menus.
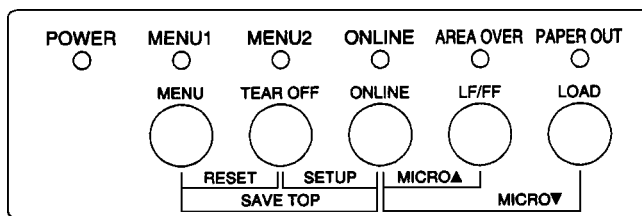
Printer control panel

The MENU button specifies MENU1 or MENU2, either of which allows you to specify different sets of options in advance. Some of the print features include emulation, print quality, character pitch, and line spacing.

When you first turn the printer on, the MENU 1 indicator is lit; that is, all of the print features assigned to MENU1 are enabled. However, you can easily switch to MENU2 before printing. You can also select a resident font other than the fonts assigned to MENU1 and MENU2.

NOTE
For easy reference, keep a list of your current MENU 1 and MENU 2 settings near the printer. To print a list of current settings, see the section Printing a List of Selected Options in Chapter 5. You may also want to use the space provided in Table 4.1 to record your settings.

Selecting MENU1 or MENU2

When you first turn the printer on, MENU1 is selected. To change to MENU2 or back to MENU1, proceed as follows:

1. Press the ONLINE button to place the printer offline.

2. Repeatedly press the MENU button. The lighted indicator (1 or 2) shows the menu selected. When the menu selection is changed, the font (font, pitch, and quality) assigned in the selected menu becomes valid.
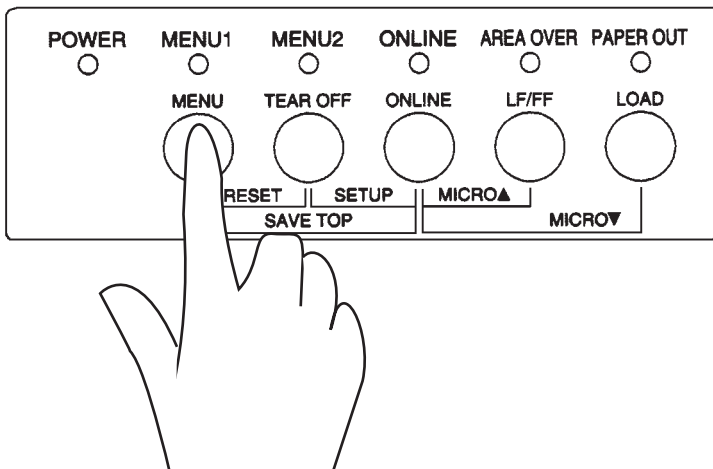
Printing

Table 4.1 MENU1 and MENU2 Settings

Setting	Default Settings *For easy reference, check (√) or record your default settings in the space below.*	
Print Feature	**MENU1**	**MENU2**
Emulation Fujitsu DPL24C PLUS IBM Proprinter XL24E Epson ESC/P2		
Font Courier 10 Prestige Elite 12 Compressed 17 Boldface PS Pica 10 Correspondence OCR-B 10 OCR-A 10 Courier Normal 10 (outline) Courier Bold 10 (outline) Courier Italic 10 (outline) Nimbus Sans Normal PS (outline) Nimbus Sans Bold PS (outline) Nimbus Sans Italic PS (outline) Timeless Normal PS (outline) Timeless Bold PS (outline) Timeless Italic PS (outline) Downloaded font 0 Downloaded font 1		
Print quality Letter Report Draft High-speed draft		
Pitch 2.5, 3, 5, 6, 10, 12 15, 17, 18 or 20 cpi Proportional spacing		
Other features:		

3. Press the ONLINE button to return online. You are ready to print using the selected menu.

STARTING OR STOPPING PRINTING

Starting Printing

Before you start to print, make sure that paper is loaded. Also, verify that the paper thickness lever is set to the appropriate position (**1** to **D**).

To start printing, press the ONLINE button to place the printer online. Then start your software.

Stopping Printing

To stop printing immediately, press the ONLINE button to place the printer offline. You can also use your software to stop printing, but there will be a slight delay before printing stops. Any data sent to the print buffer but not yet printed is stored until you resume printing. Data in the print buffer is lost if you turn the printer off.

To resume printing, press the ONLINE button again. To cancel printing, use the cancel commands provided by your software or computer. To clear the print buffer, place the printer offline and press the MENU and TEAR OFF buttons. Any data sent to the print buffer before you canceled printing will be lost.

Resuming from a Paper-Out

The printer can "sense" when paper runs out. Depending upon how PPR-OUT (paper-out) is set in setup mode, the printer either:
- Stops printing and lights the red PAPER OUT indicator, or
- Continues printing until no more data remains in the printer.

See Chapter 5 for details on setting PPR-OUT. The factory default is to stop printing if continuous forms paper runs out and to continue printing if single sheet paper runs out.

To resume printing when paper runs out, use either of the methods described below:

Printing

Printing the remaining lines on a page

This method is convenient to continue printing under the paper-out condition.

1. Press the ONLINE button. The printer returns to online mode, prints or feeds one line, and the PAPER OUT indicator lights up again.

2. Repeat this procedure until the full page is printed. Line spacings, however, may be uneven.

CAUTION
When using the cut sheet stand or when printing remaining lines, be careful not to print on the platen. Printing on the platen may damage both the platen and the print head.

Continuing printing after supplying paper

1. Install paper on the forms tractors or on the cut sheet stand.

2. To load the first sheet of paper, press the LOAD button. The PAPER OUT indicator will turn off.

3. Press the ONLINE button to place the printer online. The printer resumes printing.

   NOTE
   For continuous forms paper, the page where printing stopped and the page where printing resumes may be incorrectly printed. In this case, wait for the entire job to finish printing. Then reprint the incorrect pages.

Resuming after an Area Over warning

The printer senses the left and right edges of paper and stores their positions when the paper is loaded. If your software will print data past either edge, the printer ignores that data but does not stop printing. Rather, the AREA OVER indicator lights to call your attention to the loss of data.

The AREA OVER indicator functions when AREACNT (area control) is set to ENABLE in setup mode. See Chapter 5 for information on setting AREACNT. The factory default is not to sense the edges. If paper is dark-colored or preprinted, the printer may not be able to sense the edges correctly. In this case, disable the sensor.

To resume printing when the AREA OVER indicator is on:

1. Stop your software and press the ONLINE button to place the printer offline.

2. Adjust the horizontal position of the paper or change the margin settings in the printer setup menu or your software.

3. Press the ONLINE button to place the printer online. Restart the software from the page that includes the lost data.

Printing

REMOVING PRINTED PAGES

This section describes the best methods for removing single sheets or continuous forms paper after printing.

Removing Single Sheets

When you print using software, the printer automatically ejects each sheet of paper when the end of the printed page is reached. To eject sheets manually, use one of the following methods:

- Press and hold down the LF/FF button to execute a form feed, or
- Turn the platen knob clockwise.

Removing Continuous Forms

To avoid wasting paper, use the printer tear-off function to remove continuous forms paper. Press the TEAR OFF button to advance the perforation to the tear-off edge. Tear the paper off, and then press any button to retract the paper back to the top-of-form position. See Chapter 3 for more detailed instructions.

CLEARING THE PRINT BUFFER

Place the printer offline. Press the MENU and TEAR OFF buttons simultaneously to clear all data from the print buffer. This method is useful when you cancel a print operation and do not want to continue printing data already sent to the printer.

This method does not change or clear MENU1 and MENU2 settings, paper loading position settings, and downloaded fonts.

USING SETUP MODE

5

Your printer has two modes: normal and setup. *Normal mode* is used for everyday printer operations and is explained in Chapters 3 and 4.

Setup mode serves two purposes. It enables you to:

- Select the printer's optional settings
- Help diagnose printer problems

These setup mode functions can be done either offline, using the printer control panel (offline setup), or remotely, using a setup program in your computer system or software (online setup). Primarily, this chapter explains how to use the offline setup mode. The online setup mode, which is reviewed briefly at the end of this chapter, is valid in all emulations. For details, refer to the programmer's manuals.

Optional settings on the printer include the emulation, fonts, pitch, page length and page width, serial interface options, and the top-of-form setting. When you save your settings in the printer's permanent memory, they become the new settings or defaults. These defaults are invoked whenever you turn on the printer. For example, if you save DPL24C PLUS as the default emulation, DPL24C PLUS is invoked when you turn on the printer.

The printer diagnostic functions are SELF-TST, HEX-DUMP, and V-ALMNT. These functions are helpful for printer trouble-shooting, as described in Chapter 7.

HOW TO USE THIS CHAPTER

The sections in this chapter are presented in logical sequence. *If you are a first-time user,* be sure to read the following sections *first:*

- Entering Setup Mode
- Overview of Setup Mode

Setup Mode

These sections will familiarize you with how setup mode works. Once you understand the basics, use the following sections to select printer options that are compatible with your computer system's hardware and software setup:

- Printing a List of Selected Options
- Deciding Which Options to Change
- Changing MENU1 and MENU2 Options
- Changing Hardware Options
- Changing Print Position Adjustment Options
- Changing Configuration Options
- Exiting and Saving

To restore the printer default settings (factory defaults or power-on defaults), see the section **Resetting Defaults** later in this chapter.

For information on using the SELF-TST, HEX-DUMP, and V-ALMNT functions, see the section **Using the Diagnostic Functions** later in this chapter.

For Experienced Users:
Once you are familiar with setup mode, you may want to use the flowchart at the end of this chapter for quick reference. The flowchart lists all printer setup functions, items, and options.

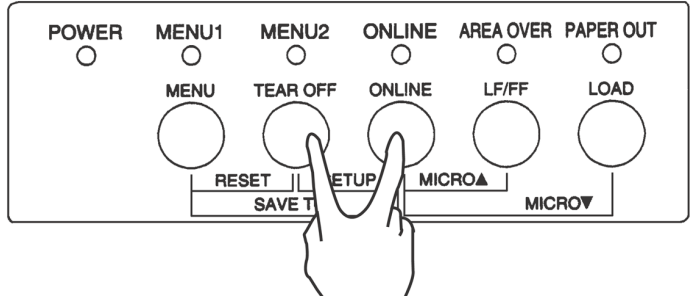**ENTERING SETUP MODE**

Before entering setup mode, load continuous forms paper into the printer as described in Chapter 3. Several sheets of paper may be required to make all of your setup mode selections.

To enter setup mode, follow these steps:

1. Make sure that continuous forms paper is loaded and that the paper select lever is set backward.

2. Press the ONLINE button to place the printer offline.

3. Press the TEAR OFF and ONLINE buttons simultaneously until the printer beeps.

Entering setup mode

If you do not hear a beep or hear an alarm beep (beeps four times), you are not in setup mode. Place the printer offline and try again.

4. When the printer enters offline setup mode, it prints the following information.

Initial printout in setup mode

The initial printout contains a header, help menu, and <<FUNCTION>> menu. The header tells you that the printer is offline and in setup mode. The help menu provides a quick summary of how to use setup mode. The <<FUNCTION>> menu lists all of the functions available to you in setup mode. Note that the red cursor on the plastic print guide is initially positioned below the SAVE & END function.

Setup mode can also be entered by turning off the printer, then turning the printer back on while pressing the TEAR OFF and ONLINE buttons simultaneously until the printer beeps.

OVERVIEW OF SETUP MODE

When you enter setup mode, the following <<FUNCTION>> menu is printed:

```
<<FUNCTION>>
  SAVE&END  MENU1  MENU2  HARDWRE  ADJUST  CONFIG  DEFAULT  LIST  SELF-TST  HEX-DUMP
  V-ALMNT
```

Table 5.1 summarizes the purpose of each function.

Table 5.1 Setup Mode Functions

Type	Function	Purpose
Select Function	SAVE & END	Exits setup mode and saves any changes made while in setup mode.
	MENU1 and MENU2	Assigns print features to MENU1 and MENU2 on the printer control panel.
	HARDWRE	Changes the printer hardware options.
	ADJUST	Changes the print position adjustment options.
	CONFIG	Changes the configuration options.

Table 5.1 Setup Mode Functions (Cont.)

Type	Function	Purpose
Select	DEFAULT	Resets factory defaults in MENU1 and MENU2.
Sub Function	LIST	Prints a list of all currently selected options.
Self Diagnostic Function	SELF-TST	Runs the self-test.
	HEX-DUMP	Prints hex dumps.
	V-ALMNT	Checks and corrects vertical print alignment.

To select a function from the <<FUNCTION>> menu:

1. Repeatedly press the LOAD button or the LF/FF button to position the red cursor on the plastic print guide under the function you require. The LOAD button moves the cursor to the next option and the LF/FF button moves the cursor to the previous option.

2. Press the TEAR OFF button or the MENU button to select the function. If the function has items and options, the printer prints the first item and its options. The MENU1, MENU2, HARDWRE, ADJUST, and CONFIG functions contain items that have selectable options. The other functions have neither items nor options.

   The first three MENU1 items and their options are shown below. Items are enclosed in single brackets < >.

```
 <EMULATE>          DPL24C+  XL24E    ESC/P2


 <FONT>
  COUR 10  PRSTG12  COMPRSD  BOLDFCE  PICA 10  CORRESP  OCR-B    OCR-A    COUR-N    COUR-B
  COUR-I   N.SAN-N  N.SAN-B  N.SAN-I  TIMLS-N  TIMLS-B  TIMLS-I  DOWNLD0  DOWNLD1


 <QUALITY>          LETTER   REPORT   DRAFT    HI-DRAFT
```

Setup Mode

To select an option from the <item> menu:

1. Repeatedly press the LOAD button or the LF/FF button to position the red cursor on the plastic print guide under the option you require.
2. Press the MENU button to select the option. The printer prints the next item and its options. You can press MENU to select the option. Then, the printer prints the previous item and its options.
3. After selecting the desired options, press the ONLINE button to reprint the <<FUNCTION>> menu.

    For each item, the short-underlined option is the current default option (the option currently saved in the printer's permanent memory). In the previous example, the default options are Fujitsu DPL24C PLUS emulation, Courier 10 font, and letter print quality.

The chart on the next page summarizes how to select options such as emulation, font, and print quality and how to use functions that do not have options.

Setup Mode Example

To become familiar with setup mode, try the following example. This example shows how to change the font and pitch in MENU2 to Prestige Elite 12 and 12 cpi.

1. **Load continuous forms paper.**
2. **Enter setup mode.**
    Press the TEAR OFF and ONLINE buttons simultaneously until the printer beeps.
3. **Select the MENU2 function.**
    Wait for the printer to stop printing and press the LOAD button or the LF/FF button twice to position the red cursor on the print guide under MENU2. Press the TEAR OFF button or the MENU button to select the MENU2 function and print the <EMULATE> item and its options.

Enter setup mode:
Press TEAR OFF and ONLINE

Reprint <<FUNCTION>> menu

Printer prints<<FUNCTION>>menu

Select function: Press LOAD or LF/FF to position the cursor, then press TEAR OFF or MENU

Desired function is selected

Press TEAR OFF or MENU

SAVE&END

Printer saves changes and exits setup mode

MENU1,MENU2,HARDWRE, ADJUST, and CONFIG

Select options: Press LOAD or LF/FF to position cursor, then press TEAR OFF or MENU

Press ONLINE

LIST, DEFAULT

Press ONLINE

SELF-TST, HEX-DUMP

Press TEAR OFF to pause/resume

Press LF/FF

V-ALMNT

See **Checking Vertical Print Alignment (V-ALMT)** later in this chapter for details.

: Functions having items and options

Summary of setup mode

Setup Mode

4. **Select the current emulation.**

   Since you do not want to change the emulation, press the MENU
   button to select the current emulation and print the next item,
   <FONT> and its options.

5. **Change the font to Prestige Elite 12.**

   Press the LOAD button or the LF/FF button once to position the
   cursor beneath PRSTG12. Press the MENU button to select
   PRSTG12 and print the next item, <QUALITY>, and its options.

6. **Select the current print quality.**

   Since you do not want to change the print quality, press the MENU
   button to select the current print quality and print the next item,
   <PITCH>, and its options.

7. **Change the pitch to 12 cpi and exit the MENU2 function.**

   Press the LOAD button or the LF/FF button once to position the
   cursor under 12 CPI. Since you do not want to make any other
   changes in MENU2, press the ONLINE button to select 12 CPI and
   exit MENU2. The <<FUNCTION>> menu is then reprinted.

8. **Exit setup mode, saving the new font and pitch.**

   Since the cursor is under SAVE & END, press the MENU button or
   the TEAR OFF button to select SAVE & END. The printer saves
   Prestige Elite 12 and 12 cpi as the new power-on defaults in MENU2.
   The printer then exits setup mode and returns online. These settings
   remain in effect until changed.

Points to Remember

• Load continuous forms paper *before entering setup mode*. In setup mode, the LF/FF button cannot be used to feed paper. To adjust the line position of paper in setup mode, use the platen knob.

• Whenever you enter setup mode, short help menus are printed at the top of the page. Help menus are also printed when you select the SELF-TST, HEX-DUMP, or V-ALMNT functions. Use help menus for quick reference while in setup mode.

• When printing the items and options for each function, you can only print one item at a time. However, you can move either forward or backward in the item list. To move forward (print the next item), press the MENU button. To move backward (print the previous item), press the TEAR OFF button.

• While in the <<FUNCTION>> menu or when selecting a function that contains items and selectable options, press the ONLINE button to reprint the <<FUNCTION>> menu.

• A short underline under the first two letters of an option indicates that it is the current default setting. For example, 12 CPI indicates that 12 characters per inch is the default pitch. To change the default, select and save a new pitch setting.

• While in setup mode, you can use the LIST function to print out a list of the currently selected options (see the next section for details).

• To exit setup mode and permanently save your changes, select either the SAVE & END function. For details, see the section **Exiting and Saving** later in this chapter. To exit setup mode without saving your changes, turn the printer off. Your previous power-on defaults are active when you turn the printer on again.

Setup Mode

PRINTING A LIST OF SELECTED OPTIONS

The LIST function prints a list of all the printer's currently selected options. This function is useful for checking the printer settings when you first enter setup mode or just before you exit. To print a list of options, load continuous forms paper and then proceed as follows:

1. **Enter setup mode.**
   Place the printer offline. Press the TEAR OFF button and the ONLINE button simultaneously until the printer beeps. Wait for the printer to stop printing and check that the following <<FUNCTION>> menu is printed:

```
<<FUNCTION>>
  SAVE&END  MENU1  MENU2  HARDWRE  ADJUST  CONFIG  DEFAULT  LIST  SELF-TST  HEX-DUMP
  V-ALMNT
```

2. **Select the LIST function.**
   Repeatedly press the LOAD button or the LF/FF button to position the red cursor under LIST. Next press the TEAR OFF button or the MENU button to select the LIST function. The printer starts to print a list of the currently selected options. The preselected factory settings, also called factory defaults, are shown on the opposite page.
   When the printer finishes printing the list of options, it reprints the <<FUNCTION>> menu.
   NOTE
   To remove the printout, turn the platen knob until the paper can be torn off at the perforation. In setup mode, you cannot use the printer tear-off feature (TEAR OFF button).

3. **Do either of the following:**
   • Select another function, or
   • Exit setup mode, saving any changes you made.

   For details about other functions, see the other sections in this chapter. To exit setup mode and save your changes, make sure that the red cursor is positioned beneath SAVE & END, then press the MENU button or the TEAR OFF button.

```
<< Menu 1 settings >>              << Menu 2 settings >>
-------------------------          -------------------------
Func.   |Item    |Option          Func.   |Item    |Option
-------------------------          -------------------------
MENU1   |EMULATE|DPL24C+           MENU2   |EMULATE|DPL24C+
MENU1   |FONT   |COUR 10           MENU2   |FONT   |COUR 10
MENU1   |QUALITY|LETTER            MENU2   |QUALITY|LETTER
MENU1   |PITCH  |10 CPI            MENU2   |PITCH  |10 CPI
MENU1   |LINE SP|6 LPI             MENU2   |LINE SP|6 LPI
MENU1   |CHAR-W |NORMAL            MENU2   |CHAR-W |NORMAL
MENU1   |CHAR-H |NORMAL            MENU2   |CHAR-H |NORMAL
MENU1   |ATTRIB |NONE              MENU2   |ATTRIB |NONE
MENU1   |PAGE LG|11.0 IN           MENU2   |PAGE LG|11.0 IN
MENU1   |LFT-END|1   COLM          MENU2   |LFT-END|1   COLM
MENU1   |TOP-MRG|1   LINE          MENU2   |TOP-MRG|1   LINE
MENU1   |LANGUGE|PAGE437           MENU2   |LANGUGE|PAGE437
MENU1   |CHR-SET|SET2              MENU2   |CHR-SET|SET2
MENU1   |PRF-SKP|NO-SKIP           MENU2   |PRF-SKP|NO-SKIP
MENU1   |WIDTH  |13.6 IN           MENU2   |WIDTH  |13.6 IN
MENU1   |ZEROFNT|NO-SLSH           MENU2   |ZEROFNT|NO-SLSH
MENU1   |DC3-CDE|ENABLE            MENU2   |DC3-CDE|ENABLE
MENU1   |CR-CODE|CR ONLY           MENU2   |CR-CODE|CR ONLY
MENU1   |LF-CODE|LF & CR           MENU2   |LF-CODE|LF & CR
MENU1   |RGHTEND|WRAP              MENU2   |RGHTEND|WRAP
MENU1   |==END==|                  MENU2   |==END==|
-------------------------          -------------------------

<< Hardware settings >>            << Adjust settings >>
-------------------------          -------------------------
Func.   |Item    |Option          Func.   |Item    |Option
-------------------------          -------------------------
HARDWRE |PPR-OUT|DETECT            ADJUST  |CNT-ORG|1.8/6IN
HARDWRE |PRT-DIR|BI-DIR            ADJUST  |CNTFINE|0 /180
HARDWRE |BUZZER |ON                ADJUST  |CUT-ORG|1.8/6IN
HARDWRE |WORD-LG|8 BIT             ADJUST  |CUTFINE|0 /180
HARDWRE |BUFFER |8KBYTE            ADJUST  |CNT-LFT|0 /90
HARDWRE |INTRFCE|AUTO-2S           ADJUST  |CUT-LFT|0 /90
HARDWRE |==END==|                  ADJUST  |CUT-ADJ|0 /360
-------------------------          ADJUST  |CNT-ADJ|0 /360
                                   ADJUST  |CNTADJL|0 /360
                                   ADJUST  |==END==|
                                   -------------------------

                                   << Config settings >>
                                   -------------------------
                                   Func.   |Item    |Option
                                   -------------------------
                                   CONFIG  |TEAROFF|MANUAL
                                   CONFIG  |TEARPOS|VISIBLE
                                   CONFIG  |CUTLOAD|AUTO
                                   CONFIG  |LOADTIM|1.0 SEC (*1)
                                   CONFIG  |DECODE |DIRECT
                                   CONFIG  |AREACNT|DISABLE
                                   CONFIG  |ON-LOAD|ONLINE
                                   CONFIG  |LOCK   |NONE
                                   CONFIG  |//S//  |DISABLE
                                   CONFIG  |CONT-PE|EDGE
                                   CONFIG  |GATHER |DISABLE
                                   CONFIG  |CUT-CTL|SPEED
                                   CONFIG  |SKIP-PR|ENABLE
                                   CONFIG  |STATUS |DISABLE
                                   CONFIG  |BANDCTL|DISABLE
                                   CONFIG  |TOF-CTL|DRIVER
                                   CONFIG  |==END==|
                                   -------------------------
```

*1   LOADTIM is printed after this line when AUTO option is selected for CUTLOAD.

Printout of factory defaults using LIST

Setup Mode

DECIDING WHICH OPTIONS TO CHANGE

The previous page shows a printout of the printer's factory default settings. In this printout, options are listed by functional group:

- Menu 1 settings (MENU1 function)
- Menu 2 settings (MENU2 function)
- Hardware settings (HARDWRE function)
- Print position adjustment settings (ADJUST function)
- Configuration settings (CONFIG function)

Most selectable options only alter print features, such as the typestyle, page format. However, some options must be selected correctly for the printer to work properly with your hardware and software. For each function, Table 5.2 lists items whose options must be selected correctly for system and printer accessory compatibility.

Table 5.2 Required Options

Function	Item	Option
MENU1	EMULATE	*The emulation selected on the printer must be the same as the emulation selected in your software.* If you selected an emulation when you set up the printer (Chapter 2), you do not need to change the EMULATE option unless you want to change to a different emulation. The emulation assigned to MENU1 is the default when you turn the printer on. See the section **Changing MENU1 and MENU2 Options** later in this chapter.
MENU2	None	*If you use MENU2, the emulation selected for MENU 2 must be the same as the emulation selected in your software.* See the section **Changing MENU1 and MENU2 Options** later in this chapter.

Table 5.2 Required Options (Cont.)

Function	Item	Option
HARDWRE	FORMAT BAUD-RT PROTOCL DSR DUPLEX CTS CD	*If you have a serial interface, the serial interface options selected on the printer must be the same as the settings you selected using your software or your computer operating system.* If the settings are not the same, the printer will not print or will print garbage. See the section **Changing Hardware Options** later in this chapter.
ADJUST	None	If you are not using software to specify the top margin of the page, use the printer's default top-of-form setting, 1 inch (25.4 mm) from the top of the paper. If you are using software to specify the top margin of the page, change the default setting to 1/6 inch (4.2 mm). See the section **Changing Print Position Adjustment Options** later in this chapter.
CONFIG	None	If you are using paper that is dark-colored or preprinted with dark colors, you may need to disable the AREA OVER detection function. See the section **Changing Configuration Options** later in this chapter.

Setup Mode

CHANGING MENU1 AND MENU2 OPTIONS

The MENU1 and MENU2 functions allow you to change the print options assigned to MENU1 and MENU2 on the printer control panel. In normal (nonsetup) mode, you can easily switch between the menus for printing, as described in Chapter 4.

MENU1 is invoked when you first turn the printer on.

Select the same emulation on the printer as is selected in your software. If the emulations are not the same, the printer will not work correctly with your software. If you plan to use two different emulations on a regular basis, assign the most frequently used emulation to MENU1. Assign the second emulation to MENU2. All of the other settings available for MENU1 and MENU2 are optional. Some of the items and options will vary with the emulation.

To determine which features your software supports, refer to your software documentation.

Table 5.3 describes the MENU1 and MENU2 items and options. Both functions offer the same items and options. The items in Table 5.3 are listed in the order in which they are printed. Not all items are defined for all emulations and some options vary with the emulation.

The procedure for changing the MENU1 and MENU2 options is described after Table 5.3.

Table 5.3 MENU1 and MENU2 Items and Options

NOTES:
- Underlined options are the factory defaults.
- Asterisks identify items and options that differ for the IBM XL24E and Epson ESC/P2 emulations. The notes are defined at the end of the table.

MENU1 and MENU2 Items	Options	Description
<EMULATE>		Select the same emulation as is selected in your software. See the section **Selecting an Emulation in** Chapter 2 for information on selecting an emulation.
	DPL24C+	Fujitsu DL-series printers (DPL24C PLUS command set)
	XL24E ESC/P2	IBM Proprinter XL24E printers Epson printers using the ESC/P2 command set
		NOTE: When you change the emulation, all MENU1 or MENU2 options are reset to the factory defaults for that emulation.
<FONT>		For each of the following fonts, the recommended pitch settings are given after the font name. When you change the font, be sure to also change the pitch, if required.
	COUR 10	Courier, 10cpi
	PRSTG12	Prestige Elite, 12cpi
	COMPRSD	Compressed font, 15,17,and 18cpi
	BOLDFCE	Boldface, Proportional
	PICA 10	Pica, 10cpi
	CORRESP	Correspondence,10cpi
	OCR-B	OCR-B, 10cpi
	OCR-A	OCR-A, 10cpi
	COUR-N	Courier Normal, 10cpi
	COUR-B	Courier Bold, 10cpi
	COUR-I	Courier Italic, 10cpi
	N.SAN-N	Nimbus Sans Normal, Prop.
	N.SAN-B	Nimbus Sans Bold, Prop.
	N.SAN-I	Nimbus Sans Italic, Prop.

Setup Mode

Table 5.3 MENU1 and MENU2 Items and Options (Cont.)

NOTES:
- Underlined options are the factory defaults.
- Asterisks identify items and options that differ for the IBM XL24E and Epson ESC/P2 emulations. The notes are defined at the end of the table.

MENU1 and MENU2 Items	Options	Description
<FONT> (continued)	TIMLS-N TIMLS-B TIMLS-I DOWNLD#	**Timeless Normal, Prop.** **Timeless Bold, Prop.** *Timeless Italic, Prop.* Font 0 or font 1 in the printer's download RAM
		See Appendix F for font examples.
<QUALITY>		Select the print quality that most often meets your needs.
	<u>LETTER</u>	Letter print quality. This option provides the highest resolution but the slowest print speed. It cannot be used with the compressed font.
	REPORT	Report print quality. This option provides lower resolution than letter quality, but at twice the speed. If you want only the double speed, regardless of fonts, use the correspondence font. The quality of the correspondence font is higher than that of report.
	DRAFT	Regular draft print quality. This option provides lower resolution than report quality, but at 3.2 times letter speed.
	HI-DRFT	High-speed draft print quality. This option provides lower resolution than draft quality, but at 3.5 times letter speed.

Table 5.3 MENU1 and MENU2 Items and Options (Cont.)

NOTES:
- Underlined options are the factory defaults.
- Asterisks identify items and options that differ for the IBM XL24E and Epson ESC/P2 emulations. The notes are defined at the end of the table.

MENU1 and MENU2 Items	Options	Description
<PITCH>	## CPI	2.5, 3, 5, 6, <u>10</u>, 12, 15, 17, 18, or 20 cpi (characters per horizontal inch)
	PROP SP	Proportional spacing (1/12 inch per character space)
<LINE SP>	## LPI	1, 2, 3, 4, 5, <u>6</u>, 7, or 8 lpi (lines per vertical inch) **6 lpi**　　**3 lpi (double spacing)** ABCD　　ABCD ABCD ABCD　　ABCD ABCD ABCD　　ABCD ABCD
<CHAR-W>		Change also the pitch 2 TIMES or 4 TIMES is selected.
	<u>NORMAL</u>	Standard character width **ABCD**
	2 TIMES	Double character width ABCD
	4 TIMES (*1)	Quadruple character width ABCD

Setup Mode

Table 5.3 MENU1 and MENU2 Items and Options (Cont.)

NOTES:
- Underlined options are the factory defaults.
- Asterisks identify items and options that differ for the IBM XL24E and Epson ESC/P2 emulations. The notes are defined at the end of the table.

MENU1 and MENU2 Items	Options	Description
<CHAR-H>		Change also the line spacing if 2 TIMES or 4 TIMES is selected.
	NORMAL	Standard character height ABCD abcd
	2 TIMES	Double character height ABCD abcd
	4 TIMES (*1)	Quadruple character height ABCD abcd
<ATTRIB>		Selects an attribute to add emphasis to your documents. Only one attribute may be selected at a time.
	NONE	Standard characters (no attributes)
	ITALICS	*Italic printing*
	CONDNSD (*1)	Condensed printing
	SHADOW	Double printing with a slight horizontal offset
	BOLD	Double printing at the same position

Table 5.3 MENU1 and MENU2 Items and Options (Cont.)

NOTES:
• Underlined options are the factory defaults.
• Asterisks identify items and options that differ for the IBM XL24E and Epson ESC/P2 emulations. The notes are defined at the end of the table.
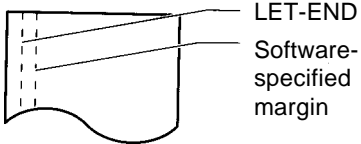
MENU1 and MENU2 Items	Options	Description
<PAGE LG>		Specifies the length of the page in inches.
	## IN	For DPL24C PLUS and IBM XL24E emulations: 3.0, 3.5, 4.0, 5.0, 5.5, 6.0, 7.0, 8.0, 8.5, <u>11.0</u> (letter size), 11.6 (A4 size), 12.0, 14.0, or 18.0 inches
		For Epson ESC/P2 emulation: 4.0, 4.5, 5.0, ..., <u>11.0</u>, 11.5, ..., 22.0 inches
<LFT-END>		Specifies the print start column for changing the left margin. Printing starts at the position given by this column plus your software-specified left margin.
	## COLM	Column <u>1</u>, 2, 3, ..., 41
		LET-END Software-specified margin

Setup Mode

Table 5.3 MENU1 and MENU2 Items and Options (Cont.)

NOTES:
- Underlined options are the factory defaults.
- Asterisks identify items and options that differ for the IBM XL24E and Epson ESC/P2 emulations. The notes are defined at the end of the table.
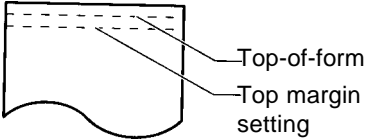
MENU1 and MENU2 Items	Options	Description
<TOP-MRG>		Specifies the number of space lines for the top margin. The resultant blank space is the <TOP-MRG> setting minus 1 line. The total size of your top margin is the above resultant value plus the following two *settings:* top-of-form (default = 1 inch) and the software-specified top margin. If you are using software to specify the top margin, use the default (1 line) for <TOP-MRG>.
	## LINE	1, 2, 3,4, 5, 6, 7, 8, 9, or 10 lines Top-of-form Top margin setting

Table 5.3 MENU1 and MENU2 Items and Options (Cont.)

NOTES:
• Underlined options are the factory defaults.
• Asterisks identify items and options that differ for the IBM XL24E and Epson ESC/P2 emulations. The notes are defined at the end of the table.

MENU1 and MENU2 Items	Options	Description
<LANGUGE>		Selects a language. Appendix E shows the character sets for each language.
		Two-pass means that diacritical marks are printed separately from their letters and that letters are printed without any reduction.
		The first listing is common to all emulations. Options specific to each emulation are skipped. See the subsequent listings (*2) and(*3).
	USA	American English (Same as code page 437)
	UK	British English
	GERMAN	German
	SWEDISH	Swedish
	<u>PAGE437</u>	Code page 437
	PAGE850	Code page 850
	PAGE860	Code page 860
	PAGE863	Code page 863
	PAGE865	Code page 865
	ECMA94	ECMA 94
	ISO8859	ISO 8859-1
	PG852	Code page 852
	PG852-T	Code page 852 two-pass
	PG855	Code page 855
	PG866	Code page 866
	HUNGARY	Hungarian
	HUNG-T	Hungarian two-pass

Setup Mode

Table 5.3 MENU1 and MENU2 Items and Options (Cont.)

NOTES:
• Underlined options are the factory defaults.
• Asterisks identify items and options that differ for the IBM XL24E and Epson ESC/P2 emulations. The notes are defined at the end of the table.

MENU1 and MENU2 Items	Options	Description
<LANGUGE> (continued)	SLOV	Slovenian
	SLOV-T	Slovenian two-pass
	POLISH	Polish
	POLSH-T	Polish two-pass
	MAZOWIA	Mazowian
	MAZOW-T	Mazowian two-pass
	LATIN2	Latin 2
	LATIN2-T	Latin 2 two-pass
	KAMENIC	Kamenicky
	KAMEN-T	Kamenicky two-pass
	TURKY	Turkish
	TURKY-T	Turkish two-pass
	CYRILIC	Cyrillic
	IBM437	IBM 437
	IBM851	IBM 851
	ELOT928	ELOT 928
	PG-DHN	Code page DHN
	LATIN-P	Latin Polish
	ISO-LTN	ISO Latin
	LITHUA1	Lithuanian1
	LITHUA2	Lithuanian2
	MIK	
	MACEDON	Macedonian
	PG-MAC	
	ELOT927	
	ABG	
	ABY	
	DEC GR	
	HBR-OLD	
	PG862	
	HBR-DEC	
	GREEK 11	
	ISO-TUK	ISO Turkish
	RUSCII	
	LATIN-9	

Table 5.3 MENU1 and MENU2 Items and Options (Cont.)

NOTES:
- Underlined options are the factory defaults.
- Asterisks identify items and options that differ for the IBM XL24E and Epson ESC/P2 emulations. The notes are defined at the end of the table.

MENU1 and MENU2 Items	Options	Description
<LANGUGE> (continued)	(*2) FRENCH ITALIAN SPANISH DANISH1 DANISH2 FINNISH NORWEGN	French Italian Spanish Danish I Danish II Finnish Norwegian
	(*3) DANISH1 ITALIAN SPANSH1 SPANSH2 JAPAN NORWEGN LATIN A FRENCH DANISH2 KOREA LEGAL	Danish I Italian Spanish I Spanish II Japanese Norwegian Latin American French Danish II Korea Legal

Table 5.3 MENU1 and MENU2 Items and Options (Cont.)

NOTES:
- Underlined options are the factory defaults.
- Asterisks identify items and options that differ for the IBM XL24E and Epson ESC/P2 emulations. The notes are defined at the end of the table.

MENU1 and MENU2 Items	Options	Description
<CHR-SET>	SET 1 SET 2	IBM character set 1 IBM character set 2 If a downloaded (soft) font is used, the character set for that font overrides the <CHR-SET> setting.
	(*3) ITALIC GRAPHIC	Italic characters are available. Graphics characters (ruled lines) are available.
<PRF-SKP>		For continuous forms, this option specifies whether an inch is skipped around the perforation. If you are not using software to specify a bottom margin, select SKIP when using thicker, multipart forms.
	SKIP	One inch is skipped around the perforation.
	NO-SKIP	The perforation is not skipped. Printing continues in the bottom margin of the page.
<WIDTH>(*5)	13.6 IN 11.4 IN 11.0 IN 8.0 IN	13.6-inch page width 11.4-inch page width 11-inch page width 8-inch page width
<ZEROFNT>(*2)		Specifies whether to print the number zero with a slash. This is useful to distinguish the capital letter "O" from the number "0". Invalid for some soft fonts.
	NO-SLSH SLASH	0 Ø

Table 5.3 MENU1 and MENU2 Items and Options (Cont.)

NOTES:
- Underlined options are the factory defaults.
- Asterisks identify items and options that differ for the IBM XL24E and Epson ESC/P2 emulations. The notes are defined at the end of the table.
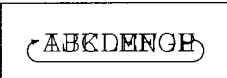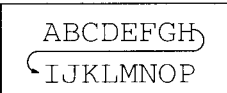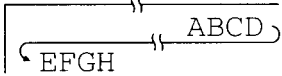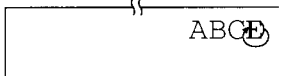
MENU1 and MENU2 Items	Options	Description
<DC3-CDE> (*4)	ENABLE	Enables the DC1 and DC3 codes. Any data received between DC3 and the next DC1 is ignored.
	DISABLE	Disables the DC1 and DC3 codes. These codes are then ignored.
<CR-CODE>	CR ONLY	No line feed is added to a carriage return. ABCDEFGH IJKLMNOP
	CR & LF	A line feed is added to each carriage return. ABCDEFGH IJKLMNOP
<LF-CODE> (*3)	LF ONLY	No carriage return is added to a line feed. ABCDEFGH IJKLMNOP
	LF & CR	A carriage return is added to each line feed. ABCDEFGH IJKLMNOP

Setup Mode

Table 5.3 MENU1 and MENU2 Items and Options (Cont.)

NOTES:
- Underlined options are the factory defaults.
- Asterisks identify items and options that differ for the IBM XL24E and Epson ESC/P2 emulations. The notes are defined at the end of the table.
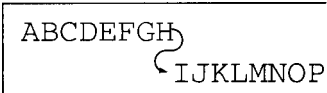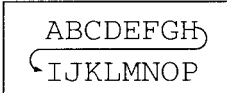
MENU1 and MENU2 Items	Options	Description
<RGHTEND>	WRAP	End-of-line wrap. Causes a carriage return plus a line feed. ABCD EFGH
	OVR-PRT	Characters are overprinted at the end of a line. ABCE
<==END==>		Indicates the end of MENU1 items. Press the MENU button to print the first item, <EMULATE>. Press the TEAR OFF button to print the previous item, <RGHTEND>. Press the ONLINE button to reprint the <<FUNCTION>> menu.

*1 Unavailable in the IBM XL24E emulation
*2 Unavailable in the Epson ESC/P2 emulations
*3 Available only in the Epson ESC/P2 emulations
*4 Available only in the DPL24C+ emulation
*5 Available only for 136-column printers

Procedure

To change the options assigned to MENU1 or MENU2, make sure that continuous forms paper is loaded and then proceed as follows:

1. **Enter setup mode.**

   Place the printer offline. Press the TEAR OFF button and the ONLINE button simultaneously until the printer beeps. Wait for the printer to stop printing. The following <<FUNCTION>> menu is printed:

```
<<FUNCTION>>
  SAVE&END  MENU1  MENU2  HARDWRE  ADJUST  CONFIG  DEFAULT  LIST  SELF-TST  HEX-DUMP
  V-ALMNT
```

2. **Select the MENU1 or MENU2 function.**

   Repeatedly press the LOAD button or the LF/FF button to position the red cursor under either the MENU1 or MENU2 function. Press the TEAR OFF button or the MENU button to select the function and print the following <EMULATE> options:

```
<EMULATE>      DPL24C+   XL24E    ESC/P2
```

3. **Select an emulation.**

   Repeatedly press the LOAD button or the LF/FF button to position the cursor under the emulation you require. Then do either of the following:

   - Press the MENU button to select the emulation and print the next MENU1 or MENU2 item. (As shown in Table 5.3, this is the <FONT> item).

   - Press the TEAR OFF button to select the emulation and print <==END==>. Press the TEAR OFF button again to print the last MENU1 or MENU2 item. (As shown in Table 5.3, this is the <RGHTEND> item). The TEAR OFF button is convenient when the options you need to change are near the end of the list of items.

Setup Mode

NOTE
**Whenever you select a new emulation, all MENU1 or MENU2
options are reset to the factory defaults for that emulation.**

4. **If necessary, change the other MENU1 or MENU2 options.**

   Press the LOAD button or the LF/FF button to move the cursor to the
   option you want to select. Press the MENU button to select the
   option and print the next item listed in Table 5.3. Press the TEAR
   OFF button to select the option and print the previous item.

5. **Exit MENU1 or MENU2.**

   Press the ONLINE button to exit the selected function and reprint the
   <<FUNCTION>> menu.

6. **Do either of the following:**

   • **Select another function, or**
   • **Exit setup mode, saving your changes.**

   For details about other functions, see the other sections in this
   chapter. To exit setup mode and save your changes, make sure the
   red cursor is positioned beneath SAVE & END, and then press the
   TEAR OFF button or the MENU button.

Resetting MENU1 and MENU2

To reset the factory defaults for both MENU1 and MENU2, select the
DEFAULT function. For more information, see the section **Resetting
Defaults** later in this chapter. The DEFAULT function cannot reset those
options which are handled by the HARDWRE, ADJUST, and CONFIG
functions.

CHANGING HARDWARE OPTIONS

The HARDWRE function defines the printer's hardware operating conditions. If you are using the optional RS-232C serial interface, the serial interface options must be set properly for the printer to function correctly with your system hardware.

Table 5.4 describes the HARDWRE items and options . Items are listed in the order in which they are printed. The procedure for changing the hardware options is described after Table 5.4.

Table 5.4 HARDWRE Items and Options

NOTE: Underlined options are the factory defaults.

HARDWRE Items	Options	Description
<PPR-OUT>		Specifies how the printer responds when you run out of paper.
	CNTONLY	The printer detects paper-out only for continuous forms. Printing stops and the PAPER OUT indicator lights red.
	<u>DETECT</u>	The printer detects paper-out for both continuous forms and single sheets. Printing stops and the PAPER OUT indicator lights red.
	IGNORE	The printer ignores paper-out for both continuous forms and single sheets. Printing continues until no more data remains. No PAPER OUT warning is displayed.

Setup Mode

Table 5.4 HARDWRE Items and Options (Cont.)

NOTE: Underlined options are the factory defaults.

HARDWRE Items	Options	Description
<PRT-DIR>	<u>BI-DIR</u> UNI-DIR	Bidirectional printing. The printer prints in either direction while seeking the next print direction for a shorter print time. Unidirectional printing. Unidirectional printing is used for printing vertical lines in tables even if vertical alignment is not adjusted. Unidirectional printing is slower than bidirectional printing.
<BUZZER>	 <u>ON</u> OFF	Enables or disables the printer status buzzer. Buzzer on (recommended). The printer beeps to indicate paper-out or other conditions. Buzzer off under any conditions.
<WORD-LG>	 <u>8 BIT</u> 7 BIT	To determine the required word length, refer to your computer documentation. Select 8-BIT to print bit image graphics. 8-bit word length (used by most computers) 7-bit word length (MSB = 0)
<BUFFER>	 NONE 256BYTE 2KBYTE <u>8KBYTE</u> 24KBYTE 32KBYTE 96KBYTE 128KBYT	Assigns buffer memory to input data and downloaded font data. **Print buffer**　**Download buffer** 0 byte　128K bytes 256 bytes　127.75K bytes 2K bytes　126K bytes 8K bytes　120K bytes 24K bytes　104K bytes 32K bytes　96K bytes 96K bytes　32K bytes 128K bytes　0K bytes

Table 5.4 HARDWRE Items and Options (Cont.)

NOTE: Underlined options are the factory defaults.

HARDWRE Items	Options	Description
<BUFFER> (continued)		**NOTE:** • **0BYTE option is recommended only for graphics application.** • **With 128KB selected, the printer cannot accept any download font data.**
<INTRFCE>		Selects the type of the interface to the computer.
	PARALEL SERIAL USB AUTO-2S AUTO-4S AUTO-6S AUTO10S AUTO15S	Centronics parallel interface RS-232C serial interface USB interface Auto interface selection mode • Both interfaces are ready for communication. • Specify the timing regarding the selected interface as being inactive.
	AUTO20S	To switch the interface to the optional LAN interface, mount the LAN card with the setup mode set to "AUTO-XS" or "AUTOXXS" under "INTERFCE," which in turn is under "HARDWRE" The interface will automatically switch to the optional LAN interface.
		To switch the interface to something other than the optional LAN interface, do either of the following: • To return the setup mode to "INTERFCE" under "HARDWRE," remove the LAN card. • To switch the interface to a fixed interface, set PARALEL,USB with the LAN card mounted, and the setup mode set to "INTERFCE" under "HARDWRE."
Serial Interface or USB interface Items. The following <FORMAT> to <DUPLEX> items are not printed when you select the PARALEL option for the <INTRFCE> item. Be sure that the options selected on the printer are the same as the options selected using your computer operating system or your software. Refer to the documentation provided for your computer and software.		

Setup Mode

Table 5.4 HARDWRE Items and Options (Cont.)

NOTE: Underlined options are the factory defaults.

HARDWRE Items	Options	Description		
<FORMAT>		**Number of data bits**	**Parity bit**	**Number of stop bits**
	<u>8NONE 1</u>	8	None	1
	8NONE 2	8	None	2
	8EVEN 1	8	Even	1
	8ODD 1	8	Odd	1
	7EVEN 1	7	Even	1
	7ODD 1	7	Odd	1
	7MARK 1	7	Mark	1
	7SPACE 1	7	Space	1
	7EVEN 2	7	Even	2
	7ODD 2	7	Odd	2
		The data format also includes a start bit. The mark is logical 1. The space is logical 0.		

Table 5.4 HARDWRE Items and Options (Cont.)

NOTE: Underlined options are the factory defaults.

HARDWRE Items	Options	Description
<BAUD-RT>	150 300 600 1200 2400 4800 <u>9600</u> 19200	The baud rate is in bps (bits per second). Select the same baud rate as used by your computer or modem.
<PROTOCL>	 <u>XON/XOF</u> DTR REV-CHL	Indicates data transmission protocol. The DC1 and DC3 codes are used. The Data Terminal Ready signal is used. The Reverse Channel signal is used.
<DSR>	<u>IGNORE</u> DETECT	DSR is ignored by the printer. DSR is detected by the printer.
<DUPLEX>	<u>FULL</u> HALF	Simultaneous data transmission occurs in opposite directions. Data transmission occurs in either direction, but not simultaneously.
<CTS>	IGNORE <u>DETECT</u>	CTS is ignored by the printer. CTS is detected by the printer.
<CD>	<u>IGNORE</u> DETECT	CD is ignored by the printer. CD is detected by the printer.
<==END==>		Indicates the end of the HARDWRE item list. Press the MENU button to print the first item, which is <PPR-OUT>. Press the TEAR OFF button to print the previous item. Press the ONLINE button to reprint the <<FUNCTION>> menu.

Setup Mode

Procedure

To change the printer's hardware options, make sure that continuous forms are loaded and then proceed as follows:

1. Enter setup mode.

Press the TEAR OFF button and the ONLINE button simultaneously until the printer beeps. Wait for the printer to stop printing and check that the following <<FUNCTION>> menu is printed:

```
<<FUNCTION>>

  SAVE&END  MENU1  MENU2  HARDWRE  ADJUST  CONFIG  DEFAULT  LIST  SELF-TST  HEX-DUMP
  V-ALMNT
```

2. Select the HARDWRE function.

Repeatedly press the LOAD button or the LF/FF button to position the red cursor under HARDWRE**.** Press the MENU button to select the HARDWRE function and print the first item and its options, as shown below:

```
 <PPR-OUT>      CNTONLY  DETECT   IGNORE
```

3. Select an option for the selected item.

Press the LOAD button or the LF/FF button to move the cursor to the option you require. Press the MENU button to select the option and print the next item.

NOTE
To print the previous item, press the TEAR OFF button.

4. Repeat step 3 until all required options are changed.

5. Exit the HARDWRE function.

Press the ONLINE button to exit the HARDWRE function and reprint the <<FUNCTION>> menu.

6. Do either of the following:

- **Select another function, or**

- **Exit setup mode, saving your changes.**

For details on other functions, see the other sections in this chapter. To exit setup mode and save your changes, make sure that the red cursor is positioned under SAVE & END, then press the MENU button or the TEAR OFF button.

CHANGING PRINT POSITION ADJUSTMENT OPTIONS

When you print using ruled paper, you often want to adjust the print position so that the print sits properly on the ruled lines. The ADJUST function allows you to:

- Set top-of-form position
- Fine-tune top-of-form position
- Fine-tune left print start column (left margin)
- Adjust for accumlative line spacing error in a page

The first three items are provided separately for cut single sheets and continuous forms. The last item is available for single sheets only.

The top edge of your paper is the *physical* top of the page. The *logical* top of the page, as "understood" by the printer when loading paper, is called the top-of-form. Printing starts at this position. Note that printing actually starts at the position obtained by adding the following:

- Top-of-form, default = 1.8/6 inch (7.6mm)
- Top margin specified by your software
- Printer TOP-MRG (top margin setting), default = 1 line

Table 5.5 describes the ADJUT items and options. Items are listed in the order they are printed. The procedure for changing top-of-form is described after Table 5.5.

Setup Mode

Table 5.5 ADJUST Items and Options

NOTE: Underlined options are the factory defaults.

ADJUST Items	Options	Description
<CNT-ORG>		Sets the top-of-form for continuous forms in increments of 1/6 inch (4.2 mm) from the physical top of the page.
	1/6 IN <u>1.8/6 IN</u> : 6/6 IN : 66/6 IN	The default is recommended if your top margin is not software-specified. A setting of 1/6 inch is preferable when your top margin is software-specified.
<CNTFINE>	<u>0/180</u>, ..., 29/180	Fine-tunes the top-of-form position for continuous forms. Increases top-of-form in increments of 1/180 inch (0.14 mm).
<CNT-ORG>		Sets the top-of-form for single sheets in increments of 1/6 inch (4.2 mm) from the physical top of the page.
	1/6 IN <u>1.8/6 IN</u> : 6/6 IN : 66/6 IN	The default is recommended if your top margin is not software-specified. A setting of 1/6 inch is preferable when your top margin is software-specified.
<CUTFINE>		Fine-tunes the top-of-form position for single sheets.
	<u>0/180</u>, ..., 29/180	Increases top-of-form in increments of 1/180 inch (0.14 mm).

Table 5.5 ADJUST Items and Options (Cont.)

NOTE: Underlined options are the factory defaults.

ADJUST Items	Options	Description
<CNT-LFT>	–10/90, ..., <u>0/90</u>, ..., 10/90	Fine-tunes the left print start position for continuous forms. Moves the position left or right in increments of 1/90 inch (0.28 mm).
<CUT-LFT>	–10/90, ..., <u>0/90</u>, ..., 10/90	Fine-tunes the left print start position for single sheets. Moves the position left or right in increments of 1/90 inch (0.28 mm).
<CUT-ADJ>	–21/360, –14/360, –7/360, <u>0/360</u>, 7/360, 14/360, 21/360, GRAPHIC (*1)	Compensates the line spacing pitch on the basis of the spacing error accumulated for feeding single sheets by10 inches. Decreases or increases in increments of 1/360 inch in total.
<CNT-ADJ>	–28/360, –21/360, –14/360, –7/360, <u>0/360</u>, 7/360, 14/360, 21/360, 28/360, GRAPHIC (*1)	Compensates for the forms feed error accumulated through feeding of continuous forms.
<CNTADJL>	–21/360, –14/360, –7/360, <u>0/360</u>, 7/360, 14/360, 21/360, GRAPHIC (*1)	Compensates for the forms feed error accumulated through feeding of continuous forms. (Last page)

*1:When printing graphics, selecting "GRAPHIC" may result in the printing of clearer graphics.

Setup Mode

Table 5.5 ADJUST Items and Options (Cont.)

ADJUST Items	Options	Description
<==END==>		Indicates the end of the ADJUST item list. Press MENU to print the first item, which is <CNT-ORG>. Press TEAR OFF to print the last item, which is <CUTADJL>. Press ONLINE to reprint the <<FUNCTION>> menu.

Procedure

Before adjusting a print position, you should carefully measure the amount of adjustment required for any paper that demands precise print registration. To adjust a print position, make sure that continuous forms paper is loaded. The following example shows how to adjust the top-of-form setting for continuous forms.

1. **Enter setup mode.**

   Press the TEAR OFF button and the ONLINE button simultaneously until the printer beeps. Wait for the printer to stop printing and check that the following <<FUNCTION>> menu is printed:

```
<<FUNCTION>>
  SAVE&END  MENU1  MENU2  HARDWRE  ADJUST  CONFIG  DEFAULT  LIST   SELF-TST  HEX-DUMP
  V-ALMNT
```

2. **Select the ADJUST function.**

   Repeatedly press the LOAD button or the LF/FF button to position the red cursor under ADJUST**.** Press the MENU button or the TEAR OFF button to select the ADJUST function and print the following <CNT-ORG> options:

```
<CNT-ORG>
 1/6IN   1.8/6IN   2/6IN   3/6IN   4/6IN   5/6IN   6/6IN   7/6IN   8/6IN   9/6IN
 10/6IN  11/6IN    ....
```

3. **Select an option from 1/6IN to 66/6IN.**

   Press the LOAD button or the LF/FF button to move the cursor to the required option. Press the MENU button to select the option and print the <CNTFINE> item. If necessary, fine-tune the top-of-form position now. Otherwise, go to step 4.

4. **Exit the ADJUST function.**

   Press the ONLINE button to exit the ADJUST function and reprint the <<FUNCTION>> menu.

Setup Mode

5. Exit setup mode, saving the top-of-form setting.

Make sure that the red cursor is positioned beneath SAVE & END, then press the MENU button or the TEAR OFF button.

6. Check the top-of-form setting.

Load your paper and check the adjustment by printing a sample page using your software. If necessary, reenter setup mode and fine-tune the top-of-form position by changing the <CNTFINE> option.

CHANGING CONFIGURATION OPTIONS

The CONFIG function defines the printer's primary configuration. You can set the following options to ensure that the printer meets your requirements:

• Tear off for continuous forms
• Autoloading of single sheets
• Direct decoding of certain commands
• Enabling of the AREA OVER indicator

Table 5.6 describes the CONFIG items and options. Items are listed in the order they are printed. The procedure for changing the configuration options is described after Table 5.6.

Table 5.6 CONFIG Items and Options

NOTE: Underlined options are the factory defaults.

CONFIG Items	Options	Description
<TEAROFF>		Auto or manual tearoff feed.
	<u>MANUAL</u>	Automatic tearoff feed is invalid, and tearoff feed must be done using the TEAR OFF button.
	AUTO	Automatic tearoff feed is valid but only for continuous forms. Tearoff feed can also be done using the TEAR OFF button.

Table 5.6 CONFIG Items and Options (Cont.)

NOTE: Underlined options are the factory defaults.

CONFIG Items	Options	Description
<TEARPOS>	<u>VISIBLE</u>	Tearoff position. Select this option when your software positions forms to the next top-of-form after printing the last data. The printer performs tearoff feed without adding a form feed when data transfer has stopped.
	ALWAYS	Select this option when your software stops after printing the last data. The printer performs tearoff feed after adding a form feed when data transfer has stopped. **Note: For both settings, tearoff positioning will fail if the page length setting does not match the actual perforation spacing.**
The following <TEAR-EN> item is printed when TEAROFF:AUTO is specified for the <TEAROFF> item.		
<TEAR-EN>	0 SEC <u>1 SEC</u> 2 SEC 4 SEC 6 SEC	Tearoff enabled time (offset time). The offset time is from when data transfer stops to when the printer performs automatic tearoff feed. If the printer receives data again within the offset time, the printer does not perform automatic tearoff feed.

Setup Mode

Table 5.6 CONFIG Items and Options (Cont.)

NOTE: Underlined options are the factory defaults.

CONFIG Items	Options	Description
<TEAR-EN> (continued)		In some application programs, data transfer may stop temporarily due to internal processing. This setting can avoid an undesired tearoff feed by waiting for up to six seconds each time data transfer stops.
<CUTLOAD>	AUTO	Single sheet autoloading. Single sheet paper is automatically loaded a certain time after you set the paper.
	BUTTON	Single sheet paper can be loaded by pressing the LOAD button.

The following <LOADTIM> item is printed when CUTLOAD:AUTO is specified for the <CUTLOAD> item.

CONFIG Items	Options	Description
<LOADTIM>	0.5, 1.0, 1.5, 2.0 2.5, 3.0SEC	Autoload start time. Autoloading starts when this amount of time passes after you set single sheet paper.
<DECODE>	DIRECT	Command decode timing. The printer decodes certain commands immediately after receiving data. Example: ESC SUB I, ESC CR P (DPL24C+) ESC Q # (IBM XL24E)
	QUEUED	The printer decodes commands after storing all data (including commands) in the input buffer. This speeds data reception because the printer does not require decoding time during data reception.

Table 5.6 CONFIG Items and Options (Cont.)

NOTE: Underlined options are the factory defaults.

CONFIG Items	Options	Description
<AREACNT>		Area-over detection control.
	ENABLE	Detects the left and right edges of paper when loading the paper. The printer does not print data beyond the edges, but turns on the AREA OVER indicator.
	DISABLE	Does not detect the edges. Select this option when you are using colored or preprinted paper.
<ON-LOAD>		Printer status after loading paper in offline mode.
	OFFLINE	Remains offline after paper loading.
	ONLINE	Goes into online after paper loading.
<LOCK>		Lock function of setup mode.
	NONE	Enables all buttons on the control panel.
	SETUP	Disables the setup-related buttons to keep the printer from entering setup mode during the offline state.
	ALL	Disables the setup-related buttons and the MENU button. Once this setting has been selected, setup mode cannot be entered from the control panel. To cancel this setting, turn the power on while simultaneously pressing the MENU, TEAROFF, and LF/FF buttons.
<//S//>		Effectiveness of the Cut Sheet Selection command (//S//).
	DISABLE	Makes the command ineffective.
	ENABLE	Makes the command effective.
		Note: The Cut Sheet Selection command (//S//) changes the paper source to the paper table and waits for manual insertion of a cut sheet.

Setup Mode

Table 5.6 CONFIG Items and Options (Cont.)

NOTE: Underlined options are the factory defaults.

CONFIG Items	Options	Description
\<CONT-PE\>	TRACTOR	Detection of end of continuous forms. Paper end is detected by the sensor on the tractor unit. Paper-end unprinted area: Continuous forms: About 80 mm
	EDGE	Regardless of paper end, printing continues near to the edge of paper. Paper-end unprinted area: About 4.7 mm for both continuous forms
GATHER		Setting of ribbon protective control at a line feed on continuous forms
	ENABLE	The protective control is executed.
	DISABLE	The protective control is not executed.
CUT-CTL		Setting of retracting control at canceling TEAR OFF of continuous forms.
	PRCISIN	The precision-prioritized retracting control is executed. It retracts a certain amount of paper (the top part of the paper which hangs out from the TOFS), and then moves back to the position before TEAR OFF. If TOFS detects paper end when a certain amount of paper is retracted, it executes the continuous forms save operation and then executes the paper loading operation.
	SPEED	The speed-prioritized retracting control is executed. It retracts the paper by the amount the paper was advanced.

Table 5.6 CONFIG Items and Options (Cont.)

NOTE: Underlined options are the factory defaults.

CONFIG Items	Options	Description
SKIP-PR		Setting of printing speed change processing (skip)
	<u>ENABLE</u>	The skip processing is executed. When certain amount of blank spaces are found in a line, it changes the printing speed for the blank spaces.
	DISABLE	The skip processing is not executed. It does not change the printing speed for the blank spaces. - If the printing speed of the printing data varies before and after the blank spaces (such as LQ characters + blank space + CQ characters), it changes printing speeds regardless of this setting.
STATUS		Setting of the asynchronous status function
	ENABLE	The status information is stored in the send buffer by a nibble mode request.
	<u>DISABLE</u>	The status information is not stored in the send buffer by a nibble mode request.
BANDCTL		Setting of reducing backward line feeds as much as possible. Backward line feeds occur when printing vertical enlargement characters or multi-path characters which involve several printing paths for a print activation.
	ENABLE	Reduce control is performed.
	<u>DISABLE</u>	Reduce control is not performed.

Setup Mode

Table 5.6 CONFIG Items and Options (Cont.)

NOTE: Underlined options are the factory defaults.

CONFIG Items	Options	Description
TOF-CTL		Setting of priority on TOF control to a printer driver specification or a setup specification. TOF control determines the amout of the top margin when paper is fed to the home position.
	<u>DRIVER</u> SETUP	Driver specification is given priority. Setup specification is given priority.
<==END==>		Indicates the end of the CONFIG item list. Press the MENU button to print the first item, which is <TEAROFF>. Press the TEAR OFF button to print the previous item. Press the ONLINE button to reprint the <<FUNCTION>> menu.

Procedure

To change the printer configuration options, make sure that continuous forms paper is loaded and then proceed as follows:

1. **Enter setup mode.**

   Press the TEAR OFF button and the ONLINE button simultaneously until the printer beeps. Wait for the printer to stop printing and check that the following <<FUNCTION>> menu is printed:

```
<<FUNCTION>>
  SAVE&END   MENU1   MENU2   HARDWRE   ADJUST   CONFIG   DEFAULT   LIST    SELF-TST   HEX-DUMP
  V-ALMNT
```

2. **Select the CONFIG function.**

   Repeatedly press the LOAD button or the LF/FF button to position the red cursor under CONFIG. Press the MENU button to select the CONFIG function and print the following <TEAROFF> options:

```
   <TEAROFF>        MANUAL   AUTO
```

3. **Select an option.**

   Press the LOAD button or the LF/FF button to move the cursor to either MANUAL or AUTO. Press the MENU button to select the option and print the <TEARPOS> item. If other items must be specified, do so now. Otherwise, go to step 4.

4. **Exit the CONFIG function.**

   Press the ONLINE button to exit the CONFIG function and reprint the <<FUNCTION>> menu.

5. **Do either of the following:**

   • **Select another function, or**
   • **Exit setup mode, saving your changes.**

   For details on other functions, see the other sections in this chapter. To exit setup mode and save your changes, make sure that the red cursor is positioned under SAVE & END, then press the MENU button or the TEAR OFF button.

Setup Mode

.

EXITING AND SAVING

This section describes how to exit the setup mode save any changes you made:

To exit setup mode immediately, select the SAVE & END function.

Any settings changed while in setup mode are saved as the new power-on defaults for the printer. The new defaults remain active until you change them again.

NOTE
The only way to exit setup mode without saving your changes is to turn off the printer. When you turn the printer back on, the previous default settings are used.

Procedure

To exit setup mode and save your changes using SAVE & END, proceed as follows:

1. **Print the <<FUNCTION>> menu.**

   The <<FUNCTION>> menu should be the last printed line on the page. If the menu is not printed, press the ONLINE button to print the menu. If you are using the SELF-TST or HEX-DUMP function, press the LF/FF button instead of the ONLINE button to print the menu. The <<FUNCTION>> menu is shown below.

```
<<FUNCTION>>
  SAVE&END  MENU1  MENU2  HARDWRE  ADJUST  CONFIG  DEFAULT  LIST  SELF-TST  HEX-DUMP
  V-ALMNT
```

2. **Select the SAVE & END function.**

   Make sure that the red cursor is positioned under SAVE & END. Press the MENU button or the TEAR OFF button to select SAVE & END. The printer exits setup mode and returns online (the ONLINE indicator lights green). Any changes you made while in setup mode are saved.

RESETTING DEFAULTS
This section describes how to reset the printer's power-on defaults, all of the factory defaults, or the factory defaults only for MENU1 and MENU2.

Resetting Power-On Defaults

Power-on defaults are the settings saved in the printer's permanent memory. The defaults are enabled whenever you turn the printer on. The easiest way to reset the power-on defaults is to turn the printer off and then on again. This method is useful if you have made changes in setup mode that you do not want to save.

Resetting Factory Defaults

Factory defaults are those settings preselected at the factory. For a list of the printer's factory defaults, see the section **Printing a List of Selected Options** earlier in this chapter. To reset the factory defaults for all functions, proceed as follows:

1. Turn off the printer.

2. While pressing the MENU, TEAR OFF, and ONLINE buttons, turn on the printer. Continue to press all three buttons until the printer beeps.

   The factory defaults are now reset.

Resetting Factory Defaults in MENU1 and MENU2

This method resets factory defaults for MENU1 and MENU2 options, listed in Table 5.3, but does not reset the printer hardware, print position adjustment, and configuration options. To reset the factory defaults in MENU1 and MENU2, proceed as follows:

Setup Mode

1. **Enter setup mode.**

   Press the TEAR OFF button and the ONLINE button simultaneously until the printer beeps. Wait for the printer to stop printing and check that the following <<FUNCTION>> menu is printed:

```
<<FUNCTION>>
 SAVE&END   MENU1   MENU2   HARDWRE   ADJUST   CONFIG   DEFAULT   LIST    SELF-TST   HEX-DUMP
 V-ALMNT
```

2. **Select the DEFAULT function.**

   Repeatedly press the LOAD button or the LF/FF button to position the red cursor under DEFAULT**.** Press the TEAR OFF button or the MENU button to select the DEFAULT function. The printer reprints the <<FUNCTION>> menu. The default values in MENU1 and MENU2 are now reset.

3. **Do either of the following:**

   • **Select new options for MENU1 or MENU2.**
   • **Exit setup mode, saving the factory defaults.**

   See the section **Changing MENU1 and MENU2 Options**. To exit setup mode and save the new defaults, make sure that the red cursor is positioned under SAVE & END, then press the TEAR OFF button or the MENU button.

USING THE DIAGNOSTIC FUNCTIONS

This section describes how to use the following diagnostic functions:

   • SELF-TST
   • HEX-DUMP
   • V-ALMNT

These functions are used for checking print quality and diagnosing printer problems. HEX-DUMP also provides useful information for programmers.

Printing the Self-Test

The SELF-TST function prints test pages to check how the printer operates independently of your computer. The self-test does not check the interface between the computer and the printer.

The self-test prints the printer's firmware version, its resident emulations, and all of the characters available in the currently selected character set. If the DPL24C PLUS emulation is selected for MENU1, the self-test is printed using the settings currently assigned to MENU1.

Procedure

This procedure assumes that you are in setup mode. To print the self-test, make sure that continuous forms paper is loaded into the printer. Then proceed as follows:

1. **Print the <<FUNCTION>> menu.**

   The <<FUNCTION>> menu should be the last printed line on the page. If the menu is not printed, press the ONLINE button to print the menu. If you are using the HEX-DUMP function, press the LF/FF button instead of the ONLINE button to print the menu. The following <<FUNCTION>> menu is printed:

```
<<FUNCTION>>
  SAVE&END  MENU1  MENU2  HARDWRE  ADJUST  CONFIG  DEFAULT  LIST    SELF-TST  HEX-DUMP
  V-ALMNT
```

Setup Mode

2. **Select the SELF-TST function.**

   Repeatedly press the LOAD button or the LF/FF button to position the red cursor under SELF-TST, and then press the MENU button or the TEAR OFF button. The printer selects SELF-TST and starts printing. A short help menu is printed at the top of the page, followed by the self-test. Note that the printer *is not online* during self-test printing.

3. **Examine the self-test page.**

   A sample self-test page is shown in Chapter 2. To pause during self-test printing, press the MENU button or the TEAR OFF button. To resume self-test printing, press the FONT button or the MENU button again.

4. **Exit the SELF-TST function.**

   Exit the SELF-TST function in either of the following ways:

   • To exit SELF-TST and remain in setup mode, press the LF/FF button. The <<FUNCTION>> menu is then reprinted.

   • To exit SELF-TST and return online, press the ONLINE button. The printer permanently saves any changes made while in setup mode and returns online.

The self-test can also be started by turning off the printer, and then pressing the LF/FF button while turning the printer back on. As described in Chapter 2, this method is useful when you first set up the printer.

Printing Hex Dumps

The HEX-DUMP function prints data and commands in hexadecimal characters and abbreviated control codes. The IBM character set 2 is used for printing (see Appendix E). The HEX-DUMP function is useful for checking whether your computer is sending the correct commands to the printer and whether the printer is executing the commands correctly. It is also useful for debugging software programs.

Procedure

To print hex dumps, make sure that continuous forms paper is loaded into the printer. Then proceed as follows:

1. **Enter setup mode.**

   Press the TEAR OFF button and the ONLINE button simultaneously until the printer beeps. Wait for the printer to stop printing and check that the following <<FUNCTION>> menu is printed:

```
<<FUNCTION>>
  SAVE&END  MENU1  MENU2  HARDWRE  ADJUST  CONFIG  DEFAULT  LIST   SELF-TST  HEX-DUMP
  V-ALMNT
```

2. **Select the HEX-DUMP function.**

   Repeatedly press the LOAD button or the LF/FF button to position the red cursor under HEX-DUMP, then press the TEAR OFF button or the MENU button to select the HEX-DUMP function. The printer goes *online* and prints a header and a short help menu.

3. **Print the hex dump.**

   To start hex dump printing, send your file or program to the printer. The printer goes online and prints the hex dump.

   Press the MENU button or the TEAR OFF button to pause during hex dump printing. To resume hex dump printing, press the button again.

   NOTE
   When hex dump printing stops, the printer remains online in setup mode (the ONLINE indicator is green). To print another hex dump, send another file to the printer.

Setup Mode

```
*** Hex dump printing ***

BUTTON        ACTION
<ONLINE>      Exit to normal mode
<LF/FF >      Return to <<FUNCTION>> mode
<TEAROFF>     Pause/resume printing


0  1  2  3  4  5  6  7  8  9  A  B  C  D  E  F        0123456789ABCDEF
```

Sample hex dump

4. **Exit the HEX-DUMP function.**

   Exit the HEX-DUMP function in either of the following ways:

   • To remain in setup mode, press the LF/FF button. The <<FUNC-
     TION>> menu is then reprinted. For details on other functions,
     see other sections in this chapter.

   • To return to online normal mode, press the ONLINE button. If
     you press the ONLINE button while the hex dump is printing, The
     printer immediately switches to normal online mode. Any data
     that was sent to the printer but not printed is discarded (cleared).

   You can also enter hex dump mode, by turning off the printer, and then
   turning the printer back on while simultaneously pressing the ONLINE
   button and the LF/FF button until the printer beeps.

Checking Vertical Print Alignment (V-ALMNT)

The V-ALMNT function corrects the vertical character displacement that sometimes occurs with bidirectional printing. Characters printed from left to right are not aligned with characters printed from right to left as shown below:

```
 |This example shows how printing looks
 |when characters are vertically
|misaligned.  Note that the left
 |margin is not straight.
 |
```

If you notice misaligned printing, use the following procedure to check and correct the vertical print alignment.

Procedure

Make sure that continuous forms paper is loaded in the printer. If possible, use forms at least 216 mm (8.5 inches) wide for 80 column printers or 356mm (14inches) wide for 136 colmun prnters to avoid printing on the platen.
However, you can also use letter or A4 size forms if you set the WIDTH option in MENU1 to 8 inches.
See the section **Changing MENU1 and MENU2 Options** for details. Then proceed as follows to check and correct vertical print alignment:

1. **Enter setup mode.**

   Press the MENU button and the TEAR OFF button simultaneously until the printer beeps. Wait for the printer to stop printing and check that the following <<FUNCTION>> menu is printed:

```
<<FUNCTION>>
  SAVE&END  MENU1  MENU2  HARDWRE  ADJUST  CONFIG  DEFAULT  LIST   SELF-TST  HEX-DUMP
  V-ALMNT
```

Setup Mode

2. **Select the V-ALMNT function.**

   Repeatedly press the LOAD button or the LF/FF button to position
   the red cursor under V-ALMNT, then press the MENU button or the
   TEAR OFF button to select the V-ALMNT function. The printer
   prints the help menu then starts printing rows of parallel bars using
   letter quality speed.

3. **Adjust the vertical print alignment at letter quality speed.**

   Examine the parallel bars. If the bars are aligned (not jagged), go to
   step 4. If the bars are offset to the left, repeatedly press the LOAD
   button until the bars are aligned. If the bars are offset to the right,
   repeatedly press the LF/FF button until the bars are aligned. (In the
   following figure, the first line is assumed to be printed from left to
   right.)
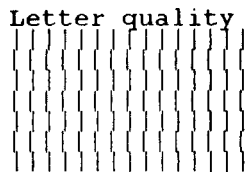
   Bars offset to the left   Bars offset to the right
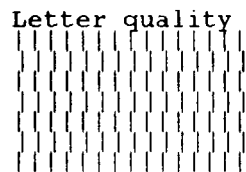
4. **Adjust the vertical print alignment at correspondence speed.**

   Press the TEAR OFF button to switch from letter speed to corre-
   spondence speed.

   Examine the parallel bars and adjust the vertical print alignment as
   described step 3.

5. **Adjust the vertical print alignment at draft speed.**

   Press the TEAR OFF button to switch from correspondence speed to
   draft speed.

   Examine the parallel bars and adjust the vertical print alignment as
   described step 3.

6. **Exit the V-ALMNT function.**

Press the ONLINE button to exit the V-ALMNT function and save the new vertical alignment settings. The printer exits setup mode and returns online.

NOTE
To exit the V-ALMNT function, you must exit setup mode.

```
*** Vertical alignment adjusting ***
BUTTON      ACTION
<ONLINE>    Save and exit to normal mode
<TEAROFF>   Change speed
<LF/FF >    Shift backward print position to left
< LOAD >    Shift backward print position to right




Letter quality


Correspondence


Draft quality


High Speed Draft
```
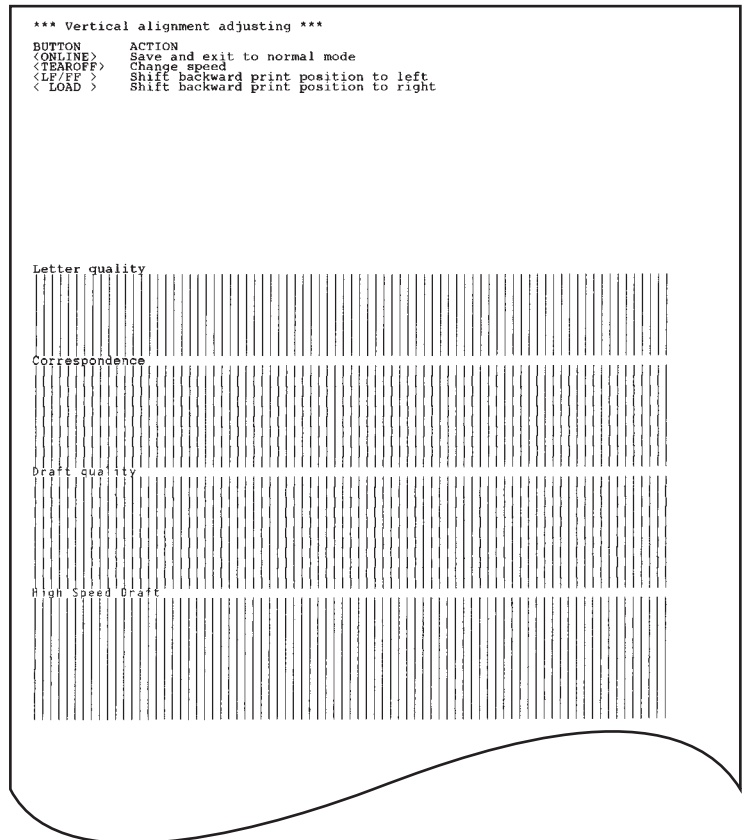
Correct vertical print alignment

SETUP MODE REFERENCE   The following flowchart shows how setup mode is organized for the Fujitsu DPL24C PLUS emulation. Differences in the IBM Proprinter XL24E and Epson ESC/P2 emulations are summarized after the flowchart.

Setup Mode

DPL24C PLUS ORGANIZATION

Note:
Asterisks (*) indicate default settings at shipment.

SETUP MODE

FUNCTIONS

LOAD or LF/FF

Move red cursor on the prime guide.

MENU or TEAR OFF

Select function.

ITEMS & OPTIONS

LOAD or LF/FF

Move red cursor on the prime guide.

ONLINE

MENU Select option, print next item.

TEAR OFF

Select option, print previous item.

SETUP MODE

SAVE&END

MENU1

MENU2

EMULATE: DPL24C+*
XL24E
ESC/P2

FONT: COUR 10*   COUR-N
PRSTG12   COUR-B
COMPRSD   COUR-I
BOLDFCE   N.SAN-N
PICA10   N.SAN-B
CORRESP   N.SAN-I
OCR-B   TIMLS-N
OCR-A   TIMLS-B
TIMLS-I
DOWNLD#

QUALITY: LETTER*
REPORT
DRAFT
HI-DRFT

PITCH: 2.5 CPI
3 CPI
5 CPI
6 CPI
10 CPI*
12 CPI
15 CPI
17 CPI
18 CPI
20 CPI
PROP SP

LINE SP: 1 LPI
2 LPI
3 LPI
4 LPI
5 LPI
6 LPI*
7 LPI
8 LPI

CHAR-W: NORMAL*
2 TIMES
4 TIMES

CHAR-H: NORMAL*
2 TIMES
4 TIMES

ATTRIB: NONE*
ITALICS
CONDNSD
SHADOW
BOLD

PAGE LG: 3.0 IN
3.5 IN
4.0 IN
5.0 IN
5.5 IN
6.0 IN
7.0 IN
8.0 IN
8.5 IN
11.0 IN*
11.6 IN
12.0 IN
14.0 IN
18.0 IN

LFT-END: 1 COLM*
2 COLM
3 COLM
4 COLM
•
•
•
40 COLM
41 COLM

TOP-MRC: 1 LINE*
2 LINE
3 LINE
•
•
•
10 LINE

LANGUGE: USA   PG855   PG-DHN
UK   PG866   LATIN-P
GERMAN   HUNGARY   ISO-LTN
FRENCH   HUNG-T   LITHUA1
ITALIAN   SLOV   LITHUA2
SPANISH   SLOV-T   MIK
SWEDISH   POLISH   MACEDON
DANISH1   POLSH-T   PG-MAC
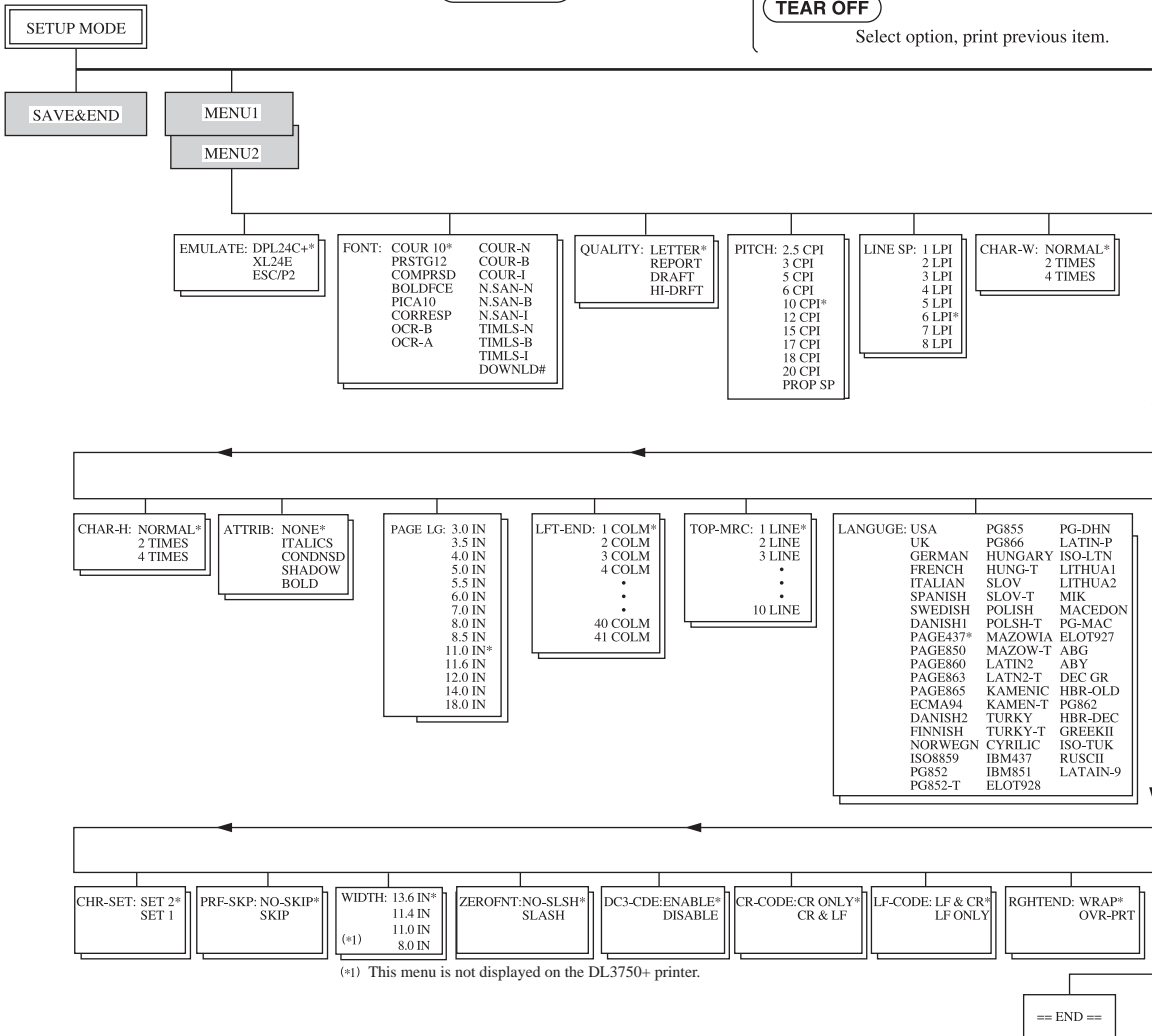PAGE437*   MAZOWIA   ELOT927
PAGE850   MAZOW-T   ABG
PAGE860   LATIN2   ABY
PAGE863   LATN2-T   DEC GR
PAGE865   KAMENIC   HBR-OLD
ECMA94   KAMEN-T   PG862
DANISH2   TURKY   HBR-DEC
FINNISH   TURKY-T   GREEKII
NORWEGN   CYRILIC   ISO-TUK
ISO8859   IBM437   RUSCII
PG852   IBM851   LATAIN-9
PG852-T   ELOT928

CHR-SET: SET 2*
SET 1

PRF-SKP: NO-SKIP*
SKIP

WIDTH: 13.6 IN*
11.4 IN
11.0 IN
(*1)   8.0 IN

ZEROFNT:NO-SLSH*
SLASH

DC3-CDE:ENABLE*
DISABLE

CR-CODE:CR ONLY*
CR & LF

LF-CODE: LF & CR*
LF ONLY

RGHTEND: WRAP*
OVR-PRT

(*1) This menu is not displayed on the DL3750+ printer.

== END ==

HARDWRE | ADJUST | CONFIG | DEFAULT | LIST | SELF-TST | HEX-DUMP | V-ALMNT

TEAROFF: MANUAL*
AUTO

TEARPOS: VISIBLE*
ALWAYS

TEAR-EN: 0 SEC
1 SEC*
2 SEC
4 SEC
6 SEC

CUTLOAD: AUTO
BUTTON*

LOADTIM: 0.5 SEC
1.0 SEC*
1.5 SEC
2.0 SEC
2.5 SEC
3.0 SEC

Displayed when
TEAROFF=AUTO

Displayed when
CUTLOAD=AUTO

DECODE: DIRECT*
QUEUED

AREACNT: ENABLE
DISABLE*

ON-LOAD: OFFLINE
ONLINE

LOCK: NONE*
SETUP
ALL

//S//: DISABLE*
ENABLE

CONT-PE: TRACTOR
EDGE*

GATER: ENABLE
DISABLE*

CUT-CTL: PRCISIN
SPEED

SKIP-PR: ENABLE*
DISABLE

STATUS: ENABLE
DISABLE*

BANDCTL: ENABLE
DISABLE*

TOF-CTL:DRIVER*
SETUP

== END ==

CNT-ORG: 1/6 IN*
:
6/6 IN*
:
66/6 IN

CNTFINE: 0/180*
1/180
:
29/180

CUT -ORG: 1/6 IN*
:
6/6 IN*
:
66/6 IN

CUTFINE: 0/180*
1/180
:
29/180

CNT-LFT: -10/90
-9/90
:
0/90*
:
10/90

CUT-LFT: -10/90
-9/90
:
0/90*
:
10/90

CUT-ADJ: -21/360
-14/360
:
0/360*
:
21/360
GRAPHIC

CNF-ADJ: -28/360
-21/360
:
0/360*
:
28/360
GRAPHIC

CNT-ADJL: -21/360
-14/360
:
0/360*
:
21/360
GRAPHIC

== END ==

PPR-OUT: CNTONLY
DETECT*
IGNORE

PRT-DIR: BI-DIR*
UNI-DIR

BUZZER: ON*
OFF

WORD-LG: 8 BIT*
7 BIT

BUFFER: NONE
256 BYTE
2K BYTE
8K BYTE*
24K BYTE
32K BYTE
96K BYTE
128K BYT

Dual interface? — No

Yes

INTRFCE:PARALEL
SERIAL
USB
AUTO-2S*
AUTO-4S
AUTO-6S
AUTO10S
AUTO15S
AUTO20S

PARALEL? — Yes

No

FORMAT: 8NONE1* 7ODD1
8NONE2 7MARK1
8EVEN1 7SPACE1
8ODD1 7EVEN
7EVEN1 7ODD2

BAUD-RT:150
300
600
1200
2400
4800
9600*
19200

PROTOCL: XON/XOF*
DTR
REV-CHL

DSR: IGNORE*
DETECT

DUPLEX: FULL*
HALF

CTS: IGNORE*
DETECT*

CD:IGNORE*
DETECT

== END ==

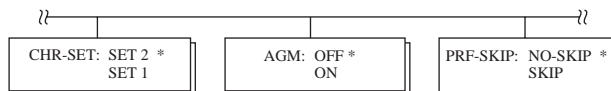**Setup Mode**

Differences in IBM Proprinter XL24E Emulation

In the IBM Proprinter XL24E emulation, MENU1 and MENU2 differ from the DPL24C PLUS emulation in the following ways:
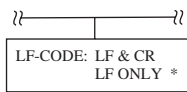
- The following options are different:

```
�ळ─────────────────────────────────────────────〱
┌─────────────────┐ ┌─────────────────┐ ┌─────────────────┐
│ CHAR-W: NORMAL * │ │ CHAR-H: NORMAL * │ │ ATTRIB: NONE  * │
│         2 TIMES  │ │         2 TIMES  │ │         ITALIC  │
└─────────────────┘ └─────────────────┘ │         SHADOW  │
                                         │         BOLD    │
                                         └─────────────────┘
```
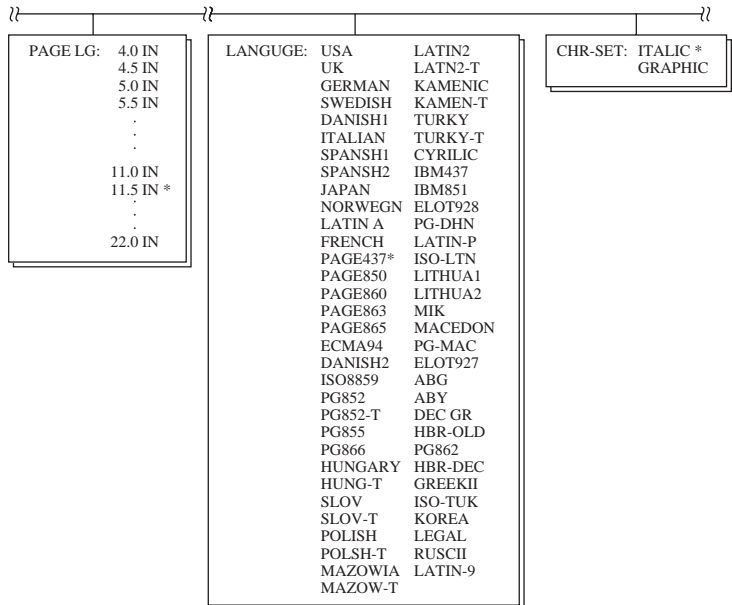
- The AGM item is provided:

```
〱─────────────────────────────────────────────〱
┌─────────────────┐ ┌─────────────────┐ ┌──────────────────┐
│ CHR-SET: SET 2 * │ │ AGM:   OFF *    │ │ PRF-SKIP: NO-SKIP * │
│          SET 1   │ │        ON       │ │           SKIP      │
└─────────────────┘ └─────────────────┘ └──────────────────┘
```

- The LF-CODE item's default is set to the other option:

```
〱───────────────〱
┌─────────────────┐
│ LF-CODE: LF & CR │
│          LF ONLY * │
└─────────────────┘
```

Differences in Epson ESC/P2 Emulation

In the Epson ESC/P2 emulation, MENU1 and MENU2 differ from the
DPL24C PLUS emulation in the following ways:

- The ZEROFNT and LF-CODE items are not defined.

- The following options are different:

PAGE LG:	4.0 IN
	4.5 IN
	5.0 IN
	5.5 IN
	.
	.
	.
	11.0 IN
	11.5 IN *
	.
	.
	22.0 IN

LANGUGE:	USA	LATIN2
	UK	LATN2-T
	GERMAN	KAMENIC
	SWEDISH	KAMEN-T
	DANISH1	TURKY
	ITALIAN	TURKY-T
	SPANSH1	CYRILIC
	SPANSH2	IBM437
	JAPAN	IBM851
	NORWEGN	ELOT928
	LATIN A	PG-DHN
	FRENCH	LATIN-P
	PAGE437*	ISO-LTN
	PAGE850	LITHUA1
	PAGE860	LITHUA2
	PAGE863	MIK
	PAGE865	MACEDON
	ECMA94	PG-MAC
	DANISH2	ELOT927
	ISO8859	ABG
	PG852	ABY
	PG852-T	DEC GR
	PG855	HBR-OLD
	PG866	PG862
	HUNGARY	HBR-DEC
	HUNG-T	GREEKII
	SLOV	ISO-TUK
	SLOV-T	KOREA
	POLISH	LEGAL
	POLSH-T	RUSCII
	MAZOWIA	LATIN-9
	MAZOW-T	

| CHR-SET: | ITALIC * |
| | GRAPHIC |

Setup Mode

ONLINE SETUP MODE

The preceding sections describe offline setup mode. This section introduces online setup mode. The tedious task of setting up printer features one-by-one from the control panel and printing and checking the desired options on paper can be avoided by using online setup mode. In online setup mode, printer features are set via the computer rather than the printer control panel.

Put the printer in online setup mode, in either of the following two ways:

- Turn the printer off and then turn the printer back on while pressing the MENU button. Hold down the button until the printer beeps.

- Issue the printer command ESC e ONLINE. This command is valid in any emulation.

Send setup data from the computer in any of the following three ways:

- Enter setup data directly from the computer keyboard before starting your job. With MS-DOS, hold down the Ctrl key and type P. Data entered from the keyboard is sent directly to the printer. When data entry is complete, hold down the Ctrl key again and type P. This method is useful when just a few settings need to be changed.

- Use an editor program to prepare a setup data file and then send the file to the printer using a command before starting your job. With MS-DOS, use the COPY command. This method is useful when settings are used repeatedly.

- Write a program that enables interactive entry of setup data on the CRT screen. This method is the most useful of the three. Check with your dealer for currently available programs.

To exit from online setup mode, send EXIT as the last setup data.

For details of setup data and its format, refer to the programmer's manual for each emulation.

MAINTENANCE

6

Your printer requires very little care. Occasional cleaning and replacement of the ribbon cartridge are all that is required.

Lubrication of the printer is not usually necessary.
If the print head carriage does not move smoothly back and forth, clean the printer as described in this chapter. If the problem continues, contact your dealer to determine whether lubrication might be needed.

CLEANING

The front and back covers, the ejection cover, and the acoustic cover of the printer help protect against dust, dirt, and other contaminants. However, paper produces small particles that accumulate inside the printer. This section explains how to clean and vacuum the printer and how to clean the platen and paper bail rollers.

It is easier to clean the printer when the front cover, the ejection cover, and the cut sheet stand and back cover are removed.

Cleaning and Vacuuming the Printer

WARNING
To avoid any possibility of injury, before cleaning the printer, turn off the power to both the printer and the computer, and unplug the printer.

Use the following procedure to clean and vacuum the printer as required:

1. Remove any paper from the printer. Make sure that the power is off, and then disconnect the printer power cord.

2. Using a soft vacuum brush, vacuum the exterior of the printer. Be sure to vacuum the air vents at the front, left sides, and bottom of the printer. Also vacuum the cut sheet stand.

3. Use a soft, damp cloth to wipe the exterior of the printer, including the covers and separator. A mild detergent may be used.

   CAUTION
   Do not use solvents, kerosene, or abrasive cleaning materials that may damage the printer.

4. Open the front cover of the printer and remove the ribbon cartridge. Using a soft vacuum brush, gently vacuum the platen, print head carriage, and surrounding areas. You can easily slide the print head to the left or right when the power is off. Be careful not to press too hard on the flat ribbon cable that extends from the print head carriage.

Flat cable
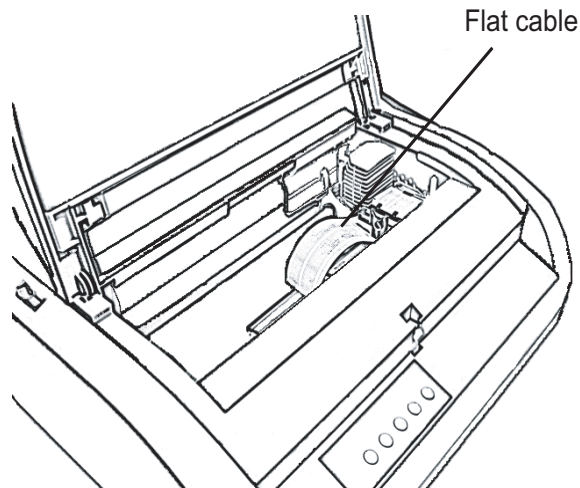
Printer interior

5. Re-install the ribbon cartridge. Close the front cover.

6. Open the ejection cover. Vacuum the rollers, paper entry slot, and surrounding areas.

7. Raise the cut sheet stand and the back cover. Vacuum the forms tractors and surrounding areas.

Cleaning the Platen and Exit Rollers

Clean the platen and rollers about once a month to remove excess ink. Use the platen cleaner recommended by your supplier and proceed as follows:

1. Apply a small amount of platen cleaner to a soft cloth. Avoid spilling platen cleaner inside the printer.

    CAUTION
    Do not use alcohol to clean the platen. Alcohol may cause the rubber to harden.

2. Place the cloth against the platen and manually rotate the platen knob.

3. To dry the platen, place a dry cloth against the platen and manually rotate the platen knob.

4. Gently wipe the rollers using the cloth moistened with the platen cleaner. Dry the rollers using a dry cloth.

REPLACING THE RIBBON

There are two ways of replacing the ribbon. You can install a new ribbon cartridge in the printer or refill the old ribbon cartridge with new ribbon from a ribbon subcassette. Appendix A lists order numbers for ribbon cartridges and ribbon subcassettes. The following procedure is for ribbon cartridges. For ribbon subcassettes, refer to the instructions shipped with the subcassette.

To replace the ribbon cartridge:

1. Turn off the printer.

2. Open the front cover of the printer. For easy installation, slide the print head carriage to a position where it does not face a roller.
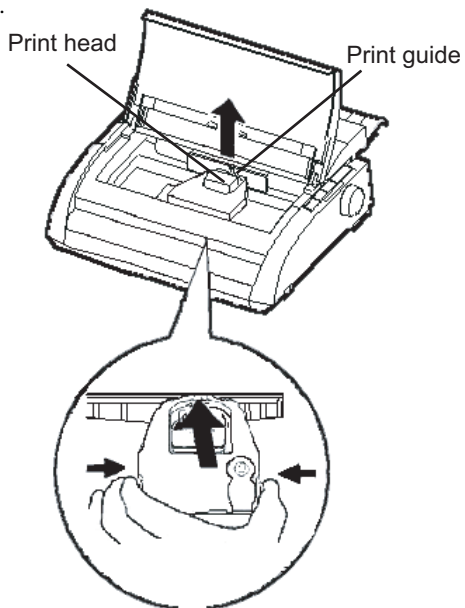
    CAUTION
    The print head may be hot if you have been printing recently.

3. Move the paper thickness lever to position D.

Paper thickness lever

Move to D.
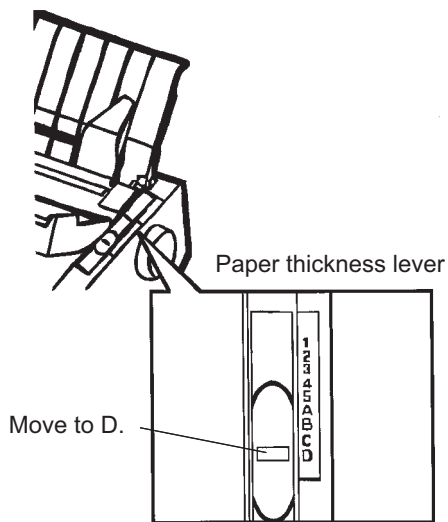
Paper thickness lever

4. To remove the ribbon cartridge, press the ribbon release levers located on either side of the cartridge and carefully lift the cartridge out of the printer.

Print head

Print guide

Removing the ribbon cartridge

5. Using the procedure below, release the roller from the LOCK position and turn the ribbon feed knob clockwise to take up any ribbon slack. Push in the gray ribbon release tabs on the side of the ribbon cartridge to release them, and slide the roller from the LOCK position to the FREE position.
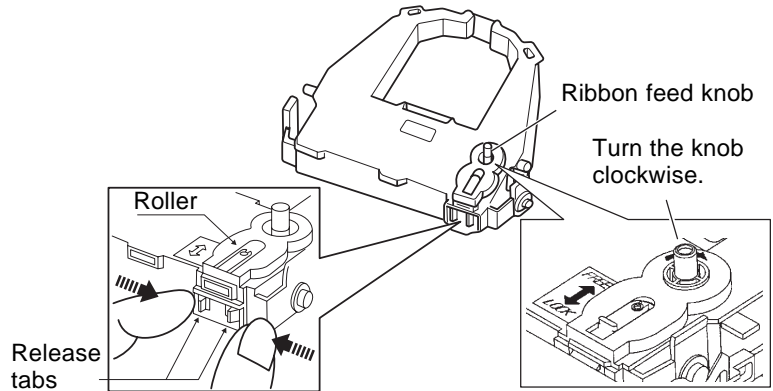
Preparing the ribbon cartridge

CAUTION
**Do not turn the ribbon feed knob in counterclockwise direction..**

6. Verify that the power to the printer is off.
(Make sure that the circle mark on the power switch is pressed.).
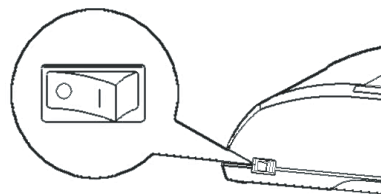
Installing the ribbon cartridge

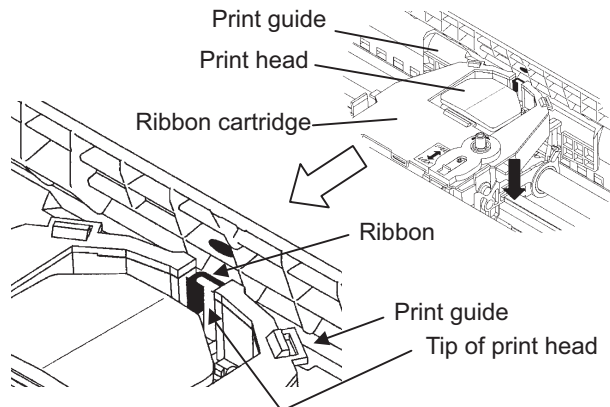7. Move the paper thickness lever to the D position.

8. Open the front cover.

9. Align the print head position with the dot mark (green) on the printer ejection cover.

Dot mark (green)
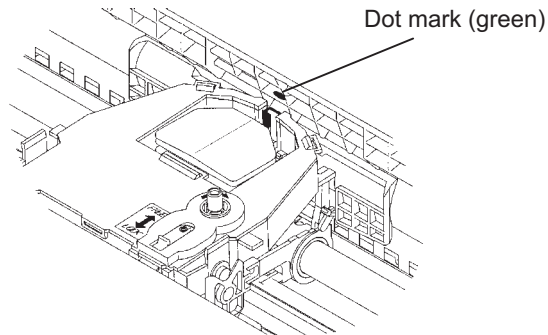
WARNING
Avoid touching the print head while using or immediately after using the printer, as doing so may lead to burns. Wait until the print head cools down before touching it.

10. Thread the ribbon between the print head and the print guide, then gently press down on the ribbon cartridge against the printer until it clicks into place.
(Make sure that the ribbon feed knob is facing upward.)

Print guide
Print head
Ribbon cartridge
Ribbon
Print guide
Tip of print head

11. Turn the ribbon feed knob clockwise to take up any ribbon slack.
12. Move the paper thickness lever back to its original position. For single sheet printing, the correct position is 1. Table 3.2 in Chapter 3 gives other paper thickness lever settings.

13. Close the front cover of the printer.

REPLACING THE PRINT HEAD

The print head is easy to replace.

CAUTION
The print head may be hot if you have been printing recently.

To remove the print head:

1. Turn off the printer.

2. Open the front cover of the printer and remove the ribbon cartridge.

3. Pull the right end of the head lock wire forward to release it from the hook at the right of the print head carriage. Then release the wire from the center hook.

4. Remove the print head from the connector on the carriage, as shown in the figure below.

Head lock wire
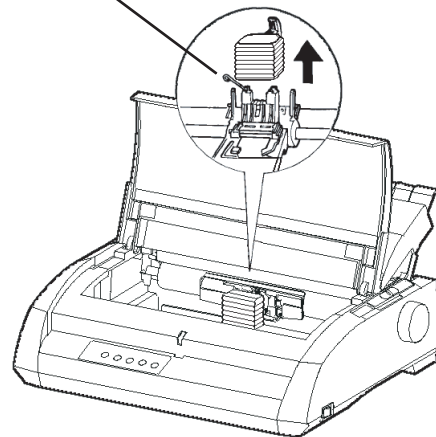
Replacing the print head

To install the print head:

1. Carefully fit the mounting guide grooves of the print head on the locating studs on the carriage.

2. Push the print head into the connector and hook the wire into place in the reverse order of removal.

7

TROUBLE-SHOOTING

Your printer is extremely reliable, but occasional problems may occur. You can solve many of these problems yourself, using this chapter. If you encounter problems that you cannot resolve, contact your dealer for assistance.

This chapter is organized as follows:

- Solving problems
- Diagnostic functions
- Getting help

SOLVING PROBLEMS

The tables in this section describe common printer problems and their solutions. The following types of problems are considered:

- Print quality problems
- Paper handling problems
- Operating problems
- Printer failures

Print Quality Problems

Poor print quality or other printing problems are often caused by incorrect printer setup or incorrect software settings. A gradual decrease in print quality usually indicates a worn ribbon. Table 7.1 identifies common print quality problems and suggests solutions.

Table 7.1 Print Quality Problems and Solutions

Problem	Solution
Printing is too light or too dark.	Make sure that the ribbon cartridge is properly installed and that the ribbon feeds smoothly. Make sure that the paper thickness lever is set for the thickness of your paper. See Table 3.2 in Chapter 3. Check ribbon wear. Replace the ribbon if necessary.
Stains or smudges appear on the page.	Make sure that the paper thickness lever is set for the thickness of your paper. See Table 3.2 in Chapter 3. Check ribbon wear. Replace the ribbon if necessary. Check whether the tip of the print head is dirty. Clean the head with a soft cloth if necessary.
The page is blank.	Make sure that the ribbon cartridge is properly installed.
Printing is erratic or the wrong characters are printed. Many "?" characters are printed.	Make sure that the interface cable is securely connected to both the printer and computer. Make sure that the printer emulation selected in your software is the same as the emulation selected on the printer. See the section **Selecting an Emulation** in Chapter 2. If you are using an RS-232C serial interface, make sure that the serial settings required by your software or computer are the same as the settings on the printer. See the section **Changing Hardware Options** in Chapter 5.

Table 7.1 Print Quality Problems and Solutions (Cont.)

Problem	Solution
Printing is vertically misaligned (jagged).	Use the printer's V-ALMNT function to check the vertical print alignment. If necessary, adjust the print alignment. See the section **Using the Diagnostic Functions** in Chapter 5.
The top margin is wrong.	The top margin is the sum of the top-of-form setting, the software-specified top margin, and the printer's TOP-MRG setting. Proceed as follows: • Make sure that the top-of-form setting is correct. The factory default is 25.4 mm (1 inch). See the section **Changing Top-of Form** in Chapter 5. • Check the software-specified top margin. Refer to your software documentation. • Check the printer's TOP-MRG setting. See the section **Changing MENU1 and MENU2 Options** in Chapter 5.
Lines are double spaced instead of single spaced.	Check the line spacing setting in your software. Change the CR-CODE setting in the printer setup mode to CR ONLY. See the section **Changing MENU1 and MENU2 Options** in Chapter 5.
The printer overprints on the same line.	Change the CR-CODE setting in the printer setup mode to CR & LF. See the section **Changing MENU1 and MENU2 Options** in Chapter 5.
The next print line starts where the previous line ended instead of at the left margin.	Change the LF-CODE setting in the printer setup mode to LF & CR. See the section **Changing MENU1 and MENU2 Options** in Chapter 5.

Trouble-
shooting

Table 7.1 Print Quality Problems and Solutions (Cont.)

Problem	Solution
If an error occurs during printing with Windows, simply printing the page again will cause the printed characters to be garbled.	If an error occurs during printing with Windows, execute reset from the control panel or turn off the printer, then print the page again.

Paper Handling Problems

Table 7.2 describes common paper handling problems and suggests solutions. See Chapter 3 for detailed procedures on loading and using paper.

Table 7.2 Paper Handling Problems and Solutions

Problem	Solution
Paper cannot be loaded or fed.	Make sure that the paper select lever is set correctly. Move the lever backward for continuous forms and forward for single sheets.
	Make sure that the paper covers the paper-out sensor, i.e., the left paper edge is within 52 mm for single sheets or 41 mm for continuous forms from the left edge of the platen. (This problem cannot occur if you use the forms tractor unit or insert a single sheet with its left edge in contact with the left paper guide.)
	Make sure that the paper holder is closed and forms tractors are positioned correctly to match the width of your paper.
	Make sure that the printer does not detect the paper after you have ejected the loaded paper manually. If the printer detects paper even though it has already been ejected, press the LOAD button and have the printer perform the paper ejection operation, then load the paper again.

Table 7.2 Paper Handling Problems and Solutions (Cont.)

Problem	Solution
Paper jams while loading.	Move the paper thickness lever to position D. Turn off the printer and remove the jammed paper. Remove any obstructions from the paper path. Make sure that the paper thickness lever is set for the thickness of your paper. See Table 3.2 in Chapter 3. Make sure that the paper is not folded, creased, or torn. Reload the paper.
Paper jams while printing.	Move the paper thickness lever to position D. Turn off the printer and remove the jammed paper. Remove any obstructions from the paper path. Make sure that the paper thickness lever is set for the thickness of your paper. See Table 3.2 in Chapter 3. For continuous forms, make sure that the incoming and outgoing paper stacks are correctly placed. Paper should feed straight.
Paper slips off the forms tractors or the perforated holes of the paper tear during printing.	Make sure that the forms tractors are positioned correctly for the width of your paper and that the perforated holes of the paper fit directly over the tractor sprockets.

Trouble-
shooting

### Tips for clearing a jammed sheet from the printer

If a sheet of paper is jammed between the print head and the platen and cannot be removed, clear it as follows:

1. Turn off the printer and disconnect the power cord from the receptacle.

2. Push up the locking levers to release the forms tractors and open the paper holders.

3. Move the paper thickness lever to position D.

4. Move the print head so that you can remove the jammed sheet easily and clear the sheet.

NOTE
The print head is hot immediately after printing. Move it after making sure that it gets cool.

- **If you cannot clear the jammed sheet by the above procedure, set fourfold continuous forms paper on the forms tractors and turn the platen knob to feed the paper forward. The jammed paper is pushed out. Before operation, be sure to position the print head at the center of the jammed paper.**
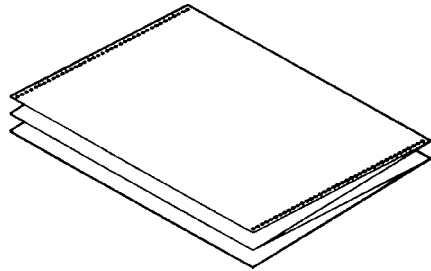
Operating Problems

If any of the errors listed in Table 7.3 occurs, the PAPER OUT LED lights up, and an alarm beeps, and the printer goes offline.

In such cases, the buttons on the control panel can be used in the same manner as those when the printer is in the offline state.

Table 7.3 Operating Problems and Solutions

Error name	Error description	Recovery method
Paper end (PE) error	Paper end is detected. (*1)	- Insert and load the paper in the paper tray.
Eject jam error	Paper end is not detected even after a large amount of continuous forms or cut sheets were ejected.	- Eject forms or sheets. - Press the online button to turn the printer online.
Continuous form/ cut sheet switch lever error	In continuous form loading status, the continuous form/ cut sheet switch lever is switched to cut sheet mode. In cut sheet loading status, the continuous form/cut sheet switch lever is switched to continuous form mode. If the error occurs, all buttons are disabled.	- Switch the continuous form/cut sheet switch lever back to its original position. - Remove the loaded paper.

Trouble-shooting

Table 7.3 Operating Problems and Solutions (Cont.)

Error name	Error description	Recovery method
Load jam error	After the tractor PE sensor detected the form at continuous form loading, the TOF sensor does not detect the top of the form even after line feed is executed a certain number of times. After the set sensor detects the sheet at cut sheet loading, the TOF sensor does not detect he top of the sheet even after line feed is executed a certain number of times.	- Execute the loading operation. - Press the online button to turn the printer online. - When the cut sheets are loaded, remove the sheets once, and then insert them again. They are then loaded automatically.

LEDs light up depending on the following error types.

	LED status		
Error name	Blink		Light
	ONLINE	AREA OVER	PAPER OUT
Paper end			*
Eject jam error		*	*
Continuous form/ cut sheet switch lever error	*		*
Load jam error			*

*1 If the setup item PPR-OUT:IGNORE is specified, paper end is not detected.

Printer Failures

A user cannot generally resolve a problem involving defective printer hardware. On detecting a fatal error, the printer will:

- Stop printing
- Beep four times
- Turn the ONLINE indicator off
- Blink the PAPER OUT indicator (see Table 7.4 for the error type).

Table 7.4 Printer Failures

Error	LED states	
	\<Light\>	**\<Blink\>**
+34 V undervoltage error	ONLINE	PAPER OUT
Left end sensor error	MENU1	PAPER OUT
Overload error	MENU2	PAPER OUT
RAM error	AREA OVER	PAPER OUT
Hight voltage error	-	PAPER OUT and AREA OVER

The following errors cause the printer to turn off the power:

- Print head error
- Space motor error
- Line feed motor error
- +34 V overvoltage error

No error condition is displayed if any of these errors occurs.

Turn the printer off and back on, then rerun the same job to check if the error was transient. If the error recurs, contact your dealer.

DIAGNOSTIC FUNCTIONS

The printer diagnostic functions are SELF-TST, HEX-DUMP, and V-ALMNT.

- SELF-TST tells you whether the printer hardware is functioning correctly. If the printer hardware is functional, any problems you are having are probably caused by incorrect printer settings, incorrect software settings, the interface, or the computer.

- HEX-DUMP allows you to determine whether the computer is sending the correct commands to the printer, and whether the printer is executing the commands correctly. This function is useful to programmers or others who understand how to interpret hex dumps.

- V-ALMNT allows you to check and, if necessary, correct the printer's vertical print alignment.

For details on using these functions, all of which are available in the printer setup mode, see the section **Using the Diagnostic Functions** in Chapter 5.

GETTING HELP

If you are not able to correct a problem using this chapter, contact your dealer for assistance. Be prepared to provide the following information:

- The printer number is on the rating label on the right side of the printer. The serial number and date of manufacture are on the label on the rear of the printer.
- Description of the problem
- Type of interface you are using
- Names of your software packages
- List of the printer default settings. To print the default settings, see the section **Printing a List of Selected Options** in Chapter 5.

INSTALLING OPTIONS

8

The installaion of options allows you to expand
the capabilities of your printer. Options available
for the printer include:
 • LAN card
 • RS-232C serial interface board
The LAN card is a uset installable option, but can be installed only on a
printer model with the parallel and USB interfaces. For information on the
installation procedure, refer to the manual that comes with the LAN card.
Note that the RS-232C serial interface is a factory or dealer installable option.

Options can be purchased from your dealer. Order numbers for options are
given in Appendix A.

Options

A

SUPPLIES AND OPTIONS

This appendix lists the supplies and options available for the printer.
Contact your dealer for information on ordering any of these items.

SUPPLIES

Supplies	Order Number
Ribbon cartridges	
Black ribbon	CA02374-C104
Ribbon subcassette	
Black ribbon	CA02374-C204
Print head	CA02281-E718

OPTION

Option	Order Number	Description
RS-232C serial interface board.	CA02374-C992	
LAN card	KA02004-C990	Installable only on a printer model with the parallel and USB interfaces.

Supplies